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## Identification of mental health and quality of life outcomes in primary care databases in the United Kingdom: a systematic review

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3 **Identification of mental health and quality of life outcomes in primary care databases**  
4 **in the United Kingdom: a systematic review**  
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## Abstract

*Objectives:* To summarise the methods used to identify outcomes of anxiety, depression, fatigue, dementia/mild cognitive dysfunction, sexual dysfunction, pain, sleep disorders, and fatal and non-fatal self-harm in studies using electronic health records from primary care databases in the United Kingdom (UK).

*Design:* Systematic review of the literature. Medline and Embase were searched up to June 2018 to identify eligible studies. Two researchers appraised the studies applying pre-defined criteria. When necessary, authors were contacted to request the list of Read codes used in the original studies.

*Results:* 120 studies were eligible. Codelists were available for 17/42 studies of depression; 21/41 studies of fatal and non-fatal self-harm; 17/27 studies of dementia/cognitive dysfunction; 5/12 studies of anxiety; 4/8 studies of pain; 3/6 studies of fatigue and sexual dysfunction; 1/2 studies of sleep disorders. Depression was most often defined using codes for diagnoses (37/42 studies) and/or antidepressants prescriptions (21/42 studies); 6 studies reported including symptoms in their definition. Anxiety was defined with codes for diagnoses (12/12 studies); 4 studies also reported including symptoms. Fatal/non-fatal self-harm was ascertained in primary care data linked to the Office for National Statistics mortality database in 9 studies. Most studies of dementia included Alzheimer's disease, and vascular and frontotemporal dementias; 3 studies evaluated domains of cognitive function. Fatigue definitions varied little, including chronic fatigue syndrome, neurasthenia, and post viral fatigue syndrome. All studies of sexual dysfunction focused on male conditions, principally erectile dysfunction. Sleep disorders included insomnia and hypersomnia. There was substantial variability in the codes used to identify outcomes; validation of codelists was carried out for 21/120 studies.

*Conclusions:* Detailed information about codes used to identify mental health and quality of life outcomes in UK primary care databases was unavailable for around half of studies of these outcomes; where available, definitions and codelists were heterogeneous and rarely validated.

### Strengths and limitations of this study

- Comprehensive systematic review of the literature aiming at describing the methods used to identify outcomes of mental health and quality of life in electronic health records databases in the UK;
- Potential for error in the selection of the eligible studies minimised by duplication of the screening;
- The authors of the original studies were contacted to obtain the list of Read codes used when these were not publicly available;
- We only considered definitions of study outcomes, and did not consider studies where mental health or quality of life variables were covariates or exposure variables, limiting the generalisability of our results to these other contexts.

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The copyright of the morbidity definitions/categorisations lists (©2014) obtained from the authors for the studies by Roddy et al, 2013, Abdul Sultan et al, 2017, and Mansfield et al, 2018, are owned by Keele University, the development of which was supported by the Primary Care Research Consortium. The authors would like to acknowledge Keele University's Prognosis and Consultation Epidemiology Research Group who have given us permission to utilise the morbidity definitions/categorisations lists (©2014); for access/details relating to the morbidity definitions/categorisation lists (©2014) please go to [www.keele.ac.uk/mrr](http://www.keele.ac.uk/mrr).

### Conflict of interest

Dr Bhaskaran reports grants from Wellcome Trust, the Royal Society, Medical Research Council, and British Heart Foundation, outside the submitted work. Dr Williams reports that

1  
2  
3 CPRD has financial relationships with its clients, including the London School of Hygiene and  
4 Tropical Medicine, in relation to providing access to research data and services outside the  
5 submitted work. The other authors in this report have no conflict of interest to disclose.  
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## Introduction

Primary care databases of electronic health records (EHR) in the United Kingdom (UK) such as The Clinical Practice Research Datalink (CPRD), QResearch or The Health Improvement Network (THIN) have been widely used to study mental health outcomes such as depression [1, 2], and other key aspects of quality of life, such as fatigue and pain [3, 4], even though the identification of patients with these conditions is not straightforward.

Strategies to identify patients with a given condition in the EHRs typically include generating lists of relevant codes, then searching the patients' record for these codes to identify symptoms, diagnoses, referrals, appointments for disease management and monitoring, and/or prescriptions of interest [5]. The process of developing a list of codes of interest, and deciding how to apply them, may be subjective. For example, a study on the selection of codes for stroke, a relatively well-defined clinical outcome, showed that researchers with clinical and epidemiological experience may have differing interpretations of the relevance of each code [6]. A systematic review on the identification of patients with cancer in UK primary care databases described several combinations of Read codes used across studies [7]. Estimates of validity of diagnoses in these databases have been generally high across disease types [8, 9], but the heterogeneity in the codelists raises issues of misclassification, and hampers the comparability of studies using the same data to assess the same outcome [10]. The pattern of use of the codes by the general practitioners (GPs) also needs consideration. For example, in recording depression, it has been shown that GPs have switched from diagnostic to symptom codes in recent years [11]; this may have a large impact on outcome definitions based around diagnostic codes. In addition, outcome definitions using prescription data may lead to misclassification where drugs have multiple indications: for example, sertraline, paroxetine, or escitalopram, amongst the most commonly used antidepressants, are also first-line treatments for generalised anxiety disorder [12]; and amitriptyline, a tricyclic antidepressant, is also a first-line treatment for neuropathic pain [13].

Given the broad interest in mental health and quality of life outcomes, and the strong potential for primary care data to contribute to studying these outcomes, our aim was to systematically review and summarise the strategies used to define such outcomes in previous studies, and the extent to which case definitions have been validated.

## Methods

### Outcomes of interest

The outcomes of interest for this review were: anxiety, depression, fatigue, dementia and mild cognitive impairment, pain, sexual dysfunction, sleep disorder and fatal and non-fatal self-harm. We considered that a study provided data for mild cognitive impairment when domains of cognitive function were studied (i.e. attention, executive function, memory, language, motor, and social). Composite outcomes of two or more of these outcomes (e.g. psychological impairment defined by anxiety or depression) were also eligible.

### Information sources and search strategy

We searched MEDLINE and Embase via Ovid®, from inception up to 28 June 2018, to identify studies that involved EHRs from primary care databases and studied one of the outcomes of interest (see above). The search expressions are provided in appendix 1, and combined terms to identify primary care databases, terms to identify mental health and quality of life outcomes, and terms indicating UK-based research. The CPRD, THIN and QResearch list of publications, available in their websites, were manually revised to identify additional studies. The lists of bibliographic references of the studies considered eligible for the review were also screened by hand to identify additional studies.

### Studies eligibility

We considered eligible the studies that used data from a primary care database that routinely gathers EHR data from primary care practices in the UK, and in which the outcome of interest was one of those of interest for this study (see list above). This included purely descriptive studies on the incidence/prevalence of the outcome and analytical studies where the condition of interest was one of the main outcomes of the study. Studies of primary care data linked to other sources of data, such as the Hospital Episode Statistics (HES) or the Office for National Statistics (ONS) mortality data, were also considered eligible.

Abstracts from conferences were excluded, as it was unlikely that the methods section would provide sufficiently detailed information on the definition of the outcomes. Studies of pain caused by infectious agents (e.g. herpes zoster) were excluded; similarly, studies of sleep apnoea and narcolepsy were excluded due to their unlikely psychological origin [14, 15]. Studies reporting only on patterns of treatment of the conditions of interest were excluded, unless pharmacological treatment was clearly used as a proxy for the definition of the



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3 condition. Studies where the outcome of interest was comorbidity were also excluded. Where  
4 there were multiple studies from the same group of authors, we considered these separately,  
5 since the definition of the same outcomes could have been updated over time.  
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8 The eligibility of the studies was determined by two authors (HC and HS) reviewing all  
9 records retrieved from the publications databases. First, the title of each study was read to  
10 determine the eligibility for the review; when the information provided in the title was  
11 insufficient for a clear exclusion of the study, the study was considered for further  
12 assessment. Secondly, the full text of each study not previously excluded was read, in order  
13 to determine the eligibility. Disagreements over study eligibility between the two reviewers  
14 were resolved by discussion, including with a third researcher (KB or RW) where needed.  
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### 21 Data acquisition and extraction

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23 We abstracted data on study characteristics (title, study design), the primary care database  
24 used, any database(s) linked to the primary care data, outcome(s) reported, definition of the  
25 outcome(s) (i.e. Read codes, drug prescriptions, International Classification of Diseases  
26 (ICD) codes, etc.) and any codelist available. When there were two or more definitions of the  
27 outcome (e.g. used in sensitivity analyses), we abstracted all information but considered only  
28 the main outcome for data analysis in this review. We also abstracted data on whether the  
29 codelist had been validated, and any description related to the handling of past or prevalent  
30 episodes of these outcomes. We considered that the study had attempted to validate the list  
31 of codes when the results were compared to data from another source, or when outcomes  
32 were confirmed by enquiring the patients' GP or by reviewing the patients' medical record.  
33 The data extraction process was repeated by a second author (HS) for 10% of the papers  
34 included for each outcome, to check for reliability in the extraction process.  
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42 When a study did not provide the codelist for the definition of the outcome in the original  
43 publication or in a publicly available repository, we contacted the corresponding author of the  
44 study by email seeking this information (appendix 2). In the case of emails that could not be  
45 delivered to the corresponding author, we searched the contact of another study author,  
46 usually the first or the last author, and addressed the email to her/him; if this failed to be  
47 delivered, no further attempt of contact was made. For all delivered emails, if no response  
48 was received within two weeks, a follow up email was sent.  
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### 55 Data analysis

56 We produced descriptive tables showing the number and proportion of studies eligible for  
57 each outcome, by primary care database and codelist availability. We described, for each  
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3 outcome, the types of codes used in the definition of the outcomes (e.g. diagnosis codes,  
4 symptom codes, prescription codes). The lists of codes were also reviewed to assess the  
5 clinical characteristics of the disorders included (e.g. whether mixed anxiety and depression  
6 was included in the definition of anxiety or depression); this was done by manually reviewing  
7 the list of codes to identify codes related to different clinical characteristics of the specific  
8 outcome. To describe the Read codes most commonly used to identify these outcomes in  
9 the data, we produced a list of Read codes sorted by number of studies that used the code.  
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11 The results of the validation studies described in the original papers were reported  
12 descriptively.  
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## Results

Of 5,946 records initially identified in the bibliographic references search, 2,979 were discarded as being duplicated, which left 2,967 records to be assessed for eligibility (Figure 1). The title assessment resulted in the exclusion of 2,485 records, and 482 studies were considered for full text assessment. Of these, 368 studies were excluded, mostly because they were abstracts from conferences or did not evaluate relevant outcomes. Six papers were identified from the screening of the references. A total of 120 studies were eligible for the systematic review. The results for each outcome are provided below.

### *Anxiety*

12 studies had anxiety as an outcome (Table 1, appendix table 3); of these, two studied panic only [2, 16]. The list of codes used to identify outcomes of anxiety was available for 5 of the 12 studies (41.7%); in one study, the cases of anxiety were identified in CPRD data linked to HES. All 12 studies included codes for diagnosis of anxiety, and 4 (33.3%) included also codes for anxiety symptoms. Prescriptions were considered in the definition of the outcome in 1 study only (8.3%).

Of the 5 studies for which codelists were available, 5 included codes for generalized anxiety disorder (100%), 4 for phobia (80.0%), 4 for panic disorder/attacks (80.0%), 3 for mixed anxiety and depression (60.0%), and 2 for stress-related disorders (40.0%) (Table 2). Codes for post-traumatic stress disorder and obsession-compulsion were less often included (1 study each, 20.0%).

Only one study reported including drugs prescriptions in the definition of the outcome [17]; this considered diazepam and lorazepam only (Table 3).

Two studies [2, 18] assessed the validity of the codelists (Table 4). The proportion of cases confirmed was reported in one study: 73.5% for cases treated with anxiolytics, antidepressants and hypnotics, and 89.6% in those not pharmacologically treated [18].

Appendix 11 provides the list of Read codes used to identify patients with anxiety in the eligible studies; appendix 20 provides the list of ICD-10 codes.

### *Depression*

42 studies identified outcomes of depression (Table 1, appendix table 4). The list of codes used to identify outcomes of depression was available for 17 of the 42 studies (40.5%); 2 studies identified cases of depression in primary care data linked to HES data, using ICD-10

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3 codes. Six studies defined depression by proxy of antidepressants intake only; the remaining  
4 36 studies described to have included codes for diagnoses of depression and 6 (14.3%)  
5 studies also considered symptoms of depression in the definition of the outcome. 15 studies  
6 (35.7%) reported having excluded patients with history of depression.  
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10 Of the 17 studies for which the codelists were available, 10 included codes for mixed anxiety  
11 and depression (58.8%), 4 for bipolar disorder (23.5%) and 3 for depression in dementia  
12 (17.6%) (Table 2).  
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14 Antidepressant prescriptions, in isolation or combination with diagnostic/symptoms Read  
15 codes, were considered in the identification of patients with depression in 21 studies (50.0%);  
16 in 6 studies, depression was solely defined by the prescription of antidepressants (Table 3).  
17 The list of antidepressant categories was seldom provided; of the studies that reported this  
18 information, selective serotonin re-uptake inhibitors were the group most often considered (6  
19 studies), followed by monoamine-oxidase inhibitors and tricyclic and related antidepressants  
20 drugs (3 studies each).  
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22 Five studies (11.9%) assessed the performance of the list of codes to identify patients with  
23 depression (Table 4). The proportion of cases confirmed was reported by two studies only:  
24 83.3% [19] and 89.6% [20].  
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26 The list of Read codes used to identify patients with depression is provided in appendix 12;  
27 appendix 21 provides the list of ICD-10 codes.  
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### 37 *Composite outcome of anxiety and depression*

38 Two studies provided data for composite outcomes of anxiety and depression (Table 1 and  
39 appendix table 5). The codelist was available for the two studies. The studies reported  
40 including codes for symptoms as well as diagnosis of anxiety and depression, and included  
41 prescriptions of antidepressants and antianxiety drugs in the definition of the outcome.  
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44 John et al. [21] compared the performance of 12 different algorithms to identify patients with  
45 anxiety and depression in the Secure Anonymised Information Linkage Databank (SAIL); the  
46 positive predictive value of the Read codes for anxiety and depression diagnoses, symptoms  
47 and treatments, against the five-item Mental Health Inventory (gold-standard), varied  
48 between 61% and 76% [21] (Table 4). The list of Read codes used to identify patients with  
49 composite outcomes of anxiety and depression is provided in appendix 13.  
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### *Dementia and cognitive impairment*

27 studies reported outcomes of dementia or cognitive function (Table 1, appendix table 6). The codelists were available for 17 studies (63.0%); in two studies dementia was ascertained in primary care data linked to other sources of data. All studies included codes for diagnosis of dementia or cognitive impairment, and 6 studies (22.2%) reported to have included also codes for symptoms of dementia. 21 studies (77.8%) referred to have excluded patients with prior diagnoses of dementia from longitudinal analyses.

Of the 17 studies for which the codelists were available, 13 reported codes for Alzheimer's disease (81.3%), 13 for vascular dementia (81.3%), 12 for frontotemporal dementia (75.0%), and 11 for Lewy bodies disease (68.8%) (Table 2). Three studies reported data for cognitive impairment without dementia (17.6%).

Four studies (14.8%) used prescriptions in the identification of patients with dementia; all four included anticholinesterases and dopaminergic agents (Table 3).

Five studies [22-26] involved validation of the list of codes; the proportion of cases confirmed varied between 74% and 100% (Table 4).

The list of Read codes used in the studies is provided in appendix 14; the list of ICD-10 codes is provided in appendix 22.

### *Fatigue*

Six studies had fatigue as the outcome (Table 1, appendix table 7). All studies considered codes for diagnoses of fatigue, and 5 studies also described including codes for symptoms of fatigue. The list of codes use to identify patients with fatigue was provided in 3 studies (50.0%).

The three studies for which the codelist was available included codes for chronic fatigue syndrome, neurasthenia and post-viral fatigue syndrome (Table 2). Fibromyalgia was included in two studies (66.7%). None of the studies involved methods to assess the validity of the list of the codes. The list of Read codes used in the studies of fatigue is available in appendix 15.

### *Pain*

8 studies had pain as the outcome (Table 1, appendix table 8). The list of codes was available for 4 of the 8 studies. Of these 4 studies, three looked at pain by body site (i.e. chest, abdominal, musculoskeletal pain), one study studied widespread body pain (Table 2). Two studies included drugs in the identification of patients with pain; all considered anti-

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3 epileptics (in the absence of codes for an epilepsy diagnosis), anaesthetics, antidepressants  
4 and analgesics (Table 3).

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6 Three studies validated the list of selection of the codes (Table 4). The proportion of cases  
7 confirmed varied between 56% and 86.4%. One study compared pain recorded in the EHR  
8 with pain reported in a survey; in 97% of the self-reported cases of pain, there was an entry  
9 in the EHR [27].  
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13 Appendix 16 provides the list of codes used in the original studies.  
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### 16 17 *Sexual dysfunction*

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19 Six studies had sexual dysfunction as an outcome, all of which focused on male sexual  
20 dysfunction (Table 1, appendix table 9). Three studies provided codelists (50.0%). Of these,  
21 all included codes for erectile dysfunction and one study included codes for other male  
22 sexual dysfunctions (Table 2). Three studies included considered the prescription of drugs  
23 sufficient to ascertain the outcome; two studies considered phosphodiesterase type-5  
24 inhibitors (Table 3). No study involved methods to validate the list of codes used. The list of  
25 Read codes used in the original studies are available in appendix 17.  
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### 32 33 *Sleep disorders*

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35 Two studies were eligible for sleep disorders (Table 1, supplementary table 10); the two  
36 studies included diagnoses of insomnia, and one included hypersomnia as well (50%) (Table  
37 2). The list of codes was available for one study. No validation was reported. Appendix 18  
38 provides the list of Read codes used in the original study.  
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### 42 43 *Fatal and non-fatal self-harm*

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45 41 studies had outcomes related to fatal and non-fatal self-harm (Table 1 and supplementary  
46 table 11). The list of codes used to defined the outcomes was available for 21 studies  
47 (51.2%); 9 studies reported using ICD-10 codes.  
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50 Of the 21 studies for which the codelist was available, 17 studies (80.9%) included  
51 completed suicide, while 4 studies focused on attempted suicide only (19.1%). Of the 17  
52 studies including completed suicide as an outcome, 8 reported only completed suicides, 6  
53 considered completed and attempted suicides and 4 included complete and attempted  
54 suicide, as well as self-harm (Table 2). All studies where outcomes were identified using  
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3 primary care data linked to ONS mortality data (gold-standard) considered deaths recorded  
4 as of undetermined intent in the definition of suicide.  
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7 Nine studies involved some method of validation of the list of cases identified via code  
8 search (Table 4). Four studies referred to have revised the clinical record of the patient to  
9 determine the final outcome and two studies asked the GPs to confirm the events. The  
10 proportion of cases confirmed varied between 21.2% and 97%. Hall et al [28] assessed the  
11 validity of cause of death recording in the THIN primary care database through search of the  
12 free text and death certificate review; the underlying cause of death registered in the death  
13 certificate was listed as the cause of death in the EHR in 70% of the cases. Thomas et al [29]  
14 compared the ascertainment of cases of suicide and self-harm using Read codes in CPRD,  
15 with those ascertained when data from HES and ONS mortality data were available. 26.1%  
16 of the cases of suicide identified in the ONS mortality data were registered in the CPRD  
17 primary care database. HES was considered the gold-standard for self-harm; 68.4% of the  
18 cases of self-harm in HES were identified as such in CPRD.  
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21 Appendix 19 provides the list of Read codes used to identify outcomes of fatal and non-fatal  
22 self-harm in primary care data; appendix 23 includes the lists of ICD-10 codes using in  
23 studies of linked data.  
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## Discussion

### *Results overview*

This review summarised the definitions and combinations of codes used to identify outcomes of anxiety, depression, dementia and cognitive impairment, fatigue, pain, sexual dysfunction, sleep disorder and self-injurious behaviour in primary care databases of patients in the UK. The list of codes used in the original studies was obtained for approximately half of the papers. In the studies where the codelist was available, for all outcomes, there was substantial heterogeneity in the type of codes included (e.g. diagnoses and symptoms) and drugs selected to identify outcomes; for the remaining studies, the details provided in the original publications suggest a similar pattern. We also noted considerable variability in the clinical definition of some outcomes (e.g. inclusion/exclusion of bipolar disorders in studies of depression). Validation of methods used to identify these outcomes was rarely carried out; where done, positive predictive values of case definitions were variable but mostly above 80%.

### *Strengths and limitations*

This review is based on an extensive search of the studies involving EHRs in the UK. Errors in study selection and data extraction were minimized by the independent assessment of the studies by two investigators. We contacted the authors of all original studies where the list of codes had not been provided in the original publication to seek this information; this largely improved the number of studies for which lists of codes were available, and contributed to a more detailed characterisation of the methods used to defined mental health outcomes in primary care databases of EHR in the UK.

However, this review has limitations. Some relevant studies may have been missed due to imperfect search terms, as there is no MESH term for the primary care databases, and studies could be potentially missed if the keywords didn't appear in the title and abstract, or due to inaccurate indexing in the publications database. We attempted to minimise the risk of missing potential eligible studies by using broad search terms incorporating both indexing terms and keywords, two databases with different indexing systems, and an additional manual check of the eligible studies and list of bibliographic references from the main EHR databases. We only considered studies where mental health or quality of life variables were the outcomes of interest, limiting generalisability to other contexts. For example, we excluded studies where these variables were covariates because we expected that detailed



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3 information about covariate definitions would rarely be available. We also excluded studies  
4 where the mental health or quality of life variable was used to define the patient population  
5 (e.g. a study of risk of stroke in depressed patients), on the basis that decisions about how to  
6 define cases may have had quite different motivations in this context, compared with studies  
7 where the condition was the outcome of the study, making case definitions difficult to  
8 meaningfully compare. We included studies that explicitly referred to using prescription data  
9 as a proxy for the definition of the condition (e.g. treated depression assessed by proxy of  
10 antidepressant intake), but we acknowledge that it was not always clear to decide whether  
11 treatment of the condition was being used to define the condition. This could have resulted in  
12 a few studies erroneously excluded, even though this should have been minimised by the  
13 duplication of the search and study selection process by two researchers working  
14 independently, with discussion of all discordant results. It is unclear if the list of codes that  
15 could not be obtained differ in any systematic way to the ones obtained. Some authors  
16 expressed concerns over intellectual property when sharing the list of codes, and this may  
17 have been a bigger concern among those who put a lot of time and thought into their  
18 codelists; on the other hand, authors who have concerns about the quality of their codelist  
19 may have been less willing to share them. Lastly, we summarised the types of codes used to  
20 define the outcome based on what was stated in individual studies' methods sections  
21 (because code lists were not available for all studies), but this may have been inaccurate: for  
22 example, some studies that reported in their methods only including diagnosis codes then  
23 provided code lists that appeared to also contain symptom codes.  
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#### 40 *Availability of the list of codes*

41 The list of codes was provided in the original publications for just over a quarter of the  
42 studies. Contacting the authors resulted in codelists being made available for approximately  
43 half of the studies. For the remaining studies, the authors either could not be contacted (e.g.  
44 moved institutions, retired) or could not locate the relevant codelist (including for some  
45 studies where the paper had stated that the codelist would be available on request).  
46 Provision of codelists within the publication or in a web repository would eliminate the  
47 difficulties of authors having to be contacted and archived codelists retrieved. Most journals  
48 currently accept codelists in supplementary appendices. Codelists were hardly ever obtained  
49 for older studies, especially those published before 2000, when email addresses were not  
50 routinely included in the details of the corresponding authors. We searched for alternative  
51 contacts in these cases, but not always successfully.  
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### *Variability in the definition of cases and codelists*

#### Anxiety and depression

Anxiety was often defined with diagnostic and symptoms codes, and in a few studies by the prescription of anxiolytics and hypnotics. Even though the sensitivity of symptoms codes for anxiety is expected to be high, the positive predictive value is unknown. Anxiolytics may also result in misclassification of the outcomes, as they are currently discouraged as first line of treatment for anxiety [12] and are often prescribed for management of other conditions such as insomnia. No study considered antidepressants in the definition of anxiety even though these are currently used to manage anxiety [12]; this may have resulted in cases of anxiety treated with antidepressants, and where no Read code was available, being missed.

The inclusion/exclusion of codes for symptoms may have a larger impact in the definition of depression, as it has been shown that GPs switched from diagnostic to symptoms codes after the introduction of performance indicators in the GP contract quality and outcomes framework in 2006 [11] and under claims that depression was being over diagnosed [30, 31]. Codelists solely relying on Read codes for diagnosis of depression are therefore likely to have low sensitivity, but the impact of including/excluding a specific code will be variable, depending on how often that code is used by GPs at the point of providing care. In a few studies, depression was defined by proxy of antidepressant prescribing, alone or in combination with Read codes for symptoms/diagnosis. Considering antidepressant prescribing in the definition of depression has several issues. Certain types of antidepressants are currently used as first line of treatment for other conditions, such as pain and anxiety, and the studies relying solely on this information will be affected by misclassification of the outcome; some studies took this into account by excluding low dose tricyclic antidepressants, usually prescribed for pain, from their list of codes used to define depression [32-34]. Amongst the studies that did include antidepressants in their definition, there was heterogeneity in the group of antidepressants included, with some studies selecting only a few specific drugs commonly used for the treatment of depression. Studies defining depression by proxy of antidepressant prescribing only are likely also to be affected by changes in the behaviour of antidepressant prescribing. In 2004, the National Institute for Clinical Excellence (NICE) issue guidelines discouraging antidepressants for mild depression [35], and in 2006 a performance indicator in the UK GP Quality and Outcomes Framework (QOF) pay for performance [36] was introduced for depression severity assessed with validated symptoms questionnaires. Following this measure, the proportion of new cases of pharmacologically treated depression decreased (from 73% in 2003 to 61% in 2012 [37]), but the proportion of recurrent episodes pharmacologically treated increased from 74.3% to

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3 77.8% [37]. Treatment duration times with antidepressants also increased over time [38]; this  
4 may affect the number of new episodes of depression identified in the studies. In several  
5 studies, the authors chose to report separate results for antidepressant prescribing, without  
6 using this information to ascertain the outcome of depression [39, 40]; this may partially be  
7 due to the difficulties of ascertaining the indications for which antidepressants were  
8 described. John et al, 2016 explored the indications of antidepressants; more than half of the  
9 new antidepressant prescriptions were for depression, with increasing but low incidence of  
10 prescriptions for pain and anxiety, but the authors could not identify the indication for  
11 antidepressants in 17% of the new prescriptions [41].

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Regardless of the type of codes included, authors will need to often choose the  
inclusion/exclusion of codes relating to the clinical profile of the patients. This may have a  
particular impact for conditions that are highly co-morbid. For example, the code for 'mixed  
anxiety and depression' was sometimes used in the definition of anxiety and in the definition  
of depression; anxiety and depression are highly co-morbid and the inclusion/exclusion of  
these patients may have an impact on the results. In addition, for depression, the inclusion of  
codes related to depression in the context of bipolar disease, dementia and schizophrenia  
may raise issues as to whether it represents a primary depressive episode.

Part of the heterogeneity in the list of codes used to identify these outcomes may be  
explained by the complexity of these conditions and by the purpose for which these data are  
collected. Electronic health care data are primarily collected to provide patients with  
treatment, and distinctions between diagnosis and symptoms may have less weight at the  
point of care than when researchers aim to define these conditions using data routinely  
collected.

#### Fatal and non-fatal self-harm

Routinely collected primary care data was shown to have low sensitivity to detect cases of  
suicide [29]. Thus, record linkage to ONS mortality data is of interest; this has the advantage  
of including causes of death other than suicide. Ascertainment of the cause of death is not  
always straightforward when the death is non-natural, and several studies have included  
cases of accidents and open verdicts in their case definition. Open verdicts have been shown  
to include many similarities with suicides, and several are later registered as suicides; these  
are recommended to be included in studies of suicide [42]. Studies varied on whether cases  
of self-harm without suicidal ideation were included (e.g. Rubino et al reviewed free text to  
exclude those who did not seem to have attempted suicide [43]). For self-harm, linkage to  
HES data will allow for more cases to be identified [29], even though authors must consider

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3 the balance between reduction of sample size and ascertainment of the outcome, as linkage  
4 is only available for a subset of patients.  
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### 6 Pain

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9 The aetiology and location of pain in the studies involved in this review varied due to our  
10 broad inclusion criteria. When pharmacological treatment was included in the definition of  
11 pain, this was most often done with prescriptions of antidepressants and anti-epileptics.  
12 Antidepressants such as first generation tricyclic antidepressants have been used for over 30  
13 years to manage neuropathic pain (e.g. amitriptyline, doxepin, clomipramine and dosulepin)  
14 [44]. The dosages needed to treat pain are generally lower than the ones to treat depression  
15 [44]. Antiepileptic drugs reduce neuronal excitability and alleviate pain through several  
16 mechanisms [44].  
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### 22 Other outcomes

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24 We considered cognitive impairment and dementia as a composite outcome; 10% and 20%  
25 of all patients with mild cognitive impairment are expected to convert to dementia [45, 46].  
26 Fewer studies had fatigue, sexual dysfunction and sleep disorders as the outcome, and no  
27 study was eligible for female sexual dysfunction. The definition of these outcomes varied little  
28 across the studies but the small numbers preclude firm conclusions. It has been reported that  
29 chronic fatigue increased prior to 2001 [3], but decreased during 2001 and 2013, possibly  
30 due to the introduction of diagnostic criteria from NICE [47]; increases were noted in the  
31 diagnoses of fibromyalgia [48]. This may reflect the complexity of diagnosing fatigue, which is  
32 done by exclusion of other causes only [47].  
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### 42 *Validation*

43 Information on outcomes identified in EHRs may be affected by lack of validity: a person  
44 meeting the operational definition for the outcome based on specific codes may not have the  
45 diagnosis or vice-versa. Only a small number of studies assessed validity in their studies,  
46 and this was almost always about assessing positive predictive value of the case definition,  
47 with sensitivity and specificity rarely explored. Of these, some studies only stated that  
48 validation had been carried out, but did not report the results, which makes the performance  
49 of the case definition unclear. However, the studies that reported results tended to show a  
50 high proportion of cases confirmed by their primary care physician or by further investigations  
51 (i.e. a high positive predictive value). This is in accordance with the results of two systematic  
52 reviews that assessed the validity of the diagnostic coding within the CPRD primary care  
53 database [8, 9]. Studies in which identified cases were validated by the GP did not usually  
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3 specify how this validation was done – i.e. whether the GPs confirmed cases by consulting  
4 the EHR, referring to additional information, relying on memory, or using other methods. If  
5 GPs simply checked the same EHR used to identify the case in the first place, resulting  
6 estimates of positive predictive value would be expected to be high, but may be misleadingly  
7 optimistic.  
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### 11 12 13 14 *Implications*

15 Mental health and quality of life-related outcomes are difficult to identify in EHR databases  
16 and thus extra care needs to be used when defining these outcomes. The use of a particular  
17 code varies between GP practices; for example, a study on the inter-practice use of Read  
18 codes for diabetes showed that the most generic code was used in 14% to 98% of the  
19 patients with diabetes in the practice [49]; it is reasonable that this pattern applies to other  
20 conditions. GPs can derive Read codes for their practice; this may raise issues with new  
21 codes being added over time [50], and codelists that need to be updated. It is important that  
22 authors clearly document the process of selection of the codes, so that these are available  
23 with clear rationale if needed [5]. Some studies of depression and dementia referred to using  
24 the Read codes recommended by the QOF [36]; these are likely to be highly specific. It is  
25 also important to better understand the patterns of recording of some of these conditions, as  
26 changes in the patterns of use of the codes may have impact in the list of codes chosen. The  
27 inclusion of codes for symptoms and prescriptions must consider what is known about the  
28 use of codes by GPs at the point of patient providing care, as data recording in this setting is  
29 primarily intended to support clinical care.  
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39 Validation of the outcomes appears to be essential to understand the validity of case  
40 definitions. A balance between sensitivity and specificity may be considered depending on  
41 the aim of the study [5]; for depression, for example, the inclusion of terms such as ‘Low  
42 mood’ may increase sensitivity, at the expense of decreased specificity, as some individuals  
43 who would not fit more stringent criteria for a diagnosis will be incorrectly classified as  
44 depressed [5]. Studies might consider to use internal validation strategies, by assessing the  
45 proportion of patients referred for treatment or prescribed a relevant pharmacological agent.  
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50 Despite the difficulties of assessing each separate outcome, we must take into account that  
51 mental health disorder symptoms often overlap, and is difficult to disentangle what is  
52 attributable to each condition. Lastly, these conditions have a long period of exposure to  
53 medication after symptoms have disappeared, besides a high probability of relapse and  
54 recurrence [51], which may raise issues on whether the condition is incident or prevalent.  
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## Conclusions

Detailed information about codes used to identify mental health and quality of life outcomes in UK primary care databases was unavailable for around half of studies of these outcomes. Where available, there was substantial heterogeneity in the list of codes used to ascertain cases. Most studies did not validate case definitions, though when this was done, positive predictive values were generally high. Future studies should fully report outcomes definitions and seek to validate the list of codes used to identify these outcomes.

For peer review only

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3 **Authors' contributions**

4 HC, RW and KB designed the study. HC and HS screened the bibliographic references and  
5 performed data extraction. HC wrote the first draft of the article. All authors revised the article  
6 for important intellectual content and agreed with the final version.  
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**Table 1. Characteristics of the studies included in the systematic review.**

	Anxiety		Depression		Anxiety and depression (composite outcome)		Dementia/ cognitive impairment		Fatigue		Pain		Sexual dysfunction (male)		Sleep disorders		Fatal and non-fatal self-harm	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Total number of studies</b>	12	100.0	42	100.0	2	100.0	27	100.0	6	100.0	8	100.0	6	100.0	2	100.0	41	100.0
<b>Main primary care database</b>																		
CPRD	7	58.3	24	57.1	0	0.0	21	77.8	5	83.3	5	62.5	4	66.7	1	50.0	31	75.6
PCCIU	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
THIN	5	41.7	10	23.8	1	50.0	5	18.5	1	16.7	0	0.0	2	33.3	0	0.0	6	14.6
Other	0	0.0	7	16.7	1	50.0	1	3.7	0	0.0	3	37.5	0	0.0	1	50.0	4	9.8
<b>Outcome ascertained using linked data (HES or ONS)</b>																		
Yes	1	8.3	2	4.8	0	0.0	2	7.4	0	0.0	0	0.0	0	0.0	0	0.0	9	22.0
No	11	91.7	40	95.2	2	100.0	25	92.6	6	100.0	8	100.0	6	100.0	2	100.0	32	78.0
<b>Code list availability</b>																		
Total number of studies with code lists available	5	41.7	17	40.5	2	100.0	17	63.0	3	50.0	4	50.0	3	50.0	1	50.0	21	51.2
Stated in publication	2	16.7	7	16.7	1	50.0	10	37.0	1	16.7	2	25.0	2	33.3	1	50.0	17	41.5
Cited another paper or web repository	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	12.5	0	0.0	0	0.0	0	0.0
Obtained from authors	3	25.0	10	23.8	1	50.0	7	25.9	2	33.3	1	12.5	1	16.7	0	0.0	4	9.8
Total number of studies with code lists not available	7	58.3	25	59.5	0	0.0	10	37.0	3	50.0	4	50.0	3	50.0	1	50.0	20	48.8
Cited another paper or web repository but couldn't obtain	1	8.3	1	2.4	0	0.0	1	3.7	1	16.7	0	0.0	0	0.0	0	0.0	3	7.3
Stated available on request but didn't provide	2	16.7	4	9.5	0	0.0	3	11.1	2	33.3	0	0.0	1	16.7	1	50.0	0	0.0
Not mentioned in the paper and didn't provide	4	33.3	19	45.2	0	0.0	6	22.2	0	0.0	4	50.0	2	33.3	0	0.0	17	41.5
<b>Type of codes available †</b>																		
Read/medical codes	5	100.0	14	82.4	2	100.0	17	100.0	3	100.0	4	100.0	3	100.0	1	100.0	8	42.1
OXMIS codes	0	0.0	3	17.6	0	0.0	0	0.0	0	0.0	2	50.0	0	0.0	0	0.0	8	42.1
ICD codes	1	20.0	2	4.8	0	0.0	2	11.7	0	0.0	0	0.0	0	0.0	0	0.0	9	47.4

	Anxiety		Depression		Anxiety and depression (composite outcome)		Dementia/cognitive impairment		Fatigue		Pain		Sexual dysfunction (male)		Sleep disorders		Fatal and non-fatal self-harm									
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%								
<b>Definition of the outcome †</b>																										
Study described that codes for diagnosis were included																										
Yes [in isolation*]	12	100.0	[5]	37	88.1	[14]	2	100.0	[0]	27	100.0	[19]	6	100.0	[1]	-	-	5	83.3	[2]	2	100.0	[2]	-	-	
No	0	0.0		5	11.9		0	0.0		0	0.0		0	0.0		-	-	1	16.7		0	0.0		-	-	
Unclear	0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		-	-	0	0.0		0	0.0		-	-	
Study described that codes for symptoms were included																										
Yes [in isolation*]	4	33.3	[0]	6	14.3	[0]	2	100.0	[0]	6	22.2	[0]	5	83.3	[0]	8	100.0	[6]	0	0.0	[0]	0	0.0	[0]	-	-
No	6	50.0		33	78.6		0	0.0		20	74.1		1	16.7		0	0.0		4	66.7		2	100.0		-	-
Unclear	2	16.7		3	7.1		0	0.0		1	3.7		0	0.0		0	0.0		2	33.3		0	0.0		-	-
Study described that prescriptions were included																										
Yes [in isolation*]	1	8.3	[0]	21	50.0	[6]	2	100.0	[0]	4	14.8	[0]	0	0.0	[0]	2	25.0	[0]	3	50.0	[1]	0	0.0	[0]	-	-
No	11	91.7		21	50.0		0	0.0		23	85.2		6	100.0		6	75.0		3	50.0		2	100.0		-	-
Unclear	0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		-	-
<b>Handling of outcomes occurring prior to study period</b>																										
Excluded	5	41.7		15	35.7		0	0.0		21	77.8		3	50.0		3	37.5		1	16.7		1	50.0		7	17.1
Adjusted/matched for	2	16.7		8	19.0		0	0.0		1	3.7		1	16.7		0	0.0		3	50.0		0	0.0		10	24.4
Stratified results	1	8.3		3	7.1		2	100.0		0	0.0		1	16.7		0	0.0		3	50.0		0	0.0		4	9.8
Not stated	3	25.0		11	26.2		0	0.0		1	3.7		0	0.0		3	37.5		0	0.0		1	50.0		15	36.6
Not applicable **	2	16.7		8	19.0		0	0.0		4	14.8		2	33.3		2	25.0		0	0.0		0	0.0		9	22.0
<b>Validation of list of codes</b>																										
Yes	2	16.7		5	11.9		1	50.0		5	18.5		0	0.0		3	37.5		0	0.0		0	0.0		9	22.0
None stated	10	83.3		37	88.1		1	50.0		22	81.5		6	100.0		5	62.5		6	100.0		2	100.0		32	78.0
Study aiming at validating the outcome	0	0.0		0	0.0		1	50.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		3	7.3

1 † Defined based on the description of the outcome provided in the original studies. Studies were considered to have included symptoms in the definition of the  
2 outcomes when this information was explicitly stated by the authors. Pain was considered a symptomatic outcome, regardless of how it was described in the  
3 original publications.  
4

5 \* The number of studies where the definition of the outcome included only this category of codes is provided in squared brackets.  
6

7 ‡ Refers only to studies providing codelists. A study may include more than one type of codes.  
8

9 \*\* Depends on study design and outcome. For example, it includes studies describing the epidemiology of first ever diagnoses or focusing on completed  
10 suicide only.  
11

12 CPRD – The Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; ICD – International Classification of Diseases; ONS – Office for National  
13 Statistics; OXMIS – Oxford Medical Information System; PCCIU – Primary Care Clinical Informatics Unit Research Data Set; THIN – The Health Improvement  
14 Network.  
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**Table 2.** Clinical characteristics of the outcomes of interest in the studies for which the list of codes was available.

Study included codes for:	N	(% of total with code lists available)
<b>Anxiety</b>	<b>5</b>	<b>100.0</b>
Generalized anxiety disorder	5	100.0
Panic disorder/attacks	4	80.0
Phobia	4	80.0
Mixed anxiety and depression	3	60.0
Stress-related disorders	2	40.0
Obsession-compulsion	1	20.0
Post-traumatic stress disorder	1	20.0
<b>Depression</b>	<b>17</b>	<b>100.0</b>
Unipolar depression	17	100.0
Depression with psychotic symptoms	14	82.4
Mixed anxiety and depression	10	58.8
Bipolar disorder	4	23.5
Depression in dementia	3	17.6
<b>Dementia / cognitive impairment</b>	<b>17</b>	<b>100.0</b>
Alzheimer's disease	13	81.3
Vascular dementia	13	81.3
Frontotemporal dementia	12	75.0
Lewy Bodies disease	11	68.8
Mild cognitive impairment only	3	17.6
<b>Fatigue</b>	<b>3</b>	<b>100.0</b>
Chronic fatigue syndrome/ myalgic encephalitis	3	100.0
Neurasthenia	3	100.0
Post viral fatigue syndrome	3	100.0
Fibromyalgia	2	66.7
<b>Pain</b>	<b>4</b>	<b>100.0</b>
Chest pain	1	25.0
Chronic widespread pain	1	25.0
Musculoskeletal pain	1	25.0
Unspecified abdominal pain	1	25.0
<b>Sexual dysfunction (male)</b>	<b>3</b>	<b>100.0</b>
Erectile dysfunction	3	100.0
Other male sexual dysfunctions	1	33.3
<b>Sleep disorder</b>	<b>1</b>	<b>100.0</b>
Insomnia	1	100.0
Hypersomnia	1	100.0
<b>Fatal and non-fatal self-harm</b>	<b>21</b>	<b>100.0</b>
<b>Completed suicide</b>	<b>17</b>	<b>80.9</b>
Completed suicide only	8	38.1
Completed and attempted suicide only	6	28.6
Completed and attempted suicide, and self-harm	4	19.1
Included deaths of undetermined intent	7	33.3
<b>Attempted suicide / self-harm</b>	<b>4</b>	<b>19.1</b>

**Table 3.** Pharmacological categories used in the studies that used drug prescriptions to identify patients with the outcome of interest.

<b>Outcome</b>	<b>Number of studies</b>	<b>%</b>
<b>Anxiety</b>	<b>12</b>	<b>100.0</b>
Studies of anxiety that used drugs prescriptions only	0	0.0
Studies of anxiety that used drugs prescriptions Diazepam and lorazepam	1	8.3
	1	8.3
<b>Depression</b>	<b>42</b>	<b>100.0</b>
Studies of depression that used drugs prescriptions only	6	14.3
Studies of depression that used drugs prescriptions Antidepressants, categories not further specified	21	50.0
Antidepressants, categories further specified	15	35.7
Tricyclic and related antidepressant drugs	6	14.3
Monoamine-oxidase inhibitors	3	7.1
Selective serotonin re-uptake inhibitors	3	7.1
Other antidepressant drugs	6	14.3
	3	7.1
<b>Dementia</b>	<b>27</b>	<b>100.0</b>
Studies of dementia that used drugs prescriptions only	0	0.0
Studies of dementia that used drugs prescriptions Anticholinesterases	4	14.8
Dopaminergic drugs	4	14.8
	4	14.8
<b>Pain</b>	<b>8</b>	<b>100.0</b>
Studies of pain that used drugs prescriptions only	2	25.0
Studies of pain that used drugs prescriptions Analgesics, not otherwise specified	2	25.0
Antidepressants	2	25.0
Anti-epileptics	2	25.0
Anaesthetics	2	25.0
<b>Sexual dysfunction (male)</b>	<b>6</b>	<b>100.0</b>
Studies of sexual dysfunction that used drugs prescriptions only	1	16.7
Studies of sexual dysfunction that used drugs prescriptions Phosphodiesterase type-5 inhibitors	3	50.0
Prostaglandin analogues and prostamides	2	33.3
	1	16.7



**Table 4.** Methods and results of the validation of the outcomes reported in the original studies.

Outcome and study authors	Validation method	# case validations completed/ # case validations attempted	% of cases confirmed
<b>Anxiety</b>			
Martin-Merino 2010	GP Questionnaire	135/140	Among pharmacologically treated: 73.5%; Among not pharmacologically treated: 89.6%.
Meier 2004	Record review	nr/nr	nr
<b>Depression</b>			
Becker, 2011	Sensitivity analysis with different definitions	nr/nr	nr
Hagberg, 2016	Record review	nr/nr	nr
Martin-Merino, 2010	GP questionnaire	135/140	89.6%
Meier, 2004	Record review	nr/nr	nr
Yang, 2003	Record review	30/nr	83.3%
<b>Anxiety and depression (composite outcome)</b>			
John, 2016	Compared 12 EHR algorithms to results of the Mental Health Inventory (MHI-5), a subscale of SF-36	2,799*	Between 61% and 76%, depending on the algorithm.
<b>Dementia/ cognitive impairment</b>			
Imfeld, 2015 & Imfeld, 2013	GP questionnaire	nr/120	Alzheimer's disease: 79%; Vascular dementia: 74%.
Dunn, 2005	GP asked to confirm diagnosis	50/200	100%
Dunn, 2005	GP questionnaire	95/~100	83%
Strom, 2015	GP questionnaire	86/100	88.4%
Strom, 2015	Review of free text	1047/1048	1.5% patients excluded as not having the diagnosis; 42.4% confirmed as having definite memory loss, 36.8% possible memory loss, 3.2% undetermined, and 16.0% unknown.
<b>Pain</b>			
Hall, 2013	GP questionnaire	48/54	56%
Mansfield, 2017	EHR data linked to self-reported pain status collected by postal questionnaire	1780*	97%
Becker, 2008	GP questionnaire	176/200	86.4%

Outcome and study authors	Validation method	# case validations completed/ # case validations attempted	% of cases confirmed
<b>Self-harm</b>			
Thomas, 2012	Comparison of cases of suicide and self-harm identified in CPRD with Read codes, with the cases identified in CPRD data linked to HES data, and published self-harm incidence data.	74236*	68.4%
<b>Suicide (attempted and completed)</b>			
Hagberg, 2016	Record review	nr/nr	nr
Haste, 1998	GP asked to confirm suicides	77% of uncertain deaths/nr	82%
Jick, 1995	Record review	nr/nr	nr
Meier, 2004	Record review	nr/nr	nr
Schuerch, 2016	Outcomes identified in CPRD were compared to those identified in CPRD linked to HES and ONS data.	nr/nr	Compared to CPRD data, the frequency of the outcomes in linked data was approximately 3 times higher.
Yang, 2003	Record review	30/nr	83.3%
<b>Suicide (completed)</b>			
Arana, 2010	GP questionnaire and record review	nr/132	97%
Arana, 2010	GP questionnaire and record review	nr/86	87%
Hall, 2009	GP questionnaire and record review	33/33	21.2%
Thomas, 2012	Comparison of cases of suicide and self-harm identified in CPRD with Read codes, with the cases identified in CPRD data linked to ONS mortality data, and national suicide rates.	1767*	59.7% for men; 46.0% for women.

CPRD – Clinical Practice Research Datalink; EHR – electronic health records; GP – general practitioner; HES – Hospital Episode Statistics; nr – not reported; MHI-5 - Mental Health Inventory 5 items; ONS – Office for National Statistics; SF-36 – 36-item Short Form Health Survey.

\* Validation attempted and completed for all patients identified in electronic health records database.

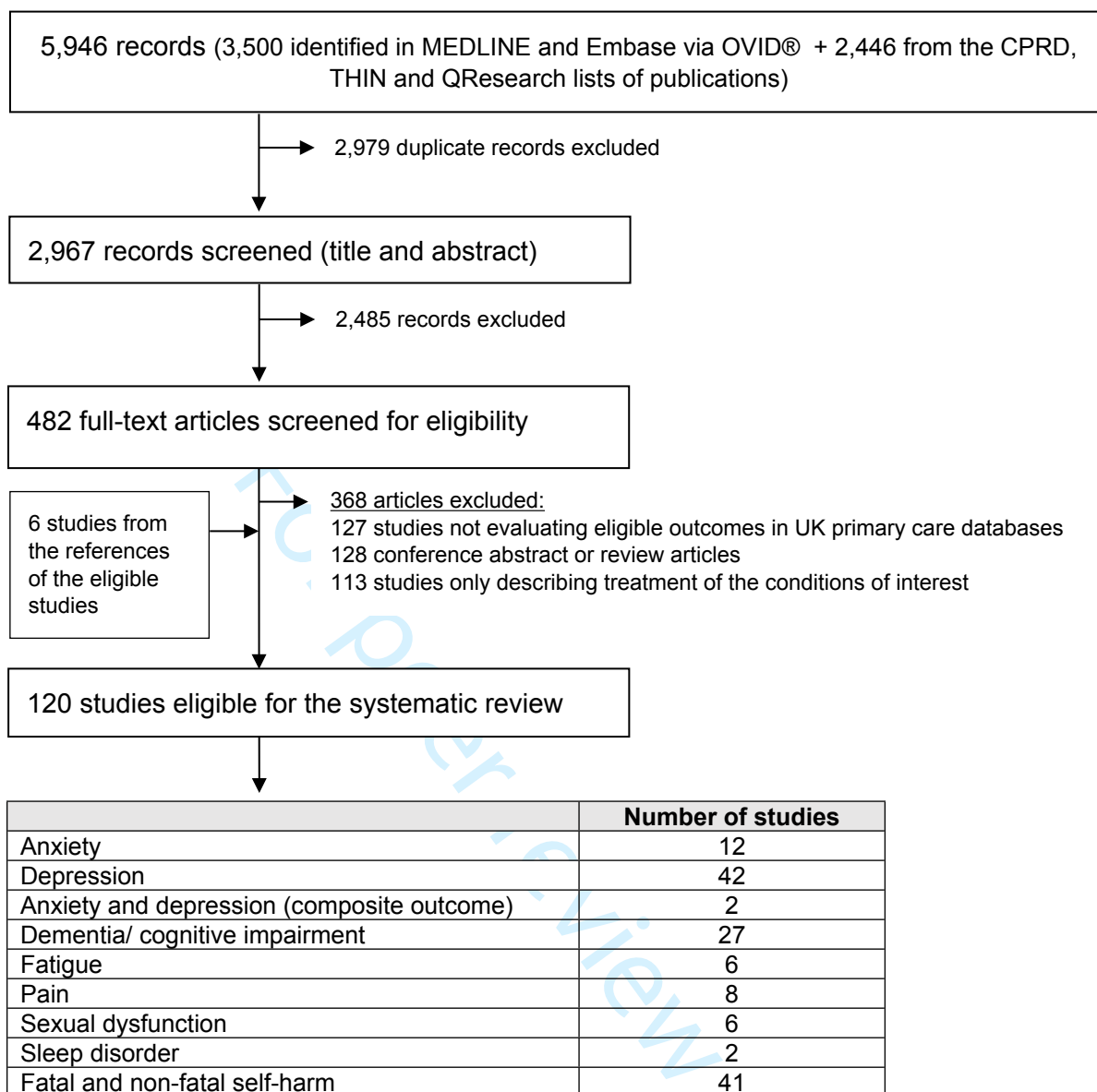


Figure 1.

## Systematic review flowchart.

## Appendix 1.

### MEDLINE search expression, applied via OVID, 28 June 2018

1. CPRD.mp.
2. Clinical Practice Research.mp.
3. GPRD.mp.
4. General Practice Research Database.mp.
5. The Health Improvement Network.mp.
6. QRESEARCH.mp.
7. DIN-LINK.mp.
8. VAMP.mp.
9. Value Added Information Medical.mp.
10. (THIN adj1 (database or dataset or data)).mp.
11. (Read adj1 (term\* or code# or codification)).mp.
12. (diagnostic adj1 (term\* or code#)).mp.
13. Disease Analyzer.mp.
14. Primary care clinical informatics unit.mp.
15. PCCIU.mp.
16. (optimum patient care adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
17. OPCRD.mp.
18. health information network.mp.
19. health improvement network.mp.
20. Q research.mp.
21. (ResearchOne or (Research One adj2 data\*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
22. Doctors Independent Network.mp.
23. SAIL.mp.
24. (SAIL adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
25. mediplus.mp.
26. ((general practice or primary care or primary health care) adj4 data\*).mp.
27. longitudinal patient database.mp.
28. ((EHR or electronic health record\*) adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
29. health care database\*.mp.
30. exp "mental disorders"/
31. exp "behavior and behavior mechanisms"/
32. exp "behavioral disciplines and activities"/
33. exp Psychological Phenomena/
34. exp fatigue/
35. exp pain/
36. exp "Sleep Wake Disorders"/
37. exp central nervous system depressants/
38. exp muscle relaxants, central/
39. exp psychotropic drugs/
40. exp sleep aids, pharmaceutical/

41. (anxiety or anxious\* or panic or anxiolytic\* or (stress not oxidat\*) or depressi\* or dysthymia or antidepress\* or sexual or erectile or suicid\* or self-harm or hopeless\* or sleep or insomnia or hypnotic\* or cognit\* or chemo-fog or chemo-brain or pain or fatigue or (mental adj1 (disorder or disorders)) or antipsychotic).mp.
42. 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41
43. exp United Kingdom/
44. (UK or Britain or British or England or English or Scotland or Scottish or Wales or Welsh Ireland).mp.
45. 43 or 44
46. or/1-29
47. 42 and 45 and 46

### EMBASE search expression, applied via OVID, 28 June 2018

1. CPRD.mp.
2. Clinical Practice Research.mp.
3. GPRD.mp.
4. General Practice Research Database.mp.
5. The Health Improvement Network.mp.
6. QRESEARCH.mp.
7. DIN-LINK.mp.
8. VAMP.mp.
9. Value Added Information Medical.mp.
10. (THIN adj1 (database or dataset or data)).mp.
11. (Read adj1 (term\* or code# or codification)).mp.
12. (diagnostic adj1 (term\* or code#)).mp.
13. Disease Analyzer.mp.
14. Primary care clinical informatics unit.mp.
15. PCCIU.mp.
16. (optimum patient care adj4 data\*).mp.
17. OPCRd.mp.
18. health information network.mp.
19. health improvement network.mp.
20. Q research.mp.
21. (ResearchOne or (Research One adj2 data\*)).mp.
22. Doctors Independent Network.mp.
23. SAIL.mp.
24. (SAIL adj4 data\*).mp.
25. mediplus.mp.
26. ((general practice or primary care or primary health care) adj4 data\*).mp.
27. longitudinal patient database.mp.
28. ((EHR or electronic health record\*) adj4 data\*).mp.
29. health care database\*.mp.
30. or/1-29
31. UK.mp.
32. United Kingdom.mp.
33. England.mp.
34. Wales.mp.
35. Scotland.mp.
36. Northern Ireland.mp.
37. 31 or 32 or 33 or 34 or 35 or 36

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- 2
- 3 38. exp central depressant agent/
- 4 39. exp central muscle relaxant/
- 5 40. exp psychotropic agent/
- 6 41. antidepress\*.mp.
- 7 42. antipsychotic.mp.
- 8 43. anxiolytic.mp.
- 9 44. exp mental capacity/ or exp mental compliance/ or exp mental concentration/ or exp
- 10 mental deficiency/ or exp mental deterioration/ or exp mental development/ or exp mental
- 11 development assessment/ or exp mental disease/ or exp mental disease assessment/ or exp
- 12 mental dissociation/ or mental function/ or exp mental health/ or exp mental health care/ or
- 13 exp mental health center/ or exp mental health organization/ or exp mental health research/
- 14 or exp mental health service/ or exp mental hospital/ or exp mental stress/
- 15 45. depressi\*.mp.
- 16 46. dysthymia.mp.
- 17 47. catatonia.mp.
- 18 48. self-injur\*.mp.
- 19 49. self injury.mp.
- 20 50. self mutilation.mp.
- 21 51. suicid\*.mp.
- 22 52. self-harm.mp.
- 23 53. anxious\*.mp.
- 24 54. anxiety.mp.
- 25 55. panic.mp.
- 26 56. catastroph\*.mp.
- 27 57. phobia.mp.
- 28 58. phobic.mp.
- 29 59. neurotic.mp.
- 30 60. compulsive.mp.
- 31 61. bipolar.mp.
- 32 62. neurotic.mp.
- 33 63. personality.mp.
- 34 64. psychotic.mp.
- 35 65. psychosis.mp.
- 36 66. paranoid.mp.
- 37 67. delusional.mp.
- 38 68. sexual.mp.
- 39 69. insomnia.mp.
- 40 70. exp insomnia/
- 41 71. exp sleep/ or exp sleep disorder/
- 42 72. exp somatoform disorder/
- 43 73. exp substance abuse/ or exp "substance use"/
- 44 74. exp stress/
- 45 75. or/38-74
- 46 76. 30 and 37 and 75
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2  
3 **Appendix 2. Template email sent to corresponding authors of the studies for which a**  
4 **list of codes wasn't provided in the publication.**  
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10 Dear [corresponding author],  
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12

13 I'm currently doing a PhD about mental health and quality of life in breast cancer survivors.  
14 As part of my PhD, I'm conducting a systematic review of the studies that assessed mental  
15 health outcomes using electronic health records. The aim of the review is to summarise how  
16 studies have identified these outcomes in primary care databases in the UK; the review will  
17 be part of my PhD thesis and we are also planning to publish it in a peer-reviewed journal in  
18 due course.  
19  
20  
21  
22

23 I'm writing to you because a study in which you are the corresponding author was identified  
24 as eligible (please see title below), and I would kindly ask if you could be of assistance with  
25 the issues described below.  
26  
27  
28

29 [title]

30 [description of the list of codes needed]  
31  
32  
33

34 I look forward to hearing from you and thank you in advance for your help.  
35  
36

37 Best wishes,  
38

39 Helena  
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Appendix table 3. Main characteristics of the eligible studies: anxiety.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Bouras, 2016 [1]	Linked and primary care database analysis of the incidence and impact of psychiatric morbidity following gastrointestinal cancer surgery in England	Cohort study	CPRD, HES	1997-2012	"Diagnosis code [for anxiety] in CPRD or HES, or a prescription code [for Diazepam or Lorazepam] between 36 months before and 12 months after surgery."	Yes	None stated	Data available for >3 years before the index date // Follow up duration: 1 year after index date	Study quantified the psychiatric morbidity before and after the index date.	-
Fardet, 2012 [2]	Suicidal behavior and severe neuropsychiatric disorders following glucocorticoid therapy in primary care	Cohort study	THIN	1990-2008	Read and Multilex list of codes for diagnoses of panic disorder or panic attack <u>excluding</u> c odes for anxiety	No	None stated	≥6 months of registration with the primary care practice	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months
Granerod, 2016 [3]	Increased rates of sequelae post-encephalitis in individuals attending primary care practices in the United Kingdom: a population-based retrospective cohort study	Cohort study	CPRD	1998-2012	"Anxiety disorders (including both symptom codes and diagnoses such as generalised anxiety disorder, panic disorder, post-traumatic stress disorder and obsessive compulsive disorder)"	Yes	None stated	None stated // At least one contact with the GP practice in the two years after the index date	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	-
Hesdorffer, 2012 [4]	Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	Matched cohort study	CPRD	1990-2008	Anxiety, not further specified	No	None stated	At least 3 years of data before the index date, 1 year after the index date, and at least 1 code for a medical or drug code in the 6 months before the index // Follow up 3 years after index date	Excluded subjects with a record of the outcome before the study date.	-



Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Khan, 2010 [5]	Consulting and prescribing behaviour for anxiety and depression in long-term survivors of cancer in the UK	Cohort study	CPRD	2003-2006	Consultations for anxiety and prescriptions of benzodiazepines and Buspirone	No	None stated	None stated	History of anxiety prior to the analysis period included in the models	Outcomes occurred within a 3-year period chosen for the study
Kurd, 2005 [6]	The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	Cohort study	CPRD	1987-2002	"clinician diagnosis of anxiety and related disorders in which anxiety symptoms are common"	No (refers using the same codes of previous studies)	None stated	None stated	Patients with history of anxiety in the 6 months before the index date were excluded in a sensitivity analysis.	-
Lurie, 2015 [7]	Antibiotic exposure and the risk for depression, anxiety, or psychosis: A nested case-control study	Nested case control study	THIN	1995-2013	Anxiety, including codes for diagnosis of generalised anxiety disorder and phobic anxiety	Yes	None stated	Only records from patients that had been registered with the GP for more than 183 days // Outcomes were considered incident if occurring at more than 183 days after the index date.	Patients who had pharmacological treatment for a specific psychiatric diagnosis more than 90 days before the diagnosis was first recorded were excluded.	Patients with mixed anxiety and depression were excluded from the analysis
Martin-Merino, 2010 [8]	Prevalence, incidence, morbidity and treatment patterns in a cohort of patients diagnosed with anxiety in UK primary care	Cohort study	THIN	2002-2004	"Identification codes included all Read codes describing anxiety. These included codes ranging from mild anxiousness symptoms to other disorders such as phobia, panic attack and generalized and mixed anxiety disorders"	Yes	Yes Record review/questionnaires	Enrolled for at least 2 years with the practice and have received one prescription in the previous year; patients aged $\geq 70$ years had to have at least 2 visits registered in the follow up period of >1 year.	Patients with previous anxiety diagnoses were excluded, as well as those who had 5 or more prescriptions of anxiolytics before the diagnosis.	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Meier, 2004 [9]	The risk of severe depression, psychosis or panic attacks with prophylactic antimalarials	Cohort study	CPRD	1990-1999	First time diagnosis of panic attack, regardless of referral or treatment, identified by OXMIS- and/or- ICD-8-codes	No	Yes  'reviewed a list of all cases to determine inclusion/exclusion'	≥1 year of data available before index date and "some GPRD activity (diagnoses or prescriptions) recorded after the index date" // Patients were censored 18 months after exposure date	"The base population for person-time analyses consisted of all subjects free of (...) panic attacks at the start of follow up."	-
Schneider, 2013 [10]	Antimalarial chemoprophylaxis and the risk of neuropsychiatric disorders	Nested case control study	CPRD	2001-2009	Incident diagnosis of anxiety, not further specified	No	None stated	At least 1 year of date before the index date // some activity (diagnoses or prescriptions) recorded after the index date	Excluded patients with the outcome of interest observed before the index date	-
Sheehan, 2015 [11]	Mental illness, challenging behaviour, and psychotropic drug prescribing in people with intellectual disability: UK population based cohort study	Cohort study	THIN	1999-2013	Anxiety, including codes for symptoms and diagnoses	Yes	None stated	Entry in the cohort at least one year after registration with the practice	None stated	Excludes cases of mixed anxiety and depression

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Walters, 2012 [12]	Recent trends in the incidence of anxiety diagnoses and symptoms in primary care	Cohort study	THIN	1998-2008	Anxiety, including symptoms, diagnosis, mixed anxiety and depression, panic attacks and panic disorder  Results were also provided separately for: - anxiety disorders (eg. chronic anxiety, generalised anxiety disorder, anxiety state); - anxiety symptoms (e.g. 'anxiousness'); - mixed anxiety and depression; - panic attacks and panic disorder.	No	None stated	≥1 year of data since registration with the practice and 'consistent recording of at least one medical record (e.g. a diagnostic entry), one additional health data record (e.g. blood test result) and >1 prescriptions on average for the practice per patient per year and consistent reporting of mortality.'	Excluded patients with an entry for anxiety recorded in the previous year.	Participants could have had more than one episode during the follow up, provided that they were separated for more than 12 months.

CPRD – Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; ICD-10 – International Classification of Diseases, edition 10; ND – not defined; OXMIS – Oxford Medical Information System; PCCIU – Primary Care Clinical Informatics Unit Research; THIN – The Health Improvement Network.

Appendix table 4. Main characteristics of the eligible studies: depression.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Becker, 2011 [13]	Risk of incident depression in patients with Parkinson disease in the UK	Nested case-control study	CPRD	1994-2005	'To be included in the analysis as a valid depression case, a patient had to have a code recorded for an affective disorder (depression, manic disorders, bipolar disorders, or unspecified affective disorders) during follow-up.'	Yes	Yes	At least 3 years of computer EHR prior to the index date // None stated.	Cases who had depression diagnosed prior to the index date were excluded;	-
Booth, 2015 [14]	Impact of bariatric surgery on clinical depression. Interrupted time series study with matched controls	Controlled interrupted time-series study	CPRD	2000-2012	Clinical depression was identified through medical diagnoses for depression recorded in clinical or referral records as well as through prescriptions for anti-depressant drugs.	Yes	None stated	At least one year of registration with the practice prior to the index date	Not applicable	-
Bornand, 2016 [15]	The risk of new onset depression in association with influenza - A population-based observational study	Nested case-control study	CPRD	2000-2013	Minimum of three prescriptions for one or more antidepressant drugs recorded after the incident major depression diagnosis (i.e. the index date), identified by READ-codes based on ICD-10 codes (F32), if they started the antidepressant therapy within 90 days of the depression diagnosis	Yes	None stated	A minimum of three years of history before the index date.	Excluded patients with more than two prescriptions for antidepressants at any time prior to the index date. Adjusted for history of affective disorders in the models.	Provides data for depression severity: general depression; mild depression; moderate depression; severe depression; other.

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3 Author, 4 year of 5 publication	6 Title	7 Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 Bouras, 9 2016 [1]	10 11 12 13 14 15 16 17	Linked Hospital and Primary Care Database Analysis of the Incidence and Impact of Psychiatric Morbidity Following Gastrointestinal Cancer Surgery in England	Cohort study	CPRD HES	1997-2012	"Codes for the diagnoses of (...) depression were measured in CPRD (...) In HES, ICD-10 codes recorded in the first position of a hospital episode (signifying the main condition treated) for the diagnoses of depression. (...) Prescription data (...) including antidepressants (Fluoxetine, Paroxetine, Sertraline, Citalopram, Escitalopram, Mirtazapine, and Venlafaxine), (...) anxiolytics (Diazepam and Lorazepam)."	Yes	None stated	Data available for >3 years before the study index date  //  Follow up duration: 1 year post diagnosis	Not applicable	-
18 Claxton, 19 2000 [16]	20 21 22 23 24 25 26 27 28 29	Selective serotonin reuptake inhibitor treatment in the UK: Risk of relapse or recurrence of depression	Cohort study	MediPlus	1993-1995	Re-initiation of any antidepressant after a gap of at least 6 months with no antidepressant prescription; suicide attempt, referral to psychotherapy or psychiatrist, admission to a mental health facility, emergency room use related to mental disorders, or electroconvulsive therapy and re-initiation of antidepressant one of the above.  Depression first defined as treatment with a SSRI and a Read code within 1 month of the prescription.	Yes	None stated	Only patients with contact with the services during the previous 2 years of the index date; // Follow up duration of 18 months post index date	Not applicable (all patients had been treated with SSRI)	Patients dementia, schizophrenia, psychosis and manic depression were excluded.
30 Clifton, 31 2002 [17]	32 33 34 35	Drug or symptom-induced depression in men treated with alpha1-blockers for benign prostatic hyperplasia? A nested-case control study	Nested case-control study	CPRD	1992-1999	Proxy of antidepressant prescription (first prescription of antidepressant)	No	None stated	Registered in CPRD for at least 12 months // ND	None stated	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Dave, 2010 [18]	Incidence of Maternal and Paternal Depression in Primary Care	Cohort study	THIN	1993-2007	“Read code entry for unipolar depression and/or a prescription for an antidepressant at the appropriate therapeutic dose for treatment of depression on a given consultation date (...) we eliminated those who had an entry for anxiety or panic disorder but had no entry for depression in their entire computerized medical record.”	No  Available on request	None stated	None stated	Results stratified by history of previous mental disorder	Mixed anxiety and depression was included.
Fardet, 2012 [2]	Suicidal behavior and severe neuropsychiatric disorders following glucocorticoid therapy in primary care	Cohort study	THIN	1990-2008	New episode was considered when no diagnosis or prescription had been registered in the past year. 'Read code for unipolar depression, for symptoms of depression, or for a prescription for an antidepressant. Diagnoses were considered first; prescriptions of antidepressants were used in defining the outcome only when there was no recorded diagnosis of a neuropsychiatric illness and no other recorded indication for the prescription. To exclude patients who may have received prescriptions for antidepressants for anxiety rather than for depression, we eliminated those who had an entry for anxiety or panic disorder but had no entry for depression in their entire computerized medical record.'	No	None stated	≥6 months of registration with the primary care practice.	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months

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3 Author, 4 year of 5 publication	6 Title	7 Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 Gunnell, 9 2009 [19]	10 Varenicline and suicidal 11 behaviour: a cohort 12 study based on data 13 from the General 14 Practice Research 15 Database	Cohort study	CPRD	2006-2008	Depression defined as the start of antidepressant therapy	No	None stated	At least 1 years of CPRD record before index date // ND	People who had been prescribed an antidepressant within the previous 6 months before index date were excluded. Previous psychiatric consultations considered in the models.	-	
18 Granerod, 19 2016 [3]	20 Increased rates of 21 sequelae post- 22 encephalitis in 23 individuals attending 24 primary care practices in 25 the United Kingdom: a 26 population-based 27 retrospective cohort 28 study	Matched cohort study	CPRD	1998-2012	Depression, consisting of codes for depression diagnosis and symptoms if evidence of pharmacological treatment was present.	Yes	None stated	None stated // At least one contact with the GP practice in the two years after the index date.	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	-	
26 Hagberg, 27 2017 [20]	28 Risk of Incident 29 Antidepressant-Treated 30 Depression Associated 31 with Use of 5alpha- 32 Reductase Inhibitors 33 Compared with Use of 34 alpha-Blockers in Men 35 with Benign Prostatic 36 Hyperplasia: A 37 Population-Based Study 38 Using the Clinical 39 Practice Research 40 Datalink	Nested case-control study	CPRD	1992-2013	A Read code for a depression diagnosis and a prescription for an antidepressant within 90 days of the depression diagnosis.	No	None stated	At least 1 year of recorded history in the database before cohort entry;	Excluded men with a diagnosis of depression or suicidal behaviors (ideation or attempts), or men who received prescriptions for antidepressant medications prior to cohort entry.	-	

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3Author, 4year of 5publication	6Title	7Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8Hagberg, 2016 [21]	9	10 Incidence rates of suicidal behaviors and treated depression in patients with and without psoriatic arthritis using the Clinical Practice Research Datalink	11 Nested case control study	12 CPRD	13 1998-2012	14 'A patient was required to have at least one prescription for an antidepressant drug in addition to a diagnosis code for depression within 60 days of each other to qualify as a case of treated depression.'	15 No	16 Yes, record review	17 At least one year of registration with the practice prior to the index date	18 Any patient who had a diagnosis of depression or a prescription for an antidepressant drug recorded before the cohort entry date was excluded from the Treated Depression sub-cohort.	19 -
20 Harris, 2011 [22]	21	22 Depression indicators in a national sample of older community and care home patients: applying the Quality and Outcomes Framework	23 Cohort study	24 THIN	25 ND-2008	26 (i) depression case finding with assessment tool validated for primary care; (ii) assessment of depression severity in patients with a new depression episode.  27 'Quality and Outcomes Framework Read Codes were used in both cases, but no account was taken of exceptions recorded by GPs, as these may bias comparisons between community and care home samples.'	28 Yes	29 None stated	30 Patients registered for at least 90 days with a new diagnosis of depression in period 91-450 days from end of follow up and no depression severity assessment >365 days before end of follow up.	31 Not applicable	32 Only practices contributing with data up to at least March 2008 were included.
33 Heschdorffer, 2012 [4]	34	35 Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	36 Matched cohort study	37 CPRD	38 1990-2008	39 Incident major depression, not further specified	40 No	41 None stated	42 At least 3 years of data before the index date, 1 year after the index date, and at least 1 code for a medical or drug code in the 6 months before the index 43 // 44 Follow up 3 years after index date	45 Excluded subjects with a record of the outcome before the study date.	46 -



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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 9 10 11 12 13 14 15 16	Jacob, 2017 [23]	Depression Risk in Patients with Rheumatoid Arthritis in the United Kingdom	Cohort study	Disease Analyser database	2000-2014	Diagnoses of depression, according to the ICD-10 codes	No	None stated	None stated // Incidence in the first 5 years of the index date	None stated	-
17 18 19 20 21 22 23 24 25 26 27 28 29	Jenkins- Jones, 2018 [24]	Poor compliance and increased mortality, depression and healthcare costs in patients with congenital adrenal hyperplasia	Matched cohort study	CPRD, ONS, HES inpatient and outpatient	?	Depression defined by Read Codes in CPRD, by ICD-10 code in HES inpatient data, or by the prescription of antidepressants.  Depression was identified not only from ongoing records but also from patients' clinical histories dating from before the start of data follow-up.  A sensitivity analysis considered only those depression outcomes identified by both diagnostic (Read or ICD-10) code and at least one antidepressant prescription.	Yes	None stated	None stated	Not applicable: the outcome was lifetime prevalence of depression rather than incident occurrence.	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
John, 2016 [25]	Recent trends in primary-care antidepressant prescribing to children and young people: an e-cohort study	Cohort study	SAIL	2003-2013	<p><u>Incident episode</u>: a Read code for a diagnosis or symptom of depression, or antidepressant, with no record of the given subtype (antidepressant prescription or depression diagnosis or depression symptom) in the previous 12 months; Participants could have more than one episode recorded across the study period as long a period of at least 12 months existed between entries within that subtype.</p> <p><u>Prevalent episode</u>: any record of the given subtype (antidepressant prescription or depression diagnosis or depression symptom) in a target year</p> <p><u>Annual recurrent episode</u>: defined as the first record in a given year of a given subtype where a record of that subtype exists previously in that individuals GP record.</p>	Yes	None stated	Registered with the GP practice for at least 1 year	Not applicable	Explored the indication of the antidepressants

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Kendrick, 2015 [26]	Changes in rates of recorded depression in English primary care 2003-2013: time trend analyses of effects of the economic recession, and the GP contract quality outcomes framework	Cohort study	CPRD	2003-2013	“had clinical or referral events recorded which included a Read code for non-psychotic depressive symptoms or diagnoses, or for assessment using depression symptom questionnaires.”  Prevalence of depression: Read code present in the year or quarter;  Incidence of depression: limited to patients who had no code for depression recorded in the previous 12 months.  Incidence of first-ever depression: no previous code for depression diagnosis, symptoms or antidepressant treatment recorded within 10 year study period, and no previous record of depression or antidepressant treatment recorded.	Yes	None stated	None stated	Not applicable	“We excluded patients with psychotic diagnoses including bipolar disorder, psychotic depression, and schizoaffective psychosis, and patients prescribed antidepressants for other indications besides depression.”
24 25 26 27 28 29	Khan, 2010 [15]	Consulting and prescribing behaviour for anxiety and depression in long-term survivors of cancer in the UK	Matched cohort study	CPRD	2003-2006	Consultations for depression and prescriptions of as tricyclics, SSRIs and MAOIs	No  (Available on request)	None stated	None stated  //  Follow up duration: 3 years	History of anxiety prior to the analysis period was included in the models	-
30 31 32 33 34	Rotz, 2017 [27]	Cardiovascular and neuropsychiatric risks of varenicline and bupropion in smokers with chronic obstructive pulmonary disease	Matched cohort study	QResearch	2001-2012	Depression, not further specified	No	None stated	Registered for >12 months before data extraction // Follow up duration 6 months	History of neuropsychiatric events before the index date were considered as confounders	-
35 36 37 38 39	Rotz, 2015 [28]	Cardiovascular and neuropsychiatric risks of varenicline: a retrospective cohort study	Matched cohort study	QResearch	2007-2012	Depression, not further specified	No	None stated	Registered for >12 months before data extraction // Follow up duration 6 months	History of neuropsychiatric events before the index date were considered as confounders	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Kurd, 2005 [6]	The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	Matched cohort study	CPRD	1987-2002	Depression included all clinician diagnoses of depressive symptomology including bipolar disorder, defined by diagnostic Read or OXMIS codes	No  (refers using the same codes of previous studies)	None stated	None stated	Patients with history of anxiety in the 6 months before the index date were excluded in a sensitivity analysis.	-
Lurie, 2015 [7]	Antibiotic exposure and the risk for depression, anxiety, or psychosis: A nested case-control study	Nested case control study	THIN	1995-2013	At least one Read code of depression; not further specified.	Yes	None stated	Only records from patients that had been registered with the GP for more than 183 days // Outcomes were considered incidence if occurring at more than 183 days after the index date.	Patients who had pharmacological treatment for a specific psychiatric diagnosis more than 90 days before the diagnosis was first recorded were excluded.	Patients with mixed anxiety and depression were excluded from the analysis
Martin-Merino, 2010 [29]	Study of a cohort of patients newly diagnosed with depression in general practice: Prevalence, incidence, comorbidity, and treatment patterns	Cohort study, descriptive and analytical	THIN	2002-2004	Patients with incident depression during the follow up but excluding those who had 5 or more prescriptions of an antidepressant before the depression diagnosis.	No	Yes  GP questionnaires	Registered for >2 years with their GP practice prior to the index date; Excluded patients aged >69 years who had fewer than 2 visits during the follow-up.	All subjects who had a record of depression before the index date were excluded.	Prevalence of depression calculated as the sum of all patients who had the outcome during the study, plus those who had the outcome in the two years before the study start date.

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Meier, 2004 [9]	The Risk of Severe Depression, Psychosis or Panic Attacks with Prophylactic Antimalarials	Cohort study	CPRD	1990-1999	Depression referred to specialist or hospital, or if received treatment with antidepressants at or after the diagnosis date identified by OXMIS-and/or- ICD-8-codes	No	Yes  'reviewed a list of all cases to determine inclusion/exclusion'	≥1 year of data available before index date and "some GPRD activity (diagnoses or prescriptions) recorded after the index date" // Patients were censored 18 months after exposure date	"The base population for person-time analyses consisted of all subjects free of depression at the start of follow up."	-
Millson, 2000 [30]	Are triptans with enhanced lipophilicity used for the acute treatment of migraine associated with an increased consulting rate for depressive illness?	Cohort study, analytical	CPRD, data for the West Midlands	1993-1997	'consulting at least once for depression'	Yes	No	None stated	None Stated	-
Milojevic, 2017 [31]	Mental health impacts of flooding: a controlled interrupted time series analysis of prescribing data in England	Cohort study	General practice prescribing data	2010-2015	Antidepressants prescription	No  (but list of antidepressants provided in appendix)	Not applicable	None stated	Not applicable	-
Moore, 2009 [32]	Explaining the rise in antidepressant prescribing: a descriptive study using the general practice research database	Cohort study	CPRD	1993-2005	Depression: "first ever antidepressant prescription for depression diagnosed up to 180 days before or 90 days after the prescribing event, or received a first ever diagnosis of depression without an associated prescription for antidepressants."	No	None stated	Registered with practices contributing with up to standard quality data for the entire study period	Patients only included if it was the first ever events during the follow up period.	Provides data for treatment patterns: chronic treatment; intermittent treatment; short-term treatment; delayed treatment; no treatment.

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 9 10 11 12 13 14 15	Morgan, 2014 [33]	General practice- recorded depression and antidepressant use in young people with newly diagnosed Type 1 diabetes: a cohort study using the Clinical Practice Research Datalink	Matched cohort study	CPRD	1988-2010	Depression identified from diagnosis codes (Oxford Medical Information System and Read), along with at least one antidepressant prescription (monoamine oxidase inhibitors, selective serotonin reuptake inhibitors, tricyclic antidepressants or other antidepressants).	No	None stated	None stated	Participants with depression diagnoses or prescriptions prior to diabetes diagnosis (or prior to the start date for control subjects) were excluded.	-
16 17 18 19 20 21	Petersen, 2006 [34]	Risk and predictors of fatigue after infectious mononucleosis in a large primary-care cohort	Nested case control cohort study	CPRD	1989-2000	Depression, not further specified	No  (available from the authors)	None stated	At least one year of data before diagnosis // At least one year of complete follow up after diagnosis	Included patients who did not have fatigue in the year before onset	-
22 23 24 25 26 27 28 29 30 31 32 33	Rait, 2009 [35]	Recent trends in the incidence of recorded depression in primary care	Cohort study	THIN	1996-2006	“Diagnoses of depression (e.g. ‘depressive disorder’) and recorded depressive symptoms (e.g. ‘low mood’). new episode of diagnosed depression was defined as an entry in the records where there was no previous diagnosis of depression coded in the previous year. A new episode of depressive symptoms was also defined as an entry where there had been no previous recorded depressive symptom code in the previous year.”	No	None stated	At least one year of follow up data // ND	None stated	Provides results separately for diagnoses and symptoms of depression.
34 35 36	Shah, 2016 [36]	The mental health and mortality impact of death of a partner with dementia	Nested case control study	THIN	2005-2008	Depression, not further specified	Yes	None stated	At least one year of data with the practice	None stated	-

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 9 10 11 12 13 14	Schneider, 2013 [10]	Antimalarial chemoprophylaxis and the risk of neuropsychiatric disorders	Nested case control study	CPRD	2001-2009	Incident diagnosis of depression, not further specified	Yes	None stated	At least 1 year of date before the index date // some activity (diagnoses or prescriptions) recorded after the index date	Excluded patients with the outcome of interest observed before the index date	Excluded patients with history of cancer, alcoholism, and rheumatoid arthritis.
15 16 17 18 19 20 21	Schneider, 2010 [37]	COPD and the risk of depression	Cohort study	CPRD	1995-2005	Diagnosis of depression, not further specified  In sensitivity analysis, only cases with an incident diagnosis of depression who receive pharmacological treatment within 6 months of diagnosis were included	Yes	None stated	Excluded patients with less than 3 years of active recording history prior to the date of the COPD diagnosis	Patients with previous history of depression, suicide, suicidal ideation, etc., prior to the index date were excluded	Excluded patients with history of cancer, HIV, drug abuse, or alcoholism prior to the index date
22 23 24 25 26 27	Sheehan, 2015 [11]	Mental illness, challenging behaviour, and psychotropic drug prescribing in people with intellectual disability: UK population based cohort study	Cohort study, analytical	THIN	1999-2013	Read codes for depression (including mixed depression-anxiety) that the authors' used in previous studies.	Yes	None stated	Entry in the cohort at least one year after registration with the practice	None stated	Excludes cases of mixed anxiety and depression
28 29 30 31 32 33 34 35	Smeeth, 2008 [38]	Effect of statins on a wide range of health outcomes: A cohort study validated by comparison with randomized trials	Cohort study	THIN	1995-2006	Depression defined as the start of antidepressant pharmacotherapy	No	None stated	None stated	People with a previous history of the outcome prior to the index date were excluded from the analysis of that outcome.	First year of follow up was excluded.

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 9 10 11 12 13 14 15	Smith, 2014 [39]	Depression and multimorbidity: a cross-sectional study of 1,751,841 patients in primary care	Cross-sectional	PCCIU	ND-2007	“Read code for depression recorded within last year and/or 4 or more antidepressant prescriptions (excluding low-dose tricyclic antidepressants) within the last year. Low-dose tricyclic antidepressants were excluded because they are commonly prescribed for chronic pain syndromes rather than depression.”	No	None stated	Patients alive and permanently registered with a general practice at the date of the study	None stated	-
16 17 18 19 20 21 22 23	Thomas, 2013 [40]	Smoking cessation treatment and risk of depression, suicide, and self harm in the Clinical Practice Research Datalink: prospective cohort study	Nested case-control study	CPRD HES ONS	2006-2011	“Incident episodes of depression as measured by the date that antidepressant treatment was initiated (treated depression)”  //  For comparison with previous study, depression was also defined with Read codes only in CPRD	Yes	None stated	At least one year of registration with the practice prior to the index date // ND	Previous psychiatric illness, and use of psychotropic medication considered as potential confounders.	-
24 25 26 27 28	Tyrer, 1999 [41]	A study of cardiovascular disease, depression and antidepressants on a computerised general practice database	Cohort study	UK MediPlus	1995-1996	‘new diagnosis of depression and treatment, classified by the first antidepressant prescribed.’	No	None stated	At least 12 months of data before the index date // Follow up duration 12 months	Patients with depression in the 12 months period before the cardiac event were excluded.	-
29 30 31 32 33	Vallerand, 2018 [42]	Risk of depression among patients with acne in the U.K.: a population-based cohort study	Cohort study, analytical	THIN	1986-2012	Read code for major depressive disorder	Yes	None stated	None stated // Follow up for > 2 years after index date	Patients with MDD Read code prior to the start of follow up were excluded	-

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3 Author, 4 year of 5 publication	6 Title	7 Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 Walters, 9 2011 [43]	10 The relationship 11 between asthma and 12 depression in primary 13 care patients: A 14 historical cohort and 15 nested case control 16 study	Cohort study and nested case control study	CPRD	1995-2006	GP recorded diagnosis of depression, as defined by Read/OXMIS codes) during the study period	No  (codes available from the authors)	None stated	All patients had at least 24 months of 'up to standard' data prior to the index date of the case.	All cases with a recorded medical diagnosis of depression or depressive symptoms before the index date were excluded from the cohort.	-	
17 Pang, 2003 18 [44]	Lipid-lowering drugs and the risk of depression and suicidal behavior	Matched cohort study	CPRD	1991 onwards	Treated depression (with antidepressants) referred to a consultant or patient hospitalized for depression; excluded patients who also had diagnosis of anxiety or with specific causes for depression (e.g. post-partum depression)	No	Yes  List of patients referred to hospital or consultant were manually reviewed; referral letters reviewed.	≥1 year of data available before index date	Patients with history of depression prior to study start were excluded	-	

26 CPRD – Clinical Practice Research Datalink; EHR – electronic health records; HES – Hospital Episodes Statistics; ICD-10 – International Classification of Diseases, edition 10;  
 27 ND – not defined; PCCIU – Primary Care Clinical Informatics Unit Research; SAIL – SAIL Databank - The Secure Anonymised Information Linkage Databank; THIN – The Health  
 28 Improvement Network; ONS – Office for National Statistics.

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3 **Appendix table 5. Main characteristics of the eligible studies: composite outcomes, anxiety and depression.**  
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5 Author, year of publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // Follow up requirements	14 Handling of outcomes occurring prior to exposure	15 Notes
16 John, 2016 [45]	17 Case-finding for common mental disorders of anxiety and depression in primary care: an external validation of routinely collected data	18 Validation study using patient reported outcomes	19 SAIL	20 2000-2009	21 <u>Outcome:</u> Common mental disorders, defined as anxiety and depression. 22 Read codes for: i) anxiety diagnosis, e.g. generalised anxiety disorder; ii) anxiety symptoms e.g. anxiousness; iii) mixed anxiety and depression; iv) panic attacks and panic disorders; v) depression diagnoses; vi) depression symptoms. 23 Treatment defined as having at least one prescription for an antidepressant, anxiolytic or hypnotic within the year around the date of the survey answer. 24 Excluded codes for other psychosis, phobias, obsessive compulsive disorders, post traumatic stress disorder, behavioural disorders, hyperkinetic disorders, conduct disorders, disorders of social functioning, and adjustment disorders. 25 Defined 12 algorithms with current and historical symptoms, diagnosis and treatment.	26 Yes	27 Yes 28 Patient reported outcomes	29 At least 6 months after registration with the practice 30 31 32 33	34 Not applicable (no exposure under study). 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Nested case control study	THIN	2009-2013	<u>Outcome:</u> Psychological impairment, defined as anxiety, depression and post-traumatic stress disorder.  First consultation after the index date with a Read code for symptoms or diagnosis of anxiety, depression or post-traumatic stress, plus a first prescription of an antianxiety or antidepressant drug	Yes	None stated	Practice with at least one year of up to standard data, and patients registered for at least one year with the practice. // Patient alive and registered with the practice 1 month after index	Not stated.	-

SAIL – SAIL Databank - The Secure Anonymised Information Linkage Databank; THIN – The Health Improvement Network.

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Appendix table 6. Main characteristics of the eligible studies: dementia.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Brown, 2016 [47]	Comparison of dementia recorded in routinely collected hospital admission data in England with dementia recorded in primary care	Validation study	CPRD HES	1990-2012	Read codes for dementia and/or a code for a drug specifically prescribed for dementia (i.e. donepezil, galantamine, memantine and rivastigmine).	Yes	Yes	At least 12 months before and 12 months after the first HES record of dementia	Not applicable	-
Davies, 2014 [48]	Associations of anti-hypertensive treatments with Alzheimer's disease, vascular dementia, and other dementias	Nested case-control study	CPRD	1997-2008	Alzheimer's disease, vascular dementia, or unspecified/other dementias  Created four categories: probable Alzheimer's disease, possible Alzheimer's disease, vascular dementia, combine unspecified or other dementia.	Yes	No	None stated	Not applicable	-
Donegan, 2017 [49]	Trends in diagnosis and treatment for people with dementia in the UK from 2005 to 2015: a longitudinal retrospective cohort study	Cohort study	CPRD	2005-2015	Dementia defined using Read codes listed for the condition in the Quality and Outcomes Framework	No	No	Patients were eligible for analysis if registered with the practice for the entire quarter of the year being analysed;	Not applicable (descriptive study of the incident cases of dementia)	-
Dregan, 2015 [50]	Are Inflammation and Related Therapy Associated with All-Cause Dementia in a Primary Care Population?	Matched cohort study	CPRD	2002-2013	"Medical diagnostic codes were used to identify new diagnoses of dementia including Alzheimer's disease, vascular dementia, Lewy body dementia, frontotemporal dementia, dementia in other conditions, and unspecified dementia."	No	No	None stated	Considered incident cases only	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Dregan, 2015 [51]	Patterns of anti-inflammatory drug use and risk of dementia: a matched case-control study	Matched case control study	CPRD	1992-2014	"Medical diagnostic codes were used to identify new diagnoses of dementia and include non-specific dementia (Eu02z), Alzheimer disease (F110), vascular dementia (Eu01), Lewy body dementia (Eu025), senile dementia (E00) and dementia in other conditions (Eu02)."	Yes	No	None stated	Considered incident diagnosis	-
Dunn, 2005 [52]	Does lithium therapy protect against the onset of dementia?	Nested case control study	CPRD	1992-2002	'Cases with definite diagnosis of Alzheimer disease, vascular dementia (with which there is a diagnostic overlap), and those with uncertain cause of dementia'	No	Yes GP Questionnaire	"At least 4 years of research standard data preceding the date of the diagnosis" //	Considered incident cases only	-
Dunn, 2005 [53]	Association between dementia and infectious disease: evidence from a case-control study	Nested case control study	CPRD	1992-2002	"We identified cases as all those patients with an incident dementia, as diagnosed by their GP, a GP colleague, or a hospital specialist (...). We included cases with a recorded diagnosis of Alzheimer disease, vascular dementia (with which there is diagnostic overlap), and those with uncertain cause of dementia. Other specified causes of dementia were excluded (eg, dementia in Parkinson's disease)."	No	Yes GP questionnaires	"At least 4 years of research standard data preceding the date of first diagnosis (median time from onset of symptoms to diagnosis has been estimated at 4 years)." // ND	Considered incident cases only	Cases further classified as probable or possible cases of dementia.
Emdin, 2016 [54]	Blood Pressure and Risk of Vascular Dementia: Evidence From a Primary Care Registry and a Cohort Study of Transient Ischemic Attack and Stroke	Cohort study	CPRD HES ONS	1990-2003	First record of vascular dementia, in one of the databases. For the primary analysis, cases of Alzheimer's disease and vascular dementia (i.e. mixed dementia) were included.	Yes	No	Registered with the GP practice for at least one year // First 4 years of follow up excluded from analysis	First 4 years of follow up excluded from analysis	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Goh, 2014 [55]	Angiotensin receptor blockers and risk of dementia: cohort study in UK Clinical Practice Research Datalink	Cohort study	CPRD	1995-2010	New diagnosis of dementia, defined by Read codes, excluding specific causes of dementia (e.g. dementia in neoplastic disease).	Yes	No	At least 6 months of registration with the GP practice // Outcome occurring in the first year after the index date were not considered	Excluded all individuals with a record of dementia or cognitive impairment prior to the date of entry in the study	-
Granerod, 2016 [3]	Increased rates of sequelae post-encephalitis in individuals attending primary care practices in the United Kingdom: a population-based retrospective cohort study	Nested case control study	CPRD	1998-2012	"cognitive problems (including memory loss, aphasia, difficulty processing information, difficulty reasoning, difficulty concentrating and learning disability)"	Not provided in the original study but obtained from the authors	None stated	None stated // At least one contact with the GP practice in the two years after the index date.	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	Dementia diagnosis were considered separately
Hippisley-Cox, 2010 [56]	Unintended effects of statins in men and women in England and Wales: population based cohort study using the QResearch database	Cohort study	QResearch	2002-2008	Dementia, defined with Read codes, not further specified.	No; states that code list is available on request	No	At least one year of registration with the practice // ND	Incident cases included in the study	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2012 [57]	Metformin, other antidiabetic drugs, and risk of Alzheimer's disease: a population-based case-control study	Nested case control study	CPRD	1998-2008	"either a diagnosis of AD followed by at least one prescription for an AD drug or vice versa; a diagnosis of dementia followed by at least two prescriptions for an AD drug; at least two recordings of an AD diagnosis; an AD diagnosis after a specific dementia test (e.g., Mini-Mental State Examination (MMSE), Clock Drawing Test (CDT), or Abbreviated Mental Test (7-min screen)), a referral to a specialist (e.g., neurologist, geriatrician, or psychogeriatrician), an assessment based on a neuroimaging technique (e.g., magnetic resonance imaging (MRI), computed tomography (CT), or single-photon emission CT (SPECT)); or an AD diagnosis preceded or followed by any recorded dementia symptoms (e.g., memory impairment, aphasia, apraxia, or agnosia)."	No	Yes  GP questionnaire	Patients with >3 years of active history in the database were excluded.	First time diagnosis of Alzheimer's disease included	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2013 [58]	Epidemiology, co-morbidities, and medication use of patients with Alzheimer's disease or vascular dementia in the UK	Descriptive cohort study	CPRD	1998-2008	"A patient was required to have either: 1) a diagnosis of AD followed by at least one prescription for an AD drug or vice versa; 2) a diagnosis of unspecific dementia followed by at least two prescriptions for an AD drug; 3) at least two recordings of an AD diagnosis; 4) an AD diagnosis after a specific dementia test (e.g., Mini Mental State Examination, Clock Drawing Test, or Abbreviated Mental Test [7-Minute Screen]), a referral to a specialist (e.g., neurologist, geriatrician or psycho-geriatrician), or an assessment based on neuroimaging technique (e.g., magnetic resonance imaging, computed tomography, or single photon emission computed tomography); or 5) an AD diagnosis preceded or followed by any recorded dementia symptoms (e.g., memory impairment, aphasia, apraxia, or agnosia). In addition, AD patients with a recording of any other specific dementia diagnosis (e.g., VaD, Pick's disease, or dementia with Lewy bodies) after the index date were not eligible, as well as those AD patients with a recording of stroke within two years prior to the index date."	No	Yes  GP questionnaires	None stated	Considered incident cases during the study period only	"cases were not eligible if they had had a stroke before the index date (because this is more indicative of a diagnosis of vascular dementia (VaD) <sup>16</sup> ) or a recording of any other specific dementia diagnosis (e.g., VaD, Pick's disease, or Lewy body dementia) after the index date."



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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2015 [59]	Benzodiazepine Use and Risk of Developing Alzheimer's Disease or Vascular Dementia: A Case-Control Analysis	Case control	CPRD	1998-2013	"first time diagnosis of AD, VaD, or any unspecified dementia (based on Read codes) (...), or who received a first-time prescription for an acetylcholinesterase inhibitor (i.e. donepezil, rivastigmine, galantamine, or tacrine) or the N-methyl-D-aspartate (NMDA) receptor antagonist memantine (...) To increase the probability of including only well-defined AD or VaD cases, a validated algorithm was applied (...) this algorithm was based on recordings of specific dementia tests [e.g. Mini-Mental State Examination (MMSE), Clock Drawing Test (CDT), or Abbreviated Mental Test (7-Minute Screen)], referrals to specialists (e.g. neurologists, geriatricians or psycho-geriatricians), brain imaging [computed tomography (CT), magnetic resonance imaging (MRI), or single photon emission computed tomography (SPECT)], or dementia symptoms (memory impairment, aphasia, apraxia, or agnosia) supportive of a diagnosis of a specific dementia subtype (i.e. AD or VaD)."	No	Yes  GP questionnaire	At least three years of active history in the database before diagnosis // ND	Considered incident cases during the study period only	-
Jick, 2000 [60]	Statins and the risk of dementia	Nested case control study	CPRD	1992-1998	First time diagnosis of dementia or Alzheimer's disease	No	No but refers to previous study where the validity of the same list of codes was assessed	None stated	Incidence cases considered only	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Judge, 2017 [61]	Protective effect of anti-rheumatic drugs on dementia in rheumatoid arthritis patients		CPRD	1995-2011	Dementia, including Alzheimer's dementia, vascular dementia, and mixed dementia.	Yes	No	At least one year of up to standard registration data before the index date // ND	Considered incident cases only	-
Khan, 2011 [62]	Long-term health outcomes in a British cohort of breast, colorectal and prostate cancer survivors	Cohort study	CPRD	2003-2006	Dementia, defined with Read codes, not further specified	No; states that codes are available upon request	No	None stated	Only incident cases were considered	-
Khosrow-Khavar, 2017 [63]	Androgen deprivation therapy and the risk of dementia in patients with prostate cancer	Cohort study	CPRD	1988-2016	All incident cases of dementia, including Alzheimer's disease	Yes	None stated (refers to validation in previous studies)	Patients with less than 1 year of history in CPRD were excluded // All patients had to have at least 1 year of follow up data	Excluded patients with previous diagnosis of any dementia	-
Lu, 2016 [64]	Gout and the risk of Alzheimer's disease: a population-based, BMI-matched cohort study	Cohort study	THIN	1995-2013	Alzheimer's disease	Yes	Not in the original study; refers to a previous validation study	None stated	First diagnoses only	-
Mehta, 2017 [65]	Association of Hypoglycaemia With Subsequent Dementia in Older Patients With Type 2 Diabetes Mellitus	Cohort study	CPRD	2002-2012	Dementia defined by Read codes; used the same list of codes as another previous study.	No	None stated	None stated	Excluded patients with dementia diagnosed in the year prior to the index date	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Mehta, 2016 [66]	Development and validation of the RxDx-Dementia risk index to predict dementia in patients with type 2 diabetes and hypertension	Cohort study	CPRD	2003-2012	Dementia, defined with a previously validated algorithm (refers to previous publication)	No	None stated	None stated	Considered incident cases only	Sensitivity analysis include the definition of dementia as clinical diagnosis or drug prescription
Perera, 2018 [67]	Dementia prevalence and incidence in a federation of European Electronic Health Record databases: The European Medical Informatics Framework resource	Cohort study	THIN	2004-2012	'Codes that clearly indicated a dementia diagnosis, rather than those that were suggestive'	Yes	No	None stated	Not applicable (calculated incidence estimates)	-
Qizilbash, 2015 [68]	BMI and risk of dementia in two million people over two decades: a retrospective cohort study	Cohort study	CPRD	1992-2007	"Patients were classified as having dementia if, any of the following terms were recorded during follow-up: dementia, Alzheimer, Lewy body disease, Pick's disease. Dementia recorded on a death certificate was also used."	No	None stated	None stated	Excluded patients with dementia diagnosed in the year prior to the index date	-
Seshadri, 2001 [69]	Postmenopausal estrogen replacement therapy and the risk of Alzheimer disease	Cohort study	CPRD	1992-1998	First-time diagnosis of Alzheimer's disease, senile dementia or presenile dementia	No	Yes Case review	None stated	Only first time diagnosis were included	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Strom, 2015 [70]	Statin therapy and risk of acute memory impairment	Nested case-control study	THIN	1987-2013	"The outcome for this study was the onset of acute, reversible memory impairment. Using Read codes Clinical Terms, version 2 (...), we sought codes with descriptions specifically pertaining to memory loss including amnesia, amnesia symptom, memory loss symptom, temporary loss of memory, short-term memory loss, transient global amnesia, drug-induced amnesic syndrome, non-alcoholic amnesic syndrome, amnesia (retrograde), memory lapses, minor memory lapses, and mild memory disturbance."	Yes	Yes GP questionnaire for a random sample	At least one 365 of registration with the GP practice	Patients with codes for acute memory loss before the index date were excluded.	Excluded patients diagnosed with dementia
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Matched-cohort study	THIN	2009-2013	Read codes for diagnoses (such as 28E0.00: mild cognitive impairment) and symptoms (such as 1B1A.12: memory loss symptom) related to overall cognitive impairment and impaired individual cognitive domains. 'Cognitive impairment included memory, attention, spatial awareness, perception, apraxia and executive functioning impairments but not a diagnosis of dementia.'	Not provided in the original study but obtained from the authors	None stated	Patients alive and registered with the practice 1 month after the index date	Excluded patients with fatigue recorded on the index date	Dementia diagnosis were not included
Walters, 2016 [71]	Predicting dementia risk in primary care: development and validation of the Dementia risk score using routinely collected data		THIN	2000-2011	Newly recorded dementia diagnoses, including Alzheimer's disease, vascular dementia, and unspecified or mixed dementia.  Excluding dementia associated with Parkinson's disease, Lewy body dementia, Huntingdon, Picks, HIV and drug induced and alcohol-related dementia.	No but available upon request from the authors	No	Excluded patients with less than one year of follow up data // follow up restricted to a maximum of 5 years	Excluded patients with dementia, cognitive impairment or memory symptoms at baseline	-

CPRD – Clinical Practice Research Datalink; GP – general practitioner; HES – Hospital Episodes Statistics; THIN – The Health Improvement Network; ONS – Office for National Statistics.

Appendix table 7. Main characteristics of the eligible studies: fatigue.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Donegan, 2013 [72]	Bivalent human papillomavirus vaccine and the risk of fatigue syndromes in girls in the UK	Ecological and self-controlled case series	CPRD	2000-2011 and 2008-2011	Chronic fatigue syndrome including chronic fatigue syndrome/myalgic asthenia, post-viral fatigue syndrome, fibromyalgia, and neurasthenia.	No  (Obtained from the authors)	None stated	None stated // At least one year of follow up available	None stated	Sensitivity analysis considered 'incident fatigue' at the earliest recording of symptoms, referrals or diagnoses.
Collin, 2017 [73]	Trends in the incidence of chronic fatigue syndrome and fibromyalgia in the UK, 2001-2013: a Clinical Practice Research Datalink Study	Descriptive cohort study	CPRD	2001-2013	Diagnoses of chronic fatigue syndrome, fibromyalgia, post-viral fatigue syndrome, or asthenia/debility diagnosis or referral to a specialist service	Yes	None stated	At least 12 months of up to standard data	Only new first ever diagnosis were considered	Symptoms of fatigue were considered separately.
Gallagher, 2004 [74]	Incidence of fatigue symptoms and diagnoses presenting in UK primary care from 1990 to 2001.	Descriptive cohort study	CPRD	1990-2001	Read codes for diagnosis of chronic fatigue syndrome; post-viral fatigue syndrome; asthenia/debility. Read codes for symptoms were classified separately.	No  (Stated that was available from the authors but could not be obtained)	None stated	Data prior to 1990 not shown due to lower numbers than expected and being the first years of data collection of the database.	Fatigue diagnosis was incident if there was no record of diagnoses in the previous year, with or without previous symptoms; symptoms were incident if there was no symptoms or diagnoses in the previous year.	-
Hamilton, 2009 [75]	Risk markers for both chronic fatigue and irritable bowel syndromes: A prospective case-control study in primary care	Nested case control study	CPRD	1988-2001	List of diagnostic codes for post-viral fatigue syndrome; chronic fatigue syndrome.	No  (refers to another publication)	None stated	Only patients with complete records for 3 years prior to the index date were included	Not applicable	-

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Petersen, 2006 [34]	Risk and predictors of fatigue after infectious mononucleosis in a large primary-care cohort	Nested case control cohort study	CPRD	1989-2000	Read codes for diagnoses of post-viral debility, post-viral fatigue syndromes, post-influenza debility and syndrome post-viral; symptoms of tiredness, malaise, lethargy, debility, and fatigue.	No  (Stated that was available from the authors but could not be obtained)	None stated	At least one year of data before diagnosis // At least one year of complete follow up after diagnosis	Included patients who did not have fatigue in the year before onset	-
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Nested case-cohort study	THIN	2009-2013	First consultation after the index date with a Read code for symptoms or diagnosis of fatigue	No  Obtained from the authors	None stated	Practice with at least one year of up to standard data, and patients registered for at least one year with the practice. // Patient alive and registered with the practice 1 month after index	Excluded patients with fatigue recorded on the index date.	-

CPRD – Clinical Practice Research Datalink; THIN – The Health Improvement Network.

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3 **Appendix table 8. Main characteristics of the eligible studies: pain.**  
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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
10 Becker, 2007 [76]	Migraine incidence, comorbidity and health resource utilization in the UK	Nested case-control study	CPRD	1994-2001	<u>Migraine diagnosis</u>	No	Yes GP questionnaire	None stated	First-time diagnosis only	-
14 Campbell, 2015 [77]	In sickness and in health: A cross-sectional analysis of concordance for musculoskeletal pain in 13,507 couples	Descriptive	CiPCA	2005-2006	Widespread body pain: "All relevant codes were formed into the five most common consultation body regions (back, knee, neck, shoulder, foot), as well as codes for osteoarthritis consultations. A further category of 'any musculoskeletal' consultations were formed inclusive of the above body regions and conditions, as well as consultations for unspecified pain (e.g. arthralgia), widespread pain conditions and other single body regions where the proportion of consultations were too few to perform meaningful separate analysis (e.g. head, arm, elbow, wrist, hand, hip, pelvis, thigh and buttock)."	Yes	None stated	None stated	None stated	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Hall, 2006 [78]	Epidemiology and treatment of neurophatic pain: the UK primary care perspective	Descriptive	CPRD	1992-2002	“A <u>post-herpetic neuralgia</u> record was a specific term for post-herpetic neuralgia or an acute herpes zoster term plus either neuropathy, or neuropathic pain, 3-6 months after the first acute herpes zoster entry. A <u>trigeminal neuralgia</u> record had a specific term for this diagnosis. <u>Phantom limb pain</u> was defined as a specific term or a term for amputation plus either a neuropathy or neuropathic pain record 3–24 months after the first amputation code. Patients were included in the painful <u>diabetic neuropathy</u> cohort if their record contained a specific term; a term for diabetic neuropathy with a prescription for a treatment for pain current at the date of diagnosis; a record of diabetes and neuropathic pain or record of diabetes and both neuralgia and a treatment for pain current on the date of the neuralgia code.”	No	None stated	At least year of up to standard data	None stated	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Hall, 2013 [79]	An observational descriptive study of the epidemiology and treatment of neuropathic pain in a UK general population	Cohort study, descriptive	CPRD	2005-2010	“Five neuropathic pain cohorts ( <u>post-herpetic neuralgia, painful diabetic neuropathy, phantom limb pain, neuropathic back pain and neuropathic postoperative pain</u> ) were identified from (...) a single specific Read code, or a combination of Read and therapy codes as specified in a case definition. Postherpetic neuralgia was defined as a specific code for post-herpetic neuralgia, or a code for acute zoster plus either a code for neuropathy, or neuropathic pain, between three and six months after the first acute zoster entry. Phantom limb pain (PLP) was defined as a specific code, or a code for amputation plus either a code for neuropathy or neuropathic pain between three and twenty-four months after the first amputation code. The painful diabetic neuropathy cohort included patients with a specific code for painful diabetic neuropathy; those with a code for diabetes and a general code for neuropathic pain and a third group with a code for diabetic neuropathy (or diabetes and neuralgia) with a prescription for a neuropathic pain treatment which was initiated within 28 days of the date of the neuropathy/ neuralgia code.”	No	Yes  GP questionnaires	At least of 1 year of data of good quality for research		None stated

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Mansfield, 2017 [80]	Identifying patients with chronic widespread pain in primary care	Cross sectional	CiPCA	2005-2009	(A) <u>Recurrent region pain</u> , define as: "In a period of 5 consecutive years, a patient fulfils all of 1-4: 1. At least 1 consultation for a musculoskeletal complaint in the axial skeleton (neck and back); 2. At least 1 consultation for an upper- or lower-limb complaint; 3. At least 1 consultation for a regional musculoskeletal complaint in each of 3 separate years; 4. At least 4 consultations for regional musculoskeletal complaints during the 5-year period."  (B) "Non specific <u>generalized pain conditions</u> , including fibromyalgia, fibrositis, rheumatism, myalgia, arthralgia, and polyalgia"	Yes	Yes	Patients not registered with the practice for the full 5-year period were excluded	Not applicable (cross sectional analysis)	-
Ruigomez, 2006 [81]	Chest pain in general practice: incidence, comorbidity and mortality	Case control study	CPRD	1996	<u>Chest pain:</u> Codes for chest pain that did specify the type or location of the symptom.	Yes	None stated	Registered with the GP for at least 2 years // At least one entry in the records in the last 3 years before the study	Excluded patients with history of pain the past 2 years	-
Wallander, 2007 [82]	Unspecified abdominal pain in primary care: The role of gastrointestinal morbidity	Matched cohort study	CPRD	Before 1996	<u>Abdominal pain:</u> Diagnosis of abdominal pain	Yes	None stated	At least one entry to the data in the three years prior to the study start.	Patients were excluded if they had a record of abdominal pain of any abdominal site or type in the 2 years before the study started.	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Zondervan, 1999 [83]	Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database	Cohort study	Mediplus UK primary care database	1991-1995	<p><u>Chronic pelvic pain</u>: pain in the lower abdominal region persisting for at least six months.</p> <p>“Episode of chronic pelvic pain: pelvic pain on two or more contacts, with at least six months (≥ 183 days) between the first and the last contact but with no period of more than one year (&gt; 365 days) without a pelvic pain contact. An episode of chronic pelvic pain was defined as starting six months after the first contact and finishing at the contact preceding a pain-free, one-year interval (if any).”</p> <p>“Excluded pain due to malignancy; chronic inflammatory and other defined bowel diseases such as Crohn’s, coeliac disease, ulcerative colitis; acute conditions verified by having surgery such as appendectomy, cholecystectomy; or pregnancy. Women with pelvic pain occurring only during menstruation (dysmenorrhoea) or sexual intercourse (dyspareunia) were also excluded.”</p>	No	None stated	None stated	Not applicable. Monthly incidence estimated as the number of new episodes in a given month as a proportion of	-

CiPCA - The Consultations in Primary Care Archive; CPRD – Clinical Practice Research Datalink;. NSAIDS - Nonsteroidal anti-inflammatory drug.

Appendix table 9. Main characteristics of the eligible studies: sexual dysfunction.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Blumentals, 2003 [84]	Antihypertensive treatment and erectile dysfunction in a cohort of type II diabetes patients	Nested case-control study	CPRD	1987-2001	Erectile dysfunction, ascertained from the diagnosis codes, not further specified	No	None stated	None stated	None stated	-
Hagberg, 2016 [85]	Risk of erectile dysfunction associated with use of 5-alpha reductase inhibitors for benign prostatic hyperplasia or alopecia: population based studies using the Clinical Practice Research Datalink	Nested case control study	CPRD	1992-2011	<u>Erectile dysfunction</u> : "diagnosis of erectile dysfunction or impotence, prescription for a phosphodiesterase type 5 inhibitor (eg, sildenafil, tadalafil, or vardenafil) where the strength and quantity prescribed was indicated for treatment of erectile dysfunction, or record of procedures for treatment of erectile dysfunction (eg, penile prosthesis, penile injection, or other operations for treatment of erectile dysfunction)." <u>Non-erectile dysfunction</u> : including ejaculatory disorder, psychosexual dysfunction, or low libido	No	None stated	At least 3 years of history before the cohort entry date;	Incident cases considered after the index date.	-
Khan, 2011 [82]	Long-term health outcomes in a British cohort of breast, colorectal and prostate cancer survivors: a database study	Cohort study	CPRD	2003-2006	Erectile dysfunction: "new prescriptions for sildenafil (Viagra, Pfizer, NY, United States), apomorphone hydrochloride, vardenafil (Levitra, Bayer Healthcare Pharmaceuticals, New Haven, USA), alprostadil (an injectable treatment) and tadalafil (Cialis, Lilly, USA)"	No	None stated	None stated	Excluded patients with erectile dysfunction recorded before the index date	-
Morant, 2008 [86]	Increased sexual dysfunction in men with storage and voiding lower urinary tract symptoms	Cross-sectional analysis	THIN	2000-2007	Male sexual dysfunction	Yes	None stated	None stated	None stated	-
Schlesinger, 2018 [87]	Gout and the Risk of Incident Erectile Dysfunction: A Body Mass Index-matched Population-based Study	Cohort study	THIN	1995-2012	Erectile dysfunction noted by the presence of the Read code E227311	Yes	None stated	At least one year of registration with the practice before the index date	Excluded prevalent cases at baseline	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Sultan, 2017 [88]	Gout and subsequent erectile dysfunction: a population-based cohort study from England	Cohort study	CPRD, HES	1998-2004	Erectile dysfunction, ascertained from the medical codes, not further specified	Yes	None stated	At least 1 year of follow up data	Only incident cases after the index date were considered; cases in the first 6 months of registration were considered prevalent.	-

CPRD – Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; THIN – The Health Improvement Network.

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Appendix table 10. Main characteristics of the eligible studies: sleep disorder.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Boddy, 2013 [89]	The association of gout with sleep disorders: A cross-sectional study in primary care	Matched cohort study	CiPCA and PiPCA	2001-2008	Read codes for sleep disorders, excluding codes for sleep apnoea which were classified separately	Yes	None stated	None stated	None stated	-
Wallander, 2007 [90]	Morbidity associated with sleep disorders in primary care: A longitudinal cohort study	Cohort study	CPRD	1996	Read codes for sleep disorder including insomnia, hypersomnia, and sleep disturbance	Yes	None stated	Registered with a general practitioner for at least 2 years and having at least 1 entry in CPRD in the previous 3 years.	Patients with a consultation for sleep disorders during the 2 years before the start of the study were excluded.	-

CPRD – Clinical Practice Research Datalink; CiPCA - The Consultations in Primary Care Archive; PiPCA - The Prescriptions in Primary Care Archive.

Appendix table 11. Main characteristics of the eligible studies: fatal and non-fatal self-harm.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Andersohn, 2010 [91]	Use of antiepileptic drugs in epilepsy and the risk of self-harm or suicidal behaviour	Nested case-control study	CPRD	1990-2005	"Potential cases were identified using predefined medical codes of self-harm (i.e., without a clear suicidal intention [intentional self-harm]) or suicidal behaviour (i.e., with a clear suicidal intention [attempted suicide]). Patients who died were also considered as potential cases if suicidal thoughts were recorded within 4 weeks before death."	Yes	Yes, record review	At least one year of data with the GP practice	Models adjusted for history of self-harm at baseline	In an additional analysis, the patients with codes for self-harm without explicitly mention to suicidal behaviour were excluded.
Arana, 2010 [92]	Suicide-related events in patients treated with antiepileptic drugs	Cohort study	THIN	1988-2008	"Cases of suicide-related events were based on codes for suicide, attempted suicide, and intentional self-inflicted injuries plus suicide. A completed suicide was defined as a code for suicidality followed by a code for death in the following month and a final date of any administrative activity in the database or disenrollment within 6 months after the suicidality code. If the disenrollment date occurred more than 6 months after a suicidality code, we reviewed the patient's profile. Patients with a last medical or other health related code that was recorded within 1 month after the suicide date were also considered to have completed suicide."	No	Yes GP questionnaire, record and death certificate review	Patients were eligible if they were enrolled with a clinical practice for at least 6 months during the study period	Patients with personal or family history of suicide attempt were excluded	-
Garr, 2016 [93]	The epidemiology of self-harm in a UK-wide primary care patient cohort, 2001-2013	Descriptive cohort study	CPRD	2001-2013	"Read codes incorporating all cases across the spectrum from milder forms of non-suicidal behaviour through to near-fatal suicide attempts (...) We excluded codes that referred only to thoughts of self-harm or suicidal ideation and alcohol-related codes, unless intent to actively harm oneself was specified."	Yes	None stated	None stated	None stated	None stated

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
8 9 10	Carr, 2017 [94]	Premature Death Among Primary Care Patients With a History of Self-Harm	Cohort study	CPRD ONS	2001-2013	Suicide, ascertained with ICD-10 codes in the ONS mortality data; including open verdicts.	Yes	Not applicable	At least one year of registration with the practice prior to the index date;	Not applicable.	-
11 12 13 14 15	Coupland, 2011 [95]	Antidepressant use and risk of adverse outcomes in older people: Population based cohort study	Cohort study	QResearch, ONS	1996-2007	Read codes for attempted suicide or self-harm, not further specified	No	None stated	At least one year of registration with the practice prior to the index date;	None stated	Suicide was also an outcome, but data for this outcome was not analysed due to small numbers.
16 17 18 19 20 21 22	Coupland, 2015 [96]	Antidepressant use and risk of suicide and attempted suicide or self-harm in people aged 20 to 64: cohort study using a primary care database	Cohort study	QResearch, ONS	2000-2011	code for suicide or an open verdict in their linked death certificate, or patients who had a Read code for attempted suicide or self-harm who died within 30 days.	No  (refers to codes used in other studies)	None stated	At least one year of registration with the practice prior to the index date; // Most analysis restricted to the first 5 years of follow up.	Excluded patients with a previous attempted suicide or self- harm event recorded at baseline	-
23 24 25 26 27	Bardet, 2012 [97]	Suicidal behavior and severe neuropsychiatric disorders following glucocorticoid therapy in primary care	Cohort study	THIN	1990-2008	Cases of suicide or suicide attempt	No	Yes  Review of death certificates	≥6 months of registration with the primary care practice	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months
28 29 30 31 32	Donovan, 1996 [97]	The use of the General Practice Research Database (GPRD) to examine potential links between antidepressant medication and the incidence of suicide	Cohort study	CPRD	1988-1993	Suicide, not further specified	No	None stated	None stated	Prior suicidal history considered as a risk factor for suicide	-
33 34 35 36 37 38	Boyle, 2016 [98]	Suicide risk in primary care patients diagnosed with a personality disorder: a nested case control study	Nested case control study	CPRD, ONS	2002-2011	Suicides and open verdicts ascertained via linkage to ONS mortality data	Yes  (ICD-10 codes)	Not applicable  (Data linked to the gold- standard)	At least one year of up to standard CPRD data	Not applicable	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
17 Gao, 2013 18 [99]	19 Association between 20 body mass index and 21 suicide, and suicide 22 attempt among British 23 adults: The health 24 improvement network 25 database	26 Cohort study	27 THIN	28 2000-2007	29 Suicide: "defined in two ways (...): 1) 30 patients with a Read code of suicide 31 attempt confirmed by death within 3 32 months or 2) patients who did not 33 have a Read code of suicide 34 attempt, but whose cause of death 35 might be suicide. To identify patients 36 using the second approach, we first 37 searched for all deaths (...) the 38 cause of death was reviewed. In 39 addition, free text records were 40 searched for potential suicide as 41 cause of death, including suicide, 42 deliberate drug overdose or self- 43 harm, self-inflicted injuries, 44 poisoning, asphyxiation, trauma, and 45 acute or multiple organ failure. 46 Death certificates for these patients 47 were requested for the final verdict 48 of the cause of death.  49 Suicide attempt: "identified using the 50 Read codes for suicide and then by 51 confirming that the patient was still 52 alive for at least 3 months from the 53 time of the event."	54 No	55 None stated	56 None stated	57 None stated	58 -
59 Gunnell, 60 2009 [19]	61 Varenicline and suicidal 62 behaviour: a cohort 63 study based on data 64 from the General 65 Practice Research 66 Database	67 Cohort study	68 CPRD	69 2006-2008	70 OXMIS and Read terms for fatal and 71 non-fatal self-harm.	72 No	73 Yes  74 Record 75 review	76 At least 1 years of 77 CPRD records 78 before index date;	79 Considered the 80 potential 81 confounding 82 effect of 83 previous self- 84 harm or suicidal 85 thoughts in 86 analysis.	87 -

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Hall, 2009 [100]	Validation of death and suicide recording on the THIN UK primary care database	Validation study	THIN	2002-2004	“Coded and free text records were searched to identify any entry for suicide or a medical cause of death which might indicate suicide, including trauma, poisoning, overdose, asphyxiation, acute or multiple organ failure or a suggestion that death was intentional. An electronic record of suicide was accepted.”	Yes	Yes  (Validation study, record review)	None stated	Not applicable (validation study)	-
Ragberg, 2016 [21]	Incidence rates of suicidal behaviors and treated depression in patients with and without psoriatic arthritis using the Clinical Practice Research Datalink	Cohort study	CPRD	1998-2012	Suicidal behaviours, defined as: “diagnosis of suicidal ideation, suicide attempt, and/or suicide recorded after the cohort entry date. (...) If a patient had a code for suicide, but had not died, the event was classified as a suicide attempt. Suicidal ideation, attempts, and suicide were considered separately; thus a patient may have been included in more than one analysis.	No	Yes, record review	At least one year of registration with the practice prior to the index date	Patients with suicidal behaviors were included “because patients could recover from suicidal behaviors with treatment or consultation.”	-
Hayes, 2016 [101]	Self-harm, Unintentional Injury, and Suicide in Bipolar Disorder During Maintenance Mood Stabilizer Treatment: A UK Population-Based Electronic Health Records Study	Cohort study	THIN	1995-2013	“emergency department or primary care attendance for self-harm during the period of drug exposure and the 3 months afterward. This outcome included Read codes for intentional poisoning, intentional self injurious behavior, and self-harm acts of uncertain intent. (...) Secondary outcomes were unintentional injury (eg, falls or motor vehicle crashes) seen in primary or secondary care and a record of the patient’s suicide during this period”	No	Refers to previous validation of the list of codes	None stated	Not applicable (the outcome was diagnoses during the exposure period)	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Hesdorffer, 2012 [4]	Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	Cohort study	CPRD	1990-2008	Read codes for suicidality including codes for attempted suicide and completed suicide.	No	None stated	At least 3 years of data before the index date, and at least 1 code for a medical or drug code in the 6 months before the index // At least 1 day of data after index date; follow up duration: 3 years after index date	Excluded subjects with a record of the outcome before the study date.	-
Hesdorffer, 2016 [102]	Occurrence and Recurrence of Attempted Suicide Among People With Epilepsy	Cohort study	CPRD	1988-2013	Diagnoses of attempted suicide identified with Read codes, not further specified.  Suicide attempts divided into incident or recurrent.	No	None stated	At least 6 month of complete records before the index date and ≥1 medical or drug codes for a condition other than epilepsy in the 6 months before the index date. // At least 1 day of data post index date	None stated	-

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3Author, 4year of 5publication	6Title	7Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
8Haste, 1998 9[103]	Potential for suicide prevention in primary care? An analysis of factors associated with suicide.	Matched cohort study	CPRD	1991-1993	Suicide: "were identified from the database in two ways: 1. Patients with a record of suicide in the notes; and 2. Patients who did not have a record of suicide, but whose record of cause of death on the database suggested that suicide might be possible. These causes included death from carbon monoxide poisoning (excluding accidental poisoning), hanging, suicidal or accidental overdose, and reference to self-inflicted injury. (...) Cases where the verdict was open were included."	No	Yes  GP confirmation, review of death certificates	None stated	Not applicable (cases of completed suicide only)	-	
19Jick, 1995 20[104]	Antidepressants and suicide	Cohort study	CPRD	1988-1993	"Cases of suicide were identified from the computer record from among all the study subjects who died. When the cause of death was recorded as suicide or was considered to be uncertain, we obtained further information from the general practitioner and the death certificate to determine the final diagnosis and means of committing suicide."	No	Yes, GP questionnaire	At least 6 month of registration with the practice prior to the index date	Not applicable (cases of completed suicide only)	-	
27Jick, 1998 28[105]	A study of the relation of exposure to quinolones and suicidal behaviour	Nested case control study	CPRD	1991-1995	Three case groups: 1) committed suicide; 2) had a diagnosis of attempted suicide; 3) had a diagnosis of suicidal ideation.  "If the subject had more than one case diagnosis during the study period, only the first such diagnosis was considered."	Yes	None stated	> 18 months of information on drugs prescribed and diagnoses recorded prior to the index.	None stated	-	

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8 9 10 11 12 13 14	Jick, 2000 [106]	Isotretinoin use and risk of depression, psychotic symptoms, suicide, and attempted suicide	Cohort study	CPRD	?	Suicide and inpatient or outpatient code for attempted suicide	Yes	None stated	Between 5 years and 6 months of clinical records before the index date // At least 1 year of records post index date	Controlled for history of attempted suicide	-
15 16 17 18 19 20 21	Jick, 2004 [107]	Antidepressants and risk of suicidal behaviours	Cohort study	CPRD	1993-1999	Nonfatal suicidal behaviour: "Cases were those who (1) had a first-time recorded diagnosis of nonfatal suicidal ideation (...) or attempted suicide"  Suicide: patients who committed suicide, not further specified.	Yes	None stated	At least 2 years of registration with the practice prior to the index date	None stated	-
22 23 24	Jick, 2009 [108]	Rate of suicide in patients taking montelukast	Cohort study	CPRD	1998-2007	'computer recorded diagnosis of suicide'	No	None stated	None stated	None stated	
25 26 27 28 29 30 31	Kurd, 2010 [106]	The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	Matched cohort study	CPRD	1987-2002	'Suicidality was defined as diagnosis of suicidal ideation, suicide attempt, or suicide', defined by diagnostic Read or OXMIS codes.	No  Refers to diagnostic codes used in other publications.	None stated	None stated	In sensitivity analysis, the patients with a diagnosis of the outcome measured prior to or within six months of the index date were excluded.	-
32 33 34 35 36	Kotz, 2015 [108]	Cardiovascular and neuropsychiatric risks of varenicline: a retrospective cohort study	Cohort study	QResearch	2007-2012	Fatal and non-fatal self-harm, not further specified	None stated	None stated	Registered for >12 months before data extraction // Follow up duration 6 months	History of neuropsychiatric events considered as confounders	-

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8 Kotz, 2017 9 [27]	Cardiovascular and neuropsychiatric risks of varenicline and bupropion in smokers with chronic obstructive pulmonary disease	Cohort study	QResearch	2001-2012	Fatal and non-fatal self-harm, not further specified	None stated	None stated	None stated // Follow up duration 6 months	History of neuropsychiatric events considered as confounders	-	
12 Calmohame 13, 2012 14 [109]	Causes of death in patients with multiple sclerosis and matched referent subjects: A population-based cohort study	Cohort study	CPRD HES ONS mortality	2001-2008	Death by accident or suicide ascertained in the ONS mortality database	Yes (ICD-10 codes)	Not applicable (ONS mortality database, ICD-10 codes)	≥1 year of data available before index date	None stated	-	
18 Martinez, 19 2005 [110]	Antidepressant treatment and the risk of fatal and non-fatal self harm in first episode of depression: nested case-control study	Nested case control study	CPRD	1995-2001	Non-fatal self-harm (drug overdose, deliberate self-laceration, poisoning, and non-fatal suicide attempts using other methods)  Suicide, identified by OXMIS and Read codes	No  Obtained from the authors	Yes,  Review of the death certificates and free text entries	≥1 year of data available before index date	Model adjusted for history of non-fatal self-harm	"People with an episode of non-fatal self harm were not censored in analyses with suicide as the end point."	
24 Meier, 2004 25 [9]	The Risk of Severe Depression, Psychosis or Panic Attacks with Prophylactic Antimalarials	Cohort study	CPRD	1990-1999	Suicide defined by OXMIS and/or ICD-8 codes	No	Yes  'reviewed a list of all cases to determine inclusion/exclusion'	≥1 year of data available before index date and "some GPRD activity (diagnoses or prescriptions) recorded after the index date" // Patients were censored 18 months after exposure date	Not applicable (suicide as an outcome only)	-	
34 Mines, 2005 35 [111]	Prevalence of risk factors for suicide in patients prescribed venlafaxine, fluoxetine, and citalopram	Cohort study	CPRD	1995-2002	Suicidal behaviour in the year prior to index date	Yes	None stated	≥1 year of data available	None stated	-	

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8Osborn, 92008 [112]	10Suicide and severe 11mental illnesses. Cohort 12study within the UK 13general practice 14research database	15Matched cohort 16study	CPRD	1987-2002	Suicide, not further specified	No	None stated	None stated	None stated	None stated	
17Rubino, 182007 [113]	19Risk of suicide during 20treatment with 21venlafaxine, citalopram, 22fluoxetine, and 23dothiepin: retrospective 24cohort study	Cohort study	CPRD	1995-2005	25Completed suicide: coding for death 26associated with mention of suicide in 27free text or by code for suicide in the 28medical record and a statement of 29death in the administrative record 30(30 days either way); 31 32First attempted suicide (non-fatal 33event).	Yes	Yes	Free text search	At least one year of registration with the practice prior to the index date	Suicide attempts considered as a confounder in the models	“excluded records that at the review of free text notes did not seem to represent attempted suicide - for example, unintentional overdose or self harm without suicidal intent”
34Schneider, 352010 [37]	36COPD and the risk of 37depression	Cohort study	CPRD	1995-2005	38‘incident suicide or suicidal ideation’, 39not further specified	No	None stated	None stated	40Patients with less than 3 years of active recording history prior to the date of the COPD diagnosis were excluded;	41Patients with previous history of depression, suicide, suicidal ideation, etc., prior to the index date were excluded	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Schuerch, 2016 [114]	Impact of varying outcomes and definitions of suicidality on the associations of antiepileptic drugs and suicidality: comparisons from UK Clinical Practice Research Datalink (CPRD) and Danish national registries (DNR)	Validation study	CPRD HES ONS	1996-2009	<p><u>Suicidal ideation/intent:</u> “Recorded medical terms from the clinical and referral module, plus reasons for transfer out of the general practices to identify patients with one of these outcomes”</p> <p><u>Suicide attempt:</u> “Recorded medical terms from the clinical and referral module, plus reasons for transfer out of the GP-practice to identify patients with one of these outcomes from CPRD.”</p> <p><u>Completed suicide:</u> “Term of suicidal attempt or ideation occurring simultaneously with a recording of death (+/- 4 weeks), death recorded as reason for leaving the practice (registering out), and a final date of any administrative activity in the database of disenrollment within six months after suicidality code.”</p>	Yes	Yes (validation study)	At least 6 months of data before the index date //	Patients with history of suicide attempts, self-harm or suicidal ideation/intent in the 6 months before index were excluded	-
Thomas, 2013 [40]	Smoking cessation treatment and risk of depression, suicide, and self harm in the Clinical Practice Research Datalink: prospective cohort study	Nested case-control study	CPRD, HES and ONS mortality data	2006-2011	Incidence fatal and non-fatal self-harm (as measured by death from suicide in the ONS mortality database) and hospital admission for self-harm (as recorded in the HES database). Includes open verdicts.	Yes for ONS database; no for Read codes.	None stated	At least one year of registration with the practice prior to the index date	Previous self-harm considered as a potential confounder in analysis	-



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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Thomas, 9 2013 [115]	10 Validation of suicide and 11 self-harm records in the 12 Clinical Practice 13 Research Datalink	14 Validation study	15 CPRD, HES, 16 ONS 17 mortality 18 data, and 19 Multicentre 20 study of self- 21 harm	22 1998-2010	23 "Cases of suicide and self-harm (the 24 'events') were identified by 25 extracting all records with Read 26 codes for suicide, attempted suicide 27 and self-harm (...). Given that 28 suicide-related Read codes may 29 refer to both fatal and nonfatal 30 suicide attempts, completed suicides 31 within the CPRD were identified 32 using the conventional CPRD 33 approach of linking patient deaths to 34 Read codes for suicide that were 35 recorded within 95 days of the 36 CPRD derived death dates"	37 Yes	38 Yes  (Validation study)	39 Registered with a 40 practice 41 contributing with 42 up to standard 43 data, and having 44 acceptable 45 records for 46 research.	47 Not applicable (descriptive study on the incidence of self- harm)	-
48 Tyrrell, 2016 49 [116]	50 Changes in poisonings among adolescents in the UK between 1992 and 2012: a population based cohort study	51 Cohort study	52 THIN	53 1992-2012	54 "poisonings [categorised] as 55 intentional, unintentional, unknown 56 intent or alcohol related. Where 57 Read codes explicitly described the 58 intent using the words 'deliberate' or 59 'intentional' (intentional); 'accidental' 60 (unintentional); and 'unknown' or 61 'unspecified' (unknown) then they 62 were classified as such. The words 63 'suicide', 'self-inflicted', 'self- 64 poisoning' or 'overdose' were also 65 used to categorise a poisoning as 66 intentional, unless otherwise 67 specified."	68 No	69 None stated	70 None stated	71 First poisoning within the observation period	72 Multiple events occurring in the same individual within a month were counted as one event only
73 Webb, 2012 74 [117]	75 Risk of self-harm in physically ill patients in UK primary care	76 Nested case control study	77 CPRD	78 2001-2008	79 Suicidal ideation, defined by Read coding descriptions that included the terms 'suicide and self-inflicted,' 'suicide and self-harm,' 'para- suicide' or 'attempted suicide.' Cases that died following the code were excluded.	80 No	81 None stated	82 At least two years of up to standard CPRD data	83 None stated	-
84 Webb, 2012 85 [118]	86 Suicide risk in primary care patients with major physical diseases: A case-control study	87 Nested case control study	88 CPRD and ONS mortality data	89 2001-2008	90 Suicides as mentioned in the death certificate, and open verdicts.	91 Yes	92 Not applicable (ONS mortality data)	93 At least two years of up to standard CPRD data	94 Not applicable (study of suicide only)	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Wijaars, 9 2013 [119]	10 Suicide-related events in 11 young people following 12 prescription of SSRIs 13 and other 14 antidepressants: A self- 15 controlled case series 16 analysis	17 Nested case 18 control study	19 THIN	20 1995-2009	21 Suicide attempts, suicidal ideation 22 and completed suicide.  23 Completed suicides: "Read codes 24 that were confirmed by a date of 25 death within 2 weeks of the suicide 26 event date. We searched a cause of 27 death, if available." 28 Excluded cases classified as open 29 verdicts.	30 No  31 Refers to a 32 previous list, 33 that was 34 updated for 35 the study	36 Yes  37 Record 38 review	39 At least 6 months 40 of up to standard 41 CPRD data	42 Accounted for in 43 analysis	44 -
16 Windfuhr, 17 2016 [120]	18 Suicide risk linked with 19 clinical consultation 20 frequency, psychiatric 21 diagnoses and 22 psychotropic medication 23 prescribing in a national 24 study of primary-care 25 patients	26 Nested case- 27 control study	28 CPRD and 29 ONS 30 mortality 31 data	32 2002-2011	33 International Classification 34 of Disease version 10 (ICD-10) 35 codes X60-84, Y10-34 36 (excluding Y33.9), Y87.0, Y87.2  37 Includes open verdicts	38 Yes	39 Not 40 applicable 41 (ONS 42 mortality 43 data)	44 ≥1 year of data 45 available after up 46 to standard data	None stated	-
22 Yang, 2003 23 [44]	24 Lipid-lowering drugs and 25 the risk of depression 26 and suicidal behaviour	27 Matched cohort 28 study	29 CPRD	30 1991 31 onwards	32 Suicidal behaviour, ideation suicidal, 33 suicidal plan, suicidal thoughts, 34 attempted suicide, threat suicide, 35 suicidal drug overdose, drug 36 overdose, para suicide and suicide.	37 Yes	38 No  39 (refers to 40 previous 41 studies 42 assessing 43 suitability 44 of the 45 records)	46 Patients with 47 history of suicidal 48 behaviour prior to 49 study start were 50 excluded	None stated	-

29 CPRD – Clinical Practice Research Datalink; THIN – The Health Improvement Network; PCCIU – Primary Care Clinical Informatics Unit; SSRI - selective serotonin re-uptake  
30 inhibitors; GP – General practice; MAOIs - monoamine oxidase inhibitors; CiPCA - Consultations in primary care archive; PiPCA - Prescriptions in primary care archive.

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## Appendix 11. List of Read codes used in the studies of anxiety.

Read code	Description	Number of studies
Eu41.00	[X]Other anxiety disorders	5
Eu41100	[X]Generalized anxiety disorder	5
Eu41z11	[X]Anxiety NOS	5
Eu41000	[X]Panic disorder [episodic paroxysmal anxiety]	4
Eu05400	[X]Organic anxiety disorder	4
Eu41112	[X]Anxiety reaction	4
Eu41111	[X]Anxiety neurosis	4
Eu41z00	[X]Anxiety disorder, unspecified	4
E202.12	Phobic anxiety	4
E200200	Generalised anxiety disorder	4
E200.00	Anxiety states	4
E200000	Anxiety state unspecified	4
E200z00	Anxiety state NOS	4
Eu40.00	[X]Phobic anxiety disorders	3
Eu40z00	[X]Phobic anxiety disorder, unspecified	3
Eu41012	[X]Panic state	3
Eu41011	[X]Panic attack	3
Eu41y00	[X]Other specified anxiety disorders	3
Eu41300	[X]Other mixed anxiety disorders	3
Eu41211	[X]Mild anxiety depression	3
Eu41113	[X]Anxiety state	3
E200500	Recurrent anxiety	3
E200100	Panic disorder	3
E200111	Panic attack	3
E200400	Chronic anxiety	3
1B1V.00	C/O - panic attack	3
1B13.11	Anxiousness - symptom	3
1B13.00	Anxiousness	3
E200300	Anxiety with depression	3
Eu93200	[X]Social anxiety disorder of childhood	2
Eu34114	[X]Persistant anxiety depression	2
Eu40012	[X]Panic disorder with agoraphobia	2
Eu40y00	[X]Other phobic anxiety disorders	2
Eu41200	[X]Mixed anxiety and depressive disorder	2
Eu93y12	[X]Childhood overanxious disorder	2
Eu41y11	[X]Anxiety hysteria	2
E2D0.00	Disturbance of anxiety and fearfulness childhood/adolescent	2
E2D0z00	Disturbance anxiety and fearfulness childhood/adolescent NOS	2
E202100	Agoraphobia with panic attacks	2
E292400	Adjustment reaction with anxious mood	2
E280.00	Acute panic state due to acute stress reaction	2
Z4I7.00	Acknowledging anxiety	2
Eu40100	[X]Social phobias	1
Eu40112	[X]Social neurosis	1
Eu93000	[X]Separation anxiety disorder of childhood	1
Eu42100	[X]Predominantly compulsive acts [obsessional rituals]	1
Eu93100	[X]Phobic anxiety disorder of childhood	1
Eu42.12	[X]Obsessive-compulsive neurosis	1
Eu42.00	[X]Obsessive - compulsive disorder	1
Eu45215	[X]Nosophobia	1
Eu46z11	[X]Neurosis NOS	1

Read code	Description	Number of studies
Eu40300	[X]Needle phobia	1
Eu45213	[X]Hypochondriacal neurosis	1
Eu45212	[X]Dysmorphophobia nondelusional	1
Eu51511	[X]Dream anxiety disorder	1
Eu40213	[X]Claustrophobia	1
Eu60600	[X]Anxious [avoidant] personality disorder	1
Eu42.11	[X]Anankastic neurosis	1
Eu40011	[X]Agoraphobia without history of panic disorder	1
Eu40000	[X]Agoraphobia	1
R2y2.00	[D]Nervousness	1
R2y2.12	[D]Nervous tension	1
R2y2.11	[D]Nerves	1
1BK..00	Worried	1
1B12.12	Tension - nervous	1
E202300	Social phobia, fear of eating in public	1
E112000	Single major depressive episode, unspecified	1
E292000	Separation anxiety disorder	1
Z4I7211	Reducing anxiety	1
Z4I7100	Recognising anxiety	1
E29y100	Other post-traumatic stress disorder	1
E203z00	Obsessive-compulsive disorder NOS	1
E203100	Obsessional neurosis	1
225J.00	O/E - panic attack	1
2258.00	O/E - anxious	1
1465.00	H/O: depression	1
1466.00	H/O: anxiety state	1
1B1..00	General nervous symptoms	1
E275711	Compulsive water drinking	1
E203000	Compulsive neurosis	1
1P3..00	Compulsive behaviour	1
E202800	Claustrophobia	1
E2D0000	Childhood and adolescent overanxiousness disturbance	1
1B13.12	Anxious	1
8G94.00	Anxiety management training	1
Z4L1.00	Anxiety counselling	1
E203.11	Anancastic neurosis	1
Z4I7200	Alleviating anxiety	1
E202200	Agoraphobia without mention of panic attacks	1
1B12.00	'Nerves' - nervousness	1
1B12.11	'Nerves'	1

## Appendix 12. List of Read codes used in the studies of depression.

Read code	Description	Number of studies
E112.00	Single major depressive episode	14
E112000	Single major depressive episode, unspecified	14
E112100	Single major depressive episode, mild	14
E112200	Single major depressive episode, moderate	14
E112300	Single major depressive episode, severe, without psychosis	14
E112z00	Single major depressive episode NOS	14
E135.00	Agitated depression	14
E112.11	Agitated depression	13
E112.12	Endogenous depression first episode	13
E112.13	Endogenous depression first episode	13
E112.14	Endogenous depression	13
E112500	Single major depressive episode, partial or unspec remission	13
E2B..00	Depressive disorder NEC	13
E2B1.00	Chronic depression	13
Eu32.00	[X]Depressive episode	13
E113.00	Recurrent major depressive episode	12
E11y200	Atypical depressive disorder	12
E11z200	Masked depression	12
Eu32.11	[X]Single episode of depressive reaction	12
Eu32.12	[X]Single episode of psychogenic depression	12
Eu32.13	[X]Single episode of reactive depression	12
Eu32000	[X]Mild depressive episode	12
Eu32100	[X]Moderate depressive episode	12
Eu32200	[X]Severe depressive episode without psychotic symptoms	12
Eu32400	[X]Mild depression	12
Eu32y00	[X]Other depressive episodes	12
Eu32z00	[X]Depressive episode, unspecified	12
Eu33.00	[X]Recurrent depressive disorder	12
E112400	Single major depressive episode, severe, with psychosis	11
E113.11	Endogenous depression - recurrent	11
E130.11	Psychotic reactive depression	11
Eu32212	[X]Single episode major depression w/out psychotic symptoms	11
Eu32y11	[X]Atypical depression	11
Eu32z11	[X]Depression NOS	11
Eu32z12	[X]Depressive disorder NOS	11
1B17.00	Depressed	10
E112600	Single major depressive episode, in full remission	10
E113000	Recurrent major depressive episodes, unspecified	10
E113100	Recurrent major depressive episodes, mild	10
E113200	Recurrent major depressive episodes, moderate	10
E113300	Recurrent major depressive episodes, severe, no psychosis	10
E113500	Recurrent major depressive episodes,partial/unspec remission	10
E113700	Recurrent depression	10
E113z00	Recurrent major depressive episode NOS	10
E130.00	Reactive depressive psychosis	10
E200300	Anxiety with depression	10
E291.00	Prolonged depressive reaction	10
Eu32211	[X]Single episode agitated depressn w/out psychotic symptoms	10
Eu32213	[X]Single episode vital depression w/out psychotic symptoms	10
Eu32311	[X]Single episode of major depression and psychotic symptoms	10

Read code	Description	Number of studies
Eu32313	[X]Single episode of psychotic depression	10
Eu32y12	[X]Single episode of masked depression NOS	10
Eu32z13	[X]Prolonged single episode of reactive depression	10
Eu33.11	[X]Recurrent episodes of depressive reaction	10
Eu33.12	[X]Recurrent episodes of psychogenic depression	10
Eu33.13	[X]Recurrent episodes of reactive depression	10
Eu33000	[X]Recurrent depressive disorder, current episode mild	10
Eu33100	[X]Recurrent depressive disorder, current episode moderate	10
Eu33211	[X]Endogenous depression without psychotic symptoms	10
Eu33y00	[X]Other recurrent depressive disorders	10
Eu33z00	[X]Recurrent depressive disorder, unspecified	10
Eu34114	[X]Persistant anxiety depression	10
1B1U.00	Symptoms of depression	9
1B1U.11	Depressive symptoms	9
E113600	Recurrent major depressive episodes, in full remission	9
Eu32300	[X]Severe depressive episode with psychotic symptoms	9
Eu32312	[X]Single episode of psychogenic depressive psychosis	9
Eu32314	[X]Single episode of reactive depressive psychosis	9
Eu32500	[X]Major depression, mild	9
Eu32600	[X]Major depression, moderately severe	9
Eu32700	[X]Major depression, severe without psychotic symptoms	9
Eu32z14	[X] Reactive depression NOS	9
Eu33214	[X]Vital depression, recurrent without psychotic symptoms	9
Eu33311	[X]Endogenous depression with psychotic symptoms	9
Eu33z11	[X]Monopolar depression NOS	9
Eu34113	[X]Neurotic depression	9
Eu41200	[X]Mixed anxiety and depressive disorder	9
Eu41211	[X]Mild anxiety depression	9
1B17.11	C/O - feeling depressed	8
E113400	Recurrent major depressive episodes, severe, with psychosis	8
E204.00	Neurotic depression reactive type	8
Eu33200	[X]Recurr depress disorder cur epi severe without psyc sympt	8
Eu33212	[X]Major depression, recurrent without psychotic symptoms	8
Eu33400	[X]Recurrent depressive disorder, currently in remission	8
Eu34111	[X]Depressive neurosis	8
Eu3y111	[X]Recurrent brief depressive episodes	8
1BT..00	Depressed mood	7
2257.00	O/E - depressed	7
E11..12	Depressive psychoses	7
Eu32800	[X]Major depression, severe with psychotic symptoms	7
Eu33.14	[X]Seasonal depressive disorder	7
Eu33313	[X]Recurr severe episodes/major depression+psychotic symptom	7
Eu33314	[X]Recurr severe episodes/psychogenic depressive psychosis	7
Eu33315	[X]Recurrent severe episodes of psychotic depression	7
Eu33316	[X]Recurrent severe episodes/reactive depressive psychosis	7
9H90.00	Depression annual review	6
9H91.00	Depression medication review	6
9H92.00	Depression interim review	6
9HA0.00	On depression register	6
E290.00	Brief depressive reaction	6
Eu33300	[X]Recurrent depress disorder cur epi severe with psyc symp	6
Eu34100	[X]Dysthymia	6
E118.00	Seasonal affective disorder	5

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Read code	Description	Number of studies
E204.11	Postnatal depression	5
E290z00	Brief depressive reaction NOS	5
Eu53011	[X]Postnatal depression NOS	5
Eu53012	[X]Postpartum depression NOS	5
1465.00	H/O: depression	4
1BQ..00	Loss of capacity for enjoyment	4
8HHq.00	Referral for guided self-help for depression	4
E02y300	Drug-induced depressive state	4
Eu33.15	[X]SAD - Seasonal affective disorder	4
R007z13	[D]Postoperative depression	4
1BP0.00	Loss of interest in previously enjoyable activity	3
1BT..11	Low mood	3
1BU..00	Loss of hope for the future	3
212S.00	Depression resolved	3
8CAa.00	Patient given advice about management of depression	3
9Ov0.00	Depression monitoring first letter	3
9Ov1.00	Depression monitoring second letter	3
9Ov2.00	Depression monitoring third letter	3
9Ov3.00	Depression monitoring verbal invite	3
9Ov4.00	Depression monitoring telephone invite	3
9k4..00	Depression - enhanced services administration	3
E001300	Presenile dementia with depression	3
E002100	Senile dementia with depression	3
E2B0.00	Postviral depression	3
Eu20400	[X]Post-schizophrenic depression	3
Eu34112	[X]Depressive personality disorder	3
Eu92000	[X]Depressive conduct disorder	3
1JJ..00	Suspected depression	2
8BK0.00	Depression management programme	2
9HA1.00	Removed from depression register	2
9Ov..00	Depression monitoring administration	2
9k40.00	Depression - enhanced service completed	2
9kQ..00	On full dose long term treatment depression - enh serv admin	2
E115.00	Bipolar affective disorder, currently depressed	2
E11y.00	Other and unspecified manic-depressive psychoses	2
E211200	Depressive personality disorder	2
Eu25100	[X]Schizoaffective disorder, depressive type	2
Eu25111	[X]Schizoaffective psychosis, depressive type	2
Eu25112	[X]Schizophreniform psychosis, depressive type	2
Eu32B00	[X]Antenatal depression	2
Eu33213	[X]Manic-depress psychosis,depressd,no psychotic symptoms	2
Eu34y00	[X]Other persistent mood affective disorders	2
Eu34z00	[X]Persistent mood affective disorder, unspecified	2
Eu3y100	[X]Other recurrent mood affective disorders	2
Eu3z.00	[X]Unspecified mood affective disorder	2
1645.00	Excessive fluid intake	1
1B1J.00	Emotional problem	1
1B1J.11	Emotional upset	1
1BO..00	Mood swings	1
1BP..00	Loss of interest	1
1BT..12	Sad mood	1
1S4..00	Mood observations	1
1S40.00	Dysphoric mood	1

Read code	Description	Number of studies
388J.00	Hospital anxiety and depression scale	1
388K.00	Geriatric depression scale	1
388P.00	HAD scale: depression score	1
388g.00	Beck depression inventory second edition score	1
62T1.00	Puerperal depression	1
6896.00	Depression screening using questions	1
8O82.00	Emotional and psychosocial support and advice	1
9ON3.00	Stress monitoring default	1
9ON4.00	Stress monitoring 1st letter	1
9ON5.00	Stress monitoring 2nd letter	1
9ON6.00	Stress monitoring 3rd letter	1
9ON7.00	Stress monitoring verbal inv.	1
9ON8.00	Stress monitoring phone invite	1
9ON9.00	Stress monitoring deleted	1
9ONA.00	Stress monitoring check done	1
9ONZ.00	Stress monitoring admin.NOS	1
E002.00	Senile dementia with depressive or paranoid features	1
E002z00	Senile dementia with depressive or paranoid features NOS	1
E004300	Arteriosclerotic dementia with depression	1
E115.11	Manic-depressive - now depressed	1
E115000	Bipolar affective disorder, currently depressed, unspecified	1
E115100	Bipolar affective disorder, currently depressed, mild	1
E115200	Bipolar affective disorder, currently depressed, moderate	1
E115300	Bipolar affect disord, now depressed, severe, no psychosis	1
E115400	Bipolar affect disord, now depressed, severe with psychosis	1
E115500	Bipolar affect disord, now depressed, part/unspec remission	1
E115600	Bipolar affective disorder, now depressed, in full remission	1
E115z00	Bipolar affective disorder, currently depressed, NOS	1
E11y000	Unspecified manic-depressive psychoses	1
E11z100	Rebound mood swings	1
E222		1
E283.00	Other acute stress reactions	1
E283z00	Other acute stress reaction NOS	1
E284.00	Stress reaction causing mixed disturbance of emotion/conduct	1
E28z.00	Acute stress reaction NOS	1
E292.00	Adjustment reaction, predominant disturbance other emotions	1
E292400	Adjustment reaction with anxious mood	1
E292y00	Adjustment reaction with mixed disturbance of emotion	1
E292z00	Adjustment reaction with disturbance of other emotion NOS	1
E294.00	Adjustment reaction with disturbance emotion and conduct	1
E2C4.00	Mixed disturbance of conduct and emotion	1
E2C4z00	Mixed disturbance of conduct and emotion NOS	1
E35		1
E4J5		1
Eu02z16	[X] Senile dementia, depressed or paranoid type	1
Eu3..00	[X]Mood - affective disorders	1
Eu31.11	[X]Manic-depressive illness	1
Eu31300	[X]Bipolar affect disorder cur epi mild or moderate depressn	1
Eu31400	[X]Bipol aff disord, curr epis sev depress, no psychot symp	1
Eu31500	[X]Bipolar affect dis cur epi severe depres with psyc symp	1
Eu31600	[X]Bipolar affective disorder, current episode mixed	1
Eu31y00	[X]Other bipolar affective disorders	1
Eu31y11	[X]Bipolar II disorder	1



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Read code	Description	Number of studies
Eu31z00	[X]Bipolar affective disorder, unspecified	1
Eu33312	[X]Manic-depress psychosis,depressed type+psychotic symptoms	1
Eu34.00	[X]Persistent mood affective disorders	1
Eu3y.00	[X]Other mood affective disorders	1
Eu3y000	[X]Other single mood affective disorders	1
Eu3y011	[X]Mixed affective episode	1
Eu3yy00	[X]Other specified mood affective disorders	1
Eu4..00	[X]Neurotic, stress - related and somoform disorders	1
Eu43.00	[X]Reaction to severe stress, and adjustment disorders	1
Eu43000	[X]Acute stress reaction	1
Eu43012	[X]Acute reaction to stress	1
Eu43y00	[X]Other reactions to severe stress	1
Eu43z00	[X]Reaction to severe stress, unspecified	1
Eu92.11	[X]Emotional behavioural problems	1
R007z14	[D]Work stress	1
ZR2A.00	Beck depression inventory	1
ZR2A.11	BDI - Beck depression inventory	1
ZR2B.00	Beck hopelessness scale	1
ZR2G.00	Behaviour and mood disturbance scale	1
ZR2h.00	Brief depression rating scale	1
ZR7..00	Depression anxiety scale	1
ZR8..00	Depression self rating scale	1
ZR8..11	DSRS - Depression self rating scale	1
ZRBY.00	Edinburgh postnatal depression scale	1
ZRBY.11	EPDS - Edinburgh postnatal depression scale	1
ZRL6.00	Geriatric depression scale	1
ZRL6.11	GDS - Geriatric depression scale	1
ZRL6.12	Geriatric depression score	1
ZRLU.00	Hamilton rating scale for depression	1
ZRLU.11	HAMD - Hamilton rating scale for depression	1
ZRLU.12	HRSD - Hamilton rating scale for depression	1
ZRLfH00	Health of the Nation Outcome Scale item 7 - depressed mood	1
ZRLfI00	Health of the Nation Outcome Scale item 7 - depressed mood	1
ZRLn.00	Hopelessness scale	1
ZRLr.00	Hospital anxiety and depression scale	1
ZRLr.11	HAD - Hospital anxiety and depression scale	1
ZRLr.12	HADS - Hospital anxiety and depression scale	1
ZRVM.00	Leeds scale for the self-assessment of anxiety & depression	1
ZRaH.00	Mood affective checklist	1
ZRaH.11	MACL - Mood affective checklist	1
ZRbS.00	Positive and negative affect schedule	1
ZRby.00	Profile of mood states	1
ZRby.11	POMS - Profile of mood states	1
ZRrI.00	Wakefield self-assessment depression inventory	1
ZRrY.00	WHO depression scale	1
ZRrc.00	Zung self-rating depression scale	1
ZRrc.11	SDS - Zung self-rating depression scale	1
ZV11100	[V]Personal history of affective disorder	1
ZV11111	[V]Personal history of manic-depressive psychosis	1
ZV11112	[V]Personal history of manic-depressive psychosis	1

### Appendix 13. List of Read codes used in the studies of composite outcomes of anxiety and depression.

Read code	Description	Number of studies
Eu32200	[X]Severe depressive episode without psychotic symptoms	2
Eu33z00	[X]Recurrent depressive disorder, unspecified	2
Eu33400	[X]Recurrent depressive disorder, currently in remission	2
Eu33100	[X]Recurrent depressive disorder, current episode moderate	2
Eu33000	[X]Recurrent depressive disorder, current episode mild	2
Eu33.00	[X]Recurrent depressive disorder	2
Eu33200	[X]Recurr depress disorder cur epi severe without psyc sympt	2
Eu41000	[X]Panic disorder [episodic paroxysmal anxiety]	2
Eu41y00	[X]Other specified anxiety disorders	2
Eu33y00	[X]Other recurrent depressive disorders	2
Eu32y00	[X]Other depressive episodes	2
Eu41.00	[X]Other anxiety disorders	2
Eu32100	[X]Moderate depressive episode	2
Eu41200	[X]Mixed anxiety and depressive disorder	2
Eu32000	[X]Mild depressive episode	2
Eu32400	[X]Mild depression	2
Eu41100	[X]Generalized anxiety disorder	2
Eu34100	[X]Dysthymia	2
Eu32z00	[X]Depressive episode, unspecified	2
Eu32.00	[X]Depressive episode	2
Eu41z00	[X]Anxiety disorder, unspecified	2
1B1U.00	Symptoms of depression	2
E112000	Single major depressive episode, unspecified	2
E112300	Single major depressive episode, severe, without psychosis	2
E112500	Single major depressive episode, partial or unspec remission	2
E112200	Single major depressive episode, moderate	2
E112100	Single major depressive episode, mild	2
E112600	Single major depressive episode, in full remission	2
E112z00	Single major depressive episode NOS	2
E112.00	Single major depressive episode	2
E118.00	Seasonal affective disorder	2
E113500	Recurrent major depressive episodes,partial/unspec remission	2
E113000	Recurrent major depressive episodes, unspecified	2
E113300	Recurrent major depressive episodes, severe, no psychosis	2
E113200	Recurrent major depressive episodes, moderate	2
E113100	Recurrent major depressive episodes, mild	2
E113600	Recurrent major depressive episodes, in full remission	2
E113z00	Recurrent major depressive episode NOS	2
E113.00	Recurrent major depressive episode	2
E113700	Recurrent depression	2
E200500	Recurrent anxiety	2
E291.00	Prolonged depressive reaction	2
E2B0.00	Postviral depression	2
E200100	Panic disorder	2
2257.00	O/E - depressed	2
E204.00	Neurotic depression reactive type	2
E200200	Generalised anxiety disorder	2
E2B..00	Depressive disorder NEC	2
1BT..00	Depressed mood	2
1B17.00	Depressed	2

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Read code	Description	Number of studies
E2B1.00	Chronic depression	2
E200400	Chronic anxiety	2
E200300	Anxiety with depression	2
E200.00	Anxiety states	2
E200000	Anxiety state unspecified	2
E200z00	Anxiety state NOS	2
E135.00	Agitated depression	2
Eu33214	[X]Vital depression, recurrent without psychotic symptoms	1
Eu3z.00	[X]Unspecified mood affective disorder	1
Eu40100	[X]Social phobias	1
Eu40112	[X]Social neurosis	1
Eu32213	[X]Single episode vital depression w/out psychotic symptoms	1
Eu32314	[X]Single episode of reactive depressive psychosis	1
Eu32.13	[X]Single episode of reactive depression	1
Eu32313	[X]Single episode of psychotic depression	1
Eu32312	[X]Single episode of psychogenic depressive psychosis	1
Eu32.12	[X]Single episode of psychogenic depression	1
Eu32y12	[X]Single episode of masked depression NOS	1
Eu32311	[X]Single episode of major depression and psychotic symptoms	1
Eu32.11	[X]Single episode of depressive reaction	1
Eu32212	[X]Single episode major depression w/out psychotic symptoms	1
Eu32211	[X]Single episode agitated depressn w/out psychotic symptoms	1
Eu32300	[X]Severe depressive episode with psychotic symptoms	1
Eu33.14	[X]Seasonal depressive disorder	1
Eu33.15	[X]SAD - Seasonal affective disorder	1
Eu06y11	[X]Right hemispheric organic affective disorder	1
Eu33316	[X]Recurrent severe episodes/reactive depressive psychosis	1
Eu33315	[X]Recurrent severe episodes of psychotic depression	1
Eu33.13	[X]Recurrent episodes of reactive depression	1
Eu33.12	[X]Recurrent episodes of psychogenic depression	1
Eu33.11	[X]Recurrent episodes of depressive reaction	1
Eu33300	[X]Recurrent depress disorder cur epi severe with psyc symp	1
Eu3y111	[X]Recurrent brief depressive episodes	1
Eu33314	[X]Recurr severe episodes/psychogenic depressive psychosis	1
Eu33313	[X]Recurr severe episodes/major depression+psychotic symptom	1
Eu43z00	[X]Reaction to severe stress, unspecified	1
Eu43.00	[X]Reaction to severe stress, and adjustment disorders	1
Eu32z13	[X]Prolonged single episode of reactive depression	1
Eu42100	[X]Predominantly compulsive acts [obsessional rituals]	1
Eu20400	[X]Post-schizophrenic depression	1
Eu43100	[X]Post - traumatic stress disorder	1
Eu40.00	[X]Phobic anxiety disorders	1
Eu34.00	[X]Persistent mood affective disorders	1
Eu34z00	[X]Persistent mood affective disorder, unspecified	1
Eu34114	[X]Persistant anxiety depression	1
Eu41012	[X]Panic state	1
Eu40012	[X]Panic disorder with agoraphobia	1
Eu41011	[X]Panic attack	1
Eu3yy00	[X]Other specified mood affective disorders	1
Eu3y000	[X]Other single mood affective disorders	1
Eu3y100	[X]Other recurrent mood affective disorders	1
Eu43y00	[X]Other reactions to severe stress	1
Eu34y00	[X]Other persistent mood affective disorders	1

Read code	Description	Number of studies
Eu42y00	[X]Other obsessive-compulsive disorders	1
Eu3y.00	[X]Other mood affective disorders	1
Eu41300	[X]Other mixed anxiety disorders	1
Eu31y00	[X]Other bipolar affective disorders	1
Eu05300	[X]Organic mood [affective] disorders	1
Eu05400	[X]Organic anxiety disorder	1
Eu60513	[X]Obsessive-compulsive personality disorder	1
Eu42.12	[X]Obsessive-compulsive neurosis	1
Eu42z00	[X]Obsessive-compulsive disorder, unspecified	1
Eu42.00	[X]Obsessive - compulsive disorder	1
Eu4..00	[X]Neurotic, stress - related and somoform disorders	1
Eu34113	[X]Neurotic depression	1
Eu3..00	[X]Mood - affective disorders	1
Eu33z11	[X]Monopolar depression NOS	1
Eu3y011	[X]Mixed affective episode	1
Eu41211	[X]Mild anxiety depression	1
Eu31.13	[X]Manic-depressive reaction	1
Eu31.12	[X]Manic-depressive psychosis	1
Eu31.11	[X]Manic-depressive illness	1
Eu33312	[X]Manic-depress psychosis,depressed type+psychotic symptoms	1
Eu33213	[X]Manic-depress psychosis,depressd,no psychotic symptoms	1
Eu32700	[X]Major depression, severe without psychotic symptoms	1
Eu32800	[X]Major depression, severe with psychotic symptoms	1
Eu33212	[X]Major depression, recurrent without psychotic symptoms	1
Eu32600	[X]Major depression, moderately severe	1
Eu32500	[X]Major depression, mild	1
Eu33211	[X]Endogenous depression without psychotic symptoms	1
Eu33311	[X]Endogenous depression with psychotic symptoms	1
Eu51511	[X]Dream anxiety disorder	1
Eu34112	[X]Depressive personality disorder	1
Eu34111	[X]Depressive neurosis	1
Eu32z12	[X]Depressive disorder NOS	1
Eu92000	[X]Depressive conduct disorder	1
Eu32z11	[X]Depression NOS	1
Eu60511	[X]Compulsive personality disorder	1
Eu63011	[X]Compulsive gambling	1
Eu43013	[X]Combat fatigue	1
Eu31z00	[X]Bipolar affective disorder, unspecified	1
Eu31700	[X]Bipolar affective disorder, currently in remission	1
Eu31600	[X]Bipolar affective disorder, current episode mixed	1
Eu31900	[X]Bipolar affective disorder type II	1
Eu31800	[X]Bipolar affective disorder type I	1
Eu31.00	[X]Bipolar affective disorder	1
Eu31300	[X]Bipolar affect disorder cur epi mild or moderate depressn	1
Eu31500	[X]Bipolar affect dis cur epi severe depres with psyc symp	1
Eu31y11	[X]Bipolar II disorder	1
Eu31911	[X]Bipolar II disorder	1
Eu31400	[X]Bipol aff disord, curr epi sev depress, no psychot symp	1
Eu32y11	[X]Atypical depression	1
Eu41113	[X]Anxiety state	1
Eu41112	[X]Anxiety reaction	1
Eu41111	[X]Anxiety neurosis	1
Eu41y11	[X]Anxiety hysteria	1

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Read code	Description	Number of studies
Eu41z11	[X]Anxiety NOS	1
Eu42.11	[X]Anankastic neurosis	1
Eu40011	[X]Agoraphobia without history of panic disorder	1
Eu40000	[X]Agoraphobia	1
Eu3z.11	[X]Affective psychosis NOS	1
Eu34011	[X]Affective personality disorder	1
Eu43000	[X]Acute stress reaction	1
Eu43012	[X]Acute reaction to stress	1
Eu32z14	[X] Reactive depression NOS	1
ZV11112	[V]Personal history of manic-depressive psychosis	1
ZV11111	[V]Personal history of manic-depressive psychosis	1
ZV11100	[V]Personal history of affective disorder	1
R2y2.00	[D]Nervousness	1
1BK..00	Worried	1
E11y000	Unspecified manic-depressive psychoses	1
E117400	Unspecified bipolar affective disorder,severe with psychosis	1
E117000	Unspecified bipolar affective disorder, unspecified	1
E117300	Unspecified bipolar affective disorder, severe, no psychosis	1
E117200	Unspecified bipolar affective disorder, moderate	1
E117100	Unspecified bipolar affective disorder, mild	1
E117600	Unspecified bipolar affective disorder, in full remission	1
E117z00	Unspecified bipolar affective disorder, NOS	1
E117.00	Unspecified bipolar affective disorder	1
E117500	Unspecified bipolar affect disord, partial/unspec remission	1
E11z000	Unspecified affective psychoses NOS	1
E211000	Unspecified affective personality disorder	1
1JJ..00	Suspected depression	1
E284.00	Stress reaction causing mixed disturbance of emotion/conduct	1
67J..00	Stress counselling	1
E202.11	Social phobic disorders	1
E112400	Single major depressive episode, severe, with psychosis	1
E002z00	Senile dementia with depressive or paranoid features NOS	1
E002.00	Senile dementia with depressive or paranoid features	1
E002100	Senile dementia with depression	1
1BT..12	Sad mood	1
8HHq.00	Referral for guided self-help for depression	1
8HHp.00	Referral for guided self-help for anxiety	1
Z4I7211	Reducing anxiety	1
E113400	Recurrent major depressive episodes, severe, with psychosis	1
Z4I7100	Recognising anxiety	1
E11z100	Rebound mood swings	1
E130.00	Reactive depressive psychosis	1
E130.11	Psychotic reactive depression	1
E001300	Presenile dementia with depression	1
E2A2.11	Post-traumatic brain syndrome	1
E202.00	Phobic disorders	1
E202.12	Phobic anxiety	1
E202000	Phobia unspecified	1
8CAa.00	Patient given advice about management of depression	1
E200111	Panic attack	1
E29y100	Other post-traumatic stress disorder	1
E11y300	Other mixed manic-depressive psychoses	1
E11yz00	Other and unspecified manic-depressive psychoses NOS	1

Read code	Description	Number of studies
E11y.00	Other and unspecified manic-depressive psychoses	1
E11z.00	Other and unspecified affective psychoses	1
E11zz00	Other affective psychosis NOS	1
E283.00	Other acute stress reactions	1
E283z00	Other acute stress reaction NOS	1
E03y200	Organic affective syndrome	1
9kQ..00	On full dose long term treatment depression - enh serv admin	1
9HA0.00	On depression register	1
E203.00	Obsessive-compulsive disorders	1
E203z00	Obsessive-compulsive disorder NOS	1
E214100	Obsessional personality	1
E203100	Obsessional neurosis	1
225J.00	O/E - panic attack	1
2259.00	O/E - nervous	1
225K.00	O/E - fearful mood	1
2253.00	O/E - distressed	1
2258.00	O/E - anxious	1
E116000	Mixed bipolar affective disorder, unspecified	1
E116300	Mixed bipolar affective disorder, severe, without psychosis	1
E116400	Mixed bipolar affective disorder, severe, with psychosis	1
E116500	Mixed bipolar affective disorder, partial/unspec remission	1
E116200	Mixed bipolar affective disorder, moderate	1
E116100	Mixed bipolar affective disorder, mild	1
E116600	Mixed bipolar affective disorder, in full remission	1
E116z00	Mixed bipolar affective disorder, NOS	1
E116.00	Mixed bipolar affective disorder	1
E11z200	Masked depression	1
E115.11	Manic-depressive - now depressed	1
13Y3.00	Manic-depression association member	1
1BT..11	Low mood	1
1BU..00	Loss of hope for the future	1
1BQ..00	Loss of capacity for enjoyment	1
146D.00	H/O: manic depressive disorder	1
1465.00	H/O: depression	1
1466.00	H/O: anxiety state	1
1B1H.00	Frightened	1
Z522600	Flooding - obsessional compulsive disorder	1
1B1T.00	Feeling stressed	1
16ZB100	Feeling low or worried	1
E202D00	Fear of death	1
1B1H.11	Fear	1
9hC..00	Exception reporting: depression quality indicators	1
9hC0.00	Excepted from depression quality indicators: Patient unsuita	1
9hC1.00	Excepted from depression quality indicators: Informed dissen	1
E112.13	Endogenous depression first episode	1
E112.12	Endogenous depression first episode	1
E113.11	Endogenous depression - recurrent	1
E112.14	Endogenous depression	1
9N54.00	Encounter for fear	1
1B1U.11	Depressive symptoms	1
E11..12	Depressive psychoses	1
E211200	Depressive personality disorder	1
9Ov3.00	Depression monitoring verbal invite	1

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Read code	Description	Number of studies
9Ov2.00	Depression monitoring third letter	1
9Ov4.00	Depression monitoring telephone invite	1
9Ov1.00	Depression monitoring second letter	1
9Ov0.00	Depression monitoring first letter	1
9Ov..00	Depression monitoring administration	1
9H91.00	Depression medication review	1
8BK0.00	Depression management programme	1
9H92.00	Depression interim review	1
9H90.00	Depression annual review	1
9k4..00	Depression - enhanced services administration	1
9k40.00	Depression - enhanced service completed	1
E214.00	Compulsive personality disorders	1
E214z00	Compulsive personality disorder NOS	1
E203000	Compulsive neurosis	1
1P3..00	Compulsive behaviour	1
E28..11	Combat fatigue	1
1B1V.00	C/O - panic attack	1
1B17.11	C/O - feeling depressed	1
E290z00	Brief depressive reaction NOS	1
E290.00	Brief depressive reaction	1
E11..11	Bipolar psychoses	1
E115600	Bipolar affective disorder, now depressed, in full remission	1
E115000	Bipolar affective disorder, currently depressed, unspecified	1
E115200	Bipolar affective disorder, currently depressed, moderate	1
E115100	Bipolar affective disorder, currently depressed, mild	1
E115z00	Bipolar affective disorder, currently depressed, NOS	1
E115.00	Bipolar affective disorder, currently depressed	1
E115300	Bipolar affect disord, now depressed, severe, no psychosis	1
E115400	Bipolar affect disord, now depressed, severe with psychosis	1
E115500	Bipolar affect disord, now depressed, part/unspec remission	1
E11y200	Atypical depressive disorder	1
E004300	Arteriosclerotic dementia with depression	1
1B1H.12	Apprehension	1
1B13.00	Anxiousness	1
8G94.00	Anxiety management training	1
Z4L1.00	Anxiety counselling	1
173f.00	Anxiety about breathlessness	1
6659000	Antidepressant drug treatment started	1
E214000	Anankastic personality	1
E203.11	Anancastic neurosis	1
Z4I7200	Alleviating anxiety	1
E202200	Agoraphobia without mention of panic attacks	1
E202100	Agoraphobia with panic attacks	1
E112.11	Agitated depression	1
E11..00	Affective psychoses	1
E211.00	Affective personality disorder	1
E292400	Adjustment reaction with anxious mood	1
E282.00	Acute stupor state due to acute stress reaction	1
E28z.00	Acute stress reaction NOS	1
E28..00	Acute reaction to stress	1
E283100	Acute posttrauma stress state	1
E280.00	Acute panic state due to acute stress reaction	1
E281.00	Acute fugue state due to acute stress reaction	1

Read code	Description	Number of studies
Z4I7.00	Acknowledging anxiety	1
1B12.00	'Nerves' - nervousness	1
9kQ..11		1

For peer review only



**Appendix 14. List of Read codes used in the studies of dementia and cognitive impairment.**

Read code	Description	Number of studies
Eu01.00	[X]Vascular dementia	13
Eu01200	[X]Subcortical vascular dementia	13
Eu00112	[X]Senile dementia,Alzheimer's type	13
Eu00011	[X]Presenile dementia,Alzheimer's type	13
Eu01100	[X]Multi-infarct dementia	13
Eu00.00	[X]Dementia in Alzheimer's disease	13
Eu01.11	[X]Arteriosclerotic dementia	13
Eu00z11	[X]Alzheimer's dementia unspec	13
E000.00	Uncomplicated senile dementia	13
E004.11	Multi infarct dementia	13
E004.00	Arteriosclerotic dementia	13
F110000	Alzheimer's disease with early onset	13
F110.00	Alzheimer's disease	13
Eu01z00	[X]Vascular dementia, unspecified	12
Eu01000	[X]Vascular dementia of acute onset	12
Eu00012	[X]Primary degen dementia, Alzheimer's type, presenile onset	12
Eu00113	[X]Primary degen dementia of Alzheimer's type, senile onset	12
Eu01111	[X]Predominantly cortical dementia	12
Eu00z00	[X]Dementia in Alzheimer's disease, unspecified	12
Eu00100	[X]Dementia in Alzheimer's disease with late onset	12
Eu00000	[X]Dementia in Alzheimer's disease with early onset	12
Eu00200	[X]Dementia in Alzheimer's dis, atypical or mixed type	12
Eu00013	[X]Alzheimer's disease type 2	12
Eu00111	[X]Alzheimer's disease type 1	12
E004000	Uncomplicated arteriosclerotic dementia	12
E004200	Arteriosclerotic dementia with paranoia	12
E004300	Arteriosclerotic dementia with depression	12
E004100	Arteriosclerotic dementia with delirium	12
E004z00	Arteriosclerotic dementia NOS	12
F110100	Alzheimer's disease with late onset	12
Eu01y00	[X]Other vascular dementia	11
Eu01300	[X]Mixed cortical and subcortical vascular dementia	11
Eu02.00	[X]Dementia in other diseases classified elsewhere	11
Eu02300	[X]Dementia in Parkinson's disease	11
Eu02z00	[X] Unspecified dementia	11
Eu02z14	[X] Senile dementia NOS	11
E00..12	Senile/presenile dementia	11
E002000	Senile dementia with paranoia	11
E002100	Senile dementia with depression	11
E001.00	Presenile dementia	11
E041.00	Dementia in conditions EC	11
Fyu3000	[X]Other Alzheimer's disease	10
Eu02500	[X]Lewy body dementia	10
Eu02y00	[X]Dementia in other specified diseases classif elsewhere	10
Eu04100	[X]Delirium superimposed on dementia	10
Eu02z16	[X] Senile dementia, depressed or paranoid type	10
Eu02z13	[X] Primary degenerative dementia NOS	10
Eu02z11	[X] Presenile dementia NOS	10
E001000	Uncomplicated presenile dementia	10
E002z00	Senile dementia with depressive or paranoid features NOS	10

Read code	Description	Number of studies
E002.00	Senile dementia with depressive or paranoid features	10
E003.00	Senile dementia with delirium	10
E00..11	Senile dementia	10
E001200	Presenile dementia with paranoia	10
E001300	Presenile dementia with depression	10
E001100	Presenile dementia with delirium	10
E001z00	Presenile dementia NOS	10
Eu02000	[X]Dementia in Pick's disease	9
Eu02200	[X]Dementia in Huntington's disease	9
Eu02400	[X]Dementia in human immunodef virus [HIV] disease	8
Eu02100	[X]Dementia in Creutzfeldt-Jakob disease	8
F112.00	Senile degeneration of brain	8
F116.00	Lewy body disease	8
F111.00	Pick's disease	7
E012.00	Other alcoholic dementia	6
E012.11	Alcoholic dementia NOS	6
Eu10711	[X]Alcoholic dementia NOS	5
E00z.00	Senile or presenile psychoses NOS	5
6AB..00	Dementia annual review	5
Eu02z15	[X] Senile psychosis NOS	4
Eu02z12	[X] Presenile psychosis NOS	4
ZS7C500	Language disorder of dementia	4
E02y100	Drug-induced dementia	4
66h..00	Dementia monitoring	4
R00z011	[D]Memory deficit	3
e000.00	Uncomplicated senile dementia	3
Z7CEG00	Transient memory loss	3
Z7CF811	Short-term memory loss	3
E00..00	Senile and presenile organic psychotic conditions	3
2900	SENILE DEMENTIA	3
Z7CF800	Poor short-term memory	3
Z7CEH15	Poor memory	3
2901A	PRESENILE DEMENTIA	3
E00y.00	Other senile and presenile organic psychoses	3
3A30.00	Memory: present place not knwn	3
Z7CEH14	Memory problem	3
1B1A.12	Memory loss symptom	3
1B1A.00	Memory loss - amnesia	3
Z7CE611	Memory loss	3
Z7CEJ00	Memory lapses	3
Z7CEH00	Memory impairment	3
1B1A.13	Memory disturbance	3
Z7CEC11	Loss of memory for recent events	3
Z7CE615	Loss of memory	3
1461.00	H/O: dementia	3
3AE6.00	GDS level 7 - very severe cognitive decline	3
3AE5.00	GDS level 6 - severe cognitive decline	3
3AE4.00	GDS level 5 - moderately severe cognitive decline	3
3AE3.00	GDS level 4 - moderate cognitive decline	3
3AE2.00	GDS level 3 - mild cognitive decline	3
3AE1.00	GDS level 2 - very mild cognitive decline	3
2930	DEMENTIA ARTERIOSCLEROTIC	3
299 G	DEMENTIA AGGRESSIVE	3

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Read code	Description	Number of studies
299 B	DEMENTIA	3
E012000	Chronic alcoholic brain syndrome	3
1B1A.11	Amnesia symptom	3
ZR1K.00	Alzheimer's disease assessment scale	3
2901B	ALZHEIMER'S DISEASE	3
ZR1K.11	ADAS - Alzheimer's disease assessment scale	3
Eu80200	[X]Receptive language disorder	2
R00z000	[D]Amnesia (retrograde)	2
ZS78D00	Wernicke's dysphasia	2
ZS78D13	Wernicke's aphasia	2
Z7C3500	Unable to use verbal reasoning	2
Z7C3200	Unable to reason	2
Z7C5100	Unable to concentrate	2
1B1A000	Temporary loss of memory	2
Z7CEF00	Temporary loss of memory	2
Z7C5313	Short concentration span	2
Z7C5312	Short attention span	2
1BR0.11	Short attention span	2
8HTY.00	Referral to memory clinic	2
8H1a.00	Referral to dementia care advisor	2
Z7C5300	Reduced concentration span	2
1BR..00	Reduced concentration	2
Z7C5311	Reduced attention span	2
E00y.11	Presbyophrenic psychosis	2
Z7CEB12	Poor memory for remote events	2
Z7CFO00	Poor long-term memory	2
1BW..00	Poor concentration	2
Z7CEC12	No memory for recent events	2
Z7CEK00	Minor memory lapses	2
Z7CEL00	Mild memory disturbance	2
E2A1000	Mild memory disturbance	2
3A40.00	Memory: present year not known	2
3A20.00	Memory: present time not known	2
3A10.00	Memory: own age not known	2
3A50.00	Memory: own DOB not known	2
3A70.00	Memory: important event not kn	2
3A80.00	Memory: import.person not knwn	2
3A91.00	Memory: count down unsuccess.	2
3AA1.00	Memory: address recall unsucc.	2
Z7A1500	Memory retraining	2
Z7CE412	Memory loss symptom	2
Z7CE614	Memory loss - amnesia	2
Z7CE413	Memory loss - amnesia	2
Z7CE612	Memory gone	2
Z7CEH11	Memory dysfunction	2
Z7CE400	Memory disturbance (& amnesia (& symptom))	2
Z7CE414	Memory disturbance	2
Z7CEH12	Memory deficit	2
Z7CFx00	Memory aided by use of labels	2
Z7CE415	Loss of memory	2
Z7CFO11	Long-term memory loss	2
Z7C5111	Lack of concentration	2
Z7CE616	LOM - Loss of memory	2

Read code	Description	Number of studies
2901D	JACOB- CREUZFELDT DISEASE WITH DEMENTIA	2
Z7CEN11	Invents experiences to compensate for loss of memory	2
Z7CEA11	Impairment of working memory	2
Z7CEA13	Impairment of primary memory	2
Z7C1.00	Impaired cognition	2
129B.00	FH: Alzheimer's disease	2
Z7A1A00	Executive functions training	2
9hD0.00	Excepted from dementia quality indicators: Patient unsuitabl	2
9hD1.00	Excepted from dementia quality indicators: Informed dissent	2
1S21.00	Disturbance of memory for order of events	2
Z7C3C00	Difficulty using visuospatial reasoning	2
Z7C3600	Difficulty using verbal reasoning	2
Z7C3300	Difficulty reasoning	2
Z7C4A00	Difficulty processing information at normal speed	2
Z7C4700	Difficulty processing information accurately	2
Z7C4300	Difficulty processing information	2
Z7C1100	Difficulty making plans	2
ZR3V.13	Dementia rating scale	2
9Ou4.00	Dementia monitoring verbal invite	2
9Ou3.00	Dementia monitoring third letter	2
9Ou5.00	Dementia monitoring telephone invite	2
9Ou2.00	Dementia monitoring second letter	2
9Ou1.00	Dementia monitoring first letter	2
3A...12	Dementia assessment	2
Z7CGP00	Delayed verbal memory	2
ZR3V.11	DRS - Clinical dementia rating scale	2
Y0601JS	DEMENTIA CLINIC ATTENDANCE	2
Y060 JS	DEMENTIA CLINIC	2
2919	DEMENTIA ALCOHOLIC	2
Z73..00	Cognitive intervention strategies	2
28E..00	Cognitive decline	2
ZR3V.00	Clinical dementia rating scale	2
ZR3V.12	CDR - Clinical dementia rating scale	2
Z7CEH13	Bad memory	2
ZR2X.12	BDRS - Blessed dementia rating scale	2
Z7A1400	Attention training	2
Z7CE600	Amnesia	2
EU02y..0		2
X0034		2
AE..00		2
Ryu5.00	[X]Symptoms/signs inv cognit, percept, emotion state & behav	1
Eu80000	[X]Specific speech articulation disorder	1
Eu81500	[X]Severe learning disability	1
Eu81700	[X]Profound learning disability	1
Ryu5000	[X]Other amnesia	1
Ryu5100	[X]Oth & unspec symptom/sign involv cognit funct/awareness	1
Eu81600	[X]Mild learning disability	1
Eu05700	[X]Mild cognitive disorder	1
Eu81z12	[X]Learning disorder NOS	1
Eu81z11	[X]Learning disability NOS	1
Eu81z13	[X]Learn acquisition disab NOS	1
Eu03.11	[X]Korsakov's psychosis, nonalcoholic	1
Eu10611	[X]Korsakov's psychosis, alcohol induced	1

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Read code	Description	Number of studies
Eu80014	[X]Functional speech articulation disorder	1
Eu80100	[X]Expressive language disorder	1
Eu90000	[X]Disturbance of activity and attention	1
Eu44000	[X]Dissociative amnesia	1
Ryu5700	[X]Disorientation, unspecified	1
Eu10712	[X]Chronic alcoholic brain syndrome	1
Eu80600	[X]Auditory processing disorder	1
Eu90011	[X]Attention deficit hyperactivity disorder	1
Eu9y700	[X]Attention deficit disorder	1
ZS91.12	[X]Attention deficit disorder	1
Eu04.12	[X]Acute / subacute confusional state, nonalcoholic	1
ZV40000	[V]Problems with learning	1
R045100	[D]Dysphasia	1
R00zX00	[D]Disorientation, unspecified	1
R043.00	[D]Aphasia	1
R00z500	[D]Anterograde amnesia	1
E011200	Wernicke-Korsakov syndrome	1
C253.00	Wernicke's encephalopathy	1
C251.11	Wernicke's encephalopathy	1
Z7CMB00	Visuospatial agnosia	1
Z7A1800	Visual processing training	1
F481J00	Visual disorientation syndrome	1
F584000	Unspecified other abnormal auditory perception	1
Z7CH300	Unrealistic planning	1
Z7C7200	Unable to write	1
ZT46200	Unable to use verbal communication	1
ZT49200	Unable to use non-verbal communication	1
ZT47200	Unable to use language	1
Z7CI500	Unable to use decision-making strategies	1
Z7C6200	Unable to tell the time	1
ZT4f200	Unable to responds to communication by others	1
Z7C2600	Unable to recognise surroundings	1
Z7C2200	Unable to recognise sounds	1
Z7C2D00	Unable to recognise parts of own body	1
Z7C2L11	Unable to recognise objects visually	1
Z7C2L00	Unable to recognise objects by sight	1
Z7C2H00	Unable to recognise objects	1
Z7C2T00	Unable to recognise familiar people	1
Z7C2R00	Unable to recognise faces by sight	1
Z7C2P00	Unable to recognise faces	1
Z7CFC00	Unable to recall five digit number at five minutes	1
Z7C8200	Unable to read	1
Z7C4900	Unable to process information at normal speed	1
Z7C4600	Unable to process information accurately	1
Z7C4200	Unable to process information	1
ZM18200	Unable to plan meals	1
Z7CH200	Unable to plan	1
ZN28200	Unable to organise a journey	1
Z7CI900	Unable to make considered choices	1
Z7C4C00	Unable to analyse information	1
1B1S.00	Transient global amnesia	1
Z7CE700	Transient global amnesia	1
ZS78600	Transcortical sensory dysphasia	1

Read code	Description	Number of studies
ZS78411	Transcortical motor aphasia	1
Z7CE711	TGA - Transient global amnesia	1
ZS78300	Subcortical aphasia	1
E031.00	Subacute confusional state	1
Z7A2200	Strategy training for perceptual skills	1
ZS5..00	Speech and language dyspraxias	1
ZS...00	Speech and language disorder	1
ZS73.00	Specific language impairment	1
ZS73.11	Specific language disorder	1
Z7CC700	Spatial disorientation	1
Z7CD400	Slow learner	1
F483200	Simultaneous visual perception without fusion	1
1B1A100	Short-term memory loss	1
28E2.00	Severe cognitive impairment	1
ZS78A00	Semantic dysphasia	1
9Nk1.00	Seen in memory clinic	1
9N0y.00	Seen in learning disabilities clinic	1
342 CP	SENILE PARKINSONISM	1
Z7CE900	Retrograde amnesia	1
8HHP.00	Referral to learning disability team	1
8H4f.00	Referral to learning disabilities psychiatrist	1
1BR0.00	Reduced concentration span	1
ZS72.00	Receptive language impairment	1
ZS78C00	Receptive dysphasia	1
ZS78C11	Receptive aphasia	1
Z7A1700	Reality orientation	1
Z7A1711	RO - Reality orientation	1
Z7CE911	RA - Retrograde amnesia	1
ZRbf.00	Psycholinguistic assessments of language process in aphasia	1
ZD38300	Promoting aphasics communication effectiveness programme	1
8G96.00	Problem solving therapy	1
ZS78F00	Posterior dysphasia	1
1B1Y.00	Poor visual sequential memory	1
1B1a.00	Poor auditory sequential memory	1
F591z00	Perceptive hearing loss NOS	1
F591.14	Perceptive hearing loss	1
F591.13	Perceptive deafness	1
Z7CL700	Perception that things appear grey	1
Z7CL800	Perception that things appear flat	1
Z7CLE00	Perception of things changing size	1
Z7CLH00	Perception of things changing shape	1
Z7CL911	Perception of things changing colour	1
E2F2.00	Other specific learning difficulty	1
F584z00	Other abnormal auditory perception NOS	1
F584.00	Other abnormal auditory perception	1
Z7A1600	Orientation training	1
Z7CC312	Orientation poor	1
Z7CC311	Orientation confused	1
E2A1100	Organic memory impairment	1
918e.00	On learning disability register	1
29J4.00	O/E - sensory inattention	1
2B46.11	O/E - sensory dysphasia	1
2B43.00	O/E - sensory aphasia	1

	Read code	Description	Number of studies
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5	2BM3.11	O/E - perceptive deafness	1
6	2B45.11	O/E - motor dysphasia	1
7	2B42.00	O/E - motor aphasia	1
8	2B46.00	O/E - dysphasia - sensory	1
9	2B45.00	O/E - dysphasia - motor	1
10	2B47.00	O/E - dysphasia - NOS	1
11	2B4..12	O/E - dysphasia	1
12	2B44.00	O/E - aphasia NOS	1
13	2B4..11	O/E - aphasia	1
14	ZS78I00	Non-fluent dysphasia	1
15	ZS78I11	Non-fluent aphasia	1
16	28E1.00	Moderate cognitive impairment	1
17	ZS78200	Mixed transcortical dysphasia	1
18	ZS78900	Mixed dysphasia	1
19	ZS78911	Mixed aphasia	1
20	Z7C2700	Mistakes people's identity	1
21	28E0.00	Mild cognitive impairment	1
22	3A60.00	Memory: present month not knwn	1
23	3A11.00	Memory: own age known	1
24	Z7A1300	Memory skills training	1
25	Z7CFz00	Memory aided by use of lists	1
26	Z7CFw00	Memory aided by use of diary	1
27	ZS34.11	Learning disability	1
28	9HB2.00	Learning disabilities health action plan reviewed	1
29	9HB1.00	Learning disabilities health action plan offered	1
30	9HB0.00	Learning disabilities health action plan declined	1
31	9HB4.00	Learning disabilities health action plan completed	1
32	9HB6.11	Learning disabilities annual health check declined	1
33	9HB6.00	Learning disabilities annual health assessment declined	1
34	9HB5.00	Learning disabilities annual health assessment	1
35	Z7CD200	Learning difficulties	1
36	ZS3..00	Language-related cognitive disorder	1
37	ZS7..00	Language impairment	1
38	ZS7C600	Language disorder associated with thought disorder	1
39	13ZA.00	Language difficulty	1
40	E011100	Korsakov's alcoholic psychosis with peripheral neuritis	1
41	E011000	Korsakov's alcoholic psychosis	1
42	E040.11	Korsakoff's non-alcoholic psychosis	1
43	ZS78D12	Jargon dysphasia	1
44	ZS78D11	Jargon aphasia	1
45	A411.00	Jakob-Creutzfeldt disease	1
46	ZS78212	Isolation dysphasia	1
47	Z7CEA12	Impairment of immediate recall	1
48	Z7CD300	Impaired ability to learn new material	1
49	E201700	Hysterical amnesia	1
50	Z7CL100	Heightened visual perception	1
51	Z7CL511	Heightened perception of touch	1
52	Z7CLO00	Heightened perception of taste	1
53	Z7CLP11	Heightened perception of sound	1
54	Z7CLN11	Heightened perception of smells	1
55	Z7CLN12	Heightened perception of odours	1
56	Z7CLN00	Heightened olfactory perception	1
57	Z7CLP00	Heightened auditory perception	1
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Read code	Description	Number of studies
ZRLfE00	Health of the Nation Outcome Scale item 4 - cognitive probl	1
Z7CF200	Has delayed recall	1
ZS78800	Global dysphasia	1
3AE..00	Global deterioration scale: assessment of prim deg dementia	1
ZS78811	Global aphasia	1
Z7CE500	Forgetful	1
ZS78E11	Fluent aphasia	1
1281.00	FH: Senile dementia	1
ZS71.00	Expressive language impairment	1
ZS84.00	Expressive language disorder	1
ZS78G11	Expressive aphasia	1
9hD..00	Exception reporting: dementia quality indicators	1
ZS78K00	Efferent motor dysphasia	1
ZS78K11	Efferent motor aphasia	1
ZS78.00	Dysphasia	1
ZT46400	Does not use verbal communication	1
ZT4J400	Does not use the elements of language	1
ZT49400	Does not use non-verbal communication	1
ZT4f400	Does not respond to communication by others	1
Z7C2900	Does not recognise self	1
Z7C2A00	Does not recognise photographs of self	1
Z7CEM00	Distortion of memory	1
Z7CC600	Disorientation for person	1
Z7C7300	Difficulty writing	1
ZT46500	Difficulty using verbal communication	1
ZT49500	Difficulty using non-verbal communication	1
Z7CI600	Difficulty using decision-making strategies	1
ZT4A500	Difficulty using a non-speech system for communication	1
Z7CJ100	Difficulty solving problems	1
Z7C8300	Difficulty reading	1
ZM18500	Difficulty planning meals	1
Z7C9300	Difficulty performing logical sequencing	1
ZN28500	Difficulty organising a journey	1
Z7CI200	Difficulty making decisions	1
Z7CIA00	Difficulty making considered choices	1
ZT4g500	Difficulty imitating forms of communication	1
Z7C4D00	Difficulty analysing information	1
9HB7.11	Did not attend learning disabilities annual health check	1
9HB7.00	Did not attend learning disabilities annual health assessmnt	1
9Ou..00	Dementia monitoring administration	1
ZS93.11	DAMP - Deficits in attention motor control and perception	1
ZS78B11	Conduction aphasia	1
F591y00	Combined perceptive hearing loss	1
Z7A1.00	Cognitive skills training	1
ZD15.00	Cognitive neuropsychological language therapy	1
ZD38200	Cognitive behavioural language therapy	1
E2E0z00	Child attention deficit disorder NOS	1
E2E0.00	Child attention deficit disorder	1
Z7CLK00	Changed perception of time	1
F11x700	Cerebral degeneration due to Jakob - Creutzfeldt disease	1
ZS78H00	Broca's dysphasia	1
ZS78H11	Broca's aphasia	1
ZS76.00	Auditory processing disorder	1



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Read code	Description	Number of studies
E2E0000	Attention deficit without hyperactivity	1
ZS91.00	Attention deficit disorder	1
ZS78.11	Aphasia	1
Z7CE811	Antegrade amnesia	1
ZS78511	Anomic aphasia	1
ZS78500	Anomia	1
Z7CEB00	Amnesia for remote events	1
Z7CEC00	Amnesia for recent events	1
Z7CEE00	Amnesia for important personal information	1
Z7CED00	Amnesia for day to day facts	1
13Y7.00	Alzheimer's disease society member	1
ZS7C.00	Acquired language disorder	1
ZS78100	Acquired dysphasias	1
9OIA.00	ADHD monitoring invitation third letter	1
9OI8.00	ADHD monitoring invitation first letter	1
ZS91.11	ADD - Attention deficit disorder	1
Z7C2N00		1
E0120		1
6AB.00		1
Z7C3800		1
Xa25J		1
Z7CEB11		1
Z7CC800		1
Z7C2J00		1
X00Rk		1
Z7C3B00		1
Z7A1100		1
Z7C6300		1
Z7C9200		1
Z7C3900		1
Z7C2F00		1
Z7C2B00		1
Z7A1712		1
Z7A2100		1
Z7A2300		1

### Appendix 15. List of Read codes used in the studies of fatigue.

Read code	Description	Number of studies
168..00	Tiredness symptom	3
168..11	Fatigue - symptom	3
168..12	Lethargy - symptom	3
1682.00	Fatigue	3
1683.00	Tired all the time	3
1684.11	C/O - debility - malaise	3
168Z.00	Tiredness symptom NOS	3
8HkW.00	Referral to chronic fatigue syndrome specialist team	3
8HIL.00	Referral for chronic fatigue syndrome activity management	3
8Q1..00	Activity management for chronic fatigue syndrome	3
E205.00	Neurasthenia - nervous debility	3
E205.12	Tired all the time	3
Eu46011	[X]Fatigue syndrome	3
F286.00	Chronic fatigue syndrome	3
F286.11	CFS - Chronic fatigue syndrome	3
F286.12	Postviral fatigue syndrome	3
F286.13	PVFS - Postviral fatigue syn	3
F286.14	Post-viral fatigue syndrome	3
F286.15	Myalgic encephalomyelitis	3
F286.16	ME - Myalgic encephalomyelitis	3
F286000	Mild chronic fatigue syndrome	3
F286100	Moderate chronic fatigue syndrome	3
F286200	Severe chronic fatigue syndrome	3
R007.00	[D]Malaise and fatigue	3
R007100	[D]Fatigue	3
R007211	[D]General weakness	3
R007300	[D]Lethargy	3
R007400	[D]Postviral (asthenic) syndrome	3
R007411	[D]Post viral debility	3
R007500	[D]Tiredness	3
R007z00	[D]Malaise and fatigue NOS	3
168..13	Malaise - symptom	2
1683.11	C/O - 'tired all the time'	2
1684.00	Malaise/lethargy	2
1684.13	C/O - postviral syndrome	2
1688.00	Exhaustion	2
1B3..12	Weakness symptoms	2
E205.11	Nervous exhaustion	2
Eu46000	[X]Neurasthenia	2
F03y.12	Myalgic encephalomyelitis	2
N239.00	Fibromyalgia	2
N248.00	Fibromyalgia	2
R007000	[D]Malaise	2
R007200	[D]Asthenia NOS	2
R2y3.00	[D]Debility, unspecified	2
168..14	C/O 'Muzzy head'	1
1B32.00	Weakness present	1
8HkW.11	Referral to myalgic encephalomyelitis specialist team	1
8Q1..11	Activity management for myalgic encephalopathy	1
A4zy300	Encephalitis lethargica	1
Eu46y14	[X]Psychasthenia	1

Read code	Description	Number of studies
Eu46y15	[X]Psychasthenia neurosis	1
R007600	[D]Post polio exhaustion	1
R007z11	[D]Lassitude	1
R202.00	[D]Senile asthenia	1
SN44.00	Exhaustion due to exposure	1

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3 **Appendix 16. List of Read codes used in the studies of pain.**  
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Read code	Description	Number of studies
NyuAG	[X]Uns sof tis d,use/overu/prs	2
NyuA	[X]Other soft tissue disorders	2
Nyu80	[X]Other myositis	2
Nyu3	[X]Other joint disorders	2
Ryu70	[X]Other chronic pain	2
NyuAF	[X]Oth spcf soft tissu disords	2
Nyu85	[X]Oth spcf disorders/muscle	2
NyuAA	[X]Oth sft tis diso/oth dis CE	2
Nyu8A	[X]Oth disorders/muscle/dis CE	2
Nyu9	[X]Disorders/synovium+tendon	2
Nyu8	[X]Disorders of muscles	2
Nyu8B	[X]Disorder of muscle, unspc	2
R01zz	[D]Nerv/musculoskel.sympt.NOS	2
R01z	[D]Nerv/musculoskel.symp.other	2
R01	[D]Musculoskeletal symptoms	2
R01z2	[D]Musculoskeletal pain	2
R00z2	[D]General aches and pains	2
N22z	Synovium/tendon/bursa dis.NOS	2
N0950	Stiff joint NEC-site unspc.	2
N0958	Stiff joint NEC-other specif.	2
N240	Rheumatism/fibrositis NOS	2
N2	Rheumatism, excl.the back	2
N240z	Rheumatism or fibrositis NOS	2
N2400	Rheumatism NOS - shoulder	2
N2403	Rheumatic pain	2
N24z	Polyalgia	2
N09	Other/unspcif.joint disorders	2
N22yz	Other tendon disorder NOS	2
N233z	Other specif.musc.disorder NOS	2
N06yz	Other specif.arthropathy NOS	2
N06y9	Other spec.arthr.-multipl.site	2
N09y	Other spec. joint disorders	2
N24	Other soft tissue disorders	2
N3z	Other musculoskeletal dis. NOS	2
N247	Other musculoskel.limb sympts.	2
N23y	Other muscle/ligament/fascia	2
N23yz	Other musc./lig./fasc.dis.NOS	2
N096z	Other joint symptoms NOS	2
N0968	Other joint sympt.-other spec.	2
N0969	Other joint sympt.-multip.site	2
N09yz	Other joint disorders NOS	2
N09y0	Other joint dis.-site unspc.	2
N09y8	Other joint dis.-other specif.	2
N09y9	Other joint dis.-multiple site	2
N2y	Nonarticular rheumatism OS	2
N2z	Nonarticular rheumatism NOS	2
N39	Nonallopathic lesions, NEC	2
N39z	Nonallopathic lesion NEC NOS	2
N2411	Myositis unspecified	2
N2480	Myofascial pain syndrome	2
N241	Myalgia/myositis unspecified	2

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Read code	Description	Number of studies
N241z	Myalgia/myositis NOS	2
N3y	Musculoskeletal disorders OS	2
Ny	Musculoskeletal diseases OS	2
Nz	Musculoskeletal diseases NOS	2
N2402	Muscular rheumatism	2
N23z	Muscle/ligament/fascia dis.NOS	2
N2410	Muscle pain	2
N0959	Multiple joint stiffness	2
N0450	Juv ankylosing spondylitis	2
N095z	Joint stiffness NEC NOS	2
N095	Joint stiffness NEC	2
N09zz	Joint disorders NOS	2
N09z	Joint disorder NOS	2
N09z0	Joint disord.NOS-site unspecif	2
N09z8	Joint disord.NOS-other specif.	2
N09z9	Joint disord.NOS-multiple site	2
N096	Joint crepitus	2
N2401	Fibrositis unspecified	2
N2412	Fibromyositis NOS	2
N248	Fibromyalgia	2
N239	Fibromyalgia	2
N23	Fascia disorders	2
N06zB	Chronic arthritis	2
N06z0	Arthropathy NOS-site unspecif.	2
N06z8	Arthropathy NOS-other specif.	2
N06z9	Arthropathy NOS-multiple sites	2
N06zz	Arthropathy NOS	2
N0z	Arthropathies NOS	2
N06z	Arthritis	2
N0949	Arthralgia of multiple joints	2
N094z	Arthralgia NOS	2
N0940	Arthralgia - site unspecified	2
N0948	Arthralgia - other specified	2
N094	Ache in joint	2
OX7179KB	viral myalgia /ox	1
7K6T1	release of Torticollis	1
N2452	neuropathic pain	1
OX7289CH	back pain /ox	1
Syu4E	[X]Unspecif inj should/up arm	1
NyuB8	[X]Unsp osteopor + pathol frac	1
Nyu28	[X]Unilat second gonarthrosis	1
Nyu25	[X]Unilat primary gonarthrosis	1
Nyu4	[X]Systemc connctv tis disordrs	1
Nyu4C	[X]Sys diso/connctv t/o dis CE	1
Nyu95	[X]Synovitis+tenosyn/bact d CE	1
Nyu97	[X]Synovial hypertrophy, NEC	1
Ryu3	[X]Sym/sign inv nv/muscskel sy	1
Syu12	[X]Superf inj neck part unsp	1
Syu84	[X]Sprn/str oth unsp part knee	1
Syu46	[X]Spr/str oth/un part shl gir	1
Syu36	[X]Spr/str ot/un pt lum sp/pel	1
Syu18	[X]Spr/str jt/lg ot/un pt neck	1
Nyu92	[X]Spontans ruptr/oth tendons	1

Read code	Description	Number of studies
Nyu68	[X]Spondylpthy/oth diseases CE	1
Nyu66	[X]Spondylpth/o inf+paras d CE	1
Nyu69	[X]Spondylopathy unspecified	1
Nyu6	[X]Spondylopathies	1
Nyu5B	[X]Spin osteochondrosis, unsp	1
Nyu1G	[X]Seroposit rheum arthr, unsp	1
Nyu10	[X]Rheum arthrit+inv/o org/sys	1
Nyu05	[X]Reactv arthropathy/o dis CE	1
Eu45y	[X]Psychogenic torticollis	1
NyuE4	[X]Postproc muscsk disord,unsp	1
Nyu2F	[X]Post-traum arthr oth joints	1
NyuC9	[X]Periostitis/oth inf dis CE	1
Nyu51	[X]Other+unspecified kyphosis	1
Nyu64	[X]Other spondylosis	1
Nyu2D	[X]Other specified arthrosis	1
Nyu1B	[X]Other specified arthritis	1
Nyu65	[X]Other spcfd spondylopathies	1
Nyu3D	[X]Other spcfd joint disorders	1
NyuAB	[X]Other shoulder lesions	1
Nyu54	[X]Other secondary scoliosis	1
Nyu50	[X]Other secondary kyphosis	1
Nyu17	[X]Other secondary gout	1
Nyu21	[X]Other primary coxarthrosis	1
Nyu20	[X]Other polyarthrosis	1
Nyu46	[X]Other overlap syndromes	1
NyuB1	[X]Other osteoporosis	1
NyuC	[X]Other osteopathies	1
NyuC5	[X]Other osteonecrosis	1
NyuC3	[X]Other osteomyelitis	1
Nyu82	[X]Other ossification/muscle	1
Nyu37	[X]Other meniscus derangements	1
Nyu52	[X]Other lordosis	1
Nyu15	[X]Other juvenile arthritis	1
Nyu3C	[X]Other instability of joint	1
NyuA4	[X]Other infective bursitis	1
Nyu53	[X]Other idiopathic scoliosis	1
Nyu41	[X]Other giant cell arteritis	1
Nyu56	[X]Other fusion of spine	1
Nyu55	[X]Other forms of scoliosis	1
NyuAE	[X]Other enthesopathies,NEC	1
Nyu7	[X]Other dorsopathies	1
Nyu7A	[X]Other dorsalgia	1
Nyu36	[X]Other disorders of patella	1
Nyu44	[X]Other dermatomyositis	1
Nyu35	[X]Other derangements/patella	1
NyuB6	[X]Other cyst of bone	1
NyuC2	[X]Other chronic osteomyelitis	1
Nyu18	[X]Other chondrocalcinosis	1
Nyu81	[X]Other calcification/muscle	1
NyuA1	[X]Other bursitis of knee	1
NyuA6	[X]Other bursitis NEC	1
NyuA5	[X]Other bursal cyst	1
NyuA7	[X]Other bursa disorder	1

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Read code	Description	Number of studies
NyuE3	[X]Other biomechanical lesions	1
NyuB4	[X]Other adult osteomalacia	1
NyuC0	[X]Other acute osteomyelitis	1
NyuC4	[X]Other 2ndary osteonecrosis	1
Nyu47	[X]Oth syst dis/connctv tissue	1
Nyu91	[X]Oth synovitis+tenosynovitis	1
Syu40	[X]Oth sup inj should/upp arm	1
Nyu62	[X]Oth spondylosis+myelopathy	1
Nyu79	[X]Oth specified dorsopathies	1
NyuC8	[X]Oth spcfd disorders of bone	1
Nyu1A	[X]Oth spcfc arthropathies,NEC	1
Nyu12	[X]Oth spcf rheumatd arthritis	1
Nyu61	[X]Oth spcf inflam spondylpath	1
NyuD4	[X]Oth spcf disordrs/cartilage	1
Nyu59	[X]Oth spcf deform dorsopath	1
NyuD3	[X]Oth spc osteochondropathies	1
Syu3K	[X]Oth sp inj abd/low back/pel	1
Nyu2E	[X]Oth secondary coxarthrosis	1
Nyu83	[X]Oth ruptr/muscl(nontraumtc)	1
Nyu58	[X]Oth recur vertebrl subluxtn	1
Nyu03	[X]Oth reactive arthropathies	1
Nyu13	[X]Oth psoriatic arthropathies	1
Nyu26	[X]Oth post-traum gonarthrosis	1
Nyu23	[X]Oth post-traum coxarthrosis	1
NyuB0	[X]Oth osteoporosis+patholog #	1
Nyu39	[X]Oth intrnl derangemnts/knee	1
Nyu90	[X]Oth infectve(teno)synovitis	1
Nyu60	[X]Oth infectv spondylopathies	1
Nyu45	[X]Oth forms/systemc sclerosis	1
Nyu43	[X]Oth forms/sys lup erythemat	1
NyuA9	[X]Oth fibroblastic disorders	1
Nyu22	[X]Oth dysplastic coxarthrosis	1
NyuB5	[X]Oth diso/continuity of bone	1
NyuC6	[X]Oth diso/bone dvlpmnt+grwth	1
NyuE	[X]Oth dis musculnsk+connect	1
Nyu70	[X]Oth cervicl disc displacmnt	1
Nyu71	[X]Oth cervicl disc degeneratn	1
Nyu72	[X]Oth cervical disc disorders	1
Nyu3A	[X]Oth articlur cartilag disor	1
Nyu27	[X]Oth 2ndry gonarthrsis,bilat	1
Nyu24	[X]Oth 2ndry coxarthrsis,bilat	1
NyuB2	[X]Osteoporosis/oth disords CE	1
NyuBC	[X]Osteopenia	1
NyuCA	[X]Osteopathy/other inf dis CE	1
NyuCF	[X]Osteopathy/oth diseases CE	1
NyuCC	[X]Osteonecrosis/other dis CE	1
NyuCB	[X]Osteonecros/h'moglobnph CE	1
NyuCD	[X]Osteitis defrmn/neop dis CE	1
SR1z1	[X]Op multiple fractures unsp	1
Nyu00	[X]O strep arthritis+polyarthr	1
Nyu38	[X]O spontn disrptn/lig(s)knee	1
Nyu63	[X]O spondylosis+radiculopathy	1
NyuD2	[X]O spf juvnl osteochondrosis	1

Read code	Description	Number of studies
Nyu42	[X]O spcf necrotiz vasculopath	1
Nyu3B	[X]O spcf joint derangmnts,NEC	1
Nyu77	[X]O spcf intrvtrbrl disc diso	1
Nyu94	[X]O spcf diso/synovium+tendon	1
Nyu19	[X]O spcf crystl arthropathies	1
Nyu76	[X]O spc intrvtrbrl disc degenr	1
Nyu75	[X]O spc intervert disc displm	1
NyuB7	[X]O spc diso/bne dnsity+struc	1
NyuE0	[X]O spc acq defrm/muscskl sys	1
NyuA3	[X]O sft t d rl/use,overu+prss	1
Nyu11	[X]O sero+ve rheumat arthritis	1
Nyu57	[X]O recur atlantoaxl subluxt n	1
NyuE2	[X]O postproced muscskel disor	1
Nyu04	[X]O postinf arthropath/dis CE	1
NyuC7	[X]O hypertrophc osteoarhrpth	1
Nyu14	[X]O enteropathic arthrpathies	1
NyuB3	[X]O drug-indc osteomalac/adlt	1
Nyu96	[X]O diso/synovm+tendon/dis CE	1
Nyu93	[X]O contractre/tendon(sheath)	1
Nyu40	[X]O cond relt/polyarterit nod	1
NyuC1	[X]O chr h'matogens osteomyelit	1
Nyu4D	[X]Necrotis vasculopathy, unsp	1
Nyu87	[X]Myosits/protzl+paras inf CE	1
Nyu88	[X]Myositis/oth infects dis CE	1
Nyu89	[X]Myositis in sarcoidosis CE	1
Nyu86	[X]Myositi/bacterial dis CE	1
Nyu84	[X]Muscle wasting and atrophy NEC	1
SyuA4	[X]Multi disloc/spr/strns,unsp	1
Nyu4F	[X]Mixed connective tissue disease	1
Nyu74	[X]Lumb+o intvt disc d+radiclp	1
Nyu73	[X]Lumb+o intrvrt disc d+mylop	1
Nyu5A	[X]Lordosis, unspecified	1
Nyu16	[X]Juvenile arthritis/o dis CE	1
Syu1	[X]Injuries to the neck	1
Syu3	[X]Injabd/low back/lum sp/pel	1
Syu4	[X]Inj to shoulder/upper arm	1
Syu8	[X]Inj to knee and lower leg	1
Nyu1	[X]Inflammatory polyarthropathies	1
Nyu0	[X]Infectious arthropathies	1
Nyu1C	[X]Gt arthpth/enz d+o inh d CE	1
Syu16	[X]Fracture other parts neck	1
Syu44	[X]Fract should/upp arm unsp	1
Syu15	[X]Fract oth spec cervic vert	1
SyuA2	[X]Fract inv oth comb bod regn	1
NyuAH	[X]Fibroblastic disord, unspec	1
NyuA8	[X]Fasciitis,NEC	1
NyuBB	[X]Erosion of bone	1
SyuA3	[X]Dsl/spr/str,oth comb bod rg	1
SyuB3	[X]Dsl/sp/st un jt/l leg,lv un	1
NyuB	[X]Disordrs/bone dens+structur	1
Nyu3E	[X]Disorder of patella, unspec	1
NyuDE	[X]Disorder cartilage, unspec	1
NyuBA	[X]Disord bone dens/struc,unsp	1



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Read code	Description	Number of studies
Syu17	[X]Disloc oth unsp parts neck	1
SyuBC	[X]Disl/spr/str unsp body reg	1
Nyu4E	[X]Dermatopolymyositis, unspec	1
Nyu48	[X]Dermat(poly)myosit/neo d CE	1
Nyu5	[X]Deforming dorsopathies	1
Nyu1D	[X]Crys arthpht/o meta diso,CE	1
Nyu67	[X]Collapsd vertebra in dis CE	1
SR1z0	[X]Clsd multiple fractis unspec	1
NyuD	[X]Chondropathies	1
Nyu7B	[X]Cervical disc disord, unsp	1
Nyu4B	[X]Arthrpthy/hyprsens react CE	1
Nyu1F	[X]Arthrpth/o spcf diseases CE	1
Nyu1E	[X]Arthrpth/o en,nut+meta diso	1
Nyu2	[X]Arthrosis	1
Nyu4A	[X]Arthropathy/o bld disord CE	1
Nyu49	[X]Arthropathy/neoplast dis CE	1
Nyu02	[X]Arthrits/o inf+paras dis CE	1
Nyu01	[X]Arthrit+polyarth/o s bact a	1
NyuB9	[X]Adult osteomalacia, unspec	1
Nyu	[X]Ad muscskl+con t dis cls tm	1
NyuCE	[X]#bone/neoplastic disease CE	1
NyuE1	[X]#/bne f insrt/o i,j pr,bn p	1
EMISREQ 7N945(9)	[SO]Lumbosacral joint -Req.	1
HNGZ018	[RFC] Arthritis	1
R0420	[D]Swelling in head or neck	1
R042	[D]Swell.masslump head/neck	1
R027	[D]Spontaneous bruising	1
R065A	[D]Musculoskeletal chest pain	1
R137	[D]Musculoskel.ray/scan abnorm	1
R137z	[D]Musculosc xray/scan abn NOS	1
R022C	[D]Lump on knee	1
R04zz	[D]Head and neck symptoms NOS	1
R04	[D]Head and neck symptoms	1
R04z	[D]Head and neck other sympt.	1
R00z2-1	[D]General aches and pains	1
R065000	[D]CHEST PAIN, UNSPECIFIED	1
R065z00	[D]CHEST PAIN NOS	1
R065.00	[D]CHEST PAIN	1
R090z00	[D]Abdominal pain	1
R090.00	[D]Abdominal pain	1
DEGRADE_EVENT_1730_49	[DEGRADE Muscle Injury]	1
DEGRADE_EVENT_2469_340	[DEGRADE Knee Pain]	1
DEGRADE_EVENT_3154_40	[DEGRADE Knee Pain]	1
N135z-2	Wry neck	1
N05z3	Wrist osteoarthritis NOS	1
N0943-1	Wrist joint pain	1
N06z3-1	Wrist arthritis NOS	1
S5704	Whiplash injury	1
EGTONWE2	Wedge Compression # Of Dorsal Spine	1
EGTONWE1	Wedge Compression # Lumbar Spine	1
N2432	Weber - Christian disease	1
N2430	Weber - Christian disease	1
N0974	Walking difficulty-other spec.	1

Read code	Description	Number of studies
N0975	Walking difficulty-multip.site	1
N0970	Walking difficulty due to unspecified site	1
N2413	Viral myalgia	1
N092M	Villonodular synovitis of knee	1
N092z	Villonodular synovitis NOS	1
N092	Villonodular synovitis	1
N0920	Villonod.synovitis-site unspec	1
N0921	Villonod.synovitis-shoulder	1
N0928	Villonod.synovitis-other spec.	1
N0929	Villonod.synovitis-mult.sites	1
N2208	Villonod synovitis-tend sheath	1
N092B	Villonod synovitis-sternclav j	1
N092A	Villonod synovitis-shoulder	1
N092C	Villonod synovitis-acromclav j	1
N330B	Vertebral osteoporosis	1
N320	Vertebral epiphysitis	1
N1	Vertebral column syndromes	1
N1y	Vertebral column disorders OS	1
N1z	Vertebral column disorder NOS	1
N0966-2	Unstable knee	1
N0967-1	Unstable ankle	1
N066z	Unspecified monoarthritis NOS	1
N066	Unspecified monoarthritis	1
N1290	Unspec.disc disorder+myelop.	1
N0650	Unsp.polyarthr.-site unspecif.	1
N065000	Unsp.polyarthr.-site unspecif.	1
N0651	Unsp.polyarthr.-shoulder	1
N065800	Unsp.polyarthr.-other specif.	1
N0658	Unsp.polyarthr.-other specif.	1
N065900	Unsp.polyarthr.-multiple site	1
N0659	Unsp.polyarthr.-multiple site	1
N3020	Unsp.osteomyelitis-site unspec	1
N3021	Unsp.osteomyelitis-shoulder	1
N3028	Unsp.osteomyelitis-other spec.	1
N3029	Unsp.osteomyelitis-mult.site	1
N302z	Unsp.osteomyelitis NOS	1
N0660	Unsp.monoarthr.-site unspecif.	1
N0661	Unsp.monoarthr.-shoulder	1
N0668	Unsp.monoarthr.-other specif.	1
N1121	Two lev th spondyl-no myelop	1
N11B1	Two lev th spondyl + radiculop	1
N1131	Two lev th spondyl + myelop	1
N1141	Two lev lumbsac spond-no myelo	1
N1151	Two lev lumbsac spond + myelop	1
N1101	Two lev Cx spondyl-no myelop	1
N1191	Two lev Cx spondyl + radiculop	1
N1111	Two lev Cx spondyl + myelop	1
N018	Tuberculous arthritis	1
N3041	Tuberculosis of thoracic spine	1
N304	Tuberculosis of spine	1
N306	Tuberculosis of other bones	1
N3042	Tuberculosis of lumbar spine	1
N3040	Tuberculosis of cervical spine	1

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Read code	Description	Number of studies
N3060	Tuberculosis bone-site unspec.	1
N3061	Tuberculosis bone-shoulder	1
N3064	Tuberculosis bone-other sites	1
N3065	Tuberculosis bone-multip.sites	1
N306z	Tuberculosis bone NOS	1
N22yD	Tuberc infec - tendon sheath	1
N2155	Trochanteric tendinitis	1
N2157	Trochanteric bursitis	1
N0874	Triangular fibrocartilage tear	1
N0875	Triangular fibrocartil detach	1
N118	Traumatic spondylopathy	1
N2312	Traumatic myositis ossificans	1
SE46	Traumatic haematoma	1
SK	Traumatic complicat./unsp.inj.	1
N061A	Traumatic arthropathy-shoulder	1
N061M	Traumatic arthropathy-knee	1
N061z	Traumatic arthropathy NOS	1
N061	Traumatic arthropathy	1
N0610	Traumatic arthr.-site unspecif	1
N0611	Traumatic arthr.-shoulder	1
N0618	Traumatic arthr.-other specif.	1
N0619	Traumatic arthr.-multiple site	1
N061B	Traumat arthrop-sternoclav jt	1
N061C	Traumat arthrop-acromioclav jt	1
S906	Traumat amp at shoulder joint	1
SA72	Traum.unil.amput.>knee-no comp	1
N220Q	Transient synovitis	1
N064A	Transient arthropathy-shoulder	1
N064M	Transient arthropathy-knee	1
N064z	Transient arthropathy NOS	1
N064	Transient arthropathy	1
N064B	Transient arthrop-sternoclav j	1
N0640	Transient arthr.-site unspecif	1
N0641	Transient arthr.-shoulder	1
N0648	Transient arthr.-other specif.	1
N0649	Transient arthr.-multiple site	1
N064C	Transient arthr-acromioclav jt	1
N135	Torticollis unspecified	1
Q20y9	Torticollis due to birth injury	1
16A3	Torticollis - symptom	1
N2451-1	Toe pain	1
N2162	Tibial collateral lig.bursitis	1
N2450-1	Thumb pain	1
N05z4-2	Thumb osteoarthritis NOS	1
N3735	Thoracogenic scoliosis	1
N1485	Thoraco-lumbar ankylosis	1
N144	Thoracic/lumbosacral neuritis	1
N144z	Thoracic/lumbosac.neuritis NOS	1
N112-1	Thoracic spondylosis	1
N112	Thoracic spond.-no myelopathy	1
N113	Thoracic spond.+ myelopathy	1
N148B	Thoracic spine instability	1
N1484	Thoracic spine ankylosis	1

Read code	Description	Number of studies
N1401	Thoracic spinal stenosis	1
N12A2	Thoracic postlaminectomy syndr	1
N1440	Thoracic nerve root pain	1
N12z8	Thoracic discitis	1
N121	Thoracic disc displ.-no myelop	1
N1292	Thoracic disc disord.+myelop.	1
N126	Thoracic disc degeneration	1
S571	Thoracic back sprain	1
EMISNQTH14	Thoracic back pain	1
N245-8	Thigh pain	1
N11B	Th spondyl + radiculop	1
N1406	Th spin stenosis due to oth dis	1
N12C1	Th disc prolapse+radiculopathy	1
N12B1	Th disc prolapse + myelopathy	1
N2132-1	Tennis elbow	1
N2202	Tendon sheath giant cell tumor	1
ASDFGTE2	Tendon Symptoms	1
N2456	Tender heel pad	1
S46B	Tear/articular cart/knee,currnt	1
S545	Tear of ligament of knee joint	1
N000*	Systemic lupus erythematosus	1
N000	Systemic lupus erythematosus	1
N000z	Systemic lupus erythematos.NOS	1
N0012	Syst scleros induc drugs/chems	1
N0003	Syst lup eryth + organ/sys inv	1
N2227	Syphilitic bursitis	1
N2200	Synovitis or tenosynovitis NOS	1
N220z-2	Synovitis of knee	1
N220z	Synovitis of knee	1
N220V	Synovitis of knee	1
N220	Synovitis and tenosynovitis	1
N220T	Synovitis NOS	1
N2201	Synovit./tenosynovitis+dis EC	1
N22y4	Synovial plica	1
N098	Synovial osteochondromatosis	1
N2240	Synovial cyst unspecified	1
N0980	Synov osteochondromat-shoulder	1
N098B	Synov osteochondromat-knee	1
N0981	Synov osteochondromat st-cla j	1
N0982	Synov osteochondromat ac-cla j	1
1D24	Symptom: trunk posterior	1
16J4	Swollen knee	1
16J3	Swollen joint	1
16J7	Swollen foot	1
1834-1	Swollen finger	1
1JG	Suspected inflammatory arthritis	1
N21z2	Supraspinatus tendonitis	1
N2113	Supraspinatus tendinitis	1
N230	Suppurative myositis	1
SD1y4	Supl inj bk NOS-no mj opn wnd	1
SD9	Superficialinjuriesunspecif.	1
SD097	SuperficialInjury:Neck	1
SD2y1	Superficial injury of scapular NOS	1

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Read code	Description	Number of studies
SD6y2	Superficial injury of knee NOS	1
SDz	Superficial injuries NOS	1
SD0	Superficial Injury: Neck	1
SD2y0	Superfic injury shoulder NOS	1
SD2	Superf.inj.shoulder/upper arm	1
SD1z4	Superf.back inj.NOS+infect.	1
N3371	Sudek's atrophy	1
N2167	Subpatellar bursitis	1
N3y01	Subluxatn complex (vertebral)	1
N3y02	Sublux stenosis of neural canal	1
N3081	Subacute osteomyelitis-th spin	1
N3082	Subacute osteomyelitis-lu spin	1
N3080	Subacute osteomyelitis-Cx spin	1
N309	Subacute osteomyelitis	1
N308	Subacute osteomyelitis	1
N2122	Subacromial impingement	1
N2116	Subacromial bursitis	1
S3z2	Stress fracture	1
N095B	Stiff sternoclavic joint NEC	1
N095A	Stiff shoulder NEC	1
16AZ	Stiff neck symptom NOS	1
16A	Stiff neck symptom	1
N135z	Stiff neck NOS	1
16A2	Stiff neck	1
N095M	Stiff knee NEC	1
N095C	Stiff acromioclavicular joint NEC	1
S5y41	Sternoclavicular sprain	1
N0108	Staphylococc arthrit/polyarthr	1
S5410	Sprn,knee jt,medial collat	1
S5400	Sprn,knee jt,lat collat lgmt	1
S520D	Sprn triangular fibrocartilage	1
S520G	Sprn shrt intrnsc lgmnt non-sp	1
S5	Sprains and strains	1
S50	Sprained shoulder	1
S54y-99	Sprained knee NOS	1
S54-99	Sprained knee	1
S560	Sprain, lumbosacral ligament	1
S564	Sprain, iliolumbar ligament	1
S501	Sprain, coraco-clav ligament	1
S506	Sprain supraspinatus tendon	1
S505	Sprain subscapularis tendon	1
S5071	Sprain shoulder joint posterior	1
S5070	Sprain shoulder joint anterior	1
S507	Sprain shoulder joint	1
S534	Sprain patellar tendon	1
S503	Sprain infraspinatus tendon	1
S500	Sprain acromio-clav ligament	1
S542	Sprain -cruciate knee ligament	1
S541	Sprain - medial knee ligament	1
S541-99	Sprain - medial knee ligament	1
S540-99	Sprain - lateral knee ligament	1
S540	Sprain - lateral knee ligament	1
SC07	Sprain - late effect	1

Read code	Description	Number of studies
S57X	Spr/str ot/un pt lum sp/pel	1
ASDFGSP5	Sports Injury	1
N082	Spontaneous joint dislocation	1
16B3	Spontaneous bruising	1
N11z0	Spondylosis-no myelopathy,NOS	1
N11zz	Spondylosis NOS	1
N11z1	Spondylosis + myelopathy, NOS	1
N388	Spondylolysis	1
OXL7561C	Spondylolisthesis /ox	1
N10z	Spondylitis NOS	1
N374	Spine curvature+other condits.	1
N374z	Spine curvature+other cond.NOS	1
N1400	Spinal stenosis unspec.region	1
N140z	Spinal stenosis NOS	1
N140-1	Spinal stenosis	1
N140	Spinal stenosis	1
N101	Spinal enthesopathy	1
N222z	Specific bursitides NOS	1
N222	Specific bursitides	1
F1382	Spasmodic Torticollis	1
N23y4	Spasm of muscle	1
N23yE	Spasm of back muscles	1
EGTON309	Sore Neck	1
N3321	Solitary bone cyst	1
N0878	Snapping shoulder	1
N32y	Slipped radial epiphysis	1
N33zA	Skeletal fluorosis	1
N002*	Sicca (Sjogren's) syndrome	1
N2125	Shoulder tendonitis	1
S50y	Shoulder sprain NOS	1
N245-7	Shoulder pain	1
N245	Shoulder pain	1
N2457	Shoulder pain	1
N0951	Shoulder joint stiffness	1
UNMAPPC0	Shoulder injury	1
S221	Shoulder fracture - open	1
N22y5	Short tendon	1
N011	Sex acquired reactive arthrop	1
N0110	Sex acqd reac arthrop-unspec	1
N0111	Sex acqd reac arthrop-shoulder	1
N011y	Sex acqd reac arthrop-oth spec	1
N011x	Sex acqd reac arthrop-multiple	1
N011z	Sex acq reac arthropathy NOS	1
SRz0	Severe multiple injuries	1
N047	Seropositive erosive RA	1
N04X	Seroposit rheum arthr unsp	1
N040P	Seronegative rheumat arthritis	1
EGTONSE2	Sero-Negative Polyarthritis	1
N04y1	Sero negative arthritis	1
N04y10	Sero negative arthritis	1
N3301	Senile osteoporosis	1
N2169	Semimembranosus tendinitis	1
EGTON131	Semi Frozen Shoulder	1

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Read code	Description	Number of studies
N3y00	Segmental & somatic dysfunctn	1
N0505	Secondary multiple arthrosis	1
N050500	Secondary multiple arthrosis	1
EMISNQSC20	Scoliosis of thoracic spine	1
N374A	Scoliosis in skelet dysplasia	1
N374C	Scoliosis in neurofibromatosis	1
N374D	Scoliosis in conn tiss anomal	1
N3739	Scoliosis due to oth treatment	1
OX735AA	Scoliosis Acquired /ox	1
N3743	Scoliosis + other condition	1
N001	Scleroderma	1
OX353C	Sciatica Chronic /ox	1
N1240	Schmorl's nodes-unspec. region	1
N1241	Schmorl's nodes-thoracic regn.	1
N124z	Schmorl's nodes-region NOS	1
N1242	Schmorl's nodes-lumbar region	1
N124	Schmorl's nodes	1
N3201	Scheuermann's disease	1
N2121	Scapulohumeral fibrositis	1
N146z-1	Sacroiliac strain	1
N1466	Sacroiliac disorder	1
S5731	Sacral/coccyx sprain	1
N0004	SLE with pericarditis	1
N25	SAPHO syndrome	1
S5Q2	Rupture supraspinatus tendon	1
S5Q1	Rupture subscapularis tendon	1
S5U2	Rupture patellar tendon	1
N2250	Rupture of synovium unspecif.	1
N225z	Rupture of synovium NOS	1
N2251-99	Rupture of synovium - knee	1
N225	Rupture of synovium	1
S5Q0	Rupture infraspinal tendon	1
N2251	Ruptur poplit space synov cyst	1
N2110	Rotator cuff syndrome unspecif	1
S504	Rotator cuff sprain	1
N211	Rotator cuff shoulder syndrome	1
N2261	Rotator cuff complete rupture	1
N3385	Rotational mal-union of #	1
182B	Rib pain	1
EGTON425	Rheumatology	1
N040N	Rheumatoid vasculitis	1
N0422	Rheumatoid nodule	1
N040R	Rheumatoid nodule	1
N0421	Rheumatoid lung disease	1
N040Q	Rheumatoid bursitis	1
N0402	Rheumatoid arthritis-shoulder	1
N0400	Rheumatoid arthritis-Cx spine	1
N040D	Rheumatoid arthritis of knee	1
N040	Rheumatoid arthritis	1
N0403	Rheumatoid arthr-sternoclav jt	1
N0404	Rheumatoid arthr-acromioclav j	1
N1351	Rheumatic torticollis	1
N0420	Rheumatic carditis	1

Read code	Description	Number of studies
OX7149A	Rheumatic Arthritis /ox	1
N040S	Rheumat arthr - multiple joint	1
N2333	Rhabdomyolysis	1
N042z	Rh.arthr.+visc/syst.dis.NOS	1
N080A	Reverse Hill-Sachs lesion	1
N0871	Reverse Bankart lesion	1
N12zA	Resorption of thoracic disc	1
N12zE	Resorption of lumbar disc	1
N12z6	Resorption of cervical disc	1
N3732	Resolving infant.idiopath.scol	1
N246	Residual soft tiss.foreign bod	1
N339	Residual foreign body in bone	1
Ny2	Repetitive strain injury	1
N33z5	Relapsing polychondritis	1
N337	Reflex sympathetic dystrophy	1
N083	Redislocation of joint	1
S46D	Recurrent subluxation of patella	1
N083D	Recurrent sublux shoulder-post	1
N083F	Recurrent sublux shoulder-inf	1
N083C	Recurrent sublux shoulder-ant	1
N083H	Recurrent sublux shoulder-ant	1
N083q	Recurrent sublux - patella	1
N083z	Recurrent joint dislocat.NOS	1
N0839	Recurrent disloc-multip joints	1
N083B	Recurrent disloc shoulder-post	1
N083E	Recurrent disloc shoulder-inf	1
N083A	Recurrent disloc shoulder-ant	1
N083G	Recurrent disloc shoulder-ant	1
N083p	Recurrent disloc - patella	1
N083n	Recurrent disloc - knee	1
N0830	Recurr.joint disloc.-site unsp	1
N0838	Recurr.joint disloc-other spec	1
N0831	Recur. disloc.- shoulder joint	1
N0836-99	Recur. disloc. - knee joint	1
N083K	Recur sublux shoulder-multidir	1
N083J	Recur disloc shoulder-multidir	1
N1y0	Rec atlantoax subl + myelopath	1
N01w0	Reactive arthropathy-shoulder	1
N01w	Reactive arthropathy unspecified	1
N01wB	Reactive arthropathy of knee	1
N038	Reactive arthropathies	1
N01w2	Reactive arthrop-sternoclav jt	1
N01w1	Reactive arthr-acromioclav jt	1
EGTON436	Radiculopathy	1
N2422	Radiculitis unspecified	1
N3734	Radiation scoliosis	1
N3711	Radiation kyphosis	1
N0706	Radial tear of medial meniscus	1
N0717	Radial tear of lateral meniscus	1
N2204	Radial styloid tenosynovitis	1
N22yC	Pyogenic infec - tendon sheath	1
N010	Pyogenic arthritis	1
N0100	Pyogenic arthr.-site unspecif.	1



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Read code	Description	Number of studies
N0101	Pyogenic arthr.-shoulder regn.	1
N010y	Pyogenic arthr.-other specif.	1
N010x	Pyogenic arthr.-multiple sites	1
N010z	Pyogenic arthr.-NOS	1
S57z0	Pulled back muscle	1
OX848ML	Pulled Muscle /ox	1
E2601	Psychogenic Torticollis	1
N2373	Pseudosarcomatous fibromatosis	1
N33zC	Pseudarth after fusr/arthrodes	1
S5422	Prt tr,knee,post cruciate lgmt	1
N12C4	Prol lumb interv disc sciatic	1
N0010	Progressive systemic sclerosis	1
N2311	Progressive myositis ossific.	1
N3733	Progressive infant.idiop.scol.	1
N051B	Primary gonarthrosis, bilat	1
N050400	Primary general osteoarthritis	1
N0504	Primary general osteoarthritis	1
N0519	Primary coxarthrosis bilateral	1
N051C	Primary arthrosis of first carpometacarpal joints, bilateral	1
N2165	Prepatellar bursitis	1
N3736	Postural scoliosis	1
N3307	Postsurg malabsorp osteoporos	1
N3314	Postsur malab osteop+path frct	1
NyX	Postproc muscsk disord,unsp	1
N2313	Postop.heterotopic calcificat.	1
N3306	Postoophorectomy osteoporosis	1
N3312	Postoophorc osteopor+path frct	1
N3302	Postmenopausal osteoporosis	1
N331B	Postmenop osteopor+path fract	1
N0380	Postmeningococcal arthritis	1
N12Az	Postlaminectomy syndrome NOS	1
N12A	Postlaminectomy syndrome	1
N12A0	Postlaminectomy syndr.unspec.	1
N0381	Postinf arthropath in syphilis	1
N037	Postimmunization arthropathy	1
N013	Postdysenteric react arthrop	1
N0130	Postdys react arthrop-unspec	1
N0131	Postdys react arthrop-shoulder	1
N013y	Postdys react arthrop-oth spec	1
N013x	Postdys react arthrop-multiple	1
N013z	Postdys react arthrop NOS	1
16B4	Post-traumatic bruising	1
N052B	Post-traumatic arthrosis of first carpometacarpal joints, bilateral	1
N052C	Post-trauma gonarth, unilat	1
N052A	Post-traum gonarthrosis, bilat	1
N0529	Post-traum coxarthrosis, bilat	1
N3738	Post-surgical scoliosis	1
N3721	Post-laminectomy lordosis	1
N3712	Post-laminectomy kyphosis	1
N2314	Polymyositis ossificans	1
N004	Polymyositis	1

Read code	Description	Number of studies
N20*	Polymyalgia rheumatica	1
N20	Polymyalgia	1
N065-1	Polyarthropathy NEC	1
N065.11	Polyarthropathy NEC	1
N065	Polyarthropathy NEC	1
N065z	Polyarthritis	1
N065z00	Polyarthritis	1
N307z	Poliomyelitis osteopathy NOS	1
N3070	Polio.osteopathy-site unspecif	1
N3071	Polio.osteopathy-shoulder	1
N3078	Polio.osteopathy-other sites	1
N3079	Polio.osteopathy-multiple site	1
N0109	Pneumococc arthrit & polyarthr	1
N2179	Plantar fasciitis	1
N2209	Plant thorn synovitis	1
N2161	Pes anserinus tendin./bursitis	1
SJz-98	Peripheral nerve injury NOS	1
N21zz	Peripheral enthesopathy NOS	1
N21	Peripheral enthesopathies	1
N0705	Periph detach-medial meniscus	1
N0716	Periph detach-lateral meniscus	1
N303	Periostitis, no osteomyelitis	1
N303B	Periostitis, no osteomye-th sp	1
N303C	Periostitis, no osteomye-lu sp	1
N303A	Periostitis, no osteomye-Cx sp	1
N303z	Periostitis no osteomyel NOS	1
N3030	Periostitis - site unspecified	1
N3031	Periostitis - shoulder	1
N3038	Periostitis - other sites	1
N3039	Periostitis - multiple sites	1
N2120	Periarthritis of shoulder	1
N21z1	Periarthritis NOS	1
N3843	Pedicular spondylolisthesis	1
N0432	Pauciarticular juvenile R.A.	1
N0456	Pauciartic onset juv ch arth	1
N331y	Pathological fracture OS	1
N331z	Pathological fracture NOS	1
N082z	Pathological dislocation NOS	1
N331C	Pathological # cervical vert	1
N0820	Patholog.disloc.-site unspecif	1
N0821	Patholog.disloc.-shoulder	1
N0828	Patholog.disloc.-other specif.	1
N082A	Path disloc-shoulder joint	1
N082R	Path disloc-patellofem joint	1
N082B	Path disloc-oth joint-shoulder	1
N0829	Path disloc-multiple joints	1
N082Q	Path disloc-knee joint	1
N0536-1	Patellofemoral osteoarthritis	1
N0536	Patellofemoral osteoarthritis	1
N07y6	Patellofemoral maltracking	1
N09A	Patellofemoral disorder	1
N2266	Patellar tendon nontraum.rupt.	1
N2164	Patellar tendinitis	1

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Read code	Description	Number of studies
N33z9	Partial epiphyseal arrest	1
S5421	Part tr,knee,ant cruciate lgmt	1
N2114	Part thickn rotator cuff tear	1
S5411	Part tear,knee,mdl collat lgmt	1
S5401	Part tear,knee,lat collat lgmt	1
N1y2	Pars interarticular strss frct	1
N0704	Parr beak tear-post/med menisc	1
N0715	Parr beak tear-post/lat menisc	1
N2316	Paralytic calcific/ossif muscl	1
N243	Panniculitis unspecified	1
N136	Panniculitis of neck	1
N243z	Panniculitis NOS	1
N093z	Palindromic rheumatism NOS	1
N093	Palindromic rheumatism	1
N0930	Palindromic rheum.-site unspec	1
N0931	Palindromic rheum.-shoulder	1
N0938	Palindromic rheum.-other spec.	1
N0939	Palindromic rheum.-multip.site	1
N211z	Painful arc syndrome	1
N211z-1	Painful arc syndrome	1
EGTON224	Painful Shoulder	1
EGTON279	Painful Right Knee	1
N131-1	Pain in cervical spine	1
N245-9	Pain in buttock	1
N2453	Pain in arm	1
OX7280AD	Pain Neck /ox	1
OX7873E	Pain Knee /ox	1
N245-95	Pain In Right Leg	1
N245-97	Pain In Right Arm	1
N245-96	Pain In Left Leg	1
N3101	Paget's disease-thoracic spine	1
N3106	Paget's disease-scapula	1
N310F	Paget's disease-patella	1
N310x	Paget's disease-multiple sites	1
N3102	Paget's disease-lumbar spine	1
N3105	Paget's disease-clavicle	1
N3100	Paget's disease-cervical spine	1
N310y	Paget's disease OS	1
N310z	Paget's disease NOS	1
N122-1	PID - prolapsed lumbar disc	1
N129	PID - prol i/v disc + myelop	1
S102y	Othr spec clsd # thorac vert	1
S411y	Othr opn trmtc disloctn shlder	1
S410y	Othr cls trmtc disloc shoulder	1
SK12z	Othershould/upperarminj.NOS	1
SE08	Othercontusionneck	1
N06..00	Other/unspecif. arthropathies	1
N12z2	Other thoracic disc disorders	1
N22	Other synovium/tendon/bursa	1
N22y	Other synovium/tendon/bursa	1
N096B	Other symptoms - sternoclav jt	1
N096A	Other symptoms - shoulder	1
N096M	Other symptoms - knee	1

Read code	Description	Number of studies
N096D	Other symptoms - elbow	1
N096C	Other symptoms - acromioclav j	1
SD9y	Other superficial injury, without mention of infection, NOS	1
S5y	Other sprains and strains	1
S5yz	Other sprains NOS	1
N11y	Other spondyloses/allied dis.	1
S5W	Other specified tendon rupture	1
S54w	Other specified knee sprain	1
SK1	Other specified injury	1
N06y	Other specified arthropathy	1
N233	Other specific muscle disorder	1
N04y	Other specif.infl.polyarthrop.	1
N32yz	Other spec.osteochondrop.NOS	1
N04yz	Other spec.infl.polyarthr.NOS	1
N00y	Other spec.diff.collagen dis.	1
N06y0	Other spec.arthr.-site unspec.	1
N06y1	Other spec.arthr.-shoulder	1
N06y8	Other spec.arthr.-other specif	1
S5yy	Other spec sprains and strains	1
S50w	Other shoulder sprain	1
SK122	Other shoulder injuries	1
N212	Other shoulder affections NEC	1
N212z	Other shoulder affect.NEC NOS	1
SK121	Other scapular region injuries	1
N042	Other rh.arthr.+visc/syst.dis.	1
N3722	Other post-surgical lordosis	1
N21y	Other periph. enthesopathies	1
N3272	Other osteochondr dissec-knee	1
S466	Other opn trm dscltn knee	1
S497	Other open trmtc dislocation	1
S49Fz	Other open subluxation NOS	1
S4J3	Other open #-subluxation	1
S4J1	Other open #-dislocation	1
N226z	Other nontraumatic tendon rupt	1
SK10y	Other neck injuries	1
SK1x	Other multiple injuries	1
N12z3	Other lumbar disc disorders	1
N07yy	Other knee lig. old disruption	1
SK170	Other knee injury	1
N368	Other knee deformity	1
N045	Other juvenile arthritis	1
N326	Other juven.osteochondroses	1
N0960	Other joint sympt.-site unspec	1
N0961	Other joint sympt.-shoulder	1
N09y1	Other joint dis.-shoulder	1
N08yz	Other joint derange.NEC NOS	1
SK112	Other interscapular injuries	1
N07yz	Other intern.knee derang.NOS	1
SK1z	Other injury NOS	1
N10y	Other inflamm.spondylopathies	1
N10yz	Other inflamm.spondylop.NOS	1
N30y	Other infections+bone disease	1

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Read code	Description	Number of studies
N03x	Other general dis.+arthropathy	1
N237z	Other fibromatoses NOS	1
N237	Other fibromatoses	1
SK10z	Other face and neck injuries NOS	1
S49z	Other dislocation NOS	1
N12z0	Other disc disorders unspecif.	1
N08	Other derangement of joint	1
N36y	Other deformity of bone	1
N37y	Other curvatures of spine	1
N02yz	Other crystal arthropathy NOS	1
N02y	Other crystal arthropathies	1
N02y0	Other crystal arth.-site unsp.	1
N02y1	Other crystal arth.-shoulder	1
N02yy	Other crystal arth.-other spec	1
N02yx	Other crystal arth.-mult.sites	1
S465	Other cls trm dslctn knee	1
S49E	Other closed traumatic sublux	1
S4J2	Other closed #-sublux	1
S4J0	Other closed #-dislocation	1
N13yz	Other cervical syndromes NOS	1
N13y	Other cervical syndromes	1
N12z1	Other cervical disc disorders	1
N33	Other bone/cartilage disorders	1
N31y	Other bone involve.in dis.EC	1
SK114	Other back injuries	1
N374X	Other and unspecified kyphosis	1
N06	Other and unspecified arthropathies	1
S462	Other acute meniscus tear	1
N38yz	Other acquired deformity NOS	1
N38y	Other acquired deformity	1
N38	Other acquired deformity	1
S4J	Other #-dslc or subluxation	1
N08y0	Oth.joint deran.NEC-site unsp.	1
N08y1	Oth.joint deran.NEC-shoulder	1
N08y8	Oth.joint deran.NEC-other spec	1
N08y9	Oth.joint deran.NEC-mult.sites	1
N30y0	Oth.inf.+bone dis-site unspec.	1
N30y1	Oth.inf.+bone dis-shoulder	1
N30y8	Oth.inf.+bone dis-other sites	1
N30y9	Oth.inf.+bone dis-multip.site	1
N30yz	Oth.inf.+bone dis-NOS	1
N07y	Oth. internal knee derangement	1
S49	Oth, mlti+ill-def dislc/sublux	1
N0401	Oth rheumatoid arthritis-spine	1
S49F	Oth open traumatic subluxation	1
SRy	Oth inj inv mult body reg NEC	1
S496	Oth cls trmatic dislocation	1
S49Ez	Oth closed subluxation NOS	1
N33B	Osteoradionecrosis	1
N3746	Osteoporotic kyphosis	1
N3300	Osteoporosis unspecified	1
N330C	Osteoporosis localized spine	1
N330A	Osteoporosis in endocr disord	1

Read code	Description	Number of studies
N330z	Osteoporosis NOS	1
N330	Osteoporosis	1
N330D	Osteoporos due corticosteroid	1
N3309	Osteopor,multiple myelomatosis	1
N3319	Osteopor path # thor vertebrae	1
N3318	Osteopor path # lumb vertebrae	1
N331A	Osteopor path # cerv vertebrae	1
N3313	Osteopor of disuse + path frct	1
N09B	Osteophyte	1
N307	Osteopathy from poliomyelitis	1
ASDFGOS1	Osteopaenia	1
N334B	Osteonecrosis in caisson dis	1
N3349	Osteonecrosis due to drugs	1
N334A	Osteonecr due to prev trauma	1
N334C	Osteonecr due haemoglobinopath	1
N30	Osteomyelitis/periostitis	1
N302a	Osteomyelitis of vertebra	1
N302	Osteomyelitis NOS	1
N33zH	Osteolytic lesion	1
N33zD	Osteolysis	1
N32z3	Osteochondrosis NOS	1
N32z	Osteochondropathy NOS	1
N32zz	Osteochondropathy NOS	1
N32	Osteochondropathies	1
N32z2	Osteochondritis of knee	1
N3270	Osteochondritis dissec-patella	1
N327y	Osteochondr dissec-other site	1
N3274	Osteochondr dissec-capitellum	1
N327	Osteochond dissecans	1
OX7130E	Osteoarthritis Shoulder /ox	1
OX7130B	Osteoarthritis Knee(S) /ox	1
OX7131A	Osteoarthritis Cervical Spine /ox	1
N11z	Osteoarthritis spine	1
N11D1	Osteoarthritis of thoracic spine	1
N11D3	Osteoarthritis of spine NOS	1
N11-2	Osteoarthritis of spine	1
N11D	Osteoarthritis of spine	1
N11D2	Osteoarthritis of lumbar spine	1
N11D0	Osteoarthritis of cervical spine	1
N110-2	Osteoarthritis cervical spine	1
N05z0	Osteoarthritis NOS-site unspec	1
N05z000	Osteoarthritis NOS-site unspec	1
N05z7	Osteoarthritis NOS-ankle/foot	1
N05zM	Osteoarthritis NOS, of tibio-fibular joint	1
N05zQ	Osteoarthritis NOS, of talonavicular joint	1
N05zK	Osteoarthritis NOS, of sacro-iliac joint	1
N05zR	Osteoarthritis NOS, of other tarsal joint	1
N05zF	Osteoarthritis NOS, of metacarpophalangeal joint	1
N05zT	Osteoarthritis NOS, of lesser metatarsophalangeal joint	1
N05zU	Osteoarthritis NOS, of interphalangeal joint of toe	1
N05zD	Osteoarthritis NOS, of distal radio-ulnar joint	1
N05zE	Osteoarthritis NOS of wrist	1

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Read code	Description	Number of studies
N05z4	Osteoarthritis NOS of the hand	1
N05z9	Osteoarthritis NOS of shoulder	1
N05zL	Osteoarthritis NOS of knee	1
N05zJ	Osteoarthritis NOS of hip	1
N05zC	Osteoarthritis NOS of elbow	1
N05zN	Osteoarthritis NOS of ankle	1
N05zz00	Osteoarthritis NOS	1
N05zz	Osteoarthritis NOS	1
N05z1	Osteoarthritis -shoulder joint	1
N05z800	Osteoarthritis - other joint	1
N05z8	Osteoarthritis - other joint	1
N05z6-99	Osteoarthritis - knee joint	1
N05..11	Osteoarthritis	1
N094K	Osteoarthritis	1
N05	Osteoarthritis	1
N310	Osteitis deformans-Paget's dis	1
N311	Osteitis deformans+disease EC	1
N3350	Osteitis condensans ilii	1
N335	Osteitis condensans	1
N31	Osteit.deform./osteop.+dis.EC	1
N3110	Osteit deformans,neoplast dis	1
N3y03	Osseous stenosis of neural canal	1
N3y06	Oss/sublux sten intervert foram	1
S900z	Opn wound shoulder+up limb,NOS	1
SA10	Opn wnd kneelg+ank-no cmplctn	1
S46A6	Opn trmtc sublux,head fibula	1
S413z	Opn trmtc sublux shoulder NOS	1
S468	Opn trmtc sublux pat-fem jt	1
S46A0	Opn trmtc sublux knee jt,unsp	1
S46A2	Opn trmtc sublux knee jt,post	1
S46A4	Opn trmtc sublux knee jt,ltrl	1
S46A1	Opn trmtc sublux knee jt,ant	1
S46A	Opn trmtc sublux knee jt	1
S4112	Opn trmtc dsclctn shldr jt,post	1
S411z	Opn trmtc disloctn shouldr NOS	1
S4110	Opn trmtc dislctn shoulder jnt	1
S49F4	Opn trm sublux,st-clav jt,post	1
S49F3	Opn trm sublux,st-clav jt,ant	1
S49F2	Opn trm sublux st-clav jt	1
S4681	Opn trm sublux pat-fem jt,med	1
S4680	Opn trm sublux pat-fem jt,ltrl	1
S49F5	Opn trm sublux laryngl cartlge	1
S46A5	Opn trm sublux knee jt,rotatry	1
S46A3	Opn trm sublux knee jt,medial	1
S4131	Opn trm sublux acromio-clav jt	1
S4666	Opn trm dsclctn, head fibula	1
S464	Opn trm dsclctn patello-fem jt	1
S4641	Opn trm dsclctn pat-fem jt,med	1
S4640	Opn trm dsclctn pat-fem jt lat	1
S4660	Opn trm dsclctn knee, unsp	1
S4664	Opn trm dsclctn knee jt,lateral	1
S4662	Opn trm dsclctn knee jt, post	1
S4663	Opn trm dsclctn knee jt, medial	1

Read code	Description	Number of studies
S4661	Opn trm dslctn knee jt, ant	1
S4665	Opn trm dslct knee jt,rotatory	1
S4973	Opn trm dslc, stern-clav jt,ant	1
S4972	Opn trm dslc sterno-clav jt	1
S4974	Opn trm dsl, stern-clav jt,post	1
S4114	Opn trm disc acromio-clav jt	1
S413	Opn traumtc subluxatn shoulder	1
S4130	Opn traumtc sublux shouldr jnt	1
S411	Opn traumtc disloctn shoulder	1
S4115	Opn traumatic disloctn scapula	1
S49B	Opn sublux thrcic+Imbr vertbra	1
S49B1	Opn sublux thoracic spine	1
S499x	Opn sublux mlti cerv vertebrae	1
S499z	Opn sublux cerv vertebra NOS	1
S4991	Opn sublux atlanto-occipitl jt	1
S493C	Opn spnl dslc+cauda equina lsn	1
S4934	Opn spnl dslc+ant thrc crd lsn	1
S4939	Opn spnl dslc+ant Imbr crd lsn	1
S491B	Opn spnl dslc+ant cerv crd lsn	1
S493B	Opn spnl dsl+post Imbr crd lsn	1
S491D	Opn spnl dsl+post cerv crd lsn	1
S4933	Opn spnl dsl+comp thrc crd lsn	1
S4938	Opn spnl dsl+comp Imbr crd lsn	1
S4919	Opn spnl dsl+cerv crd lsn,unsp	1
S4932	Opn spn dslc+thrc crd lsn,unsp	1
S4936	Opn spn dslc+post thrc crd lsn	1
S491C	Opn spn dslc+ctrl cerv crd lsn	1
S491A	Opn spn dslc+comp cerv crd lsn	1
S4935	Opn spn dslc+cent thrc crd lsn	1
S493A	Opn spn dslc+cent Imbr crd lsn	1
S1150	Opn spn # + unsp lumb crd lesn	1
S1154	Opn spn # + post lumb crd lesn	1
S1151	Opn spn # + comp lumb crd lesn	1
S1153	Opn spn # + cent lumb crd lesn	1
S1155	Opn spn # + cauda equina lesn	1
S1152	Opn spn # + ant lumbr crd lesn	1
S5P1z	Opn dvsn,thyroid regn lgmt NOS	1
S5P1	Opn dvsn,thyroid region lgmt	1
S5P12	Opn dvsn,thyroid cartilage lgmt	1
S5P30	Opn dvsn, sternoclavicular lgmt	1
S5N	Opn dvsn,lgmt other part back	1
S5P11	Opn dvsn,cricothyroid ligament	1
S5P10	Opn dvsn,cricoarytenoid lgmt	1
S5K1	Opn dvsn mdl collat lgmt knee	1
S5K0	Opn dvsn lat collat lgmt knee	1
S5F1	Opn dvsn coracoclavicular lgmt	1
S5F0	Opn dvsn acromioclavic lgmt	1
S5K2	Opn dvs post cruciate lgm knee	1
S5K3	Opn dvs ant cruciate lgmt knee	1
S4931	Opn dslc thoracic spine	1
S4975	Opn dslc laryngl cartilage	1
S1034	Opn # thorc vert-trnsvrse prcs	1
S1032	Opn # thorc vert-spondylolysis	1



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Read code	Description	Number of studies
S1033	Opn # thorc vert-spinous prcs	1
S1036	Opn # thor vert-tricolumnar	1
S1035	Opn # thor vert-posterior arch	1
S1055	Opn # lumb vert,posterior arch	1
S1054	Opn # lumb vert, trnsvrse prcs	1
S1056	Opn # lumb vert, tricolumnar	1
S1052	Opn # lumb vert, spondylolysis	1
S1053	Opn # lumb vert, spinous prcs	1
S101L	Opn # cerv vert, trnsvrse prcs	1
S101N	Opn # cerv vert, tricolumnar	1
S101J	Opn # cerv vert, spondylolysis	1
S101K	Opn # cerv vert, spinous prcs	1
S101M	Opn # cerv vert, post arch	1
S101D	Opn # axis, trnsvrse process	1
S1018	Opn # atlas-isol arch/art prcs	1
S89z	Open wounds NOS	1
S90	Open wound shoulder/upper limb	1
S9020	Open wound shoulder+tendon inv	1
S9010	Open wound shoulder+complicat.	1
S9021	Open wound scapular+tendon inv	1
S900	Open wound of shoulder/upper limb without complication	1
S9000	Open wound of shoulder region	1
S87	Open wound of sacroiliac reg.	1
S84	Open wound of neck	1
SA100	Open wound of knee	1
S86	Open wound of back	1
SA110	Open wound knee+complication	1
S8z	Open wound head/neck/trunk NOS	1
S8	Open wound head/neck/trunk	1
S113z	Open thoracic #+cord lesn.NOS	1
S113	Open thoracic #+cord lesion	1
S49Dz	Open subluxation of spine NOS	1
S49B0	Open subluxation lumbar spine	1
S4998	Open subluxation C7/T1	1
S4997	Open subluxation C6/C7	1
S4996	Open subluxation C5/C6	1
S4995	Open subluxation C4/C5	1
S4994	Open subluxation C3/C4	1
S4993	Open subluxation C2/C3	1
S49D0	Open sublux spine, unspecified	1
S49D	Open sublux other vertebra	1
S4990	Open sublux cerv spine, unsp	1
S499	Open sublux cerv spine	1
S4992	Open sublux atlanto-axial jt	1
S49y	Open multiple/ill-def.disloc.	1
S2921	Open mult fract clav scap hum	1
S115	Open lumbar # + cord lesion	1
S2115	Open fracture scapula, spine	1
S2116	Open fracture scapula, neck	1
S2113	Open fracture scapula, glenoid	1
S2114	Open fracture scapula, blade	1
S321	Open fracture of the patella	1

Read code	Description	Number of studies
S105	Open fracture lumbar vertebra	1
S1260	Open fracture larynx	1
S2012	Open fracture clavicle, shaft	1
S101	Open fracture cervical spine	1
S1012	Open fracture axis	1
S1011	Open fracture atlas	1
S5N0	Open dvsn, neck ligament	1
S5Fz	Open dvsn shoulder lgmt NOS	1
S4911	Open dslc atlanto-occipital jt	1
S4912	Open dslc atlanto-axial jt	1
S5Nz	Open divisn, back ligament NOS	1
S5N1	Open division, thoracic lgmt	1
S5P	Open division, other ligament	1
S5Pz	Open division, other lig NOS	1
S5N2	Open division, lumbar ligament	1
S5F	Open division shoulder lgmt	1
S5Ky	Open division other knee lgmt	1
S5M5	Open division lumbosacral lgmt	1
S5K	Open division ligament knee	1
S5Kz	Open division knee lgmt NOS	1
S5M4	Open division iliolumbar lgmt	1
S4950	Open dislocation spine unspec.	1
S495z	Open dislocation spine NOS	1
S491	Open dislocation of neck	1
S4930	Open dislocation lumbar spine	1
S466z	Open dislocation knee NOS	1
S497z	Open dislocation NOS	1
S4918	Open dislocation C7/T1	1
S4917	Open dislocation C6/C7	1
S4916	Open dislocation C5/C6	1
S4915	Open dislocation C4/C5	1
S4914	Open dislocation C3/C4	1
S4913	Open dislocation C2/C3	1
S493	Open disloc.thoracic/lumbar	1
S493z	Open disloc.thorac./lumbar NOS	1
S495	Open disloc.other vertebra	1
S491x	Open disloc.mult.cerv.vertebra	1
S491z	Open disloc.cervical vert.NOS	1
S4910	Open disloc.cerv.spine unspec.	1
S111z	Open cervical#+cord lesion NOS	1
S111	Open cervical#+cord lesion	1
S1263	Open #trachea	1
S1262	Open #thyroid cartilage	1
S11y	Open #spine+cord lesion unsp.	1
S2110	Open #scapula-unspecified	1
S211z	Open #scapula NOS	1
S126z	Open #larynx/trachea NOS	1
S1261	Open #hyoid bone	1
S2010	Open #clavicle unspecified	1
S201z	Open #clavicle NOS	1
S3z1	Open #bones unspecified	1
S4F7	Open #-sublux,patello-fem jt	1
S4J33	Open #-sublux st-clav jt,post	1

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Read code	Description	Number of studies
S4J32	Open #-sublux st-clav jt,ant	1
S4A30	Open #-sublux shoulder joint	1
S4A3	Open #-sublux shoulder	1
S4F3	Open #-sublux knee joint	1
S4A31	Open #-sublux acrom-clav joint	1
S4F5	Open #-dslc,patello-fem jt	1
S4F1	Open #-dslc, knee joint	1
S4J13	Open #-dslc st-clav jt,post	1
S4J12	Open #-dslc st-clav jt,ant	1
S4A10	Open #-dslc shoulder joint	1
S4A1	Open #-dslc shoulder	1
S4A11	Open #-dslc acrom-clav joint	1
S1010	Open # unsp cerv vertebra	1
S103	Open # thoracic vertebra	1
S1031	Open # thorac vert, wedge	1
S1030	Open # thorac vert, burst	1
S1013	Open # third cerv vertebra	1
S10y	Open # spine, unspecif	1
S1016	Open # sixth cerv vertebra	1
S1017	Open # seventh cerv vert	1
S2112	Open # scapula, coracoid	1
S2111	Open # scapula, acromion	1
S211	Open # scapula	1
S3213	Open # patella, vertical	1
S3210	Open # patella, transverse	1
S3214	Open # patella, stellate	1
S3211	Open # patella, proximal pole	1
S3212	Open # patella, distal pole	1
S1051	Open # lumbar vert, wedge	1
S1050	Open # lumbar vert, burst	1
S126	Open # larynx and trachea	1
S1014	Open # fourth cerv vertebra	1
S1015	Open # fifth cerv vertebra	1
S2011	Open # clavicle, medial end	1
S2013	Open # clavicle, lateral end	1
S201	Open # clavicle	1
S101H	Open # cerv vert, wedge	1
S101G	Open # cerv vert, burst	1
S101z	Open # cerv spine NOS	1
S101F	Open # axis, tricolumnar	1
S101B	Open # axis, spondylolysis	1
S101C	Open # axis, spinous procss	1
S101E	Open # axis, posterior arch	1
S101A	Open # axis, odontoid prcss	1
S1019	Open # atlas, comminuted	1
S4113	Op tr ds shd jt,inf(infr-glen)	1
S4111	Op tr dis shld jt,ant(sub-cor)	1
S49Bz	Op sublx thrc+lmbr vertbra NOS	1
S49B2	Op spn sublx+thrc crd lsn,unsp	1
S49B6	Op spn sublx+post thrc crd lsn	1
S49BB	Op spn sublx+post lmbr crd lsn	1
S49B7	Op spn sublx+lmbr crd lsn,unsp	1
S49B3	Op spn sublx+comp thrc crd lsn	1

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Read code	Description	Number of studies
S49B8	Op spn sublx+comp lmb crd lsn	1
S499A	Op spn sublx+comp cerv crd lsn	1
S499C	Op spn sublx+cntrl crv crd lsn	1
S4999	Op spn sublx+cerv crd lsn,unsp	1
S49B5	Op spn sublx+cent thrc crd lsn	1
S49BA	Op spn sublx+cent lmb crd lsn	1
S49BC	Op spn sublx+cauda equina lsn	1
S49B4	Op spn sublx+ant thrc crd lsn	1
S499D	Op spn subluc+post crv crd lsn	1
S49B9	Op spn subluc+ant lmb crd lsn	1
S499B	Op spn subluc+ant cerv crd lsn	1
S4937	Op spn dsl+lmb crd lsn unsp	1
S1134	Op spn #+pst thor crd lsn,T1-6	1
S1133	Op spn #+cnt thor crd lsn,T1-6	1
S1132	Op spn #+ant thor crd lsn,T1-6	1
S115z	Op spn # incmp lmb crd lsn NOS	1
S1130	Op sp #+unsp thor crd lsn,T1-6	1
S1136	Op sp #+unsp thor cd lsn,T7-12	1
S113A	Op sp #+pst thor crd lsn,T7-12	1
S1139	Op sp #+cnt thor crd lsn,T7-12	1
S1131	Op sp #+cmpl thor crd lsn,T1-6	1
S1137	Op sp #+cmp thor crd lsn,T7-12	1
S1138	Op sp #+ant thor crd lsn,T7-12	1
S1501	Op multi fractur of thor spine	1
SR161	Op fract/th wth lw bck+plv+lmb	1
SR101	Op fract invol head with neck	1
S113B	Op # T7-12incomp cord lsn NOS	1
S1135	Op # T1-6 incomp cord lsn NOS	1
S1116	Op # C5-7 unspc cord lesion	1
S111A	Op # C5-7 posterior cord lesn	1
S111B	Op # C5-7 incomp cord les NOS	1
S1117	Op # C5-7 compl cord lesion	1
S1119	Op # C5-7 central cord les	1
S1118	Op # C5-7 anterior cord les	1
S1110	Op # C1-C4 unspc cord les	1
S1114	Op # C1-4 post cord lesion	1
S1115	Op # C1-4 cord les. NOS	1
S1111	Op # C1-4 compl cord lesion	1
S1113	Op # C1-4 cent cord lesion	1
S1112	Op # C1-4 ant cord lesion	1
N1120	One lev th spondyl-no myelop	1
N11B0	One lev th spondyl + radiculop	1
N1130	One lev th spondyl + myelop	1
N1140	One lev lumbsac spond-no myelo	1
N1150	One lev lumbsac spond + myelop	1
N1100	One lev Cx spondyl-no myelop	1
N1190	One lev Cx spondyl + radiculop	1
N1110	One lev Cx spondyl + myelop	1
N0542	Oligoarticular osteoarthritis, unspecified, of upper arm	1
N0545	Oligoarticular osteoarthritis, unspecified, of the pelvic region and thigh	1
N0546	Oligoarticular osteoarthritis, unspecified, of lower leg	1

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Read code	Description	Number of studies
N0544	Oligoarticular osteoarthritis, unspecified, of hand	1
N0543	Oligoarticular osteoarthritis, unspecified, of forearm	1
N0547	Oligoarticular osteoarthritis, unspecified, of ankle and foot	1
N054	Oligoarticular OA unspecified	1
N0541	Oligoartic OA, unspec-shoulder	1
N0549	Oligoartic OA, unspec-multiple	1
N0540	Oligoartic OA, unsp-unsp sites	1
N0548	Oligoartic OA unspec-oth site	1
N2133	Olecranon bursitis	1
N0720	Old torn meniscus of knee	1
N070B	Old tear post horn med menis	1
N070A	Old tear of medial meniscus	1
N071C	Old tear of lateral meniscus	1
N07y9	Old post/lat caps complex tear	1
N07y3	Old post.cruciate lig.disrupt.	1
N07yF	Old part tear post cruciat lig	1
N07yA	Old part tear med collat lig	1
N07y7	Old part tear lat collat lig	1
N07yD	Old part tear ant cruciate lig	1
N07y1	Old med.collat.lig.disruption	1
N07yC	Old med capsular complex tear	1
N07y0	Old lat.collat.lig.disruption	1
N07yB	Old compl tear med collat lig	1
N07y8	Old compl tear lat collat lig	1
N07yG	Old comp tear post cruciat lig	1
N07yE	Old comp tear ant cruciate lig	1
N07y4	Old capsular knee lig.disrupt.	1
N0701	Old bucket handle tear-medial	1
N0711	Old bucket handle tear-lat men	1
N07y2	Old ant.cruciate lig.disrupt.	1
N067	Ochronotic arthropathy	1
N054z	OA,1 site +,unspecified NOS	1
N05zP	OA NOS-subtalar joint	1
N05zA	OA NOS-sternoclavicular joint	1
N05zB	OA NOS-acromioclavicular join	1
N05zG	OA NOS-PIP joint of finger	1
N05zH	OA NOS-DIP joint of finger	1
N05zS	OA NOS-1st MTP joint	1
N3381	Nonunion of fracture	1
N226	Nontraumatic tendon subluxatn	1
N23y2	Nontraumatic muscle rupture	1
N2260	Nontraum.unspec.tendon rupture	1
N392	Nonallopathic lesion-thoracic	1
N393	Nonallopathic lesion-lumbar	1
N391	Nonallopathic lesion-cervical	1
N082Z	Non-trau subl acromiocl joint	1
N044	Nodular fibrositis-chr. rheum.	1
N2372	Nodular fasciitis	1
16A1	No stiff neck	1
16C1	No backache	1
1229	No FH: Osteoporosis	1
N2471	Night cramps	1

Read code	Description	Number of studies
N11y2	Neuropathic spondylopathy	1
N2423	Neuropathic pain	1
N374B	Neuromuscular scoliosis	1
N3749	Neuromuscular lordosis	1
N3745	Neuromuscular kyphosis	1
N14A	Neurogenic claudication	1
N2421	Neuritis unspecified	1
N2420	Neuralgia unspecified	1
N242z	Neuralg./neurit./radiculit.NOS	1
N242	Neuralg./neurit./radicul.unsp.	1
SJ	Nerve/spinal cord injuries	1
EMISNQNE5	Nerve root pain present	1
SJz	Nerve and spinal cord injury NOS	1
S5700	Neck sprain unspecified	1
S570z	Neck sprain NOS	1
S570	Neck sprain	1
N12D	Narrowing disc space	1
N2332	Myositis in sarcoidosis	1
N2321	Myofibrosis	1
N241-97	Myalgia/myositis - shoulder	1
EGTON307	Myalgia	1
EMISNQMU15	Musculoskeletal symptom	1
EMISNQMU5	Musculoskeletal pain severe	1
EMISNQMU2	Musculoskeletal pain present	1
EMISNQMU4	Musculoskeletal pain moderate	1
N096-2	Musculoskeletal pain - joints	1
MAWBYMU1	Musculoskeletal Symptoms	1
N3	Musculosk.inflam/deform.+other	1
N232z	Muscle wasting/atrophy NEC NOS	1
N232	Muscle wasting and disuse atrophy NEC	1
N2322	Muscle wasting NEC	1
UNMAPM4AB	Muscle strain	1
N23yD	Muscle strain	1
N2410-2	Muscle pain	1
N231	Muscle ossification	1
S5yz1	Muscle injury / strain	1
N238	Muscle contracture	1
N231z	Muscle calcif./ossificat.NOS	1
N230D	Muscle abscess-shoulder	1
N230B	Muscle abscess-neck	1
N230C	Muscle abscess-back	1
N230A	Muscle abscess	1
ASDFGMU2	Muscle Symptoms	1
EGTON110	Muscle Injury	1
M4A8	Muscle Injury	1
N2310	Musc.calcif./ossif.unspecified	1
N0719	Multiple tears-lat meniscus	1
N0708	Multiple tears of medial meniscus	1
S101x	Multiple open # cerv vert	1
SR1z	Multiple fractures unspecified	1
S100x	Multiple clsd # cerv vert	1
N099A	Multiple clicking joints	1
S3y	Multiple #legs/arms/ribs/stern	1

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Read code	Description	Number of studies
S10A2	Multip fracture/cervical spin	1
N11C2	Multi lev lumbsac spond+radicu	1
S150	Multi fractures/thoracic spine	1
S3y1	Mult.open #legs/arms/ribs	1
S3y0	Mult.closed #legs/arms/ribs	1
N1122	Mult lev th spondyl-no myelop	1
N11B2	Mult lev th spondyl+radiculop	1
N1132	Mult lev th spondyl + myelop	1
N1142	Mult lev lumbsac spond-no myel	1
N1152	Mult lev lumbsac spond + myelo	1
N1102	Mult lev Cx spondyl-no myelop	1
N1192	Mult lev Cx spondyl+radiculop	1
N1112	Mult lev Cx spondyl + myelop	1
S10B6	Mult fractur/lumbar spine+pelv	1
S292	Mult fract/clav,scapula+humrus	1
1D17	Morning stiffness - joint	1
N3323	Monostotic fibrous dysplasia	1
N0433	Monarticular juvenile R.A.	1
EMISNQMI188	Mixed connective tissue disease	1
OX6954MC	Mixed Connective Tissue Disease /ox	1
N2224	Miners' knee	1
N2172	Metatarsalgia NOS	1
N063.11	Menopausal arthritis	1
N063	Menopausal arthritis	1
N072	Meniscus derangement NEC	1
N070	Medial meniscus derangement	1
N070z	Medial meniscus derange.NOS	1
N0703	Medial menisc.post.horn derang	1
N0700	Medial menisc.derang.unspecif	1
N0702	Medial menisc.ant.horn derang.	1
N2131	Medial epicondylitis - elbow	1
16CA	Mechanical low back pain	1
N3380	Malunion of fracture	1
N338	Malunion and nonunion of fracture	1
N11C	Lumbosacral spondylosis with radiculopathy	1
N115	Lumbosacral spond.+ myelopathy	1
SJ35	Lumbosacral plexus injury	1
N1441	Lumbosacral neuritis unspecif.	1
N1463	Lumbosacral instability	1
N1460	Lumbosacral ankylosis	1
N114-2	Lumbar spondylosis	1
N148C	Lumbar spine instability	1
N1486	Lumbar spine ankylosis	1
N1402	Lumbar spinal stenosis	1
N12A3	Lumbar postlaminectomy syndr.	1
SJ321	Lumbar nerve root injury - L2	1
N12zC	Lumbar discitis	1
N122	Lumbar disc displacement	1
N1293	Lumbar disc disord.+myelopathy	1
N127	Lumbar disc degeneration	1
S572	Lumbar back sprain	1
N1420	Lumbago with sciatica	1
N142-4	Lumbago	1

Read code	Description	Number of studies
N140A	Lu spin stenosis due to oth dis	1
N12C2	Lu disc prolapse+radiculopathy	1
N12B2	Lu disc prolapse + myelopathy	1
N12C3	Lu disc prol+caud eq compress	1
N142-1	Low back pain	1
EGTON264	Low Back Pain	1
N374W	Lordosis unspecified	1
N3747	Lordosis in skeletal dysplasia	1
N3748	Lordosis in hip disease	1
N3742	Lordosis + other condition	1
N0818	Loose joint body-multip joints	1
N081z	Loose joint body (ex.knee)NOS	1
N081A	Loose body, oth joint-shoulder	1
N0811	Loose body joint-shoulder	1
N0819	Loose body in shoulder joint	1
N073	Loose body in knee	1
N081	Loose body in joint-excl.knee	1
N0817	Loose body in joint, joint OS	1
N0810	Loose body in joint	1
N07yH	Locking knee	1
N07y5	Locked knee	1
N0522	Localised, secondary osteoarthritis of the upper arm	1
N0525	Localised, secondary osteoarthritis of the pelvic region and thigh	1
N0526	Localised, secondary osteoarthritis of the lower leg	1
N0524	Localised, secondary osteoarthritis of the hand	1
N0523	Localised, secondary osteoarthritis of the forearm	1
N0527	Localised, secondary osteoarthritis of the ankle and foot	1
N051E	Localised, primary osteoarthritis of toe	1
N0512	Localised, primary osteoarthritis of the upper arm	1
N0515	Localised, primary osteoarthritis of the pelvic region and thigh	1
N0513	Localised, primary osteoarthritis of the forearm	1
N0517	Localised, primary osteoarthritis of the ankle and foot	1
N051F	Localised, primary osteoarthritis of elbow	1
N052z	Localised secondary OA NOS	1
N051z	Localised primary OA NOS	1
N0532	Localised osteoarthritis, unspecified, of the upper arm	1
N0537	Localised osteoarthritis, unspecified, of the ankle and foot	1
N053z	Localised OA unspecified NOS	1
N053	Localised OA unspecified	1
N052	Local.secondary osteoarthritis	1
N0520	Local.secondary OA-site unsp.	1
N0521	Local.secondary OA-shoulder	1
N0528	Local.secondary OA-other spec.	1
N051	Local.primary osteoarthritis	1
N0510	Local.primary OA-site unsp.	1
N0511	Local.primary OA-shoulder regn	1
N0518	Local.primary OA-other specif	1
N0516	Local.primary OA-lower leg	1
N0514	Local.primary OA-hand	1



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Read code	Description	Number of studies
N0530	Local.OA unsp.-site unspecif.	1
N0531	Local.OA unsp.-shoulder region	1
N0538	Local.OA unsp.-other specified	1
N0534	Local.OA unsp.-hand	1
N0533	Local.OA unsp.-forearm	1
N051D	Local prim osteoarth wrist	1
N3308	Local osteoporosis - Lequesne	1
S5z	Ligament sprain NOS	1
N0001	Libman-Sacks disease	1
N245-6	Leg pain	1
N234	Laxity of ligament	1
SJ43	Latrl cutaneous branch T12 inj	1
N071	Lateral meniscus derangement	1
N0714	Lateral meniscus derangem.NOS	1
N0713	Lateral menisc.post.horn deran	1
N0710	Lateral menisc.derang.unspecif	1
N0712	Lateral menisc.ant.horn derang	1
N2132	Lateral epicondylitis of the elbow	1
MHTBALA9	Lateral Patella Release	1
SC08	Late effect-tendon injury	1
SC05	Late effect-mult./other #bones	1
SC06	Late effect-dislocation	1
SC01	Late effect-#spine-no cord les	1
SC011	Late effect # thoracic vert	1
SC012	Late effect # lumbar vertebra	1
SC010	Late effect # cervic vertebra	1
EGTON119	Laceration Nos	1
N3744	Kyphosis in skeletal dysplasia	1
N3713	Kyphosis due to oth treatment	1
N3741	Kyphosis + other condition	1
N373z	Kyphoscoliosis or scoliosis NOS	1
N373	Kyphoscoliosis and scoliosis	1
N3241	Kohler's dis.(prim.patell.ctr)	1
N0956	Knee stiff	1
S54y	Knee sprain NOS	1
S54	Knee sprain	1
N0106	Knee pyogenic arthritis	1
N0826	Knee pathological dislocation	1
1M10	Knee pain	1
N05z6	Knee osteoarthritis NOS	1
N05z6-1	Knee osteoarthritis NOS	1
N0946-1	Knee joint pain	1
N0946	Knee joint pain	1
N0846	Knee joint contracture	1
N0856	Knee joint ankylosis	1
N0966	Knee gives way	1
N216z	Knee enthesopathy NOS	1
N06z6-1	Knee arthritis NOS	1
N06z6	Knee arthritis NOS	1
ASDFGKN2	Knee Pain?	1
ASDFGKN6	Knee Pain Does Not Affect Sleep	1
ASDFGKN4	Knee Pain Affects Sleep?	1
ASDFGKN5	Knee Pain Affects Sleep	1

Read code	Description	Number of studies
ASDFGKN3	Knee Pain	1
MUNNUKN1	Knee Pain	1
MAWBYKN1	Knee Pain	1
N0836	Knee - recurrent dislocation	1
N13y1	Klippel's disease	1
N116	Kissing spine	1
N002	Keratoconjunctivitis sicca	1
N0600	Kaschin-Beck dis.-site unspec.	1
N0601	Kaschin-Beck dis.-shoulder	1
N0608	Kaschin-Beck dis.-other specif	1
N0609	Kaschin-Beck dis.-multipl.site	1
N060z	Kaschin-Beck dis.-NOS	1
N060	Kaschin - Beck disease	1
N320z	Juvenile spine osteochondr.NOS	1
N3200	Juvenile spine osteochond.unsp	1
N0455	Juvenile rheumatoid arthritis	1
N0430	Juvenile rheumatoid arthr.unsp	1
N043z	Juvenile rheumatoid arthr.NOS	1
N3263	Juvenile osteochondrosis NOS	1
N326z	Juvenile osteochondroses NOS	1
N3262	Juvenile osteochondritis NOS	1
N3261	Juvenile epiphysitis NOS	1
N0030	Juvenile dermatomyositis	1
N3260	Juvenile apophysitis NOS	1
N043	Juvenile R.A.- Still's disease	1
OX7120DA	Juvenile Arthritis /ox	1
N3243	Juv.osteoch.secondary.pat.ctre	1
N0451	Juv seronegative polyarthritis	1
N328	Juv osteochondrosis of spine	1
N0452	Juv arthritis in psoriasis	1
N0453	Juv arthritis in Crohn's dis	1
N0454	Juv arth in ulcerative colitis	1
N0900	Joint effusion-site unspecif.	1
N0901	Joint effusion-shoulder region	1
N0908	Joint effusion-other specif.	1
N09z1	Joint disord.NOS-shoulder	1
N08z	Joint derangement NOS	1
N08zz	Joint derangement NOS	1
N08z0	Joint derange.NOS-site unspec.	1
N08z1	Joint derange.NOS-shoulder	1
N08z7	Joint derange.NOS-other spec.	1
N08z8	Joint derange.NOS-multipl.site	1
N05z.11	Joint degeneration	1
N05z	Joint degeneration	1
N0840	Joint contracture-site unspec	1
N0841	Joint contracture-shoulder	1
N0848	Joint contracture-other specif	1
N0850	Joint ankylosis-site unspecif.	1
N0851	Joint ankylosis-shoulder	1
N0858	Joint ankylosis-other specif.	1
ASDFGJO2	Joint Symptoms	1
ASDFGJO3	Joint Pain	1
N3841	Isthmic spondylolisthesis	1

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Read code	Description	Number of studies
S531	Ischiocapsular sprain	1
N23yB	Ischaemic infarction of muscle	1
N123-1	Intervertebral disc prol. NOS	1
N12z	Intervertebral disc lesion NOS	1
OX7259AP	Intervertebral Disc Prolapsed /ox	1
N3y05	Intervert disc sten neur canal	1
N23y0	Interstitial myositis	1
N07z	Internal knee derangement NOS	1
N07	Internal derangement of knee	1
N1350	Intermittent torticollis	1
N090W	Intermittent hydrarthrosis	1
N084E	Int rotat contracture-shoulder	1
N08y	Instability of joint	1
SJ7z	Injury to other nerve NOS	1
SKz	Injury NOS	1
OX9967C	Injury Knee /ox	1
SJ9	Injur/nerv+spinal crd/thorx lev	1
SJB	Inj/nerves/should+upp arm lev	1
S46C	Inj/multipl structures of knee	1
S5Q6	Inj tendon rotator cuff should	1
N2166	Infrapatellar bursitis	1
N10	Inflammatory spondylopathies	1
N04	Inflammatory polyarthropathy	1
N04*	Inflammatory arthropathy	1
N10y0	Inflamm.spondylop.in dis. EC	1
N04z	Inflamm.polyarthropathy NOS	1
S4103	Inferior dislocation shoulder	1
N2302	Infective myositis-shoulder	1
N2300	Infective myositis-neck	1
N2301	Infective myositis-back	1
N01z	Infective arthritis NOS	1
N01zz	Infective arthritis NOS	1
N302B	Infection of thoracic spine	1
N302G	Infection of scapula	1
N302R	Infection of patella	1
N302Z	Infection of multiple bones	1
N302C	Infection of lumbar spine	1
N302F	Infection of clavicle	1
N302A	Infection of cervical spine	1
N01z0	Infect.arthr.NOS-site unspecif	1
N01z1	Infect.arthr.NOS-shoulder reg	1
N01zy	Infect.arthr.NOS-other specifi	1
N01zx	Infect.arthr.NOS-multiple site	1
N12zG	Infect intervert disc - pyogen	1
N01z8	Infec arthritis NOS-shoulder	1
N01zK	Infec arthritis NOS-knee	1
N01z9	Infec arthr NOS-sternoclav jt	1
N01zA	Infec arth NOS-acromioclav jt	1
N23y5	Inappropriate firing of muscle	1
N2124	Impingement syndr of shoulder	1
N2331	Immobility syndrome	1
N2159	Iliotibial band syndrome	1
N1403	Idiopathic th spinal stenosis	1

Read code	Description	Number of studies
N3730	Idiopathic scoliosis	1
N3303	Idiopathic osteoporosis	1
N1407	Idiopathic lu spinal stenosis	1
N3731	Idiopathic kyphoscoliosis	1
N33z7	Idiopathic hypertrophy of bone	1
N1300	Idiopathic Cx spinal stenosis	1
N3316	Idiopath osteopor + path fract	1
N3348	Idiopath aseptic necrosis of bone	1
N1405	iatrogenic th spinal stenosis	1
N1409	iatrogenic lu spinal stenosis	1
N1302	iatrogenic Cx spinal stenosis	1
C04*	Hypothyroidism	1
N2431	Hypertrophy of knee fat pad	1
N33z4	Hypertrophy of bone	1
N3382	Hypertrophic non-union of #	1
N312	Hypertroph.pulm.osteoarthrop.	1
N02y8	Hydroxyapatite deposition dis	1
N2225	Housemaids knee	1
N0707	Horiz cleavage tear-med menisc	1
N0718	Horiz cleavage tear-lat menisc	1
N094K-2	Hip pain	1
N05z5	Hip osteoarthritis NOS	1
N05z5-1	Hip osteoarthritis NOS	1
N0535	Hip osteoarthritis NOS	1
N0535-2	Hip osteoarthritis NOS	1
N06z5	Hip arthritis NOS	1
N0809	Hill-Sachs lesion	1
N245-5	Heel pain	1
N0507	Heberden's nodes with arthropathy	1
N245-4	Hand pain	1
N2450	Hand pain	1
N0944-1	Hand joint pain	1
N06z4-1	Hand arthritis NOS	1
N068	Haemophilic arthropathy	1
N091B	Haemarthrosis-sternoclav joint	1
N0910	Haemarthrosis-site unspecified	1
N0911	Haemarthrosis-shoulder	1
N0918	Haemarthrosis-other specified	1
N0919	Haemarthrosis-multiple joints	1
N091C	Haemarthrosis-acromioclav jt	1
N0916	Haemarthrosis of the knee	1
N091A	Haemarthrosis of shoulder	1
N091M	Haemarthrosis of knee	1
N091z	Haemarthrosis NOS	1
N091	Haemarthrosis	1
N083M	Habitual sublux shoulder	1
N083L	Habitual disloc shoulder	1
N083r	Habitual disloc - patella	1
14G8	H/O: vertebral fracture	1
14G1	H/O: rheumatoid arthritis	1
14G2	H/O: osteoarthritis	1
14GZ	H/O: musculo-skeletal dis. NOS	1
14G3	H/O: knee problem	1

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Read code	Description	Number of studies
14J	H/O: injury	1
14G4	H/O: back problem	1
14T5	H/O: artificial joint	1
14V5	H/O: arthrodesis	1
14G	H/O: arthritis	1
14N30	H/O Spinal surgery	1
16Z2	Growing pains	1
S3z00	Greenstick fracture	1
N0230	Gouty arthritis-site unspecif.	1
N0231	Gouty arthritis-shoulder	1
N023y	Gouty arthritis-other specif.	1
N023x	Gouty arthritis-multiple sites	1
N023z	Gouty arthritis NOS	1
N023	Gouty arthritis	1
N2131-1	Golfer's elbow	1
N200	Gnt cell arter+polymyalg rheum	1
EGTON444	Gluteal Muscle Injury	1
N0873	Glenoid labrum tear	1
N0872	Glenoid labrum detachment	1
N365	Genu recurvatum - acquired	1
N050z	Generalised osteoarthritis NOS	1
N050z00	Generalised osteoarthritis NOS	1
N050	Generalised osteoarthritis - OA	1
N050.0	Generalised osteoarthritis - OA	1
N065A	Generalised arthritis	1
N065A00	Generalised arthritis	1
N05000	Generalised OA-site unspecif.	1
N0500	Generalised OA-site unspecif.	1
N050200	Generalised OA-multiple sites	1
N0502	Generalised OA-multiple sites	1
N0501	Generalised OA-hand	1
N224z	Ganglion/synovial cyst NOS	1
N224	Ganglion/synov.cyst - knee	1
N224-92	Ganglion/synov.cyst - knee	1
N2243	Ganglion unspecified	1
N2245	Ganglion of wrist	1
N2242	Ganglion of tendon sheath	1
N2246	Ganglion of knee	1
N2241	Ganglion of joint	1
N224C	Ganglion of foot	1
EMISR4QFU2	Fusion Of Lumbar Spine	1
EMISR4QFU1	Fusion Of Cervical Spine	1
N2115	Full thickn rotator cuff tear	1
N210-2	Frozen shoulder	1
N331N	Fragility fracture	1
N331M	Fragility # unsp osteoporosis	1
S10B	Fracture/lumbar spine+pelvis	1
S10A1	Fracture/2nd cervical vertebra	1
S10A0	Fracture/1st cervical vertebra	1
S15	Fracture of thoracic vertebra	1
S1z	Fracture of neck and trunk NOS	1
S1	Fracture of neck and trunk	1
S10A	Fracture of neck	1

Read code	Description	Number of studies
S10B0	Fracture of lumbar vertebra	1
N338z	Fracture malunion or nonunion NOS	1
SR1	Fracture involv multi body reg	1
SR10	Fracture involv head with neck	1
S4	Fracture dislocation/subluxat	1
OX8056	Fracture Spine /ox	1
S3z	Fracture NOS	1
OXL8056LV	Fracture Lumbar Vertebra /ox	1
SR16	Fract/thorx with lw bck+plv+lmb	1
N3317	Fract of bone in neoplast dis	1
N2451	Foot pain	1
N245-3	Foot pain	1
1M11	Foot pain	1
N220B	Flexor tenosynovitis of finger	1
N3660	Flexion deformity of knee	1
N369	Flexion deformity	1
N084A	Flexion contracture-shoulder	1
N084a	Flexion contracture-knee	1
N374E	Flatback syndrome	1
N040T	Flare of rheumatoid arthritis	1
N08yA	Flail joint	1
N09C	Fistula of joint	1
N2450-2	Finger pain	1
N05z4-1	Finger osteoarthritis NOS	1
N2163	Fibular collat.lig.bursitis	1
N3324	Fibrous cortical defect	1
N2405	Fibrositis of neck	1
N00y1	Fibrosclerosis systemic	1
N087	Fibrocartilage lesion of joint	1
MHTBAFH1	Fh: Osteoporosis	1
N041	Felty's syndrome	1
N1y1	Fatigue fracture of vertebra	1
N244	Fasciitis unspecified	1
N024	Familial chondrocalcinosis	1
N14y	Facet joint syndrome	1
1211	FH: Rheumatoid arthritis	1
1268	FH: Osteoporosis	1
1212	FH: Osteoarthritis	1
121Z	FH: Musculo-skeletal dis. NOS	1
121	FH: Arthritis	1
N220D	Extensor tenosynovitis of wrist	1
N220F	Extensor tenosynovitis of thumb	1
N220E	Extensor tenosynovitis of finger	1
N084B	Extension contracture-shoulder	1
N084F	Ext rotat contracture-shoulder	1
N21z7	Exostosis	1
16C8	Exacerbation of backache	1
N0506	Erosive osteoarthrosis	1
N32z1	Epiphysitis NOS	1
N33z1	Epiphyseal arrest	1
N00y0	Eosinophilic fasciitis	1
N216	Enthesopathy of knee	1
N21z	Enthesopathy NOS	1

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Read code	Description	Number of studies
N11y1	Enterobacterial spondylitis	1
1M00-1	Elbow pain	1
1M00	Elbow pain	1
N05z2	Elbow osteoarthritis NOS	1
N06z2	Elbow arthritis NOS	1
N090B	Effusion of sternoclav joint	1
N090A	Effusion of shoulder	1
N0909	Effusion of multiple joints	1
N090M	Effusion of knee	1
N090z	Effusion of joint NOS	1
N090	Effusion of joint	1
N090C	Effusion of acromioclav joint	1
N0906	Effusion - knee joint	1
N0906-99	Effusion - knee joint	1
N3840	Dysplastic spondylolisthesis	1
N2361	Dupuyt dis-palm + nod no cont	1
N3305	Drug-induced osteoporosis	1
N0002	Drug-ind systemic lupus eryth	1
N3315	Drug-ind osteopor + path fract	1
N235	Double-jointed (hypermobility)	1
N1123	Dorsal spondylo w/o myelopath	1
N3370	Disuse atrophy of bone	1
N3304	Dissuse osteoporosis	1
N0000	Disseminated lupus erythemat.	1
N09AX	Disorder of patella unspecified	1
N33zG	Disorder of cartilage, unspec	1
N33zF	Disorder of bone unspecified	1
S46	Dislocation or subluxation of knee	1
S4z	Dislocation or subluxation NOS	1
S41z	Dislocation of shoulder NOS	1
S46z	Dislocation of knee NOS	1
S41	Dislocated shoulder	1
S463-99	Dislocated patella	1
SR20	Disloc,sprns+strns inv hd+neck	1
SR2	Dislc,sprns+strns/mult bdy reg	1
N071B	Discoid lateral meniscus	1
N123	Disc unsp.displ.-no myelopathy	1
N12B	Disc prolapse with myelopathy	1
N12C	Disc prolapse + radiculopathy	1
N12zz	Disc disorders NOS	1
N129z	Disc disorder+myelopathy NOS	1
N00	Diffuse connective tissue dis.	1
N097z	Difficulty in walking NOS	1
N097	Difficulty in walking	1
N23yA	Diastasis of muscle	1
N33z3	Diaphysitis	1
N0300	Diabetic cheiroarthropathy	1
N0301	Diabetic Charcot arthropathy	1
N003X	Dermatopolymyositis, unspec	1
N0031	Dermatopolymyosit,neoplast dis	1
N003	Dermatomyositis	1
SC0z	Delayed union of fracture	1
N3386	Delayed union of fracture	1

Read code	Description	Number of studies
S9030	Degloving injury,shoulder area	1
SA130	Degloving injury knee	1
N3842	Degenerative spondylolisthesis	1
N128	Degenerative disc disease NOS	1
N1404	Degenerativ th spinal stenosis	1
N1408	Degenerativ lu spinal stenosis	1
N1301	Degenerativ Cx spinal stenosis	1
N114	Degeneration of lumbar spine	1
N114-1	Degeneration of lumbar spine	1
N0721	Degen lesion artic cart knee	1
N36y4	Deformity of scapula	1
N36yD	Deformity of patella	1
N36y3	Deformity of clavicle	1
N36y2	Deformity of bone	1
N224D	Cyst of tendon sheath	1
N0722	Cyst of semilunar cartilage	1
N0709	Cyst of medial meniscus	1
N071A	Cyst of lateral meniscus	1
N2244	Cyst of bursa	1
N332z	Cyst of bone NOS	1
N332	Cyst of bone	1
N11A	Cx spondyl + vasc compression	1
N1303	Cx spin stenosis due to oth dis	1
N12C0	Cx disc prolapse+radiculopathy	1
N12B0	Cx disc prolapse + myelopathy	1
N3740	Curvature of spine unspecified	1
N37zz	Curvature of spine NOS	1
N37z	Curvature of spine NOS	1
N37	Curvature of spine	1
N02zK	Crystal arthropathy NOS-knee	1
N02zz	Crystal arthropathy NOS	1
N02z	Crystal arthropathy NOS	1
N02z0	Crystal arthr.NOS-site unspec.	1
N02z1	Crystal arthr.NOS-shoulder	1
N02zy	Crystal arthr.NOS-other spec.	1
N02zx	Crystal arthr.NOS-multipl.site	1
N02z9	Cryst arthr NOS-sternoclav jt	1
N02zA	Cryst arthr NOS-acromioclav jt	1
N02z8	Crys arthr NOS-shoulder	1
SF20z	Crushinjuryshlder+uparmNOS	1
SFz	Crushing injury NOS	1
SF	Crushing injury	1
SF40	Crush injury multiple sites NEC	1
SF021	Crush injury larynx	1
SF311	Crush injury knee	1
SF110	Crush injury back	1
SF4z	Crush injury	1
N13y2	Crick in neck	1
N2472	Cramp	1
N051A	Coxarthr from dysplasia, bilat	1
N3216	Coxa plana	1
182B0	Costal margin chest pain	1
N2123	Coracoid impingement	1



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Read code	Description	Number of studies
S502	Coracohumeral sprain	1
SE30z	Contusionshlder+uer arm NOS	1
SE44	Contusionlwr limbmlti sites	1
SE00	Contusion, forehead	1
SEz	Contusion with skin intact NOS	1
SE30	Contusion shoulder or upper arm	1
SE300	Contusion shoulder area	1
SE301	Contusion scapular area	1
SE231	Contusion of lower back	1
SE232	Contusion of lower back	1
SE4y	Contusion multiple sites NEC	1
SE41z	Contusion knee and lower leg NOS	1
SE411	Contusion knee	1
SE0z	Contusion face scalp+neck NOS	1
SE304	Contusion clavicular area	1
SE23z	Contusion back NOS	1
SE	Contusion (bruise) with intact skin	1
N22y0	Contracture of tendon sheath	1
N23yC	Contracture of muscle	1
N0849	Contracture of multiple joints	1
N084z	Contracture of joint NOS	1
N084	Contracture of joint	1
N	Connective tissue diseases	1
N3y04	Connect tiss sten neural canal	1
PE1	Congenital sternomastoid torticollis	1
N3y07	Con tis/disc sten intervrt for	1
N33C	Complex regionl pain syndrom I	1
S5C	Complete tear, knee ligament	1
S58z	Complete tear shoulder joint NOS	1
S58	Complete tear shoulder joint	1
N33z8	Complete epiphyseal arrest	1
N33z6	Compensatory hypertrophy-bone	1
SK0y	Compartmentsyndrome	1
S5A0D	Comp tr shrt intr lig non-sp	1
N331D	Collapsed vertebra NOS	1
N331	Collapse of vertebra NOS	1
N331F	Collapse of thoracic vertebra	1
N3310	Collapse of thoracic vertebra	1
N3311	Collapse of lumbar vertebra	1
N331G	Collapse of lumbar vertebra	1
N331E	Collapse of cervical vertebra	1
N331L	Collap vert due osteopor NOS	1
N331J	Collap lumb vert due to osteo	1
N331H	Collap cerv vert due to osteop	1
N00z	Collagen disease NOS	1
N331K	Coll thorac vert due osteopor	1
N147z	Coccyx disorder NOS	1
N1472	Coccygodynia	1
S5E1	Cmplt tr,thyroid region lgmt	1
S5E30	Cmplt tr,sternoclavicular lgmt	1
S5Ez	Cmplt tr,other lgmt NOS	1
S5Cy	Cmplt tr,other knee lgmt	1
S5C1	Cmplt tr,knee,mdl collat lgmt	1

Read code	Description	Number of studies
S5C0	Cmplt tr,knee,lat collat lgmt	1
S5Cz	Cmplt tr,knee lgmt NOS	1
S581	Cmplt tr,coraco-clav lgmt	1
S580	Cmplt tr,acromio-clav lgmt	1
S5A0A	Cmplt tr triang fibrocartilage	1
S5C3	Cmpl tr,knee,ant cruciate lgmt	1
S5y57	Cmpl tear,lumbosacral lgmt	1
S5y56	Cmpl tear,iliolumbar lgmt	1
S5C2	Cmp tr,knee,post cruciate lgmt	1
S2920	Clsd mult fract clav scap hum	1
S1000	Clsd # unsp cerv vertebra	1
S1024	Clsd # thorc vert-trnsvrs prcs	1
S1026	Clsd # thorc vert - tricolumnr	1
S1025	Clsd # thorc vert - post prcs	1
S1020	Clsd # thoracic vert, burst	1
S1021	Clsd # thoracic vert wedge	1
S102z	Clsd # thorac vert NOS	1
S1023	Clsd # thor vert-spinous prcss	1
S1003	Clsd # third cerv vertebra	1
S2102	Clsd # scapula, coracoid	1
S1041	Clsd # lumbar vert wedge	1
S1040	Clsd # lumbar vert burst	1
S1046	Clsd # lumb vert - tricolumnar	1
S1004	Clsd # fourth cerv vertebra	1
S1005	Clsd # fifth cerv vertebra	1
S2001	Clsd # clavicle medial end	1
S2003	Clsd # clavical lateral end	1
S100H	Clsd # cerv vert, wedge	1
S100G	Clsd # cerv vert, burst	1
S100z	Clsd # cerv spine NOS	1
S100F	Clsd # axis, tricolumnar	1
S100D	Clsd # axis, transvrse process	1
S100B	Clsd # axis, spondylolysis	1
S100C	Clsd # axis, spinous process	1
S100E	Clsd # axis, posterior arch	1
S100A	Clsd # axis odontoid process	1
S1009	Clsd # atlas, comminuted	1
S1106	Clsd # C5-C7 unspec cord les	1
S110A	Clsd # C5-C7 post cord lesion	1
S110B	Clsd # C5-C7 incomp cord les	1
S1107	Clsd # C5-C7 complete cord les	1
S1109	Clsd # C5-C7 cent cord lesion	1
S1108	Clsd # C5-C7 ant cord lesion	1
S1100	Clsd # C1-C4 unspec cord les	1
S1104	Clsd # C1-C4 post cord lesion	1
S1105	Clsd # C1-C4 incomp cord les	1
S1101	Clsd # C1-C4 complete cord les	1
S1103	Clsd # C1-C4 cent cord lesion	1
S1102	Clsd # C1-C4 ant cord lesion	1
S4120	Cls trmtc subluxatn shldr jnt	1
S4696	Cls trmtc sublux,head fibula	1
S467	Cls trmtc sublux pat-fem jt	1
S4690	Cls trmtc sublux knee jt,unsp	1

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Read code	Description	Number of studies
S4692	Cls trmtc sublux knee jt,post	1
S4694	Cls trmtc sublux knee jt,ltrl	1
S4691	Cls trmtc sublux knee jt,ant	1
S469	Cls trmtc sublux knee jt	1
S4102	Cls trmtc dsclctn shldr jtpost	1
S410z	Cls trmtc dsclctn shoulder NOS	1
S49E4	Cls trm sublux,st-clav jt,post	1
S49E3	Cls trm sublux,st-clav jt,ant	1
S49E2	Cls trm sublux st-clav jt	1
S4671	Cls trm sublux pat-fem jt,med	1
S4670	Cls trm sublux pat-fem jt,ltrl	1
S49E5	Cls trm sublux laryngl cart	1
S4695	Cls trm sublux knee jt,rotatry	1
S4693	Cls trm sublux knee jt,medial	1
S4121	Cls trm sublux acromio-clav jt	1
S4656	Cls trm dsclctn, head fibula	1
S4631	Cls trm dsclctn pat-fem jt,med	1
S4630	Cls trm dsclctn pat-fem jt,lat	1
S4650	Cls trm dsclctn knee, unspc	1
S4654	Cls trm dsclctn knee jt,lateral	1
S4652	Cls trm dsclctn knee jt, post	1
S4653	Cls trm dsclctn knee jt, medial	1
S4651	Cls trm dsclctn knee jt, ant	1
S465z	Cls trm dsclctn knee NOS	1
S4655	Cls trm dsclct knee jt,rotatory	1
S4963	Cls trm dscl, stern-clav jt,ant	1
S4962	Cls trm dscl sterno-clav jt	1
S4965	Cls trm dscl laryngl cartilage	1
S4964	Cls trm dsl, stern-clav jt,post	1
S412	Cls traumtc subluxatn shoulder	1
S410	Cls traumtc dsclctn shoulder	1
S4105	Cls traumatic dsclctn scapula	1
S49A	Cls sublux thrcic+lumbar spine	1
S49A1	Cls sublux thrcic spine	1
S49Az	Cls sublux thrc+lmbr spine NOS	1
S498x	Cls sublux mlti cerv vertebrae	1
S4980	Cls sublux cervical spine,unsp	1
S498	Cls sublux cervical spine	1
S498z	Cls sublux cerv vertebra NOS	1
S4981	Cls sublux atlanto-occipitl jt	1
S4982	Cls sublux atlanto-axial jt	1
S492C	Cls spnl dsclc+cauda equina lsn	1
S4924	Cls spnl dsclc+ant thrc crd lsn	1
S4929	Cls spnl dsclc+ant lmbr crd lsn	1
S490B	Cls spnl dsclc+ant cerv crd lsn	1
S492B	Cls spnl dsl+post lmbr crd lsn	1
S4923	Cls spnl dsl+comp thrc crd lsn	1
S4928	Cls spnl dsl+comp lmbr crd lsn	1
S4922	Cls spn dsclc+thrc crd lsn,unsp	1
S4926	Cls spn dsclc+post thrc crd lsn	1
S490D	Cls spn dsclc+post cerv crd lsn	1
S4925	Cls spn dsclc+cent thrc crd lsn	1
S492A	Cls spn dsclc+cent lmbr crd lsn	1

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Read code	Description	Number of studies
S1140	Cls spn # + unsp lumb crd lesn	1
S1144	Cls spn # + post lumb crd lesn	1
S1141	Cls spn # + comp lumb crd lesn	1
S1143	Cls spn # + cent lumb crd lesn	1
S1145	Cls spn # + cauda equina lesn	1
S1142	Cls spn # + ant lumbr crd lesn	1
SR100	Cls fract invol head with neck	1
S492z	Cls dslc thrcic+lmbr spine NOS	1
S492	Cls dslc thoracic+lumbar spine	1
S4921	Cls dslc thoracic vertebra	1
S4920	Cls dslc lumbar spine	1
S4901	Cls dslc atlanto-occipital jnt	1
S4902	Cls dslc atlanto-axial joint	1
S4F6	Cls #-sublux,patello-fem jt	1
S4J23	Cls #-sublux st-clav jt,post	1
S4J22	Cls #-sublux st-clav jt,ant	1
S4F4	Cls #-dslc,patello-fem jt	1
S4J03	Cls #-dslc st-clav jt,post	1
S4J02	Cls #-dslc st-clav jt,ant	1
S1022	Cls # thorc vert-spondylolysis	1
S1044	Cls # lumbr vert-trnsvrse prcs	1
S1042	Cls # lumbr vert-spondylolysis	1
S1043	Cls # lumbr vert-spinous prcss	1
S1045	Cls # lumb vert-posterior arch	1
S100L	Cls # cerv vert, trnsvrse prcs	1
S100N	Cls # cerv vert, tricolumnar	1
S100J	Cls # cerv vert, spondylolysis	1
S100K	Cls # cerv vert, spinous prcss	1
S100M	Cls # cerv vert, post arch	1
S1008	Cls # atlas-isol arch/art prcs	1
S412z	Closed traumatic subluxation shoulder NOS	1
S496z	Closed traumatic disloctn NOS	1
S4100	Closed traumatic dislocation shoulder joint, unspecified	1
S463	Closed traumatic dislocation of patello-femoral joint	1
S112z	Closed thoracic#+cord lesn.NOS	1
S112	Closed thoracic #+cord lesion	1
S49Cz	Closed subluxation spine NOS	1
S49A0	Closed subluxation lumbar spine	1
S4988	Closed subluxation C7/T1	1
S4987	Closed subluxation C6/C7	1
S4986	Closed subluxation C5/C6	1
S4985	Closed subluxation C4/C5	1
S4984	Closed subluxation C3/C4	1
S4983	Closed subluxation C2/C3	1
S49C0	Closed sublux spine, unsp	1
S49C	Closed sublux other vertebra	1
S026	Closed orbital blow-out fracture	1
S114	Closed lumbar # + cord lesion	1
S102	Closed fracture thoracic vertebra	1
S2104	Closed fracture scapula, blade	1
S2105	Closed fracture scapula spine	1
S2106	Closed fracture scapula neck	1

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Read code	Description	Number of studies
S2103	Closed fracture scapula glenoid	1
S2101	Closed fracture scapula acromion	1
S3204	Closed fracture patella, comminuted (stellate)	1
S320	Closed fracture of the patella	1
S1250	Closed fracture larynx	1
S2002	Closed fracture clavicle shaft	1
S1002	Closed fracture axis	1
S1001	Closed fracture atlas	1
S4940	Closed dislocation spine unsp.	1
S494z	Closed dislocation spine NOS	1
S490	Closed dislocation cervical spine	1
S4908	Closed dislocation C7/T1	1
S4907	Closed dislocation C6/C7	1
S4906	Closed dislocation C5/C6	1
S4905	Closed dislocation C4/C5	1
S4904	Closed dislocation C3/C4	1
S4903	Closed dislocation C2/C3	1
S494	Closed disloc.other vertebra	1
S490x	Closed disloc.mult.cerv.vert.	1
S490z	Closed disloc.cervic.vert.NOS	1
S4900	Closed disloc.cerv.spine unsp.	1
S4960	Closed disloc sternoclavic. jt	1
S4104	Closed disloc acromioclavic.jt	1
S110z	Closed cervical#+cord lesn.NOS	1
S110	Closed cervical#+cord lesion	1
S1253	Closed #trachea	1
S1252	Closed #thyroid cartilage	1
S11x	Closed #spine+cord lesn.unsp.	1
S2100	Closed #scapula-unspecified	1
S210z	Closed #scapula NOS	1
S125z	Closed #larynx/trachea NOS	1
S1251	Closed #hyoid bone	1
S2000	Closed #clavicle unspecified	1
S200z	Closed #clavicle NOS	1
S3z0	Closed #bones unspecified	1
S4F2	Closed #-sublux, knee joint	1
S4A20	Closed #-sublux shoulder joint	1
S4A2	Closed #-sublux shoulder	1
S4A21	Closed #-sublux acrom-clav jt	1
S4A00	Closed #-dslc shoulder joint	1
S4A0	Closed #-dslc shoulder	1
S4F0	Closed #-dslc knee joint	1
S4A01	Closed #-dslc acrom-clav joint	1
S10x	Closed # spine unspecif	1
S210	Closed # scapula	1
S3201	Closed # patella,proximal pole	1
S3203	Closed # patella, vertical	1
S3200	Closed # patella transverse	1
S3202	Closed # patella distal pole	1
S200	Closed # clavicle	1
S100	Closed # cervical spine	1
N063000	Climacteric arthr.-site unsp.	1
N0630	Climacteric arthr.-site unsp.	1

Read code	Description	Number of studies
N0631	Climacteric arthr.-shoulder	1
N0638	Climacteric arthr.-other spec.	1
N063800	Climacteric arthr.-other spec.	1
N0639	Climacteric arthr.-multip.site	1
N063900	Climacteric arthr.-multip.site	1
N063z	Climacteric arthr.-NOS	1
N063z00	Climacteric arthr.-NOS	1
N0991	Clicking sternoclavic joint	1
N0990	Clicking shoulder	1
N099C	Clicking knee	1
N099	Clicking joint	1
N0992	Clicking acromioclavicular joint	1
N33A1	Clavicle pain	1
S490A	Cl spnl dslc+comp cerv crd lsn	1
S4909	Cl spnl dslc+cerv crd lsn,unsp	1
S49A2	Cl spn sublx+thrc crd lsn,unsp	1
S49A6	Cl spn sublx+post thrc crd lsn	1
S49AB	Cl spn sublx+post lmb crd lsn	1
S49A7	Cl spn sublx+lmb crd lsn,unsp	1
S49A3	Cl spn sublx+comp thrc crd lsn	1
S49A8	Cl spn sublx+comp lmb crd lsn	1
S498A	Cl spn sublx+comp cerv crd lsn	1
S498C	Cl spn sublx+cntrl crv crd lsn	1
S4989	Cl spn sublx+cerv crd lsn,unsp	1
S49A5	Cl spn sublx+cent thrc crd lsn	1
S49AA	Cl spn sublx+cent lmb crd lsn	1
S49AC	Cl spn sublx+cauda equina lsn	1
S49A4	Cl spn sublx+ant thrc crd lsn	1
S49A9	Cl spn sublx+ant lmb crd lsn	1
S498D	Cl spn sublux+post crv crd lsn	1
S498B	Cl spn sublux+ant cerv crd lsn	1
S490C	Cl spn dslc+cntrl cerv crd lsn	1
S4927	Cl spn dsl+lmb crd lsn unsp	1
S1124	Cl spn #+pst thor crd lsn,T1-6	1
S1123	Cl spn #+cnt thor crd lsn,T1-6	1
S1122	Cl spn #+ant thor crd lsn,T1-6	1
S1120	Cl sp #+unsp thor crd lsn,T1-6	1
S1126	Cl sp #+unsp thor cd lsn,T7-12	1
S112A	Cl sp #+pst thor crd lsn,T7-12	1
S1129	Cl sp #+cnt thor crd lsn,T7-12	1
S1121	Cl sp #+cml thor crd lsn,T1-6	1
S1127	Cl sp #+cml thor crd lsn,T7-12	1
S1128	Cl sp #+ant thor crd lsn,T7-12	1
S1500	Cl multi fractur of thor spine	1
SR160	Cl fract/th wth lw bck+plv+lmb	1
S112B	Cl # T7-12incomp cord lsn NOS	1
S1125	Cl # T1-6 incmpl cord lesn NOS	1
N301B	Chronic osteomyelitis-th spine	1
N301C	Chronic osteomyelitis-lu spine	1
N301A	Chronic osteomyelitis-Cx spine	1
N301	Chronic osteomyelitis	1
C052*	Chronic lymphocytic thyroiditis (Hashimotos's disease)	1

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Read code	Description	Number of studies
16C9	Chronic low back pain	1
N090X	Chronic joint effusion	1
N3682	Chronic instability of knee	1
OX7289CB	Chronic Backache /ox	1
N3010	Chron.osteomyelitis-site unsp.	1
N3011	Chron.osteomyelitis-shoulder	1
N3018	Chron.osteomyelitis-other spec	1
N3019	Chron.osteomyelitis-mult.site	1
N301z	Chron.osteomyelitis NOS	1
N301L	Chron multifocal osteomyelitis	1
N301M	Chr osteomyel + draining sinus	1
N074	Chondromalacia patellae	1
N33z2	Chondromalacia NOS	1
N33zB	Chondrolysis	1
N022	Chondrocalcinosis unspecified	1
N022z	Chondrocalcinosis NOS	1
N02	Chondrocalcinosis	1
N0220	Chondrocalc.unsp.-site unspec.	1
N0221	Chondrocalc.unsp.-shoulder reg	1
N022y	Chondrocalc.unsp.-other spec.	1
N022x	Chondrocalc.unsp.-multipl.site	1
N020z	Chondrocalc.dicalc.phos.NOS	1
N021	Chondrocalc.-pyrophosph.cryst.	1
N021z	Chondrocalc.-pyrophosph.NOS	1
N020	Chondrocalc.-dicalc.phos.cryst	1
N0210	Chondroc.-pyrophos.-site unsp.	1
N0211	Chondroc.-pyrophos.-shoulder	1
N021y	Chondroc.-pyrophos.-other spec	1
N021x	Chondroc.-pyrophos.-mult.sites	1
N0216	Chondroc.-pyrophos.-knee	1
N0200	Chondroc.-dical.ph.-site unsp.	1
N0201	Chondroc.-dical.ph.-shoulder	1
N020y	Chondroc.-dical.ph.-other spec	1
N020x	Chondroc.-dical.ph.-mult.sites	1
N33zJ	Chondritis	1
182C	Chest wall pain	1
N035	Charcots arthropathy	1
N132	Cervicocranial syndrome	1
N133	Cervicobrachial syndrome	1
N148A	Cervico-thoracic instability	1
N1483	Cervico-thoracic ankylosis	1
N131	Cervicalgia	1
N138	Cervicalgia	1
N13y0	Cervical syndrome NEC	1
N119	Cervical spondylosis with radiculopathy	1
N11E	Cervical spondylosis	1
N110-1	Cervical spondylosis	1
N110	Cervical spond.- no myelopathy	1
N111	Cervical spond.+ myelopathy	1
N1489	Cervical spine instability	1
N1482	Cervical spine ankylosis	1
N130	Cervical spinal stenosis	1
N13y3	Cervical root syndrome	1

Read code	Description	Number of studies
N12A1	Cervical postlaminectomy syndr	1
N137	Cervical post.long.lig.ossific	1
SJ306	Cervical nerve root injury - C7	1
SJ305	Cervical nerve root injury - C6	1
SJ304	Cervical nerve root injury - C5	1
SJ303	Cervical nerve root injury - C4	1
SJ30	Cervical nerve root injury	1
N1113	Cervical myelopathy	1
N13	Cervical disorder NOS	1
N12z4	Cervical discitis	1
N120	Cervical disc displ.-no myelop	1
N1291	Cervical disc disord.+myelop.	1
N125	Cervical disc degeneration	1
S5701	Cervical ant.longit.lig.sprain	1
N13z	Cervical and neck disorders NOS	1
N12zH	Cerv disc disord + radiculoph	1
N21z0	Capsulitis NOS	1
N04y0	Caplan's syndrome	1
N3202	Calve's vertebral osteochondr.	1
N2454	Calf pain	1
N2226	Calcium deposit in bursa	1
N2111	Calcifying tendinitis shoulder	1
N12zB	Calcification of thoracic disc	1
N22y1	Calcification of tendon NOS	1
N12zF	Calcification of lumbar disc	1
N23y1	Calcification of ligament	1
N12z7	Calcification of cervical disc	1
N23y9	Calcific tendinitis	1
N2177	Calcaneal spur	1
N2315	Calc/ossif musc ass with burns	1
N0011	CREST syndrome	1
182Z.00	CHEST PAIN NOS	1
182..00	CHEST PAIN	1
S1007	C7 closed # - no cord lesion	1
S1006	C6 closed # - no cord lesion	1
1D12.00	C/O: stiffness	1
1D12	C/O: stiffness	1
16C7	C/O - upper back ache	1
1A53	C/O - lumbar pain	1
16C5	C/O - low back pain	1
N2118	Bursitis of shoulder	1
N223	Bursitis NOS	1
N2160-99	Bursitis - knee	1
N2160	Bursitis - knee	1
N221	Bunion	1
16BZ	Bruising symptom NOS	1
16B	Bruising symptom	1
16B2	Bruises easily	1
SE4z	Bruise NOS	1
SE41	Bruise - knee/lower leg	1
SE41-99	Bruise - knee/lower leg	1
SE23	Bruise - back	1
N11y0	Brucella spondylitis	1



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Read code	Description	Number of studies
N3325	Brown tumour-hyperparathyroid	1
N301G	Brodie's abscess-thorac spine	1
N301H	Brodie's abscess-lumbar spine	1
N301F	Brodie's abscess-cervic spine	1
N302b	Brodie's abscess	1
N0503	Bouchard's nodes with arthropathy	1
N33z	Bone/cartilage disorder NOS	1
N33z0	Bone/cartilage dis.-unspecif.	1
N21z3	Bone spur NOS	1
N33A	Bone pain	1
N33zz	Bone or cartilage disorders NOS	1
N31z	Bone involvement in dis.EC NOS	1
N30z0	Bone infectn.NOS-site unspecif	1
N30z1	Bone infectn.NOS-shoulder	1
N30z9	Bone infectn.NOS-multiple site	1
N30z	Bone infection NOS	1
N30zz	Bone infection NOS	1
N3320	Bone cyst (localised),unspecif	1
N3y0	Biomec lesn,not elsewh clas	1
N2112	Bicipital tenosynovitis	1
N2134	Biceps tendinitis	1
N0120	Behcet's syndrome arthropathy	1
N2222	Beat knee	1
N0870	Bankart lesion	1
N224A	Baker's cyst	1
N224A-1	Baker's cyst	1
16	Baker's cyst	1
16C3	Backache with radiation	1
16CZ	Backache symptom NOS	1
16C	Backache symptom	1
16C2	Backache	1
N149	Back stiffness	1
S57	Back sprain excl. lumbosacral	1
16...	Back sprain NOS	1
S57z	Back sprain NOS	1
16C4	Back pain worse on sneezing	1
16C6	Back pain without radiat NOS	1
N145-2	Back pain unspecified	1
N143	Back pain - lower	1
UNMAPPC6	Back injury	1
N14	Back disorders - other	1
N14z	Back disorder/symptom NOS	1
OX8479	Back Strain/Sprain /ox	1
OX7289A	Back Pain With Sciatica /ox	1
N2455	Axillary pain	1
N3347	Avascular necrosis-other bone	1
N3345	Avascular necrosis, capitellum	1
N334	Avascular necrosis - bone	1
N334z	Avascular bone necrosis NOS	1
N3340	Avasc.bone necrosis site unsp.	1
N3383	Atrophic non-union of fracture	1
S5703	Atlanto-occipital joint sprain	1
N1487	Atlanto-occipital instability	1

Read code	Description	Number of studies
N1480	Atlanto-occipital ankylosis	1
S5702	Atlanto-axial joint sprain	1
N1488	Atlanto-axial instability	1
N1481	Atlanto-axial ankylosis	1
14OD	At risk of osteoporotic fracture	1
14O9	At risk of osteoporosis	1
N080z	Articular cartilage disord.NOS	1
N080	Articular cart.disor.excl.knee	1
N0800	Artic.cart.dis.-site unspecif.	1
N0801	Artic.cart.dis.-shoulder	1
N0807	Artic.cart.dis.-other specif.	1
N0808	Artic.cart.dis.-multiple sites	1
N080B	Artic cart disord oth j-should	1
N0539	Arthrosis of first carpometacarpal joint, unspecified	1
OX7131C	Arthrosis Spine /ox	1
N0312	Arthropathy-Whipple's disease	1
N034	Arthropathy+respiratory disord	1
N015	Arthropathy+other viral diseas	1
N01y	Arthropathy+other inf./parasit	1
N03y	Arthropathy+other condition EC	1
N015z	Arthropathy+oth.viral dis. NOS	1
N014	Arthropathy+oth.bacterial dis.	1
N017z	Arthropathy+helminthiasis NOS	1
N032	Arthropathy+haematological dis	1
N031	Arthropathy+gastrointestin.dis	1
N030	Arthropathy+endocr./metab.dis	1
N033	Arthropathy+dermatological dis	1
N01	Arthropathy with infections	1
N0310	Arthropathy in ulcerative colitis	1
N069	Arthropathy in neoplastic dis	1
N0302	Arthropathy in amyloidosis	1
N0148	Arthropathy in Whipple's disea	1
N0311	Arthropathy in Crohn's disease	1
N0320	Arthropathy due to haemophilia	1
N06z1	Arthropathy NOS-shoulder	1
N06z4	Arthropathy NOS-hand	1
N06z3	Arthropathy NOS-forearm	1
N06z7	Arthropathy NOS, of the ankle and foot	1
N017	Arthropathy + parasite infectn	1
N016z	Arthropathy + mycoses NOS	1
N016	Arthropathy + mycoses	1
N03z	Arthropathy + disorders EC NOS	1
N03	Arthropathy + disorders EC	1
N0y	Arthropathies OS	1
N0313	Arthropath follow intes bypass	1
N036	Arthrop-hypersensitivity reacn	1
N012	Arthrop+Behcet's syndrome	1
N0121	Arthrop+Behcet's synd-shoulder	1
N012y	Arthrop+Behcet's synd-oth spec	1
N012x	Arthrop+Behcet's synd-multiple	1
N012z	Arthrop+Behcet's synd NOS	1
N2330	Arthrogryposis	1
N0	Arthritis/arthrosis	1

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Read code	Description	Number of studies
N11	Arthritis of spine	1
N010A	Arthritis in Lyme disease	1
OX6960T	Arthritis Psoriatic /ox	1
N06z-1	Arthritis	1
N094F	Arthralgia of wrist	1
N094N	Arthralgia of tibio-fibular joint	1
N094A	Arthralgia of shoulder	1
N094M	Arthralgia of knee	1
N094D	Arthralgia of elbow	1
N094P	Arthralgia of ankle	1
N094H	Arthralgia of PIP joint of finger	1
N094G	Arthralgia of MCP joint	1
N094T	Arthralgia of 1st MTP joint	1
N0942	Arthralgia - upper arm	1
N094B	Arthralgia - sternoclav joint	1
N0941	Arthralgia - shoulder	1
N0945	Arthralgia - pelvic/thigh	1
N0944	Arthralgia - hand	1
N0943	Arthralgia - forearm	1
N0947	Arthralgia - ankle/foot	1
N094C	Arthralgia - acromioclav joint	1
EGTON1	Arthralgia	1
N0150	Arthr.+oth.viral dis-site unsp	1
N0151	Arthr.+oth.viral dis-shoulder	1
N0140	Arthr.+oth.bact.dis-site unsp.	1
N0141	Arthr.+oth.bact.dis-shoulder	1
N014y	Arthr.+oth.bact.dis-other spec	1
N014x	Arthr.+oth.bact.dis-mult.sites	1
N014z	Arthr.+oth.bact. disease NOS	1
N0160	Arthr.+mycoses-site unspecif.	1
N0161	Arthr.+mycoses-shoulder region	1
N016y	Arthr.+mycoses-other specified	1
N016x	Arthr.+mycoses-multiple sites	1
N0170	Arthr.+helminth.-site unspec.	1
N0171	Arthr.+helminth.-shoulder regn	1
N017y	Arthr.+helminth.-other specif.	1
N017x	Arthr.+helminth.-multiple site	1
N015y	Arthr+oth.viral dis-other spec	1
N015x	Arthr+oth.viral dis-mult.sites	1
N03x0	Arthr assoc oth dis-shoulder	1
N03xB	Arthr assoc oth dis-knee	1
N03x1	Arthr ass oth dis-sternoclav j	1
N03x2	Arthr ass oth dis-acromioclav j	1
N01yz	Arth+other infect./parasit.NOS	1
N01y0	Arth+oth.inf/para-site unspec.	1
N01y1	Arth+oth.inf/para-shoulder reg	1
N01yy	Arth+oth.inf/para-other specif	1
N01yx	Arth+oth.inf/para-multipl.site	1
N245-2	Arm pain	1
N32z0	Apophysitis NOS	1
N006	Antiphospholipid syndrome	1
1M12	Anterior knee pain	1
N094W	Anterior knee pain	1

Read code	Description	Number of studies
S4101	Anterior dislocation of shoulder	1
N12z9	Annular tear of thoracic disc	1
N12zD	Annular tear of lumbar disc	1
N12z5	Annular tear of cervical disc	1
N148	Ankylosis/instab Cx,Th,Lu spin	1
N085B	Ankylosis other joint-shoulder	1
N085P	Ankylosis of the knee joint	1
N085A	Ankylosis of shoulder joint	1
N0859	Ankylosis of multiple joints	1
N085z	Ankylosis of joint NOS	1
N085	Ankylosis of joint	1
N117	Ankylosing verteb.hyperostosis	1
N100*	Ankylosing spondylitis	1
N100	Ankylosing spondylitis	1
N245-1	Ankle pain	1
1M13	Ankle pain	1
N05z7-1	Ankle osteoarthritis NOS	1
N3384	Angular mal-union of fracture	1
N3322	Aneurysmal bone cyst	1
N2320	Amyotrophia NOS	1
N0620	Allergic arthritis-site unsp.	1
N0621	Allergic arthritis-shoulder	1
N0628	Allergic arthritis-other spec.	1
N0629	Allergic arthritis-multip.site	1
N062z	Allergic arthritis-NOS	1
N062	Allergic arthritis	1
N337z	Algoneurodystrophy NOS	1
N3373	Algodystrophy of knee	1
N04y2	Adult-onset Still's disease	1
N32y0	Adult osteochondrosis of spine	1
N005	Adult Still's Disease	1
N370	Adolescent postural kyphosis	1
N3737	Adolescent idiopath scoliosis	1
N210	Adhesive capsulitis - shoulde	1
N2156	Adductor tendinitis	1
N084D	Adduction contracture-shoulder	1
N0431	Acute polyartic.juvenile R.A.	1
N300B	Acute osteomyelitis-thor spine	1
N3000	Acute osteomyelitis-site unsp.	1
N3001	Acute osteomyelitis-shoulder	1
N300G	Acute osteomyelitis-scapula	1
N300R	Acute osteomyelitis-patella	1
N3008	Acute osteomyelitis-other spec	1
N3009	Acute osteomyelitis-mult.site	1
N300C	Acute osteomyelitis-lumb spine	1
N300F	Acute osteomyelitis-clavicle	1
N300A	Acute osteomyelitis-cerv spine	1
N300z	Acute osteomyelitis NOS	1
N300	Acute osteomyelitis	1
S460	Acute meniscal tear medial	1
S461	Acute meniscal tear lateral	1
N090Y	Acute joint effusion	1
N300Z	Acute haematogen osteomyelitis	1

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Read code	Description	Number of studies
N145	Acute back pain - unspecified	1
N145-1	Acute back pain - unspecified	1
N141	Acute back pain - thoracic	1
N141-1	Acute back pain - thoracic	1
N142	Acute back pain - lumbar	1
N142-3	Acute back pain - lumbar	1
N12	Acute back pain - disc	1
N143-1	Acute back pain + sciatica	1
N06zA	Acute arthritis	1
EGTONAC1	Acromio-Clavicular Dislocation	1
N384	Acquired spondylolisthesis	1
N3720	Acquired postural lordosis	1
N3710	Acquired postural kyphosis	1
N372z	Acquired lordosis NOS	1
N372	Acquired lordosis	1
N371z	Acquired kyphosis NOS	1
N371	Acquired kyphosis	1
N366	Acquired knee deformity NOS	1
N37z0	Acquired hunchback	1
N3641	Acquired genu varum	1
N364z	Acquired genu valgum/varum NOS	1
N364	Acquired genu valgum/varum	1
N3640	Acquired genu valgum	1
N385	Acquired deformity spine NOS	1
N382	Acquired deformity of neck	1
N38z	Acquired deformity NOS	1
N38y0	Acquired clavicle deformity	1
1DCC.00	Aching muscles	1
1DCC	Aching muscles	1
N220H	Achilles tenosynovitis	1
N2174	Achilles tendinitis	1
N094-1	Ache in joint	1
S4604	Ac mnscl tr,med,periph,dtchmt	1
S4614	Ac mnscl tr,lat,periph,dtchmt	1
S4605	Ac mnscl tear,med,horiz clvge	1
S4615	Ac mnscl tear,lat,horiz clvge	1
S4602	Ac menscl tear,med,bckt hndle	1
S4612	Ac menscl tear,lat,bckt hndle	1
S4603	Ac meniscal tear,med,radial	1
S4601	Ac meniscal tear,med,post horn	1
S4600	Ac meniscal tear,med,ant horn	1
S4613	Ac meniscal tear,lat,radial	1
S4611	Ac meniscal tear,lat,post horn	1
S4610	Ac meniscal tear,lat,ant horn	1
N22y2	Abscess of tendon	1
N22yE	Abscess of bursa-shoulder	1
N22yJ	Abscess of bursa-knee	1
N22y3	Abscess of bursa	1
SD	Abrasions	1
N084C	Abduction contracture-shoulder	1
1969.00	Abdominal pain	1
EGTON251	? Frozen Right Shoulder	1
N11C1	2 lev lumbsac spond+radiculop	1

Read code	Description	Number of studies
N11C0	1 lev lumbsac spond+radiculop	1
HNG0160	(hn) Sports Injury	1
HNG0157	(hn) Spinal Injury	1
HNG0162	(hn) Soft tissue injuries	1
HNG0163	(hn) Rhematic problems	1
S11	#Vertebra + cord lesion	1
S10z	#Spine - no cord lesion - NOS	1
S10	#Spine - no cord lesion	1
S11z	#Spine + cord lesion NOS	1
S21z	#Scapula NOS	1
S21	#Scapula	1
S32z	#Patella NOS	1
S104	#Lumbar spine - no cord lesion	1
S32	#Knee-cap	1
S20z	#Clavicle NOS	1
S20	#Clavicle	1
S3zz	#Bones NOS	1
S4F	#-dslc/subluxation knee	1
S4A	#-dslc or subluxation shoulder	1

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3 **Appendix 17. List of Read codes used in the studies of male sexual dysfunction.**  
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6 Read code	Description	Number of studies
7 E227311	Erectile dysfunction	3
8 K27y100	Impotence of organic origin	2
9 E227300	Impotence	2
10 Eu52213	[X]Psychogenic impotence	1
11 Eu52212	[X]Male erectile disorder	1
12 E227000	Unspecified psychosexual dysfunction	1
13 7C25E00	Treatment of erectile dysfunction NEC	1
14 7A6G000	Revascularisation for impotence	1
15 8IE8.00	Referral to erectile dysfunction clinic declined	1
16 8HTj.00	Referral to erectile dysfunction clinic	1
17 E227z00	Psychosexual dysfunction NOS	1
18 E227.00	Psychosexual dysfunction	1
19 E227700	Psychogenic dyspareunia	1
20 Z9E9.00	Provision of device for impotence	1
21 E227600	Premature ejaculation	1
22 7C25F00	Operations on penis for erectile dysfunction NEC	1
23 7A6G500	Ligation of penile veins for impotence	1
24 E227.11	Lack of libido	1
25 E227100	Inhibited sexual desire	1
26 E227500	Inhibited male orgasm	1
27 E227z11	Fear of ejaculation	1
28 K27y700	Erectile dysfunction due to diabetes mellitus	1
29 66Au.00	Diabetic erectile dysfunction review	1
30 66Av.00	Diabetic assessment of erectile dysfunction	1
31 1D1B.00	C/O erectile dysfunction	1
32 ZG43600	Advice on technique for impotence	1
33 67IA.00	Advice about impotence	1

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3 **Appendix 18. List of Read codes used in the studies of sleep disorder.**  
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Read code	Description	Number of studies
1B1B.00	Cannot sleep - insomnia	1
1B1B.11	C/O - insomnia	1
1B1B100	Middle insomnia	1
1B1B200	Late insomnia	1
1B1Q.00	Poor sleep pattern	1
E274.00	Non-organic sleep disorders	1
E274.11	Hypersomnia of non-organic origin	1
E274.12	Insomnia due to nonorganic sleep disorder	1
E274000	Unspecified non-organic sleep disorder	1
E274100	Transient insomnia	1
E274111	Insomnia NOS	1
E274200	Persistent insomnia	1
E274300	Transient hypersomnia	1
E274311	Hypersomnia NOS	1
E274400	Persistent hypersomnia	1
E274500	Jet lag syndrome	1
E274600	Shifting sleep-work schedule	1
E274700	Somnambulism - sleep walking	1
E274800	Night terrors	1
E274900	Nightmares	1
E274A00	Sleep drunkenness	1
E274B00	Repeated rapid eye movement sleep interruptions	1
E274C00	Other sleep stage or arousal dysfunction	1
E274D00	Repetitive intrusions of sleep	1
E274D11	Restless sleep	1
E274E00	'Short-sleeper'	1
E274F00	Inversion of sleep rhythm	1
E274y00	Other non-organic sleep disorder	1
E274y11	Dreams	1
E274z00	Non-organic sleep disorder NOS	1
Eu51.00	[X]Nonorganic sleep disorders	1
Eu51000	[X]Nonorganic insomnia	1
Eu51100	[X]Nonorganic hypersomnia	1
Eu51200	[X]Nonorganic disorder of the sleep-wake schedule	1
Fy00.00	Disorders of initiating and maintaining sleep	1
Fy01.00	Disorders of excessive somnolence	1
Fy02.00	Disorders of the sleep-wake schedule	1
R005.00	[D]Sleep disturbances	1
R005.11	[D]Insomnia - symptom	1
R005.12	[D]Sleep rhythm problems	1
R005000	[D]Sleep disturbance, unspecified	1
R005100	[D]Insomnia with sleep apnoea	1
R005200	[D]Insomnia NOS	1
R005300	[D]Hypersomnia with sleep apnoea	1
R005311	[D]Sleep apnoea syndrome	1
R005312	[D]Syndrome sleep apnoea	1
R005400	[D]Hypersomnia NOS	1
R005500	[D]Sleep rhythm inversion	1
R005600	[D]Sleep rhythm irregular	1
R005700	[D]Sleep-wake rhythm non-24-hour cycle	1
R005800	[D]Sleep dysfunction with sleep stage disturbance	1



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Read code	Description	Number of studies
R005900	[D]Sleep dysfunction with arousal disturbance	1
R005z00	[D]Sleep dysfunction NOS	1

For peer review only

**Appendix 19. List of Read codes used in the studies of fatal and non-fatal self-harm.**

Read code	Description	Number of studies
TK1y.00	Suicide and selfinflicted poisoning by other utility gas	8
TK21.00	Suicide and selfinflicted poisoning by other carbon monoxide	8
TK01000	Suicide and self inflicted injury by Amylobarbitone	8
TK03.00	Suicide + selfinflicted poisoning tranquilliser/psychotropic	8
TK0z.00	Suicide + selfinflicted poisoning by solid/liquid subst NOS	8
TK04.00	Suicide + selfinflicted poisoning by other drugs/medicines	8
TK02.00	Suicide + selfinflicted poisoning by oth sedatives/hypnotics	8
TK20.00	Suicide + selfinflicted poisoning by motor veh exhaust gas	8
TK05.00	Suicide + selfinflicted poisoning by drug or medicine NOS	8
TK07.00	Suicide + selfinflicted poisoning by corrosive/caustic subst	8
TK01.00	Suicide + selfinflicted poisoning by barbiturates	8
TK00.00	Suicide + selfinflicted poisoning by analgesic/antipyretic	8
TK06.00	Suicide + selfinflicted poisoning by agricultural chemical	8
U200.00	[X]Intent self poison/exposure to nonopioid analgesic	7
U20..11	[X]Deliberate drug overdose / other poisoning	7
TK70.00	Suicide+selfinflicted injury-jump from residential premises	7
TK71.00	Suicide+selfinflicted injury-jump from oth manmade structure	7
TK72.00	Suicide+selfinflicted injury-jump from natural sites	7
TK7z.00	Suicide+selfinflicted injury-jump from high place NOS	7
TK61.00	Suicide and selfinflicted injury by stabbing	7
TK51.00	Suicide and selfinflicted injury by shotgun	7
TKx2.00	Suicide and selfinflicted injury by scald	7
TKxy.00	Suicide and selfinflicted injury by other specified means	7
TK54.00	Suicide and selfinflicted injury by other firearm	7
TK52.00	Suicide and selfinflicted injury by hunting rifle	7
TK30.00	Suicide and selfinflicted injury by hanging	7
TK6z.00	Suicide and selfinflicted injury by cutting and stabbing NOS	7
TK60.00	Suicide and selfinflicted injury by cutting	7
TKx5.00	Suicide and selfinflicted injury by crashing motor vehicle	7
TKx1.00	Suicide and selfinflicted injury by burns or fire	7
TK...00	Suicide and selfinflicted injury	7
TK01400	Suicide and self inflicted injury by Phenobarbitone	7
TK01100	Suicide and self inflicted injury by Barbitone	7
TK...14	Suicide and self harm	7
TK0..00	Suicide + selfinflicted poisoning by solid/liquid substances	7
TK2..00	Suicide + selfinflicted poisoning by other gases and vapours	7
TK11.00	Suicide + selfinflicted poisoning by liquified petrol gas	7
TK2z.00	Suicide + selfinflicted poisoning by gases and vapours NOS	7
TK10.00	Suicide + selfinflicted poisoning by gas via pipeline	7
TK1z.00	Suicide + selfinflicted poisoning by domestic gases NOS	7
TKx0000	Suicide + selfinflicted injury-jumping before moving object	7
TK31.00	Suicide + selfinflicted injury by suffocation by plastic bag	7
TK3y.00	Suicide + selfinflicted inj oth mean hang/strangle/suffocate	7
TK3z.00	Suicide + selfinflicted inj by hang/strangle/suffocate NOS	7
TK...13	Poisoning - self-inflicted	7
TK...17	Para-suicide	7
TK...11	Cause of overdose - deliberate	7
TK...15	Attempted suicide	7
U2...13	[X]Suicide	6
U20C.11	[X]Self poisoning with weedkiller	6
U20C.12	[X]Self poisoning with paraquat	6

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Read code	Description	Number of studies
U20A.11	[X]Self poisoning from glue solvent	6
U20B.11	[X]Self carbon monoxide poisoning	6
U2...15	[X]Para-suicide	6
U20..00	[X]Intentional self poisoning/exposure to noxious substances	6
U20A.00	[X]Intentional self poison organ solvent,halogen hydrocarb	6
U20y.00	[X]Intent self poison/exposure to unspecif chemical	6
U202.00	[X]Intent self poison/exposure to sedative hypnotic	6
U204.00	[X]Intent self poison/exposure to psychotropic drug	6
U20C.00	[X]Intent self poison/exposure to pesticide	6
U20B.00	[X]Intent self poison/exposure to other gas/vapour	6
U207.00	[X]Intent self poison/exposure to oth autonomic drug	6
U206.00	[X]Intent self poison/exposure to hallucinogen	6
U201.00	[X]Intent self poison/exposure to antiepileptic	6
U20yz00	[X]Intent self poison unspecif chemical unspecif place	6
U202z00	[X]Intent self poison sedative hypnotic unspecif place	6
U204z00	[X]Intent self poison psychotropic drug unspecif place	6
U204100	[X]Intent self poison psychotropic drug at res institut	6
U20Bz00	[X]Intent self poison other gas/vapour unspecif place	6
U208z00	[X]Intent self poison oth/unsp drug/medic unspecif place	6
U207z00	[X]Intent self poison oth autonomic drug unspecif place	6
U200z00	[X]Intent self poison nonopioid analgesic unspecif place	6
U200100	[X]Intent self poison nonopioid analgesic at res institut	6
U205z00	[X]Intent self poison narcotic drug unspecif place	6
U201z00	[X]Intent self poison antiepileptic unspecif place	6
U206400	[X]Intent self pois hallucinogen in street/highway	6
U20y000	[X]Int self poison/exposure to unspecif chemical at home	6
U202000	[X]Int self poison/exposure to sedative hypnotic at home	6
U204000	[X]Int self poison/exposure to psychotropic drug at home	6
U20C000	[X]Int self poison/exposure to pesticide at home	6
U208.00	[X]Int self poison/exposure to other/unspec drug/medicament	6
U20B000	[X]Int self poison/exposure to other gas/vapour at home	6
U207000	[X]Int self poison/exposure to oth autonomic drug at home	6
U200000	[X]Int self poison/exposure to nonopioid analgesic at home	6
U205000	[X]Int self poison/exposure to narcotic drug at home	6
U201000	[X]Int self poison/exposure to antiepileptic at home	6
U20y200	[X]Int self poison unspecif chemical school/pub admin area	6
U202y00	[X]Int self poison sedative hypnotic other spec place	6
U204y00	[X]Int self poison psychotropic drug other spec place	6
U20Cy00	[X]Int self poison pesticide other spec place	6
U20B200	[X]Int self poison other gas/vapour school/pub admin area	6
U20By00	[X]Int self poison other gas/vapour other spec place	6
U208y00	[X]Int self poison oth/unsp drug/medic other spec place	6
U20A400	[X]Int self poison org solvent,halogen hydrocarb,in highway	6
U200y00	[X]Int self poison nonopioid analgesic other spec place	6
U205y00	[X]Int self poison narcotic drug other spec place	6
U2...14	[X]Attempted suicide	6
TKx7.00	Suicide and selfinflicted injury caustic subst, excl poison	6
TKxz.00	Suicide and selfinflicted injury by other means NOS	6
TKx..00	Suicide and selfinflicted injury by other means	6
TK7..00	Suicide and selfinflicted injury by jumping from high place	6
TKx3.00	Suicide and selfinflicted injury by extremes of cold	6
TKx4.00	Suicide and selfinflicted injury by electrocution	6
TK4..00	Suicide and selfinflicted injury by drowning	6

Read code	Description	Number of studies
TK6..00	Suicide and selfinflicted injury by cutting and stabbing	6
TKz..00	Suicide and selfinflicted injury NOS	6
TK1..00	Suicide + selfinflicted poisoning by gases in domestic use	6
TKx0.00	Suicide + selfinflicted injury-jump/lie before moving object	6
TK3..00	Suicide + selfinflicted injury by hang/strangulate/suffocate	6
U2y0.00	[X]Intentionl self harm by oth specif means occurrn at home	5
U2z0.00	[X]Intentional self harm by unspecif means occurrn at home	5
U290.00	[X]Intentional self harm by sharp object occurrence at home	5
U29z.00	[X]Intentional self harm by sharp object occ unspecif place	5
U2A0.00	[X]Intentional self harm by blunt object occurrence at home	5
U270.00	[X]Intention self harm by smoke fire/flames occurrn at home	5
U294.00	[X]Intention self harm by sharp object occ street/highway	5
U29y.00	[X]Intention self harm by sharp object occ oth specif place	5
U205.00	[X]Intent self poison/exposure to narcotic drug	5
U209.00	[X]Intent self poison/exposure to alcohol	5
U209z00	[X]Intent self poison alcohol unspecif place	5
U202400	[X]Intent self pois sedative hypnotic in street/highway	5
U208400	[X]Intent self pois oth/unsp drug/medic in street/highway	5
U20A000	[X]Intent self pois organ solvent,halogen hydrocarb, home	5
U200500	[X]Intent self pois nonopioid analgesic trade/service area	5
U250.00	[X]Intent self harm oth/unspecif firearm disch occ at home	5
U2D6.00	[X]Intent self harm crash motor vehic occ indust/constr area	5
U2zy.00	[X]Intent self harm by unspecif means occ oth specif place	5
U2zz.00	[X]Intent self harm by unspecif means occ at unspecif place	5
U2z2.00	[X]Intent self harm by unspec mean occ sch/ins/pub adm area	5
U27z.00	[X]Intent self harm by smoke fire/flames occ unspecif place	5
U274.00	[X]Intent self harm by smoke fire/flame occ street/highway	5
U291.00	[X]Intent self harm by sharp object occ resident instit'n	5
U2yz.00	[X]Intent self harm by oth specif means occ unspecif place	5
U2y1.00	[X]Intent self harm by oth specif means occ resid instit'n	5
U2B0.00	[X]Intent self harm by jumping from high place occ at home	5
U2B4.00	[X]Intent self harm by jump from high place occ street/h'way	5
U211.00	[X]Intent self harm by hangng strangult/suffoct resid instit	5
U21z.00	[X]Intent self harm by hangng strangul/suffoct unspecif plce	5
U21y.00	[X]Intent self harm by hangng strangul/suffoct oth spec plce	5
U210.00	[X]Intent self harm by hanging strangulat/suffocat occ home	5
U221.00	[X]Intent self harm by drowning/submersn occ resid instit'n	5
U22z.00	[X]Intent self harm by drown/submersn occ unspecified place	5
U22y.00	[X]Intent self harm by drown/submersn occ oth specif place	5
U2D0.00	[X]Intent self harm by crash of motor vehicl occurrn at home	5
U2D4.00	[X]Intent self harm by crash motor vehicl occ street/highway	5
U2A3.00	[X]Intent self harm by blunt object occ sports/athlet area	5
U2A1.00	[X]Intent self harm by blunt object occ resident instit'n	5
U242.00	[X]Int slf hrm rifl s'gun/lrg framm dis sch/ins/pub adm area	5
U208000	[X]Int self poison/exposure to oth/unsp drug/medicam home	5
U209y00	[X]Int self poison alcohol other spec place	5
U20Az00	[X]Int self pois org solv,halogen hydrocarb, unspec place	5
U241.00	[X]Int self harm rifl s'gun/lrg framm disch occ resid instit	5
U2C4.00	[X]Int self harm jump/lying befrr mov obje occ street/highway	5
U2C1.00	[X]Int self harm jump/lying befrr mov obje occ resid instit'n	5
U2Cy.00	[X]Int self harm jump/lying bef mov obje occ oth specif plce	5
U2Bz.00	[X]Int self harm by jump from high place occ unspecif place	5
U2By.00	[X]Int self harm by jump from high place occ oth specif plce	5

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Read code	Description	Number of studies
U2B6.00	[X]Int self harm by jump from high place indust/constr area	5
TK5z.00	Suicide and selfinflicted injury by firearms/explosives NOS	5
TK5..00	Suicide and selfinflicted injury by firearms and explosives	5
TKx6.00	Suicide and selfinflicted injury by crashing of aircraft	5
TK60111	Slashed wrists self inflicted	5
TK60100	Self inflicted lacerations to wrist	5
U202.13	[X]Overdose - temazepam	4
U202.11	[X]Overdose - sleeping tabs	4
U202.15	[X]Overdose - nitrazepam	4
U202.12	[X]Overdose - diazepam	4
U202.16	[X]Overdose - benzodiazepine	4
U202.17	[X]Overdose - barbiturate	4
U204.11	[X]Overdose - antidepressant	4
U202.18	[X]Overdose - amobarbital	4
U204.12	[X]Overdose - amitriptyline	4
U204.13	[X]Overdose - SSRI	4
U2z..00	[X]Intentional self harm by unspecified means	4
U27..00	[X]Intentional self harm by smoke, fire and flames	4
U29..00	[X]Intentional self harm by sharp object	4
U2y..00	[X]Intentional self harm by other specified means	4
U2B..00	[X]Intentional self harm by jumping from a high place	4
U26..00	[X]Intentional self harm by explosive material	4
U22..00	[X]Intentional self harm by drowning and submersion	4
U2D..00	[X]Intentional self harm by crashing of motor vehicle	4
U2A..00	[X]Intentional self harm by blunt object	4
U200400	[X]Intent self pois nonopioid analgesic in street/highway	4
U28z.00	[X]Intent self harm by steam hot vapour/obj occ unspec place	4
U280.00	[X]Intent self harm by steam hot vapour/hot obj occ at home	4
U24..00	[X]Intent self harm by rifle shotgun/larger firearm disch	4
U25..00	[X]Intent self harm by other/unspecified firearm discharge	4
U2C..00	[X]Intent self harm by jumping / lying before moving object	4
U21..00	[X]Intent self harm by hanging strangulation / suffocation	4
U212.00	[X]Inten slf harm hang strang/suffc sch oth ins/pub adm area	4
U209000	[X]Int self poison/exposure to alcohol at home	4
U41..00	[X]Hanging strangulation + suffocation undetermined intent	4
U4Bz.00	[X]Fall jump/push frm high plce undt intnt occ unspecif plce	4
U720.00	[X]Sequelae of intentional self-harm	3
U2...11	[X]Self inflicted injury	3
U44..00	[X]Rifle shotgun+larger firearm discharge undetermin intent	3
U40y.00	[X]Poisoning/exposure, ? intent, to unspecif chemical	3
U402.00	[X]Poisoning/exposure, ? intent, to sedative hypnotic	3
U404.00	[X]Poisoning/exposure, ? intent, to psychotropic drug	3
U40C.00	[X]Poisoning/exposure, ? intent, to pesticide	3
U40B.00	[X]Poisoning/exposure, ? intent, to other gas/vapour	3
U400.00	[X]Poisoning/exposure, ? intent, to nonopioid analgesic	3
U405.00	[X]Poisoning/exposure, ? intent, to narcotic drug	3
U409.00	[X]Poisoning/exposure, ? intent, to alcohol	3
U40..00	[X]Poisoning/expos to noxious substance,undetermined intent	3
U408.00	[X]Poison/exposure, ?intent, to other/unspec drug/medicament	3
U408000	[X]Poison/exposure ?intent, to oth/unsp drug/medicam home	3
U409000	[X]Poison/exposure ?intent, to alcohol at home	3
U40y600	[X]Poison/expos ?intent unspec chemic indust/construct area	3
U200.11	[X]Overdose - paracetamol	3

Read code	Description	Number of studies
U200.12	[X]Overdose - ibuprofen	3
U200.13	[X]Overdose - aspirin	3
U45..00	[X]Other+unspecified firearm discharge undetermined intent	3
U2...00	[X]Intentional self-harm	3
U28..00	[X]Intentional self harm by steam hot vapours / hot objects	3
U216.00	[X]Intent self harm by hang strangl/suffc indust/constr area	3
U220.00	[X]Intent self harm by drowning/submersion occurrn at home	3
U206000	[X]Int self poison/exposure to hallucinogen at home	3
U2...12	[X]Injury - self-inflicted	3
U410.00	[X]Hanging strangulat+suffocat undet intent occurrn at home	3
U4B..00	[X]Falling jumping/pushed from high place undeterm intent	3
U30..11	[X]Deliberate drug poisoning	3
ZX1R.00	Throwing self in front of vehicle	3
ZX1Q.00	Throwing self in front of train	3
TK53.00	Suicide and selfinflicted injury by military firearms	3
TK01z00	Suicide and self inflicted injury by barbiturates	3
TK2y.00	Suicide + selfinflicted poisoning by other gases and vapours	3
TKx0z00	Suicide + selfinflicted inj-jump/lie before moving obj NOS	3
ZX1N.00	Stabbing self	3
ZX1M.00	Shooting self	3
ZX1K.12	Setting self alight	3
ZX1K.11	Setting fire to self	3
ZX1H200	Self-suffocation	3
ZX1H100	Self-strangulation	3
ZX1K.00	Self-incineration	3
ZX1J.00	Self-electrocution	3
ZX1H.00	Self-asphyxiation	3
SL...15	Overdose of drug	3
SL...14	Overdose of biological substance	3
TKy..00	Late effects of selfinflicted injury	3
ZX1Q.11	Jumping under train	3
ZX1B.00	Jumping from height	3
ZX1B300	Jumping from cliff	3
ZX1B100	Jumping from building	3
ZX1B200	Jumping from bridge	3
TK...12	Injury - self-inflicted	3
ZX18.00	Hanging self	3
SLHz.00	Drug and medicament poisoning NOS	3
ZX15.00	Drowning self	3
U72..00	[X]Sequel intentn self-harm assault+event of undeterm intent	2
ZX1LD00	[X]Self mutilation	2
U40y000	[X]Poison/exposure ?intent, to unspecif chemical at home	2
U40C000	[X]Poison/exposure ?intent, to pesticide at home	2
U40A.00	[X]Pois/exposure,?intent,to organ solvent,halogen hydrocarb	2
U40y400	[X]Pois/expos ?intent unspecif chemical in street/highway	2
U40yz00	[X]Pois/expos ?intent to unspecif chemical unspecif place	2
U402z00	[X]Pois/expos ?intent to sedative hypnotic unspecif place	2
U408z00	[X]Pois/expos ?intent to oth/unsp drug/medic unspecif place	2
U409z00	[X]Pois/expos ?intent to alcohol unspecif place	2
U40B400	[X]Pois/expos ?intent other gas/vapour in street/highway	2
U409400	[X]Pois/expos ?intent alcohol in street/highway	2
U406y00	[X]Pois/exp ?intent to hallucinogen other spec place	2
U404300	[X]Pois/exp ?intent psychotropic drug in sport/athletic area	2

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Read code	Description	Number of studies
U40A300	[X]Pois/exp ?intent org solvent,halogen hydrocarb,sport area	2
U409200	[X]Pois/exp ?intent alcohol school/pub admin area	2
U205.11	[X]Overdose - heroin	2
U2Az.00	[X]Intentional self harm by blunt object occ unspecif place	2
U206z00	[X]Intent self poison hallucinogen unspecif place	2
U209400	[X]Intent self pois alcohol in street/highway	2
U292.00	[X]Intent self harm sharp obj occ sch oth ins/pub adm area	2
U2yy.00	[X]Intent self harm oth specif means occ oth specif place	2
U2y6.00	[X]Intent self harm oth specif means occ indust/constr area	2
U2z1.00	[X]Intent self harm by unspecif means occurrn resid instit'n	2
U27y.00	[X]Intent self harm by smoke fire/flame occ oth specif plce	2
U295.00	[X]Intent self harm by sharp object occ trade/service area	2
U296.00	[X]Intent self harm by sharp object occ indust/constr area	2
U2B1.00	[X]Intent self harm by jump from high place occ resid instit	2
U213.00	[X]Intent self harm by hang strangl/suffc sport/athlet area	2
U2Dz.00	[X]Intent self harm by crash motor vehic occ unspecif place	2
U2A2.00	[X]Intent self harm blunt obj occ sch oth ins/pub adm area	2
U20Ay00	[X]Int self pois org solv,halogen hydrocarb,oth spec place	2
U200600	[X]Int self pois nonopioid analgesic indust/construct area	2
U282.00	[X]Int self harm by steam hot vapor/obj sch/ins/pub adm area	2
U4C..00	[X]Falling lying running befor/into moving obj undet intent	2
U4B6.00	[X]Fall jump/push frm high plce undt intrn indust/constr area	2
U47..00	[X]Exposure to smoke, fire and flames, undetermined intent	2
U470.00	[X]Exposure to smoke fire+flame undeterm intent occ at home	2
U42..00	[X]Drowning and submersion, undetermined intent	2
U4D7.00	[X]Crashng of motor vehicle undetermined intent occ on farm	2
U4D0.00	[X]Crashng of motor vehicle undetermined intent occ at home	2
U4D..00	[X]Crashing of motor vehicle, undetermined intent	2
U4D3.00	[X]Crash of motor vehicle undeterm intent sport/athlet area	2
U4A5.00	[X]Contct wth blunt obj undet intent occ trade/service area	2
U4A3.00	[X]Contct wth blunt obj undet intent occ sport/athletic area	2
U4A0.00	[X]Contact wth blunt object undetermined intent occ at home	2
U48..00	[X]Contact with steam hot vapours+objects undetermn intent	2
U49..00	[X]Contact with sharp object, undetermined intent	2
U49z.00	[X]Contact with sharp obj undeterm intent occ unspecif place	2
U4A..00	[X]Contact with blunt object, undetermined intent	2
U4Az.00	[X]Contact with blunt obj undeterm intent occ unspecif place	2
ZX1S.00	Throwing self onto floor	2
1BDA.00	Thoughts of deliberate self harm	2
1BD3.00	Suicidal plans	2
1BD1.00	Suicidal ideation	2
1B19.11	Suicidal - symptom	2
1B19.00	Suicidal	2
ZX19200	Slapping self	2
ZX11.00	Self-scalding	2
ZX1L300	Self-mutilation of penis	2
ZX1L100	Self-mutilation of hands	2
ZX1L200	Self-mutilation of genitalia	2
ZX1L600	Self-mutilation of ears	2
ZX1L.00	Self-mutilation	2
ZX1G.00	Scratches self	2
ZX19100	Punching self	2
TN...11	Poisoning undetermined - accidentally or purposely inflicted	2

Read code	Description	Number of studies
ZX1E.00	Pinching self	2
ZX1C.00	Nipping self	2
14K1.00	Intentional overdose of prescription only medication	2
TN0..00	Injury ?accidental, poisoning by solid/liquid substances	2
TN0z.00	Injury ?accidental, poisoning by solid or liquid subst NOS	2
TN2y.00	Injury ?accidental, poisoning by other spec gas or vapour	2
TN04.00	Injury ?accidental, poisoning by other spec drug/medicament	2
TN02.00	Injury ?accidental, poisoning by other sedative/hypnotic	2
TN2..00	Injury ?accidental, poisoning by other gases	2
TN21.00	Injury ?accidental, poisoning by other carbon monoxide	2
TN20.00	Injury ?accidental, poisoning by motor vehicle exhaust gas	2
TN11.00	Injury ?accidental, poisoning by liquid petrol gas	2
TN1..00	Injury ?accidental, poisoning by gases in domestic use	2
TN1z.00	Injury ?accidental, poisoning by gas in domestic use NOS	2
TN10.00	Injury ?accidental, poisoning by gas distributed by pipeline	2
TN05.00	Injury ?accidental, poisoning by drug or medicament NOS	2
TN06.00	Injury ?accidental, poisoning by corrosive/caustic substance	2
TN08.00	Injury ?accidental, poisoning by arsenic or its compounds	2
TN00.00	Injury ?accidental, poisoning by analgesic or anti-pyretic	2
TN07.00	Injury ?accidental, poisoning by agricultural chemicals	2
TN3..00	Injury ?accidental, hanging, strangulation and suffocation	2
TN30.00	Injury ?accidental, hanging	2
TN01300	Injury ?accidental poisoning by Pentobarbitone	2
ZRLfC12	HoNOS item 2 - non-accidental self injury	2
ZX19.00	Hitting self	2
ZX13.00	Cutting self	2
ZX13.11	Cuts self	2
ZX12.00	Burning self	2
ZX11.00	Biting self	2
ZX11.11	Bites self	2
SL90.00	Antidepressant poisoning	2
8G6Z.00	Anti-suicide psychotherapy NOS	2
8G6..00	Anti-suicide psychotherapy	2
SL90z00	Anti-depressant poisoning NOS	2
U4z..00	[X]Unspecified event, undetermined intent	1
U4zz.00	[X]Unspecif event undeterm intent occurrn unspecif place	1
U4z3.00	[X]Unspecif event undeterm intent occurrn sport/athlet area	1
U4zy.00	[X]Unspecif event undeterm intent occurrn oth specif place	1
U4z6.00	[X]Unspecif event undeterm intent occurrn indust/constr area	1
SyuG.00	[X]Toxic effects of substances chiefly nonmedicinal source	1
SyuG700	[X]Toxic effects of other specified gases, fumes & vapours	1
SyuGH00	[X]Toxic effect of paints and dyes, NEC	1
SyuGJ00	[X]Toxic effect of other specified substances	1
SyuG900	[X]Toxic effect of other pesticides	1
SyuG800	[X]Toxic effect of other insecticides	1
SyuGC00	[X]Toxic effect of other ingested (parts of) plant(s)	1
SyuG000	[X]Toxic effect of other alcohols	1
U2E..00	[X]Self mutilation	1
U406.00	[X]Poisoning/exposure, ? intent, to hallucinogen	1
SyuFM00	[X]Poisoning by other psychotropic drugs, NEC	1
SyuFB00	[X]Poisoning by other opioids	1
SyuFW00	[X]Poisoning by other laxatives, incl intestin atonia drugs	1
SyuFT00	[X]Poisoning by other antihypertensive drugs, NEC	1



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Read code	Description	Number of studies
SyuFD00	[X]Poisoning by other and unspecified narcotics	1
SyuFA00	[X]Poisoning by other analgesics, not elsewhere classified	1
SyuF900	[X]Poisoning by oth nonsteroidal anti-inflamm drugs [NSAID]	1
SyuFc00	[X]Poisoning by oth & unspecif drugs & biologic substances	1
SyuF.00	[X]Poisoning by drugs and biological substances	1
U40Bz00	[X]Pois/expos ?intent to other gas/vapour unspecif place	1
U409100	[X]Pois/expos ?intent to alcohol at res institut	1
U408400	[X]Pois/expos ?intent oth/unsp drug/medic in street/highway	1
U40yy00	[X]Pois/exp ?intent to unspecif chemical other spec place	1
U40By00	[X]Pois/exp ?intent to other gas/vapour other spec place	1
U202.14	[X]Overdose - flurazepam	1
U4y..00	[X]Other specified events, undetermined intent	1
U4y0.00	[X]Other specified event undetermind intent occurrn at home	1
U4y3.00	[X]Oth specif event undetermin intent occ sport/athlet area	1
Eu15000	[X]Mnt/beh dis due oth stim inc caffen: acute intoxication	1
Eu18000	[X]Mental & behav dis due vol solvents: acute intoxication	1
Eu17000	[X]Mental & behav dis due to use tobacco: acute intoxication	1
Eu11000	[X]Mental & behav dis due to use opioids: acute intoxication	1
Eu14000	[X]Mental & behav dis due to use cocaine: acute intoxication	1
Eu10000	[X]Mental & behav dis due to use alcohol: acute intoxication	1
Eu13000	[X]Mental & behav dis due seds/hypntcs: acute intoxication	1
Eu16000	[X]Mental & behav dis due hallucinogens: acute intoxicatn	1
Eu12000	[X]Mental & behav dis due cannabinoids: acute intoxication	1
Eu1A000	[X]Ment behav dis due use crack cocaine: acute intoxication	1
U39..11	[X]Intentionally shot with shotgun	1
U38..11	[X]Intentionally shot with handgun	1
U41z.00	[X]Hangng strangult+suffoct undet intent occ unspecif place	1
U4B0.00	[X]Fallng jumpng/push frm high place undet intent occ home	1
U81..00	[X]Evid of alcohol involv determind by level of intoxication	1
U4D1.00	[X]Crashng of motor vehicle undeterm intent resident instit	1
U466.00	[X]Contct wth explosiv materl undet intnt indust/constr area	1
U4A6.00	[X]Contct wth blunt obj undet intent occ industr/constr area	1
U46..00	[X]Contact with explosive material, undetermined intent	1
U4Ay.00	[X]Contact with blunt obj undeter intent occ oth specif plce	1
U1AC.11	[X]Accidental poisoning with weedkiller	1
U1A2.13	[X]Accidental poisoning with temazepam	1
U1A2.11	[X]Accidental poisoning with sleeping tablets	1
U1AC.12	[X]Accidental poisoning with paraquat	1
U1A0.11	[X]Accidental poisoning with paracetamol	1
U1A2.15	[X]Accidental poisoning with nitrazepam	1
U1A0.12	[X]Accidental poisoning with ibuprofen	1
U1A5.11	[X]Accidental poisoning with heroin	1
U1A2.12	[X]Accidental poisoning with diazepam	1
U1A2.16	[X]Accidental poisoning with benzodiazepine	1
U1A2.17	[X]Accidental poisoning with barbiturate	1
U1A0.13	[X]Accidental poisoning with aspirin	1
U1A4.11	[X]Accidental poisoning with antidepressant	1
U1A4.12	[X]Accidental poisoning with amitriptyline	1
U1A4.13	[X]Accidental poisoning with SSRI	1
U1AA.11	[X]Accidental poisoning from glue solvent	1
U1AD.00	[X]Accidental poisoning by and exposure to amfetamine	1
U1A..00	[X]Accidental poisoning by + exposure to noxious substances	1
U1A..12	[X]Accidental drug overdose / other poisoning	1

Read code	Description	Number of studies
U1A..11	[X]Accidental drug / other poisoning	1
U1AB.11	[X]Accidental carbon monoxide poisoning	1
U1Ay.00	[X]Accident poisoning/exposure to unspecif chemical	1
U1A2.00	[X]Accident poisoning/exposure to sedative hypnotic	1
U1A4.00	[X]Accident poisoning/exposure to psychotropic drug	1
U1AC.00	[X]Accident poisoning/exposure to pesticide	1
U1AB.00	[X]Accident poisoning/exposure to other gas/vapour	1
U1A7.00	[X]Accident poisoning/exposure to oth autonomic drug	1
U1A0.00	[X]Accident poisoning/exposure to nonopioid analgesic	1
U1A5.00	[X]Accident poisoning/exposure to narcotic drug	1
U1A6.00	[X]Accident poisoning/exposure to hallucinogen	1
U1A3.00	[X]Accident poisoning/exposure to antiparkinson drug	1
U1A1.00	[X]Accident poisoning/exposure to antiepileptic	1
U1A9.00	[X]Accident poisoning/exposure to alcohol	1
U1AD000	[X]Accident poisoning by and exposure to amphetamine - home	1
U1Ay700	[X]Accident poison/exposure to unspecif chemical on farm	1
U1Ay000	[X]Accident poison/exposure to unspecif chemical at home	1
U1A2000	[X]Accident poison/exposure to sedative hypnotic at home	1
U1A4000	[X]Accident poison/exposure to psychotropic drug at home	1
U1AC700	[X]Accident poison/exposure to pesticide on farm	1
U1AC000	[X]Accident poison/exposure to pesticide at home	1
U1A8.00	[X]Accident poison/exposure to other/unspec drug/medicament	1
U1AB700	[X]Accident poison/exposure to other gas/vapour on farm	1
U1AB000	[X]Accident poison/exposure to other gas/vapour at home	1
U1A8000	[X]Accident poison/exposure to oth/unsp drug/medicam home	1
U1A7000	[X]Accident poison/exposure to oth autonomic drug at home	1
U1A0000	[X]Accident poison/exposure to nonopioid analgesic at home	1
U1A5000	[X]Accident poison/exposure to narcotic drug at home	1
U1A1000	[X]Accident poison/exposure to antiepileptic at home	1
U1A9000	[X]Accident poison/exposure to alcohol at home	1
U1AA.00	[X]Accid poison/exposure to organ solvent,halogen hydrocarb	1
U1Ay500	[X]Accid poison/expos unspecif chemical trade/service area	1
U1Ayz00	[X]Accid poison/expos to unspecif chemical unspecif place	1
U1Ay100	[X]Accid poison/expos to unspecif chemical at res institut	1
U1A2z00	[X]Accid poison/expos to sedative hypnotic unspecif place	1
U1A4100	[X]Accid poison/expos to psychotropic drug at res institut	1
U1ABz00	[X]Accid poison/expos to other gas/vapour unspecif place	1
U1A8100	[X]Accid poison/expos to oth/unsp drug/medicam res institut	1
U1A8z00	[X]Accid poison/expos to oth/unsp drug/medic unspecif place	1
U1A7z00	[X]Accid poison/expos to oth autonomic drug unspecif place	1
U1A0z00	[X]Accid poison/expos to nonopioid analgesic unspecif place	1
U1A5z00	[X]Accid poison/expos to narcotic drug unspecif place	1
U1A9z00	[X]Accid poison/expos to alcohol unspecif place	1
U1AA000	[X]Accid poison/expos organ solvent,halogen hydrocarb, home	1
U1A3500	[X]Accid poison/expos antiparkinson drug trade/service area	1
U1A9500	[X]Accid poison/expos alcohol trade/service area	1
U1A9400	[X]Accid poison/expos alcohol in street/highway	1
U1Ay200	[X]Acc poison/expos unspecif chemical school/pub admin area	1
U1A4200	[X]Acc poison/expos psychotropic drug school/pub admin area	1
U1AA100	[X]Acc poison/expos org solvent,halogen hydrocarb,res instit	1
U1A9200	[X]Acc poison/expos alcohol school/pub admin area	1
U1ADz00	[X]Acc poison by and exposure to amphetamine - unspec places	1
Sy...00	[X] Injury and poisoning classification terms	1

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Read code	Description	Number of studies
U60F412	[X] Adverse reaction to acetylcysteine	1
ZV15600	[V]Personal history of poisoning	1
ZV4C400	[V]Occupational exposure to toxic agents in agriculture	1
ZV71A00	[V]Obs for suspected toxic effect from ingested substance	1
SLC7100	Zinc salt poisoning	1
SM01100	Wood alcohol causing toxic effect	1
SLEz.00	Water, mineral or uric acid metabolism poisoning NOS	1
SLE..00	Water, mineral and urate metabolism poisoning	1
SL42300	Warfarin sodium poisoning	1
SL42400	Warfarin poisoning	1
SL35z00	Vitamin poisoning NOS	1
SL35.00	Vitamin poisoning NEC	1
SL35100	Vitamin D poisoning	1
SL35000	Vitamin A poisoning	1
SL44300	Urokinase poisoning	1
SLE7.00	Uric acid drug poisoning	1
SLE7.11	Urate metabolism drug poisoning	1
SM9z.00	Unspecified substance causing toxic effect NOS	1
SL50000	Unspecified opium poisoning	1
SL30400	Tripelennamine poisoning	1
SL60100	Trimethadione poisoning	1
SL92200	Trifluoperidol poisoning	1
SM23100	Trichloroethylene causing toxic effect	1
SL90300	Trazodone poisoning	1
SL95z00	Tranquilliser poisoning NOS	1
SL9..11	Tranquilliser poisoning	1
TE57.00	Toxic reactions caused by other plants	1
F036200	Toxic encephalitis due to thallium	1
F036100	Toxic encephalitis due to mercury	1
F036000	Toxic encephalitis due to lead	1
SMC..00	Toxic effect of tobacco and nicotine	1
SM57.00	Toxic effect of tin and its compounds	1
SM9A.00	Toxic effect of rodenticides	1
SMX..00	Toxic effect of paints and dyes, NEC	1
SM9X.00	Toxic effect of nitroglycerin & oth nitric acids & ester	1
SM79.00	Toxic effect of hydrogen sulfide	1
SM15.00	Toxic effect of homologues of benzene	1
SM98.00	Toxic effect of herbicides and fungicides	1
SMB..00	Toxic effect of formaldehyde	1
SM78.00	Toxic effect of fluorine gas and hydrogen fluoride	1
SM23200	Toxic effect of chloroform	1
SM7A.00	Toxic effect of carbon dioxide	1
SLG7.00	Topical dental drug poisoning	1
SL85.00	Topical and infiltration anaesthetic agent poisoning	1
SL16200	Tiabendazole poisoning	1
SL27.00	Thyroid hormone and thyroid derivatives poisoning	1
SL27z00	Thyroid hormone and thyroid derivative poisoning NOS	1
SL27300	Thyroglobulin poisoning	1
SL91400	Thioridazine poisoning	1
SLE1100	Theophylline poisoning	1
SL04000	Tetracycline poisoning	1
SL04z00	Tetracycline group poisoning NOS	1
SL04.00	Tetracycline group poisoning	1

Read code	Description	Number of studies
SM23000	Tetrachloroethylene causing toxic effect	1
SL85300	Tetracaine poisoning	1
SL21300	Testosterone poisoning	1
SLF5200	Terpin hydrate poisoning	1
SL3z.00	Systemic agent poisoning NOS	1
SLB2.00	Sympathomimetic poisoning	1
SM31200	Sulphuric acid causing toxic effect	1
SM73.00	Sulphur dioxide causing toxic effect	1
SL1x400	Sulphone poisoning	1
SL10.00	Sulphonamide poisoning	1
SL10200	Sulfamethoxazole poisoning	1
SL10000	Sulfadiazine poisoning	1
1BD4.00	Suicide risk	1
ZRn3.00	Suicide intent score subscale - attempt circumstances	1
SN47100	Suffocation by strangulation	1
SL06300	Streptomycin poisoning	1
SL44200	Streptokinase poisoning	1
SL97.11	Stimulant poisoning	1
SM2z.00	Solvents causing toxic effect NOS	1
SLC7000	Sodium morrhuate poisoning	1
SM32200	Sodium hydroxide causing toxic effect	1
SM90100	Sodium cyanide causing toxic effect	1
SM96.00	Soap and detergent causing toxic effect	1
SM96.12	Soap - toxic effect	1
SLF1.00	Smooth muscle relaxant poisoning	1
SL7z.11	Sleeping drug poisoning	1
SLF2.00	Skeletal muscle relaxant poisoning	1
ZX1..00	Self-injurious behaviour	1
ZX...00	Self-harm	1
ZX...11	Self-damage	1
SL7..12	Sedative poisoning	1
SL7z.00	Sedative and hypnotic drug poisoning NOS	1
SL7..00	Sedative and hypnotic drug poisoning	1
SL70500	Secobarbital poisoning	1
SL51100	Salicylic acid salt poisoning	1
SL51z00	Salicylate poisoning NOS	1
SL51.00	Salicylate poisoning	1
SLF7100	Salbutamol poisoning	1
ZX1..12	SIB - Self-injurious behaviour	1
SM02200	Rubbing alcohol causing toxic effect	1
SL06200	Rifampicin poisoning	1
SLF..12	Respiratory system drug poisoning	1
SL14500	Quinine poisoning	1
SLC0300	Quinidine poisoning	1
SL14400	Pyrimethamine poisoning	1
SL53.00	Pyrazole derivative poisoning	1
SL9z.00	Psychotropic agent poisoning NOS	1
SL9..00	Psychotropic agent poisoning	1
SL97.00	Psychostimulant poisoning	1
SL96400	Psilocybin poisoning	1
SL45100	Protamine sulphate poisoning	1
SLF0200	Prostaglandin poisoning	1
SLC0200	Propranolol poisoning	1

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Read code	Description	Number of studies
SM70100	Propane causing toxic effect	1
SL91300	Promazine poisoning	1
SL14300	Proguanil poisoning	1
SL22300	Progestogen poisoning	1
SL91200	Prochlorperazine poisoning	1
SLC0100	Procainamide poisoning	1
SL6x000	Primidone poisoning	1
8G61.00	Potential suicide care	1
SM32100	Potassium hydroxide causing toxic effect	1
SM90000	Potassium cyanide causing toxic effect	1
SL25.00	Posterior pituitary hormone poisoning	1
SL94600	Poisoning by temazepam	1
SLD3100	Poisoning by saline and osmotic laxatives	1
SL3..00	Poisoning by primarily systemic agents	1
SLX..00	Poisoning by oth & unspec antipsychotics & neuroleptics	1
SL29.00	Poisoning by mineralocorticoids and their antagonists	1
SLD0200	Poisoning by histamine H2-receptor antagonists	1
SL20300	Poisoning by glucocorticoids and synthetic analogues	1
SL...16	Poisoning by drug and biological substances	1
SL6x100	Poisoning by carbamazepine	1
SLC9.00	Poisoning by calcium-channel blockers	1
SLC6400	Poisoning by angiotensin-converting-enzyme inhibitors	1
SL...00	Poisoning	1
SM82.12	Plants - toxic effect	1
1BDB.00	Plans for deliberate self harm without intent	1
SL16100	Piperazine poisoning	1
SLB0200	Pilocarpine poisoning	1
SM7y000	Phosgene causing toxic effect	1
SM93500	Phosdrin causing toxic effect	1
SL61000	Phenytoin poisoning	1
SL53100	Phenylbutazone poisoning	1
SLB3000	Phenoxybenzamine poisoning	1
SL91z00	Phenothiazine poisoning NOS	1
SL91.00	Phenothiazine poisoning	1
SLD1200	Phenolphthalein poisoning	1
SM30000	Phenol causing toxic effect	1
SL70400	Phenobarbital poisoning	1
SL42200	Phenindione poisoning	1
SL52200	Phenacetin poisoning	1
SLH4.00	Pharmaceutical excipient poisoning	1
SM1z.00	Petroleum product causing toxic effect NOS	1
SM1..00	Petroleum product causing toxic effect	1
SM14.00	Petroleum ether causing toxic effect	1
SM10.00	Petrol unspecified causing toxic effect	1
SL86.00	Peripheral nerve and plexus-blocking anaesthetic poisoning	1
SL70300	Pentobarbitone poisoning	1
SL34000	Penicillinase poisoning	1
SL00z00	Penicillin poisoning NOS	1
SL00.00	Penicillin poisoning	1
SL00300	Penicillin G poisoning	1
E022.00	Pathological drug intoxication	1
E014.00	Pathological alcohol intoxication	1
SM93300	Parathion causing toxic effect	1

Read code	Description	Number of studies
SLB0.00	Parasympathomimetic poisoning	1
SL60000	Paramethadione poisoning	1
SM13.00	Paraffin wax causing toxic effect	1
SL52100	Paracetamol poisoning	1
SL1x300	Para-aminosalicylic acid poisoning	1
SLC5200	Papaverine poisoning	1
SLD4100	Papain poisoning	1
SLD4000	Pancreatin poisoning	1
SL04300	Oxytetracycline poisoning	1
SL21200	Oxymetholone poisoning	1
SL22z00	Ovarian hormone poisoning NOS	1
SL22.00	Ovarian hormone and synthetic substitute poisoning	1
SLC5.00	Other vasodilator poisoning	1
SL95.00	Other tranquilliser poisoning	1
F377.00	Other toxic agent polyneuropathy	1
SL3y.00	Other systemic agent poisoning	1
SM9y.00	Other substance causing toxic effect	1
SL0y.00	Other specific antibiotic poisoning	1
SM2yz00	Other solvents causing toxic effect NOS	1
SM2..00	Other solvents causing toxic effect	1
SM2y.00	Other solvents causing toxic effect	1
SLGx.00	Other skin and mucous membrane drug poisoning	1
SL7y.00	Other sedative and hypnotic poisoning	1
SLFy.00	Other respiratory system drug poisoning	1
SL9y.00	Other psychotropic agent poisoning	1
SM94.00	Other pesticides causing toxic effect NEC	1
SM8y.00	Other noxious substance eaten as food causing toxic effect	1
SM9..00	Other nonmedicinal substances causing toxic effect	1
SL5x.00	Other non-narcotic analgesic poisoning	1
SLF3.00	Other muscle drug poisoning	1
SLE6.00	Other mineral salt poisoning NEC	1
SM5y.00	Other metals causing toxic effect OS	1
SM5yz00	Other metals causing toxic effect NOS	1
SM5..00	Other metals causing toxic effect	1
SLC6.00	Other hypertensive agent poisoning	1
SM71.00	Other hydrocarbon gas causing toxic effect	1
SL2y.00	Other hormone or synthetic derivative poisoning	1
SLDy.00	Other gastrointestinal agent poisoning	1
SM7..00	Other gases, fumes or vapours causing toxic effect	1
SM7y.00	Other gas, fume or vapour causing toxic effect	1
SM7yz00	Other gas, fume and vapour causing toxic effect NOS	1
SLHy.00	Other drug and medicament poisoning OS	1
SLHyz00	Other drug and medicament poisoning NOS	1
SLE4z00	Other diuretic poisoning NOS	1
SLC1100	Other digitalis glycoside poisoning	1
SLAy.00	Other central nervous system stimulant poisoning	1
SLD3.00	Other cathartic poisoning	1
SL93.00	Other antipsychotics/neuroleptics/tranquilliser poisoning	1
SL15.00	Other antiprotozoal drug poisoning	1
SL30x00	Other antihistamine poisoning	1
SL6x.00	Other anticonvulsant poisoning	1
SL1..00	Other anti-infective poisoning	1
SL1y.00	Other anti-infective poisoning	1

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Read code	Description	Number of studies
SLH..00	Other and unspecified drug and medicament poisoning	1
SL5yz00	Other analgesic or antipyretic poisoning NOS	1
SL5y.00	Other analgesic and antipyretic poisoning	1
SM0y.00	Other alcohol causing toxic effect	1
SM93z00	Organophosphate and carbamate causing toxic effect NOS	1
SM93.00	Organophosphate and carbamate causing toxic effect	1
SLF1100	Orciprenaline poisoning	1
SL22000	Oral contraceptive poisoning	1
SL50.12	Opiate poisoning	1
SL50z00	Opiate or narcotic poisoning NOS	1
SLA1z00	Opiate antagonist poisoning NOS	1
SLA1.00	Opiate antagonist poisoning	1
SL50.00	Opiate and narcotic poisoning	1
SL03100	Oleandomycin poisoning	1
SL22100	Oestrogen poisoning	1
SL01200	Nystatin poisoning	1
SM8z.00	Noxious substance eaten as food causing toxic effect NOS	1
SM8..00	Noxious substance eaten as food causing toxic effect	1
SLB2100	Noradrenalin poisoning	1
SM...00	Nonmedicinal agent causing toxic effects	1
SL5xz00	Non-narcotic analgesic poisoning NOS	1
SMz..00	Non-medicinal agent causing toxic effect NOS	1
SL82100	Nitrous oxide poisoning	1
SM72.00	Nitrogen oxides causing toxic effect	1
SM72000	Nitrogen dioxide causing toxic effect	1
SL1y100	Nitrofurantoin poisoning	1
SM31100	Nitric acid causing toxic effect	1
SL94500	Nitrazepam poisoning	1
SLC4100	Nitrate poisoning	1
SM5y300	Nickel compounds causing toxic effect	1
SL50.11	Narcotic poisoning	1
SL54300	Naproxen poisoning	1
SL21100	Nandrolone poisoning	1
SM81.00	Mushrooms causing toxic effect	1
SLF..11	Muscle drug poisoning	1
SL50500	Morphine poisoning	1
1BD2.00	Morbid thoughts	1
SL90200	Monoamine oxidase inhibitor poisoning	1
1BD6.00	Moderate suicide risk	1
SL76.00	Mixed sedative poisoning NEC	1
SL07400	Mitomycin poisoning	1
SL04200	Minocycline poisoning	1
SM01.00	Methyl alcohol causing toxic effect	1
SL80100	Methocarbamol poisoning	1
SL74.00	Methaqualone compound poisoning	1
SM01000	Methanol causing toxic effect	1
SL50200	Methadone poisoning	1
SM5z.00	Metals causing toxic effect NOS	1
SL12300	Mercury compound poisoning	1
SM50.00	Mercury causing toxic effect	1
SL31600	Mercaptopurine poisoning	1
SL95100	Meprobamate poisoning	1
SL50400	Meperidine (pethidine) poisoning	1

Read code	Description	Number of studies
SL54400	Mefenamic acid poisoning	1
SL...13	Medicinal poisoning	1
SL94400	Medazepam poisoning	1
SL96200	Marihuana poisoning	1
SM93200	Malathion causing toxic effect	1
SLD0100	Magnesium trisilicate poisoning	1
SLD3000	Magnesium sulphate poisoning	1
T180.00	MVTA - accid poisoning - exhaust gas of moving motor vehicle	1
SL90211	MAOI - monoamine oxidase inhibitor poisoning	1
SL96100	Lysergide (LSD) poisoning	1
1BD7.00	Low suicide risk	1
SL94300	Lorazepam poisoning	1
SLG2.12	Local detergent poisoning	1
SLG2.11	Local astringent poisoning	1
SLG2.00	Local astringent and detergent poisoning	1
SLG0.00	Local anti-infective and anti-inflammatory poisoning	1
SL8z.00	Local anaesthetic poisoning NOS	1
SLA0000	Lobeline poisoning	1
44W8100	Lithium level high - toxic	1
SM70.00	Liquefied petrol gas causing toxic effect	1
SL85100	Lidocaine poisoning	1
SL27100	Levothyroxine sodium poisoning	1
SL6y200	Levodopa (L-dopa) poisoning	1
SL12200	Lead compound poisoning	1
SM4z.00	Lead compound causing toxic effect NOS	1
SM4..00	Lead and lead compounds causing toxic effect	1
SM41000	Lead acetate causing toxic effect	1
TH02.00	Late effects of accidental poisoning	1
SC...00	Late effects injury/poisoning/toxic effects/external causes	1
SC41.00	Late effect of poison due to nonmedical substance	1
SC40.00	Late effect of poison drug/medicament/biological substance	1
SC41.11	Late effect of poison	1
SCz..00	Late effect injury/poison/toxin effect/external cause NOS	1
SL83000	Ketamine poisoning	1
SM12.00	Kerosene causing toxic effect	1
SLG4.12	Keratoplastic poisoning	1
SL1x200	Isoniazid poisoning	1
SLD1.00	Irritant cathartic poisoning	1
SM5y200	Iron compounds causing toxic effect	1
SL40z00	Iron and iron compound poisoning NOS	1
SL40.00	Iron and iron compound poisoning	1
SL28000	Iodide poisoning	1
SP35000	Intoxication by serum	1
E250.14	Intoxication - alcohol	1
1BDC.00	Intent of deliberate self harm with detailed plans	1
SL23.00	Insulins and antidiabetic poisoning	1
SL23400	Insulin poisoning	1
TN...00	Injury undetermined whether accidentally/purposely inflicted	1
TNz..00	Injury undetermined accidental or purposely inflicted NOS	1
TM21.00	Injury due to legal intervention by poisoning by gas	1
Sz...00	Injury and poisoning NOS	1
S....00	Injury and poisoning	1
TN3y.00	Injury ?accidental, other means of hang/strangle/suffocate	1



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Read code	Description	Number of studies
TN9..00	Injury ?accidental, late effects	1
TN3z.00	Injury ?accidental, hanging/strangulation/suffocation NOS	1
TN70.00	Injury ?accidental, fall from residential premises	1
TN71.00	Injury ?accidental, fall from other man-made structure	1
TN72.00	Injury ?accidental, fall from natural site	1
TN7z.00	Injury ?accidental, fall from high place NOS	1
TN7..00	Injury ?accidental, fall from high place	1
TN4..00	Injury ?accidental, drowning	1
TN61.00	Injury ?accidental, by stabbing instrument	1
TN51.00	Injury ?accidental, by shotgun	1
TN82.00	Injury ?accidental, by scald	1
TN8y.00	Injury ?accidental, by other specified means	1
TN8..00	Injury ?accidental, by other means	1
TN54.00	Injury ?accidental, by other firearm	1
TN8z.00	Injury ?accidental, by means NOS	1
TN80100	Injury ?accidental, by lying before moving object	1
TN80.00	Injury ?accidental, by jumping or lying before moving object	1
TN80000	Injury ?accidental, by jumping before moving object	1
TN52.00	Injury ?accidental, by hunting rifle	1
TN50.00	Injury ?accidental, by handgun	1
TN5..00	Injury ?accidental, by firearms and explosives	1
TN5z.00	Injury ?accidental, by firearm or explosive NOS	1
TN83.00	Injury ?accidental, by extremes of cold	1
TN55.00	Injury ?accidental, by explosive	1
TN84.00	Injury ?accidental, by electrocution	1
TN6z.00	Injury ?accidental, by cutting or stabbing instrument NOS	1
TN60.00	Injury ?accidental, by cutting instrument	1
TN6..00	Injury ?accidental, by cutting and stabbing instruments	1
TN85.00	Injury ?accidental, by crashing of motor vehicle	1
TN86.00	Injury ?accidental, by crashing of aircraft	1
TN87.00	Injury ?accidental, by caustic substances, except poisoning	1
TN81.00	Injury ?accidental, by burns or fire	1
SL54100	Indometacin poisoning	1
SL31.12	Immunosuppressive poisoning	1
SL90100	Imipramine poisoning	1
SL54200	Ibuprofen poisoning	1
SL7..11	Hypnotic poisoning	1
SLC6z00	Hypertensive agent poisoning NOS	1
SLB1200	Hyoscine poisoning	1
SL95000	Hydroxyzine poisoning	1
SL13.11	Hydroxyquinoline poisoning	1
SM31000	Hydrochloric acid causing toxic effect	1
SL61.00	Hydantoin derivative poisoning	1
SL47100	Human fibrinogen poisoning	1
SL2z.00	Hormone or synthetic substitute poisoning NOS	1
SL2..00	Hormone and synthetic substitute poisoning	1
1BD5.00	High suicide risk	1
SL50100	Heroin poisoning	1
SL42100	Heparin poisoning	1
SL12z00	Heavy metal anti-infective poisoning NOS	1
SL12.00	Heavy metal anti-infective poisoning	1
SL3y000	Heavy metal agonist poisoning	1
1BD..00	Harmful thoughts	1

Read code	Description	Number of studies
SL81.00	Halothane poisoning	1
SL92000	Haloperidol poisoning	1
SL96z00	Hallucinogen poisoning NOS	1
SL96.00	Hallucinogen poisoning	1
SLG4.00	Hair treatment poisoning	1
14K0.00	H/O: repeated overdose	1
14K..00	H/O: poisoning	1
SL24211	Growth hormone poisoning	1
SL01100	Griseofulvin poisoning	1
SL24100	Gonadotrophin poisoning	1
SL54000	Gold salt poisoning	1
SLDz.00	Gastrointestinal agent poisoning NOS	1
SLD..00	Gastrointestinal agent poisoning	1
SM7z.00	Gases, fumes or vapours causing toxic effect NOS	1
SLC3z00	Ganglion-blocker poisoning NOS	1
SLC3.00	Ganglion-blocker poisoning	1
SM03z00	Fusel oil causing toxic effect NOS	1
SLE4100	Furosemide poisoning	1
SM74.00	Freon causing toxic effect	1
SL41000	Folic acid poisoning	1
SL94200	Flurazepam poisoning	1
SL91100	Fluphenazine poisoning	1
SL31500	Fluorouracil poisoning	1
SL1y000	Flucytosine poisoning	1
SL40100	Ferrous sulphate poisoning	1
SL40000	Ferric salt poisoning	1
SLG..00	Eye, otorhinolaryngological, skin and dental drug poisoning	1
SLG5z00	Eye drug poisoning NOS	1
SLG5.00	Eye drug poisoning NEC	1
SLG..12	Eye drug poisoning	1
SLF5.00	Expectorant poisoning	1
SM00z00	Ethyl alcohol causing toxic effect NOS	1
SM00.00	Ethyl alcohol causing toxic effect	1
SL6y100	Ethopropazine poisoning	1
SL82000	Ether poisoning	1
SM00000	Ethanol causing toxic effect	1
SL1x000	Ethambutol poisoning	1
SLE4000	Ethacrynic acid poisoning	1
SL03000	Erythromycin poisoning	1
SL03.00	Erythromycin and macrolide poisoning	1
SLF0000	Ergot alkaloid poisoning	1
E230200	Episodic acute alcoholic intoxication in alcoholism	1
SL34.00	Enzyme poisoning NEC	1
SLG3.00	Emollients, demulcents and protectant poisoning	1
SLD2.00	Emollient cathartic poisoning	1
SLD6.00	Emetic drug poisoning	1
SLE5.00	Electrolyte agent poisoning	1
SL97200	Ecstasy poisoning	1
SLG6.00	Ear, nose and throat drug poisoning NEC	1
SLz..00	Drug, medicament or biological substance poisoning NOS	1
SL...12	Drug poisoning	1
SL04100	Doxycycline poisoning	1
SLE..11	Diuretic poisoning	1

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Read code	Description	Number of studies
SLC4000	Dipyridamole poisoning	1
SL30100	Diphenhydramine poisoning	1
SLD2000	Diocetyl sulphosuccinate poisoning	1
SM02000	Dimethyl carbinol causing toxic effect	1
SL50700	Dihydrocodeine poisoning	1
SLC1000	Digoxin poisoning	1
SLD4.00	Digestant poisoning	1
SL94100	Diazepam poisoning	1
SLHy100	Diagnostic agent NEC, poisoning	1
SL50600	Dextropropoxyphene poisoning	1
SLF4000	Dextromethorphan poisoning	1
SM96.11	Detergent toxic effect	1
SM00100	Denatured alcohol causing toxic effect	1
ZX1..13	Deliberate self-harm	1
SL07300	Daunorubicin poisoning	1
SL07100	Dactinomycin poisoning	1
SM92200	DDT causing toxic effect	1
SL31400	Cytarabine poisoning	1
SL31300	Cyclophosphamide poisoning	1
SLC5000	Cyclandelate poisoning	1
SM90z00	Cyanides causing toxic effect NOS	1
SM90.00	Cyanides and hydrocyanic acid causing toxic effect	1
ZX13100	Cutting own wrists	1
SL42000	Coumarin poisoning	1
SL20000	Cortisone derivative poisoning	1
SL24000	Corticotropin poisoning	1
SM3..00	Corrosives/acids/caustic alkalis causing toxic effect	1
SM3z.00	Corrosive/acid/caustic alkali causing toxic effect NOS	1
SM30z00	Corrosive aromatics causing toxic effect NOS	1
SLC4.00	Coronary vasodilator poisoning	1
SM5y100	Copper salts causing toxic effect	1
E230100	Continuous acute alcoholic intoxication in alcoholism	1
SL22200	Combined oestrogen and progesterone poisoning	1
SLE7100	Colchicine poisoning	1
SL50300	Codeine (methyldorphine) poisoning	1
SL85000	Cocaine poisoning	1
SLC6000	Clonidine poisoning	1
SM56.00	Chromium causing toxic effect	1
SLB0z00	Cholinergic poisoning NOS	1
SLB0.11	Cholinergic poisoning	1
SL91000	Chlorpromazine poisoning	1
SL30000	Chlorphenamine poisoning	1
SL14000	Chloroquine poisoning	1
SM75100	Chloroacetophenone causing toxic effect	1
SM76.00	Chlorine gas causing toxic effect	1
SM92.00	Chlorinated hydrocarbon causing toxic effect	1
SL94000	Chlordiazepoxide poisoning	1
SL02000	Chloramphenicol poisoning	1
SL31200	Chlorambucil poisoning	1
SL71.00	Chloral hydrate poisoning	1
SL13000	Chiniofon poisoning	1
SLH2.11	Chelating agent poisoning	1
SLAz.00	Central nervous system stimulant poisoning NOS	1

Read code	Description	Number of studies
SLA..00	Central nervous system stimulant poisoning	1
SL80z00	Central nervous system muscle-tone depressant poisoning NOS	1
SL80.00	Central nervous system muscle-tone depressant poisoning	1
SL8..00	Central nervous system depressants and anaesthetic poisoning	1
SLH0000	Central appetite depressant poisoning	1
SL05000	Cefalexin poisoning	1
SM32z00	Caustic alkalis causing toxic effect NOS	1
SM32.00	Caustic alkalis causing toxic effect	1
Tz...00	Causes of injury and poisoning NOS	1
T....00	Causes of injury and poisoning	1
T8...11	Cause of overdose - accidental	1
SLC..00	Cardiovascular drug poisoning	1
SLCz.00	Cardiovascular agent poisoning NOS	1
SLC0.00	Cardiac rhythm drug poisoning	1
SLC1.00	Cardiac glycoside poisoning	1
SM21.00	Carbon tetrachloride causing toxic effect	1
SM6..00	Carbon monoxide causing toxic effect	1
SM93000	Carbaryl causing toxic effect	1
SL80000	Carbamate poisoning	1
SLB1400	Caramiphen poisoning	1
SL96000	Cannabis poisoning	1
SL97100	Caffeine poisoning	1
SM55.00	Cadmium causing toxic effect	1
SM70000	Butane causing toxic effect	1
SL70200	Butabarbitalone poisoning	1
SL31100	Busulfan poisoning	1
SL07200	Bleomycin poisoning	1
SL...11	Biological substance poisoning	1
SL23100	Biguanide poisoning	1
SLC0400	Beta blocker poisoning	1
SM53.00	Beryllium causing toxic effect	1
SM82.00	Berries and other plants causing toxic effect	1
SM82.11	Berries - toxic effect	1
SLE3000	Benzothiazide poisoning	1
SL94z00	Benzodiazepine poisoning NOS	1
SL94.00	Benzodiazepine poisoning	1
SM20.00	Benzene causing toxic effect	1
SL70z00	Barbiturate poisoning NOS	1
SL70.00	Barbiturate poisoning	1
SL70100	Barbitone poisoning	1
SL31000	Azathioprine poisoning	1
SLB..00	Autonomic nervous system drug poisoning	1
SLB1000	Atropine poisoning	1
1BD8.00	At risk of DSH - deliberate self harm	1
TL22.00	Assault by poisoning by other gases or vapours	1
TL20.00	Assault by poisoning by drugs or medicines	1
TL2z.00	Assault by poisoning NOS	1
TL2..00	Assault by poisoning	1
SL51000	Aspirin poisoning	1
SL11.00	Arsenical anti-infective poisoning	1
SM51.00	Arsenic causing toxic effect	1
SL52z00	Aromatic analgesic poisoning NOS	1
SL52.00	Aromatic analgesic poisoning NEC	1

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Read code	Description	Number of studies
SLF4z00	Antitussive poisoning NOS	1
SL28.00	Antithyroid agent poisoning	1
SL54z00	Antirheumatic poisoning NOS	1
SL54.00	Antirheumatic poisoning	1
SL5y200	Antipyretic poisoning, NEC	1
SL5..12	Antipyretic poisoning	1
SL6y.00	Antiparkinsonism drug poisoning	1
SL6yz00	Antiparkinsonian drug poisoning NOS	1
SL31z00	Antineoplastic or immunosuppressive poisoning NOS	1
SL07.00	Antineoplastic antibiotic poisoning	1
SL31.00	Antineoplastic and immunosuppressive poisoning	1
SL14z00	Antimalarial drug poisoning NOS	1
SL14.00	Antimalarial drug poisoning	1
SLC2.00	Antilipaemic and antiarteriosclerotic poisoning	1
SL30.13	Antihistamine poisoning	1
SL01.00	Antifungal antibiotic poisoning	1
SL30.12	Antiemetic poisoning	1
SLD5z00	Antidiarrhoeal poisoning NOS	1
SLD5.00	Antidiarrhoeal poisoning	1
SL6xz00	Anticonvulsant poisoning NOS	1
SL6..11	Anticonvulsant poisoning	1
SL6z.00	Anticonvulsant or antiparkinsonian drug poisoning NOS	1
SL6..00	Anticonvulsant and antiParkinsonian drug poisoning	1
SL42z00	Anticoagulant poisoning NOS	1
SL42.00	Anticoagulant poisoning	1
SL45z00	Anticoagulant agonist poisoning NOS	1
SL45.00	Anticoagulant agonist poisoning	1
SLB0100	Anticholinesterase poisoning	1
SL0z.00	Antibiotic poisoning NOS	1
SL0..00	Antibiotic poisoning	1
SLF7z00	Antiasthmatic poisoning NOS	1
SL30.00	Antiallergic and antiemetic drug poisoning	1
SL1z.00	Anti-infective poisoning NOS	1
SLD0.00	Anti-gastric acid drug poisoning	1
SLF6.00	Anti-common cold drug poisoning	1
SL16.00	Anthelmintic drug poisoning	1
SL24.00	Anterior pituitary hormone poisoning	1
SLD0z00	Antacid drug poisoning NOS	1
SLD0.11	Antacid drug poisoning	1
SL21.12	Androgen poisoning	1
SL21z00	Androgen or anabolic poisoning NOS	1
SL21.00	Androgen and anabolic poisoning	1
SL5z.00	Analgesic, antipyretic or antirheumatic poisoning NOS	1
SL5..00	Analgesic, antipyretic and antirheumatic drug poisoning	1
SL5y100	Analgesic poisoning, NEC	1
SL5..11	Analgesic poisoning	1
SLA0.00	Analeptic poisoning	1
SL8..11	Anaesthetic poisoning	1
SL21.11	Anabolic steroid poisoning	1
SM03000	Amyl alcohol causing toxic effect	1
SL00000	Ampicillin poisoning	1
SL01000	Amphotericin B poisoning	1
SL70000	Amobarbital poisoning	1

Read code	Description	Number of studies
SL90000	Amitriptyline poisoning	1
SLF7000	Aminophylline poisoning	1
SL97000	Amphetamine poisoning	1
SL6y000	Amantadine poisoning	1
SLD0000	Aluminium hydroxide poisoning	1
SLE7000	Allopurinol poisoning	1
SLH3.00	Alcohol deterrent poisoning	1
E230.11	Alcohol dependence with acute alcoholic intoxication	1
SM0z.00	Alcohol causing toxic effect NOS	1
SM0..00	Alcohol causing toxic effect	1
SL4..00	Agents affecting blood constituents, causing poisoning	1
TJF5100	Adverse reaction to ipecacuanha	1
TJF5000	Adverse reaction to acetylcysteine	1
SLC8000	Adrenochrome poisoning	1
SLB2.11	Adrenergic poisoning	1
SL20z00	Adrenal cortico-steroid poisoning NOS	1
SL20.00	Adrenal cortico-steroid poisoning	1
761H300	Administration of activated charcoal	1
E230000	Acute alcoholic intoxication, unspecified, in alcoholism	1
E230z00	Acute alcoholic intoxication in alcoholism NOS	1
E230.00	Acute alcoholic intoxication in alcoholism	1
SM31z00	Acids causing toxic effect NOS	1
SM31.00	Acids causing toxic effect	1
SL32.00	Acidifying agent poisoning	1
SLB0000	Acetylcholine poisoning	1
SM2y000	Acetone causing toxic effect	1
SL23000	Acetohexamide poisoning	1
SLE2000	Acetazolamide poisoning	1
T80yz00	Accidental poisoning-oth analgesic,antipyretic,antirheum NOS	1
T830z00	Accidental poisoning- phenothiazine-based tranquillisers NOS	1
T832z00	Accidental poisoning- benzodiazepine-based tranquilliser NOS	1
T953100	Accidental poisoning from seeds	1
T954.00	Accidental poisoning from other plants	1
T955y00	Accidental poisoning from other fungi	1
T955.00	Accidental poisoning from mushrooms and other fungi	1
T955z00	Accidental poisoning from mushrooms and fungi NOS	1
T955000	Accidental poisoning from mushrooms	1
T95..00	Accidental poisoning from foodstuffs and poisonous plants	1
T953z00	Accidental poisoning from berries or seeds NOS	1
T953.00	Accidental poisoning from berries and seeds	1
T953000	Accidental poisoning from berries	1
T937400	Accidental poisoning by zinc phosphide	1
T916300	Accidental poisoning by white washes	1
T885.00	Accidental poisoning by water,mineral,uric acid metab drugs	1
T937300	Accidental poisoning by warfarin	1
T981z00	Accidental poisoning by utility gas NOS	1
T88z.00	Accidental poisoning by unspecified drugs	1
T83z.00	Accidental poisoning by tranquillisers NOS	1
T83..00	Accidental poisoning by tranquillisers	1
T930500	Accidental poisoning by toxaphene	1
T964700	Accidental poisoning by thallium compounds	1
T937200	Accidental poisoning by thallium	1
T993.00	Accidental poisoning by tear gas	1

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Read code	Description	Number of studies
T910.00	Accidental poisoning by synthetic detergents and shampoos	1
T941200	Accidental poisoning by sulphuric acid	1
T991.00	Accidental poisoning by sulphur dioxide	1
T937100	Accidental poisoning by squill and derivatives	1
T92z.00	Accidental poisoning by solvent NOS	1
T96z.00	Accidental poisoning by solid and liquid substances NOS	1
T942000	Accidental poisoning by sodium hydroxide	1
T911.00	Accidental poisoning by soap products	1
T887z00	Accidental poisoning by skin, eye, ENT and dental drug NOS	1
T887000	Accidental poisoning by skin drugs	1
T82z.00	Accidental poisoning by sedatives and hypnotics NOS	1
T903300	Accidental poisoning by secondary propyl alcohol	1
T913000	Accidental poisoning by scouring agents	1
T803z00	Accidental poisoning by salicylates NOS	1
T803.00	Accidental poisoning by salicylates	1
T937z00	Accidental poisoning by rodenticides NOS	1
T937.00	Accidental poisoning by rodenticides	1
T815.00	Accidental poisoning by quinalbarbitone	1
T805.00	Accidental poisoning by pyrazole derivatives	1
T84z.00	Accidental poisoning by psychotropic agents NOS	1
T841400	Accidental poisoning by psilocin	1
T932200	Accidental poisoning by propoxur	1
T980200	Accidental poisoning by propane	1
T830300	Accidental poisoning by promazine	1
T830200	Accidental poisoning by prochlorperazine	1
T881.00	Accidental poisoning by primarily systemic agents	1
T912.00	Accidental poisoning by polishes	1
T965z00	Accidental poisoning by plant foods and fertilisers NOS	1
T965.00	Accidental poisoning by plant foods and fertilisers	1
T965000	Accidental poisoning by plant food	1
T973.00	Accidental poisoning by piped natural gas	1
T938200	Accidental poisoning by phosphine	1
T805100	Accidental poisoning by phenylbutazone	1
T830.00	Accidental poisoning by phenothiazine-based tranquillisers	1
T940011	Accidental poisoning by phenol	1
T814.00	Accidental poisoning by phenobarbitone	1
T804200	Accidental poisoning by phenacetin	1
T920.00	Accidental poisoning by petroleum solvents	1
T923.00	Accidental poisoning by petroleum solids	1
T920200	Accidental poisoning by petroleum naphtha	1
T921.12	Accidental poisoning by petroleum fuels	1
T920z00	Accidental poisoning by petrol solvents NOS	1
T923z00	Accidental poisoning by petrol solids NOS	1
T92..00	Accidental poisoning by petrol products	1
T921.00	Accidental poisoning by petrol fuels and cleaners	1
T921z00	Accidental poisoning by petrol fuel or cleaner NOS	1
T921200	Accidental poisoning by petrol	1
T802100	Accidental poisoning by pethidine	1
T813.00	Accidental poisoning by pentobarbitone	1
T80y000	Accidental poisoning by pentazocine	1
T935500	Accidental poisoning by paraquat	1
T923000	Accidental poisoning by paraffin wax	1
T804100	Accidental poisoning by paracetamol	1

Read code	Description	Number of studies
T916z00	Accidental poisoning by paint or varnish NOS	1
T887300	Accidental poisoning by otorhinolaryngological drugs	1
T98..00	Accidental poisoning by other utility gas + carbon monoxide	1
T981.00	Accidental poisoning by other utility gas	1
T83yz00	Accidental poisoning by other tranquilisers NOS	1
T83y.00	Accidental poisoning by other tranquilisers	1
T924z00	Accidental poisoning by other solvents NOS	1
T924.00	Accidental poisoning by other solvents	1
T96y.00	Accidental poisoning by other solid and liquid substances OS	1
T96..00	Accidental poisoning by other solid and liquid substances	1
T82y.00	Accidental poisoning by other sedatives and hypnotics OS	1
T82..00	Accidental poisoning by other sedatives and hypnotics	1
T84..00	Accidental poisoning by other psychotropic agents	1
T916.00	Accidental poisoning by other paints and varnishes	1
T802z00	Accidental poisoning by other opiates NOS	1
T802.00	Accidental poisoning by other opiates	1
T807.00	Accidental poisoning by other non-narcotic analgesics	1
T9...00	Accidental poisoning by other non-drug substances	1
T964.00	Accidental poisoning by other metals + compounds and fumes	1
T934.00	Accidental poisoning by other insecticides	1
T99y.00	Accidental poisoning by other gases and vapours OS	1
T99yz00	Accidental poisoning by other gases and vapours NOS	1
T99..00	Accidental poisoning by other gases and vapours	1
T95y.00	Accidental poisoning by other foods	1
T901.00	Accidental poisoning by other ethyl alcohol and its products	1
T85..00	Accidental poisoning by other drugs acting on nervous system	1
T88y.00	Accidental poisoning by other drugs OS	1
T88yz00	Accidental poisoning by other drugs NOS	1
T88..00	Accidental poisoning by other drugs	1
T94y.00	Accidental poisoning by other corrosives and caustics	1
T913z00	Accidental poisoning by other cleaning agents NOS	1
T913.00	Accidental poisoning by other cleaning agents	1
T90y.00	Accidental poisoning by other alcohols	1
T966y00	Accidental poisoning by other adhesives	1
T851.00	Accidental poisoning by oth central nervous syst depressants	1
T80y.00	Accidental poisoning by oth analgesics,antipyretic,antirheum	1
T931z00	Accidental poisoning by organophosphorus insecticides NOS	1
T931.00	Accidental poisoning by organophosphorus insecticides	1
T930.00	Accidental poisoning by organochlorine insecticides	1
T936000	Accidental poisoning by organic mercurials	1
T802300	Accidental poisoning by opium	1
T843100	Accidental poisoning by opiate antagonists	1
T887200	Accidental poisoning by ophthalmological drugs	1
T855100	Accidental poisoning by noradrenalin	1
T807z00	Accidental poisoning by non-narcotic analgesics NOS	1
T916200	Accidental poisoning by non-lead paints	1
T990.00	Accidental poisoning by nitrogen oxides	1
T941100	Accidental poisoning by nitric acid	1
T832500	Accidental poisoning by nitrazepam	1
T964600	Accidental poisoning by nickel compounds	1
T806200	Accidental poisoning by naproxen	1
T886.00	Accidental poisoning by muscle + respiratory system drugs	1
T887100	Accidental poisoning by mucous membrane drugs	1



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Read code	Description	Number of studies
T982.00	Accidental poisoning by motor vehicle exhaust gas	1
T802200	Accidental poisoning by morphine	1
T840200	Accidental poisoning by monoamine oxidase inhibitors	1
T933.00	Accidental poisoning by mixtures of insecticides	1
T935400	Accidental poisoning by mixtures herbicides+plant food etc	1
T825.00	Accidental poisoning by mixed sedatives NEC	1
T901100	Accidental poisoning by methylated spirit	1
T938100	Accidental poisoning by methyl bromide	1
T902.00	Accidental poisoning by methyl alcohol	1
T823.00	Accidental poisoning by methaqualone compounds	1
T902000	Accidental poisoning by methanol	1
T801.00	Accidental poisoning by methadone	1
T964z00	Accidental poisoning by metals + compounds and fumes NOS	1
T961000	Accidental poisoning by mercury, unspecified	1
T961z00	Accidental poisoning by mercury, NOS	1
T961200	Accidental poisoning by mercury fumes	1
T961.00	Accidental poisoning by mercury and its compounds and fumes	1
T832400	Accidental poisoning by medazepam	1
T964500	Accidental poisoning by manganese and its compounds	1
T931300	Accidental poisoning by malathion	1
T841100	Accidental poisoning by lysergide, LSD	1
T922.00	Accidental poisoning by lubricating oils	1
T832300	Accidental poisoning by lorazepam	1
T852.00	Accidental poisoning by local anaesthetic	1
T852100	Accidental poisoning by lignocaine	1
T960000	Accidental poisoning by lead, unspecified	1
T960z00	Accidental poisoning by lead, NOS	1
T915.00	Accidental poisoning by lead paints	1
T960.00	Accidental poisoning by lead and its compounds and fumes	1
T916000	Accidental poisoning by lacquers	1
T806400	Accidental poisoning by ketoprofen	1
T921300	Accidental poisoning by kerosene	1
T903z00	Accidental poisoning by isopropyl alcohol NOS	1
T903100	Accidental poisoning by isopropanol	1
T964400	Accidental poisoning by iron compounds	1
T934z00	Accidental poisoning by insecticides NOS	1
T806100	Accidental poisoning by indomethacin	1
T840100	Accidental poisoning by imipramine	1
T806300	Accidental poisoning by ibuprofen	1
T854200	Accidental poisoning by hyoscine	1
T941000	Accidental poisoning by hydrochloric acid	1
T850100	Accidental poisoning by hydantoin derivatives	1
T91z.00	Accidental poisoning by household agents NOS	1
T91..00	Accidental poisoning by household agents	1
T880.00	Accidental poisoning by hormones and synthetic substitutes	1
T800.00	Accidental poisoning by heroin	1
T935z00	Accidental poisoning by herbicides NOS	1
T935.00	Accidental poisoning by herbicides	1
T981300	Accidental poisoning by heating gas NOS	1
T831000	Accidental poisoning by haloperidol	1
T851200	Accidental poisoning by halogenated hydrocarbon derivatives	1
T841.00	Accidental poisoning by hallucinogens	1
T841z00	Accidental poisoning by hallucinogen NOS	1

Read code	Description	Number of studies
T806000	Accidental poisoning by gold salts	1
T966z00	Accidental poisoning by glues and adhesives NOS	1
T966.00	Accidental poisoning by glues and adhesives	1
T966000	Accidental poisoning by glues	1
T884.00	Accidental poisoning by gastrointestinal system drugs	1
T470.00	Accidental poisoning by gases or fumes on ship	1
T99z.00	Accidental poisoning by gases and vapours NOS	1
T921100	Accidental poisoning by gas oils	1
T97..00	Accidental poisoning by gas distributed by pipeline	1
T936z00	Accidental poisoning by fungicides NOS	1
T936.00	Accidental poisoning by fungicides	1
T938.00	Accidental poisoning by fumigants	1
T95z.00	Accidental poisoning by foodstuffs and poisonous plants NOS	1
T965100	Accidental poisoning by fertilisers	1
T982000	Accidental poisoning by exhaust gas-stationary farm tractor	1
T982z00	Accidental poisoning by exhaust gas from motor vehicle NOS	1
T982100	Accidental poisoning by exhaust gas from gas engine	1
T901z00	Accidental poisoning by ethyl alcohol NOS	1
T901300	Accidental poisoning by ethanol, NOS	1
T8...00	Accidental poisoning by drugs, medicines and biologicals	1
T882.00	Accidental poisoning by drugs affecting blood constituents	1
T85z.00	Accidental poisoning by drugs acting on nervous system NOS	1
T8z..00	Accidental poisoning by drugs NOS	1
T914.00	Accidental poisoning by disinfectants	1
T935300	Accidental poisoning by diquat	1
T930300	Accidental poisoning by dieldrin	1
T832100	Accidental poisoning by diazepam	1
T800.11	Accidental poisoning by diamorphine	1
T887400	Accidental poisoning by dental drugs	1
T901000	Accidental poisoning by denatured alcohol	1
T938000	Accidental poisoning by cyanides	1
T967.00	Accidental poisoning by cosmetics	1
T94z.00	Accidental poisoning by corrosives and caustics NOS	1
T94..00	Accidental poisoning by corrosives and caustics NEC	1
T940.00	Accidental poisoning by corrosive aromatics	1
T964300	Accidental poisoning by copper salts	1
T981400	Accidental poisoning by cooking gas NOS	1
T802000	Accidental poisoning by codeine	1
T852000	Accidental poisoning by cocaine	1
T971.00	Accidental poisoning by coal gas NOS	1
T853.00	Accidental poisoning by cholinergics	1
T830000	Accidental poisoning by chlorpromazine	1
T99y000	Accidental poisoning by chlorine	1
T832000	Accidental poisoning by chlordiazepoxide	1
T930100	Accidental poisoning by chlordane	1
T935200	Accidental poisoning by chlorates	1
T820.00	Accidental poisoning by chloral hydrate	1
T88y000	Accidental poisoning by central appetite depressants	1
T942z00	Accidental poisoning by caustic alkalis NOS	1
T942.00	Accidental poisoning by caustic alkalis	1
T883.00	Accidental poisoning by cardiovascular system drugs	1
T983.00	Accidental poisoning by carbon monoxide-other domestic fuel	1
T970.00	Accidental poisoning by carbon monoxide from piped gas	1

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Read code	Description	Number of studies
T98y.00	Accidental poisoning by carbon monoxide from other sources	1
T98yz00	Accidental poisoning by carbon monoxide from oth source NOS	1
T98z.00	Accidental poisoning by carbon monoxide NOS	1
T983z00	Accidental poisoning by carbon monoxide - domestic fuel NOS	1
T940000	Accidental poisoning by carbolic acid	1
T932100	Accidental poisoning by carbaryl	1
T932.00	Accidental poisoning by carbamates	1
T841000	Accidental poisoning by cannabis derivatives	1
T842100	Accidental poisoning by caffeine	1
T964200	Accidental poisoning by cadmium and its compounds	1
T980100	Accidental poisoning by butane	1
T993000	Accidental poisoning by bromobenzyl cyanide	1
T822.00	Accidental poisoning by bromine compounds	1
T822000	Accidental poisoning by bromides	1
T964100	Accidental poisoning by brass fumes	1
T964000	Accidental poisoning by beryllium and its compounds	1
T832.00	Accidental poisoning by benzodiazepine-based tranquillisers	1
T930000	Accidental poisoning by benzene hexachlorine	1
T924000	Accidental poisoning by benzene	1
T81z.00	Accidental poisoning by barbiturates NOS	1
T81..00	Accidental poisoning by barbiturates	1
T811.00	Accidental poisoning by barbitone	1
T854000	Accidental poisoning by atropine	1
T803000	Accidental poisoning by aspirin	1
T963000	Accidental poisoning by arsenic, unspecified	1
T963100	Accidental poisoning by arsenic compounds	1
T963.00	Accidental poisoning by arsenic and its compounds and fumes	1
T804.00	Accidental poisoning by aromatic analgesics NEC	1
T806z00	Accidental poisoning by antirheumatics NOS	1
T806.00	Accidental poisoning by antirheumatics	1
T840z00	Accidental poisoning by antidepressants NOS	1
T840.00	Accidental poisoning by antidepressants	1
T850z00	Accidental poisoning by anticonvulsant/anti-parkin drug NOS	1
T850.00	Accidental poisoning by anticonvulsant + anti-parkinson drug	1
T850.11	Accidental poisoning by anticonvulsant	1
T854.00	Accidental poisoning by anticholinergics	1
T86..00	Accidental poisoning by antibiotics	1
T850.12	Accidental poisoning by anti-parkinsonism drug	1
T87..00	Accidental poisoning by anti-infectives	1
T80..00	Accidental poisoning by analgesics,antipyretic,antirheumatic	1
T80z.00	Accidental poisoning by analgesics,antipyretic,antirheum NOS	1
T842000	Accidental poisoning by amphetamine	1
T840000	Accidental poisoning by amitriptyline	1
T900.00	Accidental poisoning by alcoholic beverages	1
T90..00	Accidental poisoning by alcohol, NEC	1
T90z.00	Accidental poisoning by alcohol NOS	1
T93..00	Accidental poisoning by agricultural chemical preparations	1
T855.00	Accidental poisoning by adrenergics	1
T855000	Accidental poisoning by adrenalin	1
T941z00	Accidental poisoning by acids NOS	1
T941.00	Accidental poisoning by acids	1
T981000	Accidental poisoning by acetylene	1
T930200	Accidental poisoning by DDT	1

Read code	Description	Number of studies
T983300	Accidental poisoning by CO- kerosene in domestic stove/fire	1
T983100	Accidental poisoning by CO- coke in domestic stove/fireplace	1
T983000	Accidental poisoning by CO- coal in domestic stove/fireplace	1
T98y100	Accidental poisoning by CO - kiln vapour	1
T98y200	Accidental poisoning by CO - fuels in industrial use	1
T98y000	Accidental poisoning by CO - blast furnace gas	1
T93z.00	Accidental poisoning agricultural chemical preparations NOS	1
T9z..00	Accidental poisoning NOS	1
T77z.00	Accident/poisoning occurred in residential institution NOS	1
T85y.00	Accid. poisoning by other drugs acting on nervous system OS	1
T470500	Accid poison gas/fume on ship - swimmer injured	1
SL24011	ACTH - adrenocorticotrophic hormone poisoning	1

**Appendix 20. ICD codes used in the studies of anxiety.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Bouras, 2016	CPRD + HES	ICD-10	F40-F48

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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**Appendix 21. ICD codes used in the studies of depression.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Bouras, 2016	CPRD + HES	ICD-10	F32, F33
Jenkins-Jones, 2018	CPRD + HES	ICD-10	F32, F33, F41.2, F92.0

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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**Appendix 22. ICD codes used in the studies of dementia.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Brown, 2016	CPRD + HES	ICD-10	E512, F00, F01, F02, F03, F10.6, F10.7, G30, G31.0
Emdin, 2016	CPRD + HES	ICD-10	F01

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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3 **Appendix 23. ICD codes used in the studies of fatal self-harm.**  
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Study	ICD version	List of codes
Carr, 2017	ICD-10	V01-Y98
Coupland, 2015	ICD-10	not provided
Doyle, 2016	ICD-10	X60-X84, Y10-34 (excluding Y33.9), Y87.0 and Y87.2
Lalmohamed, 2012	ICD-10	V01-Y99
Meier, 2004	ICD-10	not provided
Schuerch, 2016	ICD-10	X60-X84, Y10-Y34
Thomas, 2013	ICD-10	X60-X84, Y10-34 (excluding Y33.9)
Webb, 2012	ICD-10	X60-X84, Y10-34 (excluding Y33.9)
Windfuhr, 2016	ICD-10	X60-X84, Y10-34 (excluding Y33.9), Y87.0 and Y87.2

23 ICD - International Classification of Diseases  
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# PRISMA 2009 Checklist

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Section/topic	#	Checklist item	Reported on page #
<b>TITLE</b>			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
<b>ABSTRACT</b>			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
<b>METHODS</b>			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	None exists
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix 1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Not applicable
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Not applicable



# PRISMA 2009 Checklist

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., $I^2$ ) for each meta-analysis.	7-8
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Page 1 of 2

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	Not applicable
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Not applicable
<b>RESULTS</b>			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Fig 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	App. 3-10
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Not applicable
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	App. 11-22
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Not applicable
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Not applicable
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Not applicable
<b>DISCUSSION</b>			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	14
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	14-15
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	16-19
<b>FUNDING</b>			
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Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	3
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*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: [www.prisma-statement.org](http://www.prisma-statement.org).

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# BMJ Open

## Identification of mental health and quality of life outcomes in primary care databases in the United Kingdom: a systematic review

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<b>Primary Subject Heading</b>:	Mental health
Secondary Subject Heading:	Research methods
Keywords:	PRIMARY CARE, MENTAL HEALTH, Electronic health records databases

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3 **Identification of mental health and quality of life outcomes in primary care databases**  
4 **in the United Kingdom: a systematic review**  
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8 Helena Carreira<sup>1</sup>, Rachael Williams<sup>2</sup>, Helen Strongman<sup>1</sup>, Krishnan Bhaskaran<sup>1</sup>  
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## Abstract

*Objectives:* To summarise the definitions and combinations of codes used to identify outcomes of anxiety, depression, fatigue, cognitive dysfunction (including mild cognitive dysfunction and dementia), sexual dysfunction, pain, sleep disorders, and fatal and non-fatal self-harm in studies using electronic health records from primary care databases in the United Kingdom (UK).

*Design:* Systematic review.

*Data sources:* Medline, Embase, and lists of publications of the main primary care databases in the UK.

*Eligibility criteria:* Included data from a primary care database and studied outcome(s) of interest.

*Data extraction and synthesis:* We abstracted information on the outcomes definition and codelists. When necessary, authors were contacted to request codelists.

*Results:* 120 studies were eligible. Codelists were available for 17/42 studies of depression; 21/41 studies of fatal and non-fatal self-harm; 17/27 studies of dementia/cognitive dysfunction; 5/12 studies of anxiety; 4/8 studies of pain; 3/6 studies of fatigue and sexual dysfunction; 1/2 studies of sleep disorders. Depression was most often defined using codes for diagnoses (37/42 studies) and/or antidepressants prescriptions (21/42 studies); 6 studies reported including symptoms in their definition. Anxiety was defined with codes for diagnoses (12/12 studies); 4 studies also reported including symptoms. Fatal/non-fatal self-harm was ascertained in primary care data linked to the Office for National Statistics mortality database in 9 studies. Most studies of cognitive dysfunction included Alzheimer's disease, and vascular and frontotemporal dementias. Fatigue definitions varied little, including chronic fatigue syndrome, neurasthenia, and post viral fatigue syndrome. All studies of sexual dysfunction focused on male conditions, principally erectile dysfunction. Sleep disorders included insomnia and hypersomnia. There was substantial variability in the codelists; validation was carried out for 21/120 studies.

*Conclusions:* There is a need for standardized definitions and validated list of codes to assess mental health and quality of life outcomes in primary care databases in the UK.

### Strengths and limitations of this study

- Comprehensive systematic review of the literature aiming at describing the definitions and combination of codes used to identify outcomes of mental health and quality of life in electronic health records databases in the UK;
- Potential for error in the selection of the eligible studies minimised by duplication of the screening;
- The authors of the original studies were contacted to obtain the list of Read codes used when these were not publicly available;
- We only considered definitions of study outcomes, and did not consider studies where mental health or quality of life variables were covariates or exposure variables, limiting the generalisability of our results to these other contexts.

### Funding

This work was supported by the Medical Research Council (MRC) and the Clinical Practice Research Datalink (CPRD) at the Medicines and Healthcare products Regulatory Agency (MHRA) (grant number MR/M016234/1 to H.C.); and the Wellcome Trust and the Royal Society (grant number 107731/Z/15/Z to K.B.).

### Data availability

All data relevant to the study are included in the article or uploaded as supplementary information.

### Contributorship Statement

HC, RW and KB designed the study. HC and HS screened the list of references and abstracted information from the original studies. HC wrote the first draft of the manuscript. All authors revised the paper for important intellectual content.

### Acknowledgements

We would like to thank the authors of the original studies who kindly provided the list of codes used in their studies. We would also like to thank Daniel Dedman (CPRD/LSHTM) for helpful comments on the search expressions.

The copyright of the morbidity definitions/categorisations lists (©2014) obtained from the authors for the studies by Roddy et al, 2013, Abdul Sultan et al, 2017, and Mansfield et al, 2018, are owned by Keele University, the development of which was supported by the

1  
2  
3 Primary Care Research Consortium. The authors would like to acknowledge Keele  
4 University's Prognosis and Consultation Epidemiology Research Group who have given us  
5 permission to utilise the morbidity definitions/categorisations lists (©2014); for access/details  
6 relating to the morbidity definitions/categorisation lists (©2014) please go to  
7 [www.keele.ac.uk/mrr](http://www.keele.ac.uk/mrr).  
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### 13 **Conflict of interest**

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15 Dr Bhaskaran reports grants from Wellcome Trust, the Royal Society, Medical Research  
16 Council, and British Heart Foundation, outside the submitted work. Dr Williams reports that  
17 CPRD has financial relationships with its clients, including the London School of Hygiene and  
18 Tropical Medicine, in relation to providing access to research data and services outside the  
19 submitted work. The other authors in this report have no conflict of interest to disclose.  
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## Introduction

Primary care databases of electronic health records (EHR) in the United Kingdom (UK) such as The Clinical Practice Research Datalink (CPRD), QResearch or The Health Improvement Network (THIN) have been widely used to study mental health outcomes such as depression [1, 2], and other key aspects of quality of life, such as fatigue and pain [3, 4], even though the identification of patients with these conditions is not straightforward.

Strategies to identify patients with a given condition in the EHRs typically include generating lists of relevant codes, then searching the patients' record for these codes to identify symptoms, diagnoses, referrals, appointments for disease management and monitoring, and/or prescriptions of interest [5]. The process of developing a list of codes of interest, and deciding how to apply them, may be subjective. For example, a study on the selection of codes for stroke, a relatively well-defined clinical outcome, showed that researchers with clinical and epidemiological experience may have differing interpretations of the relevance of each code [6]. A systematic review on the identification of patients with cancer in UK primary care databases described several combinations of Read codes used across studies [7]. Estimates of validity of diagnoses in these databases have been generally high across disease types [8, 9], but the heterogeneity in the codelists raises issues of misclassification, and hampers the comparability of studies using the same data to assess the same outcome [10]. The pattern of use of the codes by the general practitioners (GPs) also needs consideration. For example, in recording depression, it has been shown that GPs have switched from diagnostic to symptom codes in recent years [11]; this may have a large impact on outcome definitions based around diagnostic codes. In addition, outcome definitions using prescription data may lead to misclassification where drugs have multiple indications: for example, sertraline, paroxetine, or escitalopram, amongst the most commonly used antidepressants, are also first-line treatments for generalised anxiety disorder [12]; and amitriptyline, a tricyclic antidepressant, is also a first-line treatment for neuropathic pain [13].

Given the broad interest in mental health and quality of life outcomes, and the strong potential for primary care data to contribute to studying these outcomes, our aim was to systematically review and summarise the strategies used to define such outcomes in previous studies, and the extent to which case definitions have been validated.

## Methods

This review followed the a priori defined methods specified in the systematic review protocol (appendix 1).

### Outcomes of interest

The outcomes of interest for this review were: anxiety, depression, fatigue, cognitive dysfunction, pain, sexual dysfunction, sleep disorder and fatal and non-fatal self-harm. We considered that a study provided data for cognitive dysfunction when dementia, mild cognitive impairment or single domains of cognitive function were studied (i.e. attention, executive function, memory, language, motor, and social). Composite outcomes of two or more of these outcomes (e.g. psychological impairment defined by anxiety or depression) were also eligible.

### Information sources and search strategy

We searched MEDLINE and Embase via Ovid®, from inception up to 28 June 2018, to identify studies that involved EHRs from primary care databases and studied one of the outcomes of interest (see above). The search expressions are provided in appendix 1, and combined terms to identify primary care databases, terms to identify mental health and quality of life outcomes, and terms indicating UK-based research. The CPRD, THIN and QResearch list of publications, available in their websites, were manually revised to identify additional studies. The lists of bibliographic references of the studies considered eligible for the review were also screened by hand to identify additional studies.

### Studies eligibility

We considered eligible the studies that used data from a primary care database that routinely gathers EHR data from primary care practices in the UK, and in which the outcome of interest was one of those of interest for this study (see list above). This included purely descriptive studies on the incidence/prevalence of the outcome and analytical studies where the condition of interest was one of the main outcomes of the study. Studies of primary care data linked to other sources of data, such as the Hospital Episode Statistics (HES) or the Office for National Statistics (ONS) mortality data, were also considered eligible.

Abstracts from conferences were excluded, as it was unlikely that the methods section would provide sufficiently detailed information on the definition of the outcomes. Studies of pain

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3 caused by infectious agents (e.g. herpes zoster) were excluded; similarly, studies of sleep  
4 apnoea and narcolepsy were excluded due to their unlikely psychological origin [14, 15].  
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6 Studies reporting only on patterns of treatment of the conditions of interest were excluded,  
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8 unless pharmacological treatment was clearly used as a proxy for the definition of the  
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10 condition. Studies where the outcome of interest was comorbidity were also excluded. Where  
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12 there were multiple studies from the same group of authors, we considered these separately,  
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14 since the definition of the same outcomes could have been updated over time.

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16 The eligibility of the studies was determined by two authors (HC and HS) reviewing all  
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18 records retrieved from the publications databases. First, the title of each study was read to  
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20 determine the eligibility for the review; when the information provided in the title was  
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22 insufficient for a clear exclusion of the study, the study was considered for further  
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24 assessment. Secondly, the full text of each study not previously excluded was read, in order  
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26 to determine the eligibility. Disagreements over study eligibility between the two reviewers  
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28 were resolved by discussion, including with a third researcher (KB or RW) where needed.

#### 29 30 Data acquisition and extraction

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32 We abstracted data on study characteristics (title, study design), the primary care database  
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34 used, any database(s) linked to the primary care data, outcome(s) reported, definition of the  
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36 outcome(s) (i.e. Read codes, drug prescriptions, International Classification of Diseases  
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38 (ICD) codes, etc.) and any codelist available. When there were two or more definitions of the  
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40 outcome (e.g. used in sensitivity analyses), we abstracted all information but considered only  
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42 the main outcome for data analysis in this review. We also abstracted data on whether the  
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44 codelist had been validated, and any description related to the handling of past or prevalent  
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46 (at baseline in cohort studies) episodes of these outcomes. We considered that the study  
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48 had attempted to validate the list of codes when the results were compared to data from  
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50 another source, or when outcomes were confirmed by enquiring the patients' GP or by  
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52 reviewing the patients' medical record. The data extraction process was repeated by a  
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54 second author (HS) for 10% of the papers included for each outcome, to check for reliability  
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56 in the extraction process.

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58 When a study did not provide the codelist for the definition of the outcome in the original  
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60 publication or in a publicly available repository, we contacted the corresponding author of the  
study by email seeking this information (appendix 2). In the case of emails that could not be  
delivered to the corresponding author, we searched the contact of another study author,  
usually the first or the last author, and addressed the email to her/him; if this failed to be

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3 delivered, no further attempt of contact was made. For all delivered emails, if no response  
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### 8 Data analysis

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10 We produced descriptive tables showing the number and proportion of studies eligible for  
11 each outcome, by primary care database and codelist availability. We described, for each  
12 outcome, the types of codes used in the definition of the outcomes (e.g. diagnosis codes,  
13 symptom codes, prescription codes). The lists of codes were also reviewed to assess the  
14 clinical characteristics of the disorders included (e.g. whether mixed anxiety and depression  
15 was included in the definition of anxiety or depression); this was done by manually reviewing  
16 the list of codes to identify codes related to different clinical characteristics of the specific  
17 outcome. To describe the Read codes most commonly used to identify these outcomes in  
18 the data, we produced a list of Read codes sorted by number of studies that used the code.  
19 The results of the validation studies described in the original papers were reported  
20 descriptively.  
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### 29 Patient and Public Involvement

30 No patients or public were involved in the design and conduct of this study.  
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## Results

Of 5,946 records initially identified in the bibliographic references search, 2,979 were discarded as being duplicated, which left 2,967 records to be assessed for eligibility (Figure 1). The title assessment resulted in the exclusion of 2,485 records, and 482 studies were considered for full text assessment. Of these, 368 studies were excluded, mostly because they were abstracts from conferences or did not evaluate relevant outcomes. Six papers were identified from the screening of the references. A total of 120 studies were eligible for the systematic review; list of codes were obtained for nearly half of the studies. The definitions and combinations of codes used to identify mental health and QoL outcomes from UK primary care databases were heterogeneous for all outcomes; there was particular variability in the inclusion/exclusion of codes for symptoms of the mental disorders. Prescriptions were not frequently used as proxy for mental disorders. Validation efforts were rarely employed. Detailed results for each outcome are provided below.

### *Anxiety*

12 studies had anxiety as an outcome (Table 1 and appendix 3 table 1); of these, two studied panic only [2, 16]. The list of codes used to identify outcomes of anxiety was available for 5 of the 12 studies (41.7%); in one study, the cases of anxiety were identified in CPRD data linked to HES. All 12 studies included codes for diagnosis of anxiety, and 4 (33.3%) included also codes for anxiety symptoms. Prescriptions were considered in the definition of the outcome in 1 study only (8.3%).

Of the 5 studies for which codelists were available, 5 included codes for generalized anxiety disorder (100%), 4 for phobia (80.0%), 4 for panic disorder/attacks (80.0%), 3 for mixed anxiety and depression (60.0%), and 2 for stress-related disorders (40.0%) (Table 2). Codes for post-traumatic stress disorder and obsession-compulsion were less often included (1 study each, 20.0%).

Only one study reported including drugs prescriptions in the definition of the outcome [17]; this considered diazepam and lorazepam only (Table 3).

Two studies [2, 18] assessed the validity of the codelists (Table 4). The proportion of cases confirmed was reported in one study: 73.5% for cases treated with anxiolytics, antidepressants and hypnotics, and 89.6% in those not pharmacologically treated [18].

Appendix 4 table 1 provides the list of Read codes used to identify patients with anxiety in the eligible studies; appendix 4 table 2 provides the list of ICD-10 codes.

### *Depression*

42 studies identified outcomes of depression (Table 1 and appendix 3 table 2). The list of codes used to identify outcomes of depression was available for 17 of the 42 studies (40.5%); 2 studies identified cases of depression in primary care data linked to HES data, using ICD-10 codes. Six studies defined depression by proxy of antidepressants intake only; the remaining 36 studies described to have included codes for diagnoses of depression and 6 (14.3%) studies also considered symptoms of depression in the definition of the outcome. 15 studies (35.7%) reported having excluded patients with history of depression.

Of the 17 studies for which the codelists were available, 10 included codes for mixed anxiety and depression (58.8%), 4 for bipolar disorder (23.5%) and 3 for depression in dementia (17.6%) (Table 2).

Antidepressant prescriptions, in isolation or combination with diagnostic/symptoms Read codes, were considered in the identification of patients with depression in 21 studies (50.0%); in 6 studies, depression was solely defined by the prescription of antidepressants (Table 3). The list of antidepressant categories was seldom provided; of the studies that reported this information, selective serotonin re-uptake inhibitors were the group most often considered (6 studies), followed by monoamine-oxidase inhibitors and tricyclic and related antidepressants drugs (3 studies each).

Five studies (11.9%) assessed the performance of the list of codes to identify patients with depression (Table 4). The proportion of cases confirmed was reported by two studies only: 83.3% [19] and 89.6% [20].

The list of Read codes used to identify patients with depression is provided in appendix 4 table 3; appendix 4 table 4 provides the list of ICD-10 codes.

### *Composite outcome of anxiety and depression*

Two studies provided data for composite outcomes of anxiety and depression (Table 1 and appendix 3 table 3). The codelist was available for the two studies. The studies reported including codes for symptoms as well as diagnosis of anxiety and depression, and included prescriptions of antidepressants and antianxiety drugs in the definition of the outcome.

John et al. [21] compared the performance of 12 different algorithms to identify patients with anxiety and depression in the Secure Anonymised Information Linkage Databank (SAIL); the positive predictive value of the Read codes for anxiety and depression diagnoses, symptoms and treatments, against the five-item Mental Health Inventory (gold-standard), varied

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3 between 61% and 76% [21] (Table 4). The list of Read codes used to identify patients with  
4 composite outcomes of anxiety and depression is provided in appendix 4 table 5.  
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### 9 *Cognitive dysfunction (including dementia and mild cognitive dysfunction)*

10 27 studies reported outcomes of dementia or cognitive function (Table 1 and appendix 3  
11 table 4). The codelists were available for 17 studies (63.0%); in two studies dementia was  
12 ascertained in primary care data linked to other sources of data. All studies included codes  
13 for diagnosis of dementia or cognitive impairment, and 6 studies (22.2%) reported to have  
14 included also codes for symptoms of dementia. 21 studies (77.8%) referred to have excluded  
15 patients with prior diagnoses of dementia from longitudinal analyses.  
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20 Of the 17 studies for which the codelists were available, 13 reported codes for Alzheimer's  
21 disease (81.3%), 13 for vascular dementia (81.3%), 12 for frontotemporal dementia (75.0%),  
22 and 11 for Lewy bodies disease (68.8%) (Table 2). Three studies reported data for cognitive  
23 impairment without dementia (17.6%).  
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27 Four studies (14.8%) used prescriptions in the identification of patients with dementia; all four  
28 included anticholinesterases and dopaminergic agents (Table 3).  
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30 Five studies [22-26] involved validation of the list of codes; the proportion of cases confirmed  
31 varied between 74% and 100% (Table 4).  
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34 The list of Read codes used in the studies is provided in appendix 4 table 6; the list of ICD-10  
35 codes is provided in appendix 4 table 7.  
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### 40 *Fatigue*

41 Six studies had fatigue as the outcome (Table 1 and appendix 3 table 5). All studies  
42 considered codes for diagnoses of fatigue, and 5 studies also described including codes for  
43 symptoms of fatigue. The list of codes use to identify patients with fatigue was provided in 3  
44 studies (50.0%).  
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48 The three studies for which the codelist was available included codes for chronic fatigue  
49 syndrome, neurasthenia and post-viral fatigue syndrome (Table 2). Fibromyalgia was  
50 included in two studies (66.7%). None of the studies assessed the validity of the list of the  
51 codes. The list of Read codes used in the studies of fatigue is available in appendix 4 table 8.  
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### *Pain*

8 studies had pain as the outcome (Table 1 and appendix 3 table 6). The list of codes was available for 4 of the 8 studies. Of these 4 studies, three looked at pain by body site (i.e. chest, abdominal, musculoskeletal pain), one study studied widespread body pain (Table 2). Two studies included drugs in the identification of patients with pain; all considered anti-epileptics (in the absence of codes for an epilepsy diagnosis), anaesthetics, antidepressants and analgesics (Table 3).

Three studies validated the list of selection of the codes (Table 4). The proportion of cases confirmed varied between 56% and 86.4%. One study compared pain recorded in the EHR with pain reported in a survey; in 97% of the self-reported cases of pain, there was an entry in the EHR [27].

Appendix 4 table 9 provides the list of codes used in the original studies.

### *Sexual dysfunction*

Six studies had sexual dysfunction as an outcome, all of which focused on male sexual dysfunction (Table 1, appendix 3 table 7). Three studies provided codelists (50.0%). Of these, all included codes for erectile dysfunction and one study included codes for other male sexual dysfunctions (Table 2). Three studies included considered the prescription of drugs sufficient to ascertain the outcome; two studies considered phosphodiesterase type-5 inhibitors (Table 3). No study validated the list of codes used. The list of Read codes used in the original studies are available in appendix 4 table 10.

### *Sleep disorders*

Two studies were eligible for sleep disorders (Table 1, appendix 3 table 8); the two studies included diagnoses of insomnia, and one included hypersomnia as well (50%) (Table 2). The list of codes was available for one study. No validation was reported. Appendix 4 table 11 provides the list of Read codes used in the original study.

### *Fatal and non-fatal self-harm*

41 studies had outcomes related to fatal and non-fatal self-harm (Table 1 and appendix 3 table 9). The list of codes used to defined the outcomes was available for 21 studies (51.2%); 9 studies reported using ICD-10 codes.



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3 Of the 21 studies for which the codelist was available, 17 studies (80.9%) included  
4 completed suicide, while 4 studies focused on attempted suicide only (19.1%). Of the 17  
5 studies including completed suicide as an outcome, 8 reported only completed suicides, 6  
6 considered completed and attempted suicides and 4 included complete and attempted  
7 suicide, as well as self-harm (Table 2). All studies where outcomes were identified using  
8 primary care data linked to ONS mortality data (gold-standard) considered deaths recorded  
9 as of undetermined intent in the definition of suicide.  
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14 Nine studies involved some method of validation of the list of cases identified via code  
15 search (Table 4). Four studies referred to have revised the clinical record of the patient to  
16 determine the final outcome and two studies asked the GPs to confirm the events. The  
17 proportion of cases confirmed varied between 21.2% and 97%. Hall et al [28] assessed the  
18 validity of cause of death recording in the THIN primary care database through search of the  
19 free text and death certificate review; the underlying cause of death registered in the death  
20 certificate was listed as the cause of death in the EHR in 70% of the cases. Thomas et al [29]  
21 compared the ascertainment of cases of suicide and self-harm using Read codes in CPRD,  
22 with those ascertained when data from HES and ONS mortality data were available. 26.1%  
23 of the cases of suicide identified in the ONS mortality data were registered in the CPRD  
24 primary care database. HES was considered the gold-standard for self-harm; 68.4% of the  
25 cases of self-harm in HES were identified as such in CPRD.  
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29 Appendix 4 table 12 provides the list of Read codes used to identify outcomes of fatal and  
30 non-fatal self-harm in primary care data; appendix 4 table 13 includes the lists of ICD-10  
31 codes using in studies of linked data.  
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## Discussion

### *Results overview*

This review summarised the definitions and combinations of codes used to identify outcomes of anxiety, depression, dementia and cognitive impairment, fatigue, pain, male sexual dysfunction, sleep disorder and self-injurious behaviour in primary care databases of patients in the UK. The list of codes used in the original studies was obtained for approximately half of the papers; the lack of detailed information on the definition of the outcomes in most studies raises important questions as to whether studies can be replicated by others. In the studies where the codelist was available, for all outcomes, there was substantial heterogeneity in the type of codes included (e.g. diagnoses and symptoms) and drugs selected to identify outcomes; for the remaining studies, the details provided in the original publications suggest a similar pattern. We also noted considerable variability in the clinical definition of some outcomes (e.g. inclusion/exclusion of bipolar disorders in studies of depression). Validation of codes used to identify these outcomes was rarely carried out; where done, positive predictive values of case definitions were variable but mostly above 80%. To overcome these issues in the current context of limited number of studies with validation efforts, it is imperative that researchers develop, validate and make publicly available code lists for these outcomes.

### *Strengths and limitations*

This review is based on an extensive search of the studies involving EHRs in the UK. Errors in study selection and data extraction were minimized by the independent assessment of the studies by two investigators. We contacted the authors of all original studies where the list of codes had not been provided in the original publication to seek this information; this largely improved the number of studies for which lists of codes were available, and contributed to a more detailed characterisation of the combination of codes used to defined mental health outcomes in primary care databases of EHR in the UK.

However, this review has limitations. Some relevant studies may have been missed due to imperfect search terms, as there is no MESH term for the primary care databases, and studies could be potentially missed if the keywords did not appear in the title and abstract, or due to inaccurate indexing in the publications database. We attempted to minimise the risk of missing potential eligible studies by using broad search terms incorporating both indexing terms and keywords, two databases with different indexing systems, and an additional manual check of the eligible studies and list of bibliographic references from the main EHR

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3 databases. We only considered studies where mental health or quality of life variables were  
4 the outcomes of interest, limiting generalisability to other contexts. For example, we excluded  
5 studies where these variables were covariates because we expected that detailed  
6 information about covariate definitions would rarely be available. We also excluded studies  
7 where the mental health or quality of life variable was used to define the patient population  
8 (e.g. a study of risk of stroke in depressed patients), on the basis that decisions about how to  
9 define cases may have had quite different motivations in this context, compared with studies  
10 where the condition was the outcome of the study, making case definitions difficult to  
11 meaningfully compare. We included studies that explicitly referred to using prescription data  
12 as a proxy for the definition of the condition (e.g. treated depression assessed by proxy of  
13 antidepressant intake), but we acknowledge that it was not always clear to decide whether  
14 treatment of the condition was being used to define the condition. This could have resulted in  
15 a few studies erroneously excluded, even though this should have been minimised by the  
16 duplication of the search and study selection process by two researchers working  
17 independently, with discussion of all discordant results. It is unclear if the list of codes that  
18 could not be obtained differ in any systematic way to the ones obtained. Some authors  
19 expressed concerns over intellectual property when sharing the list of codes, and this may  
20 have been a bigger concern among those who put a lot of time and thought into their  
21 codelists; on the other hand, authors who have concerns about the quality of their codelist  
22 may have been less willing to share them. Lastly, we summarised the types of codes used to  
23 define the outcome based on what was stated in original studies' methods sections (because  
24 code lists were not available for all studies), but this may have been inaccurate: for example,  
25 some studies that reported in their methods only including diagnosis codes then provided  
26 code lists that appeared to also contain symptom codes.  
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#### *Availability of the list of codes*

45 The list of codes was provided in the original publications for just over a quarter of the  
46 studies. Contacting the authors resulted in codelists being made available for approximately  
47 half of the studies. For the remaining studies, the authors either could not be contacted (e.g.  
48 moved institutions, retired) or could not locate the relevant codelist (including for some  
49 studies where the paper had stated that the codelist would be available on request).  
50 Provision of codelists within the publication or in a web repository would eliminate the  
51 difficulties of authors having to be contacted and archived codelists retrieved. Most journals  
52 currently accept codelists in supplementary appendices. Codelists were hardly ever obtained  
53 for older studies, especially those published before 2000, when email addresses were not  
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3 routinely included in the details of the corresponding authors. We searched for alternative  
4 contacts in these cases, but not always successfully.  
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### 9 *Variability in the definition of cases and codelists*

#### 10 Anxiety and depression

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13 Anxiety was often defined with diagnostic and symptoms codes, and in a few studies by the  
14 prescription of anxiolytics and hypnotics. Even though the sensitivity of symptoms codes for  
15 anxiety is expected to be high, the positive predictive value is unknown. Anxiolytics may also  
16 result in misclassification of the outcomes, as they are currently discouraged as first line of  
17 treatment for anxiety [12] and are often prescribed for management of other conditions such  
18 as insomnia. No study considered antidepressants in the definition of anxiety even though  
19 these are currently used to manage anxiety [12]; this may have resulted in cases of anxiety  
20 treated with antidepressants, and where no Read code was available, being missed.  
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26 The inclusion/exclusion of codes for symptoms may have a larger impact in the definition of  
27 depression, as it has been shown that GPs switched from diagnostic to symptoms codes  
28 after the introduction of performance indicators in the GP contract Quality and Outcomes  
29 Framework in 2006 [11] and under claims that depression was being over diagnosed [30,  
30 31]. Codelists solely relying on Read codes for diagnosis of depression are therefore likely to  
31 have low sensitivity, but the impact of including/excluding a specific code will be variable,  
32 depending on how often that code is used by GPs at the point of providing care. In a few  
33 studies, depression was defined by proxy of antidepressant prescribing, alone or in  
34 combination with Read codes for symptoms/diagnosis. Considering antidepressant  
35 prescribing in the definition of depression has several issues. Certain types of  
36 antidepressants are currently used as first line of treatment for other conditions, such as pain  
37 and anxiety, and the studies relying solely on this information will be affected by  
38 misclassification of the outcome; some studies took this into account by excluding low dose  
39 tricyclic antidepressants, usually prescribed for pain, from their list of codes used to define  
40 depression [32-34]. Amongst the studies that did include antidepressants in their definition,  
41 there was heterogeneity in the group of antidepressants included, with some studies  
42 selecting only a few specific drugs commonly used for the treatment of depression. Studies  
43 defining depression by proxy of antidepressant prescribing only are likely also to be affected  
44 by changes in the behaviour of antidepressant prescribing. In 2004, the National Institute for  
45 Clinical Excellence (NICE) issued guidelines discouraging antidepressants for mild  
46 depression [35], and in 2006 a performance indicator in the UK GP Quality and Outcomes  
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3 Framework pay for performance was introduced for depression severity assessed with  
4 validated symptoms questionnaires [36]. Following this measure, the proportion of new cases  
5 of pharmacologically treated depression decreased (from 73% in 2003 to 61% in 2012 [37]),  
6 but the proportion of recurrent episodes pharmacologically treated increased from 74.3% to  
7 77.8% [37]. Treatment duration times with antidepressants also increased over time [38]; this  
8 may affect the number of new episodes of depression identified in the studies. In several  
9 studies, the authors chose to report separate results for antidepressant prescribing, without  
10 using this information to ascertain the outcome of depression [39, 40]; this may partially be  
11 due to the difficulties of ascertaining the indications for which antidepressants were  
12 prescribed. John et al, 2016 explored the indications of antidepressants; more than half of  
13 the new antidepressant prescriptions were for depression, with increasing but low incidence  
14 of prescriptions for pain and anxiety, but the authors could not identify the indication for  
15 antidepressants in 17% of the new prescriptions [41].

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24 Regardless of the type of codes included, authors will need to often choose the  
25 inclusion/exclusion of codes relating to the clinical profile of the patients. This may have a  
26 particular impact for conditions that are highly co-morbid. For example, the code for 'mixed  
27 anxiety and depression' was sometimes used in the definition of anxiety and in the definition  
28 of depression; anxiety and depression are highly co-morbid and the inclusion/exclusion of  
29 these patients may have an impact on the results. In addition, for depression, the inclusion of  
30 codes related to depression in the context of bipolar disease, dementia and schizophrenia  
31 may raise issues as to whether it represents a primary depressive episode.

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37 Part of the heterogeneity in the list of codes used to identify these outcomes may be  
38 explained by the complexity of these conditions and by the purpose for which these data are  
39 collected. Electronic health care data are primarily collected to provide patients with  
40 treatment, and distinctions between diagnosis and symptoms may have less weight at the  
41 point of care than when researchers aim to define these conditions using data routinely  
42 collected.

#### 43 44 45 46 47 Fatal and non-fatal self-harm

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Routinely collected primary care data was shown to have low sensitivity to detect cases of  
suicide [29]. Thus, record linkage to ONS mortality data is of interest; this has the advantage  
of including causes of death other than suicide. Ascertainment of the cause of death is not  
always straightforward when the death is non-natural, and several studies have included  
cases of accidents and open verdicts in their case definition. Open verdicts have been shown  
to include many similarities with suicides, and several are later registered as suicides; these  
are recommended to be included in studies of suicide [42]. Studies varied on whether cases

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3 of self-harm without suicidal ideation were included (e.g. Rubino et al reviewed free text to  
4 exclude those who did not seem to have attempted suicide [43]). For self-harm, linkage to  
5 HES data will allow for more cases to be identified [29], even though authors must consider  
6 the balance between reduction of sample size and ascertainment of the outcome, as linkage  
7 is only available for a subset of patients.  
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### 10 11 Pain

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13 The aetiology and location of pain in the studies involved in this review varied due to our  
14 broad inclusion criteria. When pharmacological treatment was included in the definition of  
15 pain, this was most often done with prescriptions of antidepressants and anti-epileptics.  
16 Antidepressants such as first generation tricyclic antidepressants have been used for over 30  
17 years to manage neuropathic pain (e.g. amitriptyline, doxepin, clomipramine and dosulepin)  
18 [44]. Antiepileptic drugs reduce neuronal excitability and alleviate pain through several  
19 mechanisms [44].  
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### 26 Other outcomes

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28 We considered cognitive dysfunction as a composite outcome including studies from mild to  
29 severe impairments such as those in dementia; between 10% to 20% of the patients with  
30 mild cognitive impairment are expected to convert to dementia [45, 46]. Fewer studies had  
31 fatigue, sexual dysfunction and sleep disorders as the outcome, and no study was eligible for  
32 female sexual dysfunction. The definition of these outcomes varied little across the studies  
33 but the small numbers preclude firm conclusions. It has been reported that chronic fatigue  
34 increased prior to 2001 [3], but decreased between 2001 and 2013 [47], possibly due to the  
35 introduction of diagnostic criteria from NICE [48]; in the same period, increases were noted in  
36 the diagnoses of fibromyalgia [47]. This may reflect the complexity of diagnosing fatigue,  
37 which is done by exclusion of other causes only [48].  
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### 48 *Validation*

49 Outcomes identified in EHRs may lack of validity: a person meeting the operational definition  
50 for the outcome based on specific codes may not have the diagnosis or vice-versa. Only a  
51 small number of studies assessed validity in their studies, and this was almost always about  
52 assessing positive predictive value of the case definition, with sensitivity and specificity rarely  
53 explored. Of these, some studies only stated that validation had been carried out, but did not  
54 report the results, which makes the performance of the case definition unclear. However, the  
55 studies that reported results tended to show a high proportion of cases confirmed by their  
56 primary care physician or by further investigations (i.e. a high positive predictive value). This  
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3 is in accordance with the results of two systematic reviews that assessed the validity of the  
4 diagnostic coding within the CPRD primary care database [8, 9]. Studies in which identified  
5 cases were validated by the GP did not usually specify how this validation was done – i.e.  
6 whether the GPs confirmed cases by consulting the EHR, referring to additional information,  
7 relying on memory, or using other methods. If GPs simply checked the same EHR used to  
8 identify the case in the first place, resulting estimates of positive predictive value would be  
9 expected to be high, but may be misleadingly optimistic.  
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### 17 *Implications*

18 Mental health and quality of life-related outcomes are difficult to identify in EHR databases  
19 and thus extra care needs to be used when defining these outcomes. The use of a particular  
20 code varies between GP practices; for example, a study on the inter-practice use of Read  
21 codes for diabetes showed that the most generic code was used in 14% to 98% of the  
22 patients with diabetes in the practice [49]. GPs can derive Read codes for their practice; this  
23 may raise issues with new codes being added over time [50], and codelists that need to be  
24 updated. It is important that authors clearly document the process of selection of the codes,  
25 so that these are available with clear rationale if needed [5]. Repositories of lists of codes  
26 allow researchers to access codelists easily. However, these repositories also need funding  
27 to be maintained, which limits their stability and consequently their use. Some studies of  
28 depression and dementia referred to using the Read codes recommended by the Quality and  
29 Outcomes Framework [36]; these are likely to be highly specific. It is also important to better  
30 understand the patterns of recording of some of these conditions, as changes in the patterns  
31 of use of the codes may have impact in the list of codes chosen. The inclusion of codes for  
32 symptoms and prescriptions must consider what is known about the use of codes by GPs at  
33 the point of patient providing care, as data recording in this setting is primarily intended to  
34 support clinical care. Future works are need to understand how GPs conceptualise mental  
35 health problems, as these are expected to have less stringent definitions than psychiatrists,  
36 and this could provide insights into more meaningful case definitions.  
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49 Validation of the outcomes appears to be essential to understand the validity of case  
50 definitions. A balance between sensitivity and specificity may be considered depending on  
51 the aim of the study [5]; for depression, for example, the inclusion of terms such as ‘Low  
52 mood’ may increase sensitivity, at the expense of decreased specificity, as some individuals  
53 who would not fit more stringent criteria for a diagnosis will be incorrectly classified as  
54 depressed [5]. A particular challenge with validation of primary care-based mental health  
55 outcomes is quantifying false negatives, which requires linkage to a high quality external  
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3 source of information, to identify cases that may have been “missed” in primary care records.  
4 The Mental Health Dataset (MHDS), which includes individual patient records of adults  
5 seeking mental health services in secondary care and has recently been made available for  
6 linkage with CPRD primary care databases, represents an opportunity to assess the  
7 proportion of false negatives identified with the code lists, at least for more severe outcomes.  
8 Until then, sensitivity analysis using different lists of codes should be done, so that results  
9 can be compared and the impact of using different code lists evaluated. The consequences  
10 of underascertaining mental health outcomes are likely to depend on study design; in a  
11 cohort design this will not generally result in biased relative risks, whereas in a case-control  
12 context, a bias towards the null is likely. Studies might consider to use internal validation  
13 strategies, by assessing the proportion of patients referred for treatment or prescribed a  
14 relevant pharmacological agent.  
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17 Primary care databases of electronic health records have made important contributions to  
18 medicine worldwide, particularly in the fields of infectious, respiratory and cardiovascular  
19 diseases. The burden of mental disorders in high-income countries has increased  
20 substantially in the last decades [51], and more research is needed to be better understand  
21 these conditions. Primary care databases of EHRs have potential to make huge contributions  
22 to this area but, for this to happen, we need coordinated efforts across funding and research  
23 organisations to improve data quality. For example, if scientific journals make a requirement  
24 of having publically available lists of codes, this would likely encourage researchers to spend  
25 more time defining the outcomes and potentially seek funding for validation studies, which in  
26 turn could increase the awareness of funding institutions for the importance of assessing  
27 data quality in projects using these data. In the meantime, transparency in the list of codes  
28 used to define these outcomes and reporting of sensitivity analysis with different lists of  
29 codes are key.  
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32 Despite the difficulties of assessing each separate outcome, we must take into account that  
33 mental health disorder symptoms often overlap, and is difficult to disentangle what is  
34 attributable to each condition. Lastly, these conditions have a long period of exposure to  
35 medication after symptoms have disappeared, besides a high probability of relapse and  
36 recurrence [52], which may raise issues on whether the condition is incident or prevalent.  
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## Conclusions

Detailed information about codes used to identify outcomes of anxiety, depression, fatigue, cognitive dysfunction, sexual dysfunction, pain, sleep disorders, and fatal and non-fatal self-harm in studies using electronic health records from primary care databases in the United Kingdom (UK) was unavailable for around half of studies of these outcomes. Where available, there was substantial heterogeneity in the list of codes used to ascertain cases. Most studies did not validate case definitions, though when this was done, positive predictive values were generally high. This review focused on common mental health disorders and quality of life outcomes, but our conclusions are likely to be generalizable to other mental health outcomes. Caution is needed when interpreting and comparing results between studies, as heterogeneity in case definitions may be large. Future studies should fully report outcomes definitions, use sensitivity analysis to mitigate uncertainties about the impact of the case definition on studies' reported outcomes, and seek to validate the list of codes used to identify these outcomes.

**Authors' contributions**

HC, RW and KB designed the study. HC and HS screened the bibliographic references and performed data extraction. HC wrote the first draft of the article. All authors revised the article for important intellectual content and agreed with the final version.

For peer review only

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**Figure legend**

Figure 1 - Systematic review flowchart.

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Table 1. Characteristics of the studies included in the systematic review.

	Anxiety		Depression		Anxiety and depression (composite outcome)		Dementia/cognitive impairment		Fatigue		Pain		Sexual dysfunction (male)		Sleep disorders		Fatal and non-fatal self-harm	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Total number of studies</b>	12	100.0	42	100.0	2	100.0	27	100.0	6	100.0	8	100.0	6	100.0	2	100.0	41	100.0
<b>Main primary care database</b>																		
CPRD	7	58.3	24	57.1	0	0.0	21	77.8	5	83.3	5	62.5	4	66.7	1	50.0	31	75.6
PCCIU	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
THIN	5	41.7	10	23.8	1	50.0	5	18.5	1	16.7	0	0.0	2	33.3	0	0.0	6	14.6
Other	0	0.0	7	16.7	1	50.0	1	3.7	0	0.0	3	37.5	0	0.0	1	50.0	4	9.8
<b>Outcome ascertained using linked data (HES or ONS)</b>																		
Yes	1	8.3	2	4.8	0	0.0	2	7.4	0	0.0	0	0.0	0	0.0	0	0.0	9	22.0
No	11	91.7	40	95.2	2	100.0	25	92.6	6	100.0	8	100.0	6	100.0	2	100.0	32	78.0
<b>Code list availability</b>																		
Total number of studies with code lists available	5	41.7	17	40.5	2	100.0	17	63.0	3	50.0	4	50.0	3	50.0	1	50.0	21	51.2
Stated in publication	2	16.7	7	16.7	1	50.0	10	37.0	1	16.7	2	25.0	2	33.3	1	50.0	17	41.5
Cited another paper or web repository	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	12.5	0	0.0	0	0.0	0	0.0
Obtained from authors	3	25.0	10	23.8	1	50.0	7	25.9	2	33.3	1	12.5	1	16.7	0	0.0	4	9.8
Total number of studies with code lists not available	7	58.3	25	59.5	0	0.0	10	37.0	3	50.0	4	50.0	3	50.0	1	50.0	20	48.8
Cited another paper or web repository but couldn't obtain	1	8.3	1	2.4	0	0.0	1	3.7	1	16.7	0	0.0	0	0.0	0	0.0	3	7.3
Stated available on request but didn't provide	2	16.7	4	9.5	0	0.0	3	11.1	2	33.3	0	0.0	1	16.7	1	50.0	0	0.0
Not mentioned in the paper and didn't provide	4	33.3	19	45.2	0	0.0	6	22.2	0	0.0	4	50.0	2	33.3	0	0.0	17	41.5
<b>Type of codes available †</b>																		
Read/medical codes	5	100.0	14	82.4	2	100.0	17	100.0	3	100.0	4	100.0	3	100.0	1	100.0	8	42.1
OXMIS codes	0	0.0	3	17.6	0	0.0	0	0.0	0	0.0	2	50.0	0	0.0	0	0.0	8	42.1
ICD codes	1	20.0	2	4.8	0	0.0	2	11.7	0	0.0	0	0.0	0	0.0	0	0.0	9	47.4

	Anxiety		Depression		Anxiety and depression (composite outcome)		Dementia/cognitive impairment		Fatigue		Pain		Sexual dysfunction (male)		Sleep disorders		Fatal and non-fatal self-harm									
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%								
<b>Definition of the outcome †</b>																										
Study described that codes for diagnosis were included																										
Yes [in isolation*]	12	100.0	[5]	37	88.1	[14]	2	100.0	[0]	27	100.0	[19]	6	100.0	[1]	-	-	5	83.3	[2]	2	100.0	[2]	-	-	
No	0	0.0		5	11.9		0	0.0		0	0.0		0	0.0		-	-	1	16.7		0	0.0		-	-	
Unclear	0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		-	-	0	0.0		0	0.0		-	-	
Study described that codes for symptoms were included																										
Yes [in isolation*]	4	33.3	[0]	6	14.3	[0]	2	100.0	[0]	6	22.2	[0]	5	83.3	[0]	8	100.0	[6]	0	0.0	[0]	0	0.0	[0]	-	-
No	6	50.0		33	78.6		0	0.0		20	74.1		1	16.7		0	0.0		4	66.7		2	100.0		-	-
Unclear	2	16.7		3	7.1		0	0.0		1	3.7		0	0.0		0	0.0		2	33.3		0	0.0		-	-
Study described that prescriptions were included																										
Yes [in isolation*]	1	8.3	[0]	21	50.0	[6]	2	100.0	[0]	4	14.8	[0]	0	0.0	[0]	2	25.0	[0]	3	50.0	[1]	0	0.0	[0]	-	-
No	11	91.7		21	50.0		0	0.0		23	85.2		6	100.0		6	75.0		3	50.0		2	100.0		-	-
Unclear	0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		-	-
<b>Handling of outcomes occurring prior to study period</b>																										
Excluded	5	41.7		15	35.7		0	0.0		21	77.8		3	50.0		3	37.5		1	16.7		1	50.0		7	17.1
Adjusted/matched for	2	16.7		8	19.0		0	0.0		1	3.7		1	16.7		0	0.0		3	50.0		0	0.0		10	24.4
Stratified results	1	8.3		3	7.1		2	100.0		0	0.0		1	16.7		0	0.0		3	50.0		0	0.0		4	9.8
Not stated	3	25.0		11	26.2		0	0.0		1	3.7		0	0.0		3	37.5		0	0.0		1	50.0		15	36.6
Not applicable **	2	16.7		8	19.0		0	0.0		4	14.8		2	33.3		2	25.0		0	0.0		0	0.0		9	22.0
<b>Validation of list of codes</b>																										
Yes	2	16.7		5	11.9		1	50.0		5	18.5		0	0.0		3	37.5		0	0.0		0	0.0		9	22.0
None stated	10	83.3		37	88.1		1	50.0		22	81.5		6	100.0		5	62.5		6	100.0		2	100.0		32	78.0
Study aiming at validating the outcome	0	0.0		0	0.0		1	50.0		0	0.0		0	0.0		0	0.0		0	0.0		0	0.0		3	7.3



1 † Defined based on the description of the outcome provided in the original studies. Studies were considered to have included symptoms in the definition of the  
2 outcomes when this information was explicitly stated by the authors. Pain was considered a symptomatic outcome, regardless of how it was described in the  
3 original publications.  
4

5 \* The number of studies where the definition of the outcome included only this category of codes is provided in squared brackets.  
6

7 ‡ Refers only to studies providing codelists. A study may include more than one type of codes.  
8

9 \*\* Depends on study design and outcome. For example, it includes studies describing the epidemiology of first ever diagnoses or focusing on completed  
10 suicide only.  
11

12 CPRD – The Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; ICD – International Classification of Diseases; ONS – Office for National  
13 Statistics; OXMIS – Oxford Medical Information System; PCCIU – Primary Care Clinical Informatics Unit Research Data Set; THIN – The Health Improvement  
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**Table 2.** Clinical characteristics of the outcomes of interest in the studies for which the list of codes was available.

Study included codes for:	N	(% of total with code lists available)
<b>Anxiety</b>	<b>5</b>	<b>100.0</b>
Generalized anxiety disorder	5	100.0
Panic disorder/attacks	4	80.0
Phobia	4	80.0
Mixed anxiety and depression	3	60.0
Stress-related disorders	2	40.0
Obsession-compulsion	1	20.0
Post-traumatic stress disorder	1	20.0
<b>Depression</b>	<b>17</b>	<b>100.0</b>
Unipolar depression	17	100.0
Depression with psychotic symptoms	14	82.4
Mixed anxiety and depression	10	58.8
Bipolar disorder	4	23.5
Depression in dementia	3	17.6
<b>Dementia / cognitive impairment</b>	<b>17</b>	<b>100.0</b>
Alzheimer's disease	13	81.3
Vascular dementia	13	81.3
Frontotemporal dementia	12	75.0
Lewy Bodies disease	11	68.8
Mild cognitive impairment only	3	17.6
<b>Fatigue</b>	<b>3</b>	<b>100.0</b>
Chronic fatigue syndrome/ myalgic encephalitis	3	100.0
Neurasthenia	3	100.0
Post viral fatigue syndrome	3	100.0
Fibromyalgia	2	66.7
<b>Pain</b>	<b>4</b>	<b>100.0</b>
Chest pain	1	25.0
Chronic widespread pain	1	25.0
Musculoskeletal pain	1	25.0
Unspecified abdominal pain	1	25.0
<b>Sexual dysfunction (male)</b>	<b>3</b>	<b>100.0</b>
Erectile dysfunction	3	100.0
Other male sexual dysfunctions	1	33.3
<b>Sleep disorder</b>	<b>1</b>	<b>100.0</b>
Insomnia	1	100.0
Hypersomnia	1	100.0
<b>Fatal and non-fatal self-harm</b>	<b>21</b>	<b>100.0</b>
<b>Completed suicide</b>	<b>17</b>	<b>80.9</b>
Completed suicide only	8	38.1
Completed and attempted suicide only	6	28.6
Completed and attempted suicide, and self-harm	4	19.1
Included deaths of undetermined intent	7	33.3
<b>Attempted suicide / self-harm</b>	<b>4</b>	<b>19.1</b>

**Table 3.** Pharmacological categories used in the studies that used drug prescriptions to identify patients with the outcome of interest.

<b>Outcome</b>	<b>Number of studies</b>	<b>%</b>
<b>Anxiety</b>	<b>12</b>	<b>100.0</b>
Studies of anxiety that used drugs prescriptions only	0	0.0
Studies of anxiety that used drugs prescriptions Diazepam and lorazepam	1	8.3
	1	8.3
<b>Depression</b>	<b>42</b>	<b>100.0</b>
Studies of depression that used drugs prescriptions only	6	14.3
Studies of depression that used drugs prescriptions Antidepressants, categories not further specified	21	50.0
Antidepressants, categories further specified	15	35.7
Tricyclic and related antidepressant drugs	6	14.3
Monoamine-oxidase inhibitors	3	7.1
Selective serotonin re-uptake inhibitors	3	7.1
Other antidepressant drugs	6	14.3
	3	7.1
<b>Dementia</b>	<b>27</b>	<b>100.0</b>
Studies of dementia that used drugs prescriptions only	0	0.0
Studies of dementia that used drugs prescriptions Anticholinesterases	4	14.8
Dopaminergic drugs	4	14.8
	4	14.8
<b>Pain</b>	<b>8</b>	<b>100.0</b>
Studies of pain that used drugs prescriptions only	2	25.0
Studies of pain that used drugs prescriptions Analgesics, not otherwise specified	2	25.0
Antidepressants	2	25.0
Anti-epileptics	2	25.0
Anaesthetics	2	25.0
<b>Sexual dysfunction (male)</b>	<b>6</b>	<b>100.0</b>
Studies of sexual dysfunction that used drugs prescriptions only	1	16.7
Studies of sexual dysfunction that used drugs prescriptions Phosphodiesterase type-5 inhibitors	3	50.0
Prostaglandin analogues and prostamides	2	33.3
	1	16.7

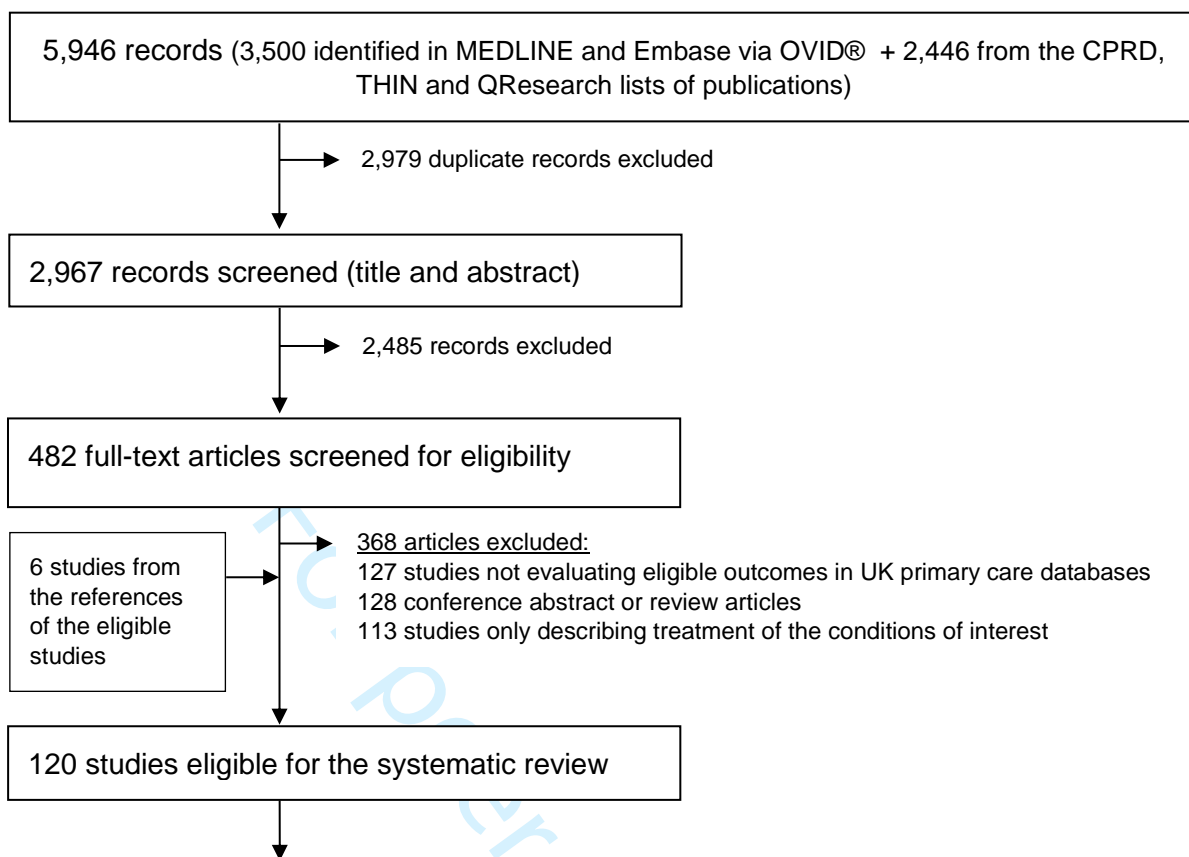
**Table 4.** Methods and results of the validation of the outcomes reported in the original studies.

Outcome and study authors	Validation method	# case validations completed/ # case validations attempted	% of cases confirmed
<b>Anxiety</b>			
Martin-Merino 2010	GP Questionnaire	135/140	Among pharmacologically treated: 73.5%; Among not pharmacologically treated: 89.6%.
Meier 2004	Record review	nr/nr	nr
<b>Depression</b>			
Becker, 2011	Sensitivity analysis with different definitions	nr/nr	nr
Hagberg, 2016	Record review	nr/nr	nr
Martin-Merino, 2010	GP questionnaire	135/140	89.6%
Meier, 2004	Record review	nr/nr	nr
Yang, 2003	Record review	30/nr	83.3%
<b>Anxiety and depression (composite outcome)</b>			
John, 2016	Compared 12 EHR algorithms to results of the Mental Health Inventory (MHI-5), a subscale of SF-36	2,799*	Between 61% and 76%, depending on the algorithm.
<b>Dementia/ cognitive impairment</b>			
Imfeld, 2015 & Imfeld, 2013	GP questionnaire	nr/120	Alzheimer's disease: 79%; Vascular dementia: 74%.
Dunn, 2005	GP asked to confirm diagnosis	50/200	100%
Dunn, 2005	GP questionnaire	95/~100	83%
Strom, 2015	GP questionnaire	86/100	88.4%
Strom, 2015	Review of free text	1047/1048	1.5% patients excluded as not having the diagnosis; 42.4% confirmed as having definite memory loss, 36.8% possible memory loss, 3.2% undetermined, and 16.0% unknown.
<b>Pain</b>			
Hall, 2013	GP questionnaire	48/54	56%
Mansfield, 2017	EHR data linked to self-reported pain status collected by postal questionnaire	1780*	97%
Becker, 2008	GP questionnaire	176/200	86.4%

Outcome and study authors	Validation method	# case validations completed/ # case validations attempted	% of cases confirmed
<b>Self-harm</b>			
Thomas, 2012	Comparison of cases of suicide and self-harm identified in CPRD with Read codes, with the cases identified in CPRD data linked to HES data, and published self-harm incidence data.	74236*	68.4%
<b>Suicide (attempted and completed)</b>			
Hagberg, 2016	Record review	nr/nr	nr
Haste, 1998	GP asked to confirm suicides	77% of uncertain deaths/nr	82%
Jick, 1995	Record review	nr/nr	nr
Meier, 2004	Record review	nr/nr	nr
Schuerch, 2016	Outcomes identified in CPRD were compared to those identified in CPRD linked to HES and ONS data.	nr/nr	Compared to CPRD data, the frequency of the outcomes in linked data was approximately 3 times higher.
Yang, 2003	Record review	30/nr	83.3%
<b>Suicide (completed)</b>			
Arana, 2010	GP questionnaire and record review	nr/132	97%
Arana, 2010	GP questionnaire and record review	nr/86	87%
Hall, 2009	GP questionnaire and record review	33/33	21.2%
Thomas, 2012	Comparison of cases of suicide and self-harm identified in CPRD with Read codes, with the cases identified in CPRD data linked to ONS mortality data, and national suicide rates.	1767*	59.7% for men; 46.0% for women.

CPRD – Clinical Practice Research Datalink; EHR – electronic health records; GP – general practitioner; HES – Hospital Episode Statistics; nr – not reported; MHI-5 - Mental Health Inventory 5 items; ONS – Office for National Statistics; SF-36 – 36-item Short Form Health Survey.

\* Validation attempted and completed for all patients identified in electronic health records database.



	Number of studies
Anxiety	12
Depression	42
Anxiety and depression (composite outcome)	2
Dementia/ cognitive impairment	27
Fatigue	6
Pain	8
Sexual dysfunction	6
Sleep disorder	2
Fatal and non-fatal self-harm	41

# Identification of mental disorders and quality of life outcomes in primary care databases in the United Kingdom: systematic review protocol

## Introduction

The number of studies conducted using electronic health records data largely increased in the last couple of decades. While these data sources are readily available and allow for studies to be conducted quicker than what it would be otherwise possible with prospective designs, this also raises questions about variables definitions using data that are collected with a primary purpose that is not research.

## Objective

To systematically review and summarise the strategies used to define such outcomes in previous studies, and the extent to which case definitions were validated.

## Methods

### Information sources

The following databases will be searched to identify potentially eligible studies:

- MEDLINE, via Ovid
- Embase, via Ovid
- CPRD, THIN and QResearch publications databases
- Reference lists of the eligible articles

### Search strategy

- Electronic databases: search expressions provided at the end of this document.
- CPRD list of publications: hand screening.
- Backwards citation tracking: hand screening.

### Outcomes of interest

- Anxiety
- Depression
- Fatigue
- Dementia
- Mild cognitive impairment
- Pain
- Female sexual dysfunction
- Sleep disorders
- Self-harm
- Suicide
- Composite outcomes of one or more of the above.

### Inclusion criteria

- Studies in which patients were selected from primary health care databases in the UK
- Studies where the outcome was one of the outcomes of interest for this review

### Exclusion criteria

- Conference abstracts, study protocols, or review articles
- Studies providing data only on the treatment of an eligible mental health outcome

### Selection process

The references will be screened in three consecutive phases by two researchers. In the first phase, the title and the abstract of each study will be read to determine their eligibility for the study by applied the pre-defined exclusion criteria. If the information provided in the title and abstract does not allow the unequivocal exclusion of the study, the full text will be considered. In the second phase, the full-text of each study considered eligible in the first phase will be obtained and read, in order to determine the eligibility considering all the information in the paper. If the list of codes is provided, the paper will be included in the review. Studies not providing the list of codes will be assessed in a third phase, where the corresponding author of the papers will be contacted by email and invited to provide the list of the search terms involved.

### Data extraction

The following data will be abstracted from the original reports, if available:

- Study design
- Adverse mental health outcome studied
- Database applied
- Use of linked data, and if yes, to which databases
- Type of codes used to define the condition (Read, ICD, OXMIS, etc.)
- Handling of previous disease episodes
- Availability of list of codes
- Medications used to define the conditions
- List of codes used to define the specific mental health outcome in the database
- Type of codes includes (symptoms, diagnoses, referrals, etc.)
- Validation of the list of codes used
- Results from the validation

### Study records

All records will be imported into EndNote X7. Duplicates will be manually removed.

A backup of the search expression applied and the records obtained from each database, as well as the date of last update and run, will be kept safe.

A record of excluded/included studies, with the respective motives, will be kept in Microsoft Office Excel.

### Data synthesis

Descriptive tables will be produced for each mental health outcome. The list of codes will be revised for sources of heterogeneity, and the results will be reported in text.



## Search expressions

### MEDLINE search expression, applied via OVID, 28 June 2018

1. CPRD.mp.
2. Clinical Practice Research.mp.
3. GPRD.mp.
4. General Practice Research Database.mp.
5. The Health Improvement Network.mp.
6. QRESEARCH.mp.
7. DIN-LINK.mp.
8. VAMP.mp.
9. Value Added Information Medical.mp.
10. (THIN adj1 (database or dataset or data)).mp.
11. (Read adj1 (term\* or code# or codification)).mp.
12. (diagnostic adj1 (term\* or code#)).mp.
13. Disease Analyzer.mp.
14. Primary care clinical informatics unit.mp.
15. PCCIU.mp.
16. (optimum patient care adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
17. OPCRDP.mp.
18. health information network.mp.
19. health improvement network.mp.
20. Q research.mp.
21. (ResearchOne or (Research One adj2 data\*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
22. Doctors Independent Network.mp.
23. SAIL.mp.
24. (SAIL adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
25. mediplus.mp.
26. ((general practice or primary care or primary health care) adj4 data\*).mp.
27. longitudinal patient database.mp.
28. ((EHR or electronic health record\*) adj4 data\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
29. health care database\*.mp.
30. exp "mental disorders"/
31. exp "behavior and behavior mechanisms"/
32. exp "behavioral disciplines and activities"/
33. exp Psychological Phenomena/
34. exp fatigue/
35. exp pain/
36. exp "Sleep Wake Disorders"/
37. exp central nervous system depressants/

38. exp muscle relaxants, central/
39. exp psychotropic drugs/
40. exp sleep aids, pharmaceutical/
41. (anxiety or anxious\* or panic or anxiolytic\* or (stress not oxidat\*) or depressi\* or dysthymia or antidepress\* or sexual or erectile or suicid\* or self-harm or hopeless\* or sleep or insomnia or hypnotic\* or cognit\* or chemo-fog or chemo-brain or pain or fatigue or (mental adj1 (disorder or disorders)) or antipsychotic).mp.
42. 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41
43. exp United Kingdom/
44. (UK or Britain or British or England or English or Scotland or Scottish or Wales or Welsh Ireland).mp.
45. 43 or 44
46. or/1-29
47. 42 and 45 and 46

### **EMBASE search expression, applied via OVID, 28 June 2018**

1. CPRD.mp.
2. Clinical Practice Research.mp.
3. GPRD.mp.
4. General Practice Research Database.mp.
5. The Health Improvement Network.mp.
6. QRESEARCH.mp.
7. DIN-LINK.mp.
8. VAMP.mp.
9. Value Added Information Medical.mp.
10. (THIN adj1 (database or dataset or data)).mp.
11. (Read adj1 (term\* or code# or codification)).mp.
12. (diagnostic adj1 (term\* or code#)).mp.
13. Disease Analyzer.mp.
14. Primary care clinical informatics unit.mp.
15. PCCIU.mp.
16. (optimum patient care adj4 data\*).mp.
17. OPCRD.mp.
18. health information network.mp.
19. health improvement network.mp.
20. Q research.mp.
21. (ResearchOne or (Research One adj2 data\*)).mp.
22. Doctors Independent Network.mp.
23. SAIL.mp.
24. (SAIL adj4 data\*).mp.
25. mediplus.mp.
26. ((general practice or primary care or primary health care) adj4 data\*).mp.
27. longitudinal patient database.mp.
28. ((EHR or eletronic health record\*) adj4 data\*).mp.
29. health care database\*.mp.
30. or/1-29
31. UK.mp.
32. United Kingdom.mp.
33. England.mp.
34. Wales.mp.
35. Scotland.mp.
36. Northern Ireland.mp.

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- 3 37. 31 or 32 or 33 or 34 or 35 or 36
- 4 38. exp central depressant agent/
- 5 39. exp central muscle relaxant/
- 6 40. exp psychotropic agent/
- 7 41. antidepress\*.mp.
- 8 42. antipsychotic.mp.
- 9 43. anxiolytic.mp.
- 10 44. exp mental capacity/ or exp mental compliance/ or exp mental concentration/ or exp
- 11 mental deficiency/ or exp mental deterioration/ or exp mental development/ or exp mental
- 12 development assessment/ or exp mental disease/ or exp mental disease assessment/ or exp
- 13 mental dissociation/ or mental function/ or exp mental health/ or exp mental health care/ or
- 14 exp mental health center/ or exp mental health organization/ or exp mental health research/
- 15 or exp mental health service/ or exp mental hospital/ or exp mental stress/
- 16 45. depressi\*.mp.
- 17 46. dysthymia.mp.
- 18 47. catatonia.mp.
- 19 48. self-injur\*.mp.
- 20 49. self injury.mp.
- 21 50. self mutilation.mp.
- 22 51. suicid\*.mp.
- 23 52. self-harm.mp.
- 24 53. anxious\*.mp.
- 25 54. anxiety.mp.
- 26 55. panic.mp.
- 27 56. catastrophi\*.mp.
- 28 57. phobia.mp.
- 29 58. phobic.mp.
- 30 59. neurotic.mp.
- 31 60. compulsive.mp.
- 32 61. bipolar.mp.
- 33 62. neurotic.mp.
- 34 63. personality.mp.
- 35 64. psychotic.mp.
- 36 65. psychosis.mp.
- 37 66. paranoid.mp.
- 38 67. delusional.mp.
- 39 68. sexual.mp.
- 40 69. insomnia.mp.
- 41 70. exp insomnia/
- 42 71. exp sleep/ or exp sleep disorder/
- 43 72. exp somatoform disorder/
- 44 73. exp substance abuse/ or exp "substance use"/
- 45 74. exp stress/
- 46 75. or/38-74
- 47 76. 30 and 37 and 75
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### Changes from the protocol with justification

The protocol specified that only female sexual dysfunction was of interest because this review is part of a PhD on women with a history of breast cancer. During the process of conducting the review, however, we decided to drop the gender restriction, as the review would be of more general use as a standalone publication.

For peer review only

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3 **Appendix 2. Template email sent to corresponding authors of the studies for which a**  
4 **list of codes wasn't provided in the publication.**  
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10 Dear [corresponding author],  
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13 I'm currently doing a PhD about mental health and quality of life in breast cancer survivors.  
14 As part of my PhD, I'm conducting a systematic review of the studies that assessed mental  
15 health outcomes using electronic health records. The aim of the review is to summarise how  
16 studies have identified these outcomes in primary care databases in the UK; the review will  
17 be part of my PhD thesis and we are also planning to publish it in a peer-reviewed journal in  
18 due course.  
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23 I'm writing to you because a study in which you are the corresponding author was identified  
24 as eligible (please see title below), and I would kindly ask if you could be of assistance with  
25 the issues described below.  
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27  
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29 [title]

30 [description of the list of codes needed]  
31  
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34 I look forward to hearing from you and thank you in advance for your help.  
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37 Best wishes,  
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39 Helena  
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Table 1. Main characteristics of the eligible studies: anxiety.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Bouras, 2016 [1]	Linked and primary care database analysis of the incidence and impact of psychiatric morbidity following gastrointestinal cancer surgery in England	Cohort study	CPRD, HES	1997-2012	"Diagnosis code [for anxiety] in CPRD or HES, or a prescription code [for Diazepam or Lorazepam] between 36 months before and 12 months after surgery."	Yes	None stated	Data available for >3 years before the index date // Follow up duration: 1 year after index date	Study quantified the psychiatric morbidity before and after the index date.	-
Fardet, 2012 [2]	Suicidal behavior and severe neuropsychiatric disorders following glucocorticoid therapy in primary care	Cohort study	THIN	1990-2008	Read and Multilex list of codes for diagnoses of panic disorder or panic attack <u>excluding</u> codes for anxiety	No	None stated	≥6 months of registration with the primary care practice	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months
Granerod, 2016 [3]	Increased rates of sequelae post-encephalitis in individuals attending primary care practices in the United Kingdom: a population-based retrospective cohort study	Cohort study	CPRD	1998-2012	"Anxiety disorders (including both symptom codes and diagnoses such as generalised anxiety disorder, panic disorder, post-traumatic stress disorder and obsessive compulsive disorder)"	Yes	None stated	None stated // At least one contact with the GP practice in the two years after the index date	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	-
Hesdorffer, 2012 [4]	Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	Matched cohort study	CPRD	1990-2008	Anxiety, not further specified	No	None stated	At least 3 years of data before the index date, 1 year after the index date, and at least 1 code for a medical or drug code in the 6 months before the index // Follow up 3 years after index date	Excluded subjects with a record of the outcome before the study date.	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Khan, 2010 [5]	Consulting and prescribing behaviour for anxiety and depression in long-term survivors of cancer in the UK	Cohort study	CPRD	2003-2006	Consultations for anxiety and prescriptions of benzodiazepines and Buspirone	No	None stated	None stated	History of anxiety prior to the analysis period included in the models	Outcomes occurred within a 3-year period chosen for the study
Kurd, 2005 [6]	The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	Cohort study	CPRD	1987-2002	"clinician diagnosis of anxiety and related disorders in which anxiety symptoms are common"	No (refers using the same codes of previous studies)	None stated	None stated	Patients with history of anxiety in the 6 months before the index date were excluded in a sensitivity analysis.	-
Lurie, 2015 [7]	Antibiotic exposure and the risk for depression, anxiety, or psychosis: A nested case-control study	Nested case control study	THIN	1995-2013	Anxiety, including codes for diagnosis of generalised anxiety disorder and phobic anxiety	Yes	None stated	Only records from patients that had been registered with the GP for more than 183 days // Outcomes were considered incident if occurring at more than 183 days after the index date.	Patients who had pharmacological treatment for a specific psychiatric diagnosis more than 90 days before the diagnosis was first recorded were excluded.	Patients with mixed anxiety and depression were excluded from the analysis
Martin-Merino, 2010 [8]	Prevalence, incidence, morbidity and treatment patterns in a cohort of patients diagnosed with anxiety in UK primary care	Cohort study	THIN	2002-2004	"Identification codes included all Read codes describing anxiety. These included codes ranging from mild anxiousness symptoms to other disorders such as phobia, panic attack and generalized and mixed anxiety disorders"	Yes	Yes Record review/questionnaires	Enrolled for at least 2 years with the practice and have received one prescription in the previous year; patients aged $\geq 70$ years had to have at least 2 visits registered in the follow up period of >1 year.	Patients with previous anxiety diagnoses were excluded, as well as those who had 5 or more prescriptions of anxiolytics before the diagnosis.	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Meier, 2004 [9]	The risk of severe depression, psychosis or panic attacks with prophylactic antimalarials	Cohort study	CPRD	1990-1999	First time diagnosis of panic attack, regardless of referral or treatment, identified by OXMIS- and/or- ICD-8-codes	No	Yes  'reviewed a list of all cases to determine inclusion/exclusion'	≥1 year of data available before index date and "some GPRD activity (diagnoses or prescriptions) recorded after the index date" // Patients were censored 18 months after exposure date	"The base population for person-time analyses consisted of all subjects free of (...) panic attacks at the start of follow up."	-
Schneider, 2013 [10]	Antimalarial chemoprophylaxis and the risk of neuropsychiatric disorders	Nested case control study	CPRD	2001-2009	Incident diagnosis of anxiety, not further specified	No	None stated	At least 1 year of date before the index date // some activity (diagnoses or prescriptions) recorded after the index date	Excluded patients with the outcome of interest observed before the index date	-
Sheehan, 2015 [11]	Mental illness, challenging behaviour, and psychotropic drug prescribing in people with intellectual disability: UK population based cohort study	Cohort study	THIN	1999-2013	Anxiety, including codes for symptoms and diagnoses	Yes	None stated	Entry in the cohort at least one year after registration with the practice	None stated	Excludes cases of mixed anxiety and depression



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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Walters, 2012 [12]	Recent trends in the incidence of anxiety diagnoses and symptoms in primary care	Cohort study	THIN	1998-2008	Anxiety, including symptoms, diagnosis, mixed anxiety and depression, panic attacks and panic disorder  Results were also provided separately for: - anxiety disorders (eg. chronic anxiety, generalised anxiety disorder, anxiety state); - anxiety symptoms (e.g. 'anxiousness'); - mixed anxiety and depression; - panic attacks and panic disorder.	No	None stated	≥1 year of data since registration with the practice and 'consistent recording of at least one medical record (e.g. a diagnostic entry), one additional health data record (e.g. blood test result) and >1 prescriptions on average for the practice per patient per year and consistent reporting of mortality.'	Excluded patients with an entry for anxiety recorded in the previous year.	Participants could have had more than one episode during the follow up, provided that they were separated for more than 12 months.

CPRD – Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; ICD-10 – International Classification of Diseases, edition 10; ND – not defined; OXMIS – Oxford Medical Information System; PCCIU – Primary Care Clinical Informatics Unit Research; THIN – The Health Improvement Network.

Pre-view only

Table 2. Main characteristics of the eligible studies: depression.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Becker, 2011 [13]	Risk of incident depression in patients with Parkinson disease in the UK	Nested case-control study	CPRD	1994-2005	'To be included in the analysis as a valid depression case, a patient had to have a code recorded for an affective disorder (depression, manic disorders, bipolar disorders, or unspecified affective disorders) during follow-up.'	Yes	Yes	At least 3 years of computer EHR prior to the index date // None stated.	Cases who had depression diagnosed prior to the index date were excluded;	-
Booth, 2015 [14]	Impact of bariatric surgery on clinical depression. Interrupted time series study with matched controls	Controlled interrupted time-series study	CPRD	2000-2012	Clinical depression was identified through medical diagnoses for depression recorded in clinical or referral records as well as through prescriptions for anti-depressant drugs.	Yes	None stated	At least one year of registration with the practice prior to the index date	Not applicable	-
Bornand, 2016 [15]	The risk of new onset depression in association with influenza - A population-based observational study	Nested case-control study	CPRD	2000-2013	Minimum of three prescriptions for one or more antidepressant drugs recorded after the incident major depression diagnosis (i.e. the index date), identified by READ-codes based on ICD-10 codes (F32), if they started the antidepressant therapy within 90 days of the depression diagnosis	Yes	None stated	A minimum of three years of history before the index date.	Excluded patients with more than two prescriptions for antidepressants at any time prior to the index date. Adjusted for history of affective disorders in the models.	Provides data for depression severity: general depression; mild depression; moderate depression; severe depression; other.

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3 Author, 4 year of 5 publication	6 Title	7 Study title	8 Type of study	9 Database(s)	10 Study 11 period 12 (years)	13 Outcome description	14 List of 15 codes 16 available	17 Validation 18 of list of 19 codes	20 EHR-related 21 eligibility 22 criteria 23 for the study 24 // 25 Follow up 26 requirements	27 Handling of 28 outcomes 29 occurring prior 30 to exposure	31 Notes
8 Bouras, 9 2016 [1]	10 11 12 13 14 15 16 17	18 Linked Hospital and 19 Primary Care Database 20 Analysis of the 21 Incidence and Impact of 22 Psychiatric Morbidity 23 Following 24 Gastrointestinal Cancer 25 Surgery in England	26 Cohort study	27 CPRD 28 HES	29 1997-2012	30 "Codes for the diagnoses of (...) depression were measured in CPRD (...) In HES, ICD-10 codes recorded in the first position of a hospital episode (signifying the main condition treated) for the diagnoses of depression. (...) Prescription data (...) including antidepressants (Fluoxetine, Paroxetine, Sertraline, Citalopram, Escitalopram, Mirtazapine, and Venlafaxine), (...) anxiolytics (Diazepam and Lorazepam)."	31 Yes	32 None 33 stated	34 Data available for 35 >3 years before 36 the study index 37 date 38 // 39 Follow up 40 duration: 1 year 41 post diagnosis	42 Not applicable	43 -
18 Claxton, 19 2000 [16]	20 21 22 23 24 25 26 27 28 29	30 Selective serotonin 31 reuptake inhibitor 32 treatment in the UK: 33 Risk of relapse or 34 recurrence of 35 depression	36 Cohort study	37 MediPlus	38 1993-1995	39 Re-initiation of any antidepressant after a gap of at least 6 months with no antidepressant prescription; suicide attempt, referral to psychotherapy or psychiatrist, admission to a mental health facility, emergency room use related to mental disorders, or electroconvulsive therapy and re-initiation of antidepressant one of the above.  40 Depression first defined as treatment with a SSRI and a Read code within 1 month of the prescription.	41 Yes	42 None 43 stated	44 Only patients with 45 contact with the 46 services during the 47 previous 2 years of 48 the index date; 49 // 50 Follow up duration 51 of 18 months post 52 index date	53 Not applicable 54 (all patients had 55 been treated 56 with SSRI)	57 Patients 58 dementia, 59 schizophrenia, 60 psychosis and 61 manic 62 depression were 63 excluded.
30 Cliford, 31 2002 [17]	32 33 34 35	36 Drug or symptom- 37 induced depression in 38 men treated with alpha1- 39 blockers for benign 40 prostatic hyperplasia? A 41 nested-case control 42 study	43 Nested case- 44 control study	45 CPRD	46 1992-1999	47 Proxy of antidepressant prescription (first prescription of antidepressant)	48 No	49 None 50 stated	51 Registered in 52 CPRD for at least 53 12 months 54 // 55 ND	56 None stated	57 -

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3Author, 4year of 5publication	6Title	7Study title	8Type of study	9Database(s)	10Study period (years)	11Outcome description	12List of 13codes 14available	15Validation 16of list of 17codes	18EHR-related 19eligibility criteria 20for the study 21// 22Follow up 23requirements	24Handling of 25outcomes 26occurring prior 27to exposure	28Notes
8Dave, 2010 9[18]	10Incidence of Maternal 11and Paternal Depression 12in Primary Care	13Cohort study	14THIN	151993-2007	16“Read code entry for unipolar 17depression and/or a prescription for 18an antidepressant at the appropriate 19therapeutic dose for treatment of 20depression on a given consultation 21date (...) we eliminated those who 22had an entry for anxiety or panic 23disorder but had no entry for 24depression in their entire 25computerized medical record.”	26No 27Available on 28request	29None 30stated	31None stated	32Results stratified 33by history of 34previous mental 35disorder	36Mixed anxiety 37and depression 38was included.	
39Fardet, 2012 40[2]	41Suicidal behavior and 42severe neuropsychiatric 43disorders following 44glucocorticoid therapy in 45primary care	46Cohort study	THIN	1990-2008	‘Read code for unipolar depression, for symptoms of depression, or for a prescription for an antidepressant. Diagnoses were considered first; prescriptions of antidepressants were used in defining the outcome only when there was no recorded diagnosis of a neuropsychiatric illness and no other recorded indication for the prescription. To exclude patients who may have received prescriptions for antidepressants for anxiety rather than for depression, we eliminated those who had an entry for anxiety or panic disorder but had no entry for depression in their entire computerized medical record.’	No	None stated	≥6 months of registration with the primary care practice.	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months	

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Gunnell, 2009 [19]	Varenicline and suicidal behaviour: a cohort study based on data from the General Practice Research Database	Cohort study	CPRD	2006-2008	Depression defined as the start of antidepressant therapy	No	None stated	At least 1 years of CPRD record before index date // ND	People who had been prescribed an antidepressant within the previous 6 months before index date were excluded. Previous psychiatric consultations considered in the models.	-
Granerod, 2016 [3]	Increased rates of sequelae post-encephalitis in individuals attending primary care practices in the United Kingdom: a population-based retrospective cohort study	Matched cohort study	CPRD	1998-2012	Depression, consisting of codes for depression diagnosis and symptoms if evidence of pharmacological treatment was present.	Yes	None stated	None stated // At least one contact with the GP practice in the two years after the index date.	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	-
Hagberg, 2017 [20]	Risk of Incident Antidepressant-Treated Depression Associated with Use of 5alpha-Reductase Inhibitors Compared with Use of alpha-Blockers in Men with Benign Prostatic Hyperplasia: A Population-Based Study Using the Clinical Practice Research Datalink	Nested case-control study	CPRD	1992-2013	A Read code for a depression diagnosis and a prescription for an antidepressant within 90 days of the depression diagnosis.	No	None stated	At least 1 year of recorded history in the database before cohort entry;	Excluded men with a diagnosis of depression or suicidal behaviors (ideation or attempts), or men who received prescriptions for antidepressant medications prior to cohort entry.	-

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3 Author, 4 year of 5 publication	6 Title	7 Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
8 Hagberg, 2016 [21]	9	10 Incidence rates of suicidal behaviors and treated depression in patients with and without psoriatic arthritis using the Clinical Practice Research Datalink	11 Nested case control study	12 CPRD	13 1998-2012	14 'A patient was required to have at least one prescription for an antidepressant drug in addition to a diagnosis code for depression within 60 days of each other to qualify as a case of treated depression.'	15 No	16 Yes, record review	17 At least one year of registration with the practice prior to the index date	18 Any patient who had a diagnosis of depression or a prescription for an antidepressant drug recorded before the cohort entry date was excluded from the Treated Depression sub-cohort.	19 -
20 Harris, 2011 [22]	21	22 Depression indicators in a national sample of older community and care home patients: applying the Quality and Outcomes Framework	23 Cohort study	24 THIN	25 ND-2008	26 (i) depression case finding with assessment tool validated for primary care; (ii) assessment of depression severity in patients with a new depression episode.  27 'Quality and Outcomes Framework Read Codes were used in both cases, but no account was taken of exceptions recorded by GPs, as these may bias comparisons between community and care home samples.'	28 Yes	29 None stated	30 Patients registered for at least 90 days with a new diagnosis of depression in period 91-450 days from end of follow up and no depression severity assessment >365 days before end of follow up.	31 Not applicable	32 Only practices contributing with data up to at least March 2008 were included.
33 Hesdorffer, 2012 [4]	34	35 Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	36 Matched cohort study	37 CPRD	38 1990-2008	39 Incident major depression, not further specified	40 No	41 None stated	42 At least 3 years of data before the index date, 1 year after the index date, and at least 1 code for a medical or drug code in the 6 months before the index 43 // 44 Follow up 3 years after index date	45 Excluded subjects with a record of the outcome before the study date.	46 -

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8 9 10 11 12 13 14 15 16	Jacob, 2017 [23]	Depression Risk in Patients with Rheumatoid Arthritis in the United Kingdom	Cohort study	Disease Analyser database	2000-2014	Diagnoses of depression, according to the ICD-10 codes	No	None stated	None stated // Incidence in the first 5 years of the index date	None stated	-
17 18 19 20 21 22 23 24 25 26 27 28 29	Jenkins- Jones, 2018 [24]	Poor compliance and increased mortality, depression and healthcare costs in patients with congenital adrenal hyperplasia	Matched cohort study	CPRD, ONS, HES inpatient and outpatient	?	Depression defined by Read Codes in CPRD, by ICD-10 code in HES inpatient data, or by the prescription of antidepressants.  Depression was identified not only from ongoing records but also from patients' clinical histories dating from before the start of data follow-up.  A sensitivity analysis considered only those depression outcomes identified by both diagnostic (Read or ICD-10) code and at least one antidepressant prescription.	Yes	None stated	None stated	Not applicable: the outcome was lifetime prevalence of depression rather than incident occurrence.	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
John, 2016 [25]	Recent trends in primary-care antidepressant prescribing to children and young people: an e-cohort study	Cohort study	SAIL	2003-2013	<p><u>Incident episode:</u> a Read code for a diagnosis or symptom of depression, or antidepressant, with no record of the given subtype (antidepressant prescription or depression diagnosis or depression symptom) in the previous 12 months; Participants could have more than one episode recorded across the study period as long a period of at least 12 months existed between entries within that subtype.</p> <p><u>Prevalent episode:</u> any record of the given subtype (antidepressant prescription or depression diagnosis or depression symptom) in a target year</p> <p><u>Annual recurrent episode:</u> defined as the first record in a given year of a given subtype where a record of that subtype exists previously in that individuals GP record.</p>	Yes	None stated	Registered with the GP practice for at least 1 year	Not applicable	Explored the indication of the antidepressants

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8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Kendrick, 2015 [26]	Changes in rates of recorded depression in English primary care 2003-2013: time trend analyses of effects of the economic recession, and the GP contract quality outcomes framework	Cohort study	CPRD	2003-2013	“had clinical or referral events recorded which included a Read code for non-psychotic depressive symptoms or diagnoses, or for assessment using depression symptom questionnaires.”  Prevalence of depression: Read code present in the year or quarter;  Incidence of depression: limited to patients who had no code for depression recorded in the previous 12 months.  Incidence of first-ever depression: no previous code for depression diagnosis, symptoms or antidepressant treatment recorded within 10 year study period, and no previous record of depression or antidepressant treatment recorded.	Yes	None stated	None stated	Not applicable	“We excluded patients with psychotic diagnoses including bipolar disorder, psychotic depression, and schizoaffective psychosis, and patients prescribed antidepressants for other indications besides depression.”
24 25 26 27 28 29	Khan, 2010 [15]	Consulting and prescribing behaviour for anxiety and depression in long-term survivors of cancer in the UK	Matched cohort study	CPRD	2003-2006	Consultations for depression and prescriptions of as tricyclics, SSRIs and MAOIs	No  (Available on request)	None stated	None stated  //  Follow up duration: 3 years	History of anxiety prior to the analysis period was included in the models	-
30 31 32 33 34	Rotz, 2017 [27]	Cardiovascular and neuropsychiatric risks of varenicline and bupropion in smokers with chronic obstructive pulmonary disease	Matched cohort study	QResearch	2001-2012	Depression, not further specified	No	None stated	Registered for >12 months before data extraction // Follow up duration 6 months	History of neuropsychiatric events before the index date were considered as confounders	-
35 36 37 38 39	Rotz, 2015 [28]	Cardiovascular and neuropsychiatric risks of varenicline: a retrospective cohort study	Matched cohort study	QResearch	2007-2012	Depression, not further specified	No	None stated	Registered for >12 months before data extraction // Follow up duration 6 months	History of neuropsychiatric events before the index date were considered as confounders	-

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8 9 10 11 12 13 14	Kurd, 2005 [6]	The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	Matched cohort study	CPRD	1987-2002	Depression included all clinician diagnoses of depressive symptomology including bipolar disorder, defined by diagnostic Read or OXMIS codes	No  (refers using the same codes of previous studies)	None stated	None stated	Patients with history of anxiety in the 6 months before the index date were excluded in a sensitivity analysis.	-
15 16 17 18 19 20 21 22 23 24	Lurie, 2015 [7]	Antibiotic exposure and the risk for depression, anxiety, or psychosis: A nested case-control study	Nested case control study	THIN	1995-2013	At least one Read code of depression; not further specified.	Yes	None stated	Only records from patients that had been registered with the GP for more than 183 days // Outcomes were considered incidence if occurring at more than 183 days after the index date.	Patients who had pharmacological treatment for a specific psychiatric diagnosis more than 90 days before the diagnosis was first recorded were excluded.	Patients with mixed anxiety and depression were excluded from the analysis
25 26 27 28 29 30 31 32 33 34	Martin-Merino, 2010 [29]	Study of a cohort of patients newly diagnosed with depression in general practice: Prevalence, incidence, comorbidity, and treatment patterns	Cohort study, descriptive and analytical	THIN	2002-2004	Patients with incident depression during the follow up but excluding those who had 5 or more prescriptions of an antidepressant before the depression diagnosis.	No	Yes  GP questionnaires	Registered for >2 years with their GP practice prior to the index date; Excluded patients aged >69 years who had fewer than 2 visits during the follow-up.	All subjects who had a record of depression before the index date were excluded.	Prevalence of depression calculated as the sum of all patients who had the outcome during the study, plus those who had the outcome in the two years before the study start date.

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8 Meier, 2004 9 [9]	10 The Risk of Severe Depression, Psychosis or Panic Attacks with Prophylactic Antimalarials	11 Cohort study	12 CPRD	13 1990-1999	14 Depression referred to specialist or hospital, or if received treatment with antidepressants at or after the diagnosis date identified by OXMIS- and/or- ICD-8-codes	15 No	16 Yes	17 'reviewed a list of all cases to determine inclusion/exclusion'	18 ≥1 year of data available before index date and "some GPRD activity (diagnoses or prescriptions) recorded after the index date" // Patients were censored 18 months after exposure date	19 "The base population for person-time analyses consisted of all subjects free of depression at the start of follow up."	20 -
21 Wilson, 2000 [30]	22 Are triptans with enhanced lipophilicity used for the acute treatment of migraine associated with an increased consulting rate for depressive illness?	23 Cohort study, analytical	24 CPRD, data for the West Midlands	25 1993-1997	26 'consulting at least once for depression'	27 Yes	28 No	29 None stated	30 None stated	31 None Stated	32 -
33 Mijlojevic, 2017 [31]	34 Mental health impacts of flooding: a controlled interrupted time series analysis of prescribing data in England	35 Cohort study	36 General practice prescribing data	37 2010-2015	38 Antidepressants prescription	39 No	40 Not applicable	41 (but list of antidepressants provided in appendix)	42 None stated	43 Not applicable	44 -
45 Moore, 2009 [32]	46 Explaining the rise in antidepressant prescribing: a descriptive study using the general practice research database	47 Cohort study	48 CPRD	49 1993-2005	50 Depression: "first ever antidepressant prescription for depression diagnosed up to 180 days before or 90 days after the prescribing event, or received a first ever diagnosis of depression without an associated prescription for antidepressants."	51 No	52 None stated	53 Registered with practices contributing with up to standard quality data for the entire study period	54 Patients only included if it was the first ever events during the follow up period.	55 Provides data for treatment patterns: chronic treatment; intermittent treatment; short-term treatment; delayed treatment; no treatment.	56 -

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8 9 10 11 12 13 14 15	Morgan, 2014 [33]	General practice- recorded depression and antidepressant use in young people with newly diagnosed Type 1 diabetes: a cohort study using the Clinical Practice Research Datalink	Matched cohort study	CPRD	1988-2010	Depression identified from diagnosis codes (Oxford Medical Information System and Read), along with at least one antidepressant prescription (monoamine oxidase inhibitors, selective serotonin reuptake inhibitors, tricyclic antidepressants or other antidepressants).	No	None stated	None stated	Participants with depression diagnoses or prescriptions prior to diabetes diagnosis (or prior to the start date for control subjects) were excluded.	-
16 17 18 19 20 21	Petersen, 2006 [34]	Risk and predictors of fatigue after infectious mononucleosis in a large primary-care cohort	Nested case control cohort study	CPRD	1989-2000	Depression, not further specified	No  (available from the authors)	None stated	At least one year of data before diagnosis // At least one year of complete follow up after diagnosis	Included patients who did not have fatigue in the year before onset	-
22 23 24 25 26 27 28 29 30 31 32 33	Rait, 2009 [35]	Recent trends in the incidence of recorded depression in primary care	Cohort study	THIN	1996-2006	“Diagnoses of depression (e.g. ‘depressive disorder’) and recorded depressive symptoms (e.g. ‘low mood’). new episode of diagnosed depression was defined as an entry in the records where there was no previous diagnosis of depression coded in the previous year. A new episode of depressive symptoms was also defined as an entry where there had been no previous recorded depressive symptom code in the previous year.”	No	None stated	At least one year of follow up data // ND	None stated	Provides results separately for diagnoses and symptoms of depression.
34 35 36	Shah, 2016 [36]	The mental health and mortality impact of death of a partner with dementia	Nested case control study	THIN	2005-2008	Depression, not further specified	Yes	None stated	At least one year of data with the practice	None stated	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure	16 Notes
8 Schneider, 9 2013 [10]	10 Antimalarial chemoprophylaxis and 11 the risk of 12 neuropsychiatric 13 disorders	14 Nested case control study	15 CPRD	16 2001-2009	17 Incident diagnosis of depression, not 18 further specified	19 Yes	20 None stated	21 At least 1 year of date before the index date // 22 some activity (diagnoses or prescriptions) recorded after the index date	23 Excluded patients with the outcome of interest observed before the index date	24 Excluded patients with history of cancer, alcoholism, and rheumatoid arthritis.
15 Schneider, 16 2010 [37]	17 COPD and the risk of depression	18 Cohort study	19 CPRD	20 1995-2005	21 Diagnosis of depression, not further specified  22 In sensitivity analysis, only cases with an incident diagnosis of depression who receive pharmacological treatment within 6 months of diagnosis were included	23 Yes	24 None stated	25 Excluded patients with less than 3 years of active recording history prior to the date of the COPD diagnosis	26 Patients with previous history of depression, suicide, suicidal ideation, etc., prior to the index date were excluded	27 Excluded patients with history of cancer, HIV, drug abuse, or alcoholism prior to the index date
22 Sheehan, 23 2015 [11]	24 Mental illness, challenging behaviour, and psychotropic drug prescribing in people with intellectual disability: UK population based cohort study	25 Cohort study, analytical	26 THIN	27 1999-2013	28 Read codes for depression (including mixed depression-anxiety) that the authors' used in previous studies.	29 Yes	30 None stated	31 Entry in the cohort at least one year after registration with the practice	32 None stated	33 Excludes cases of mixed anxiety and depression
28 Smeeth, 29 2008 [38]	30 Effect of statins on a wide range of health outcomes: A cohort study validated by comparison with randomized trials	31 Cohort study	32 THIN	33 1995-2006	34 Depression defined as the start of antidepressant pharmacotherapy	35 No	36 None stated	37 None stated	38 People with a previous history of the outcome prior to the index date were excluded from the analysis of that outcome.	39 First year of follow up was excluded.

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8 9 10 11 12 13 14 15	Smith, 2014 [39]	Depression and multimorbidity: a cross- sectional study of 1,751,841 patients in primary care	Cross-sectional	PCCIU	ND-2007	“Read code for depression recorded within last year and/or 4 or more antidepressant prescriptions (excluding low-dose tricyclic antidepressants) within the last year. Low-dose tricyclic antidepressants were excluded because they are commonly prescribed for chronic pain syndromes rather than depression.”	No	None stated	Patients alive and permanently registered with a general practice at the date of the study	None stated	-
16 17 18 19 20 21 22 23	Thomas, 2013 [40]	Smoking cessation treatment and risk of depression, suicide, and self harm in the Clinical Practice Research Datalink: prospective cohort study	Nested case- control study	CPRD HES ONS	2006-2011	“Incident episodes of depression as measured by the date that antidepressant treatment was initiated (treated depression)”  //  For comparison with previous study, depression was also defined with Read codes only in CPRD	Yes	None stated	At least one year of registration with the practice prior to the index date // ND	Previous psychiatric illness, and use of psychotropic medication considered as potential confounders.	-
24 25 26 27 28	Tyrer, 1999 [41]	A study of cardiovascular disease, depression and antidepressants on a computerised general practice database	Cohort study	UK MediPlus	1995-1996	‘new diagnosis of depression and treatment, classified by the first antidepressant prescribed.’	No	None stated	At least 12 months of data before the index date // Follow up duration 12 months	Patients with depression in the 12 months period before the cardiac event were excluded.	-
29 30 31 32 33	Vallerand, 2018 [42]	Risk of depression among patients with acne in the U.K.: a population-based cohort study	Cohort study, analytical	THIN	1986-2012	Read code for major depressive disorder	Yes	None stated	None stated // Follow up for > 2 years after index date	Patients with MDD Read code prior to the start of follow up were excluded	-

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8Walters, 92011 [43]	10The relationship 11between asthma and 12depression in primary 13care patients: A 14historical cohort and 15nested case control 16study	Cohort study and nested case control study	CPRD	1995-2006	GP recorded diagnosis of depression, as defined by Read/OXMIS codes) during the study period	No  (codes available from the authors)	None stated	All patients had at least 24 months of 'up to standard' data prior to the index date of the case.	All cases with a recorded medical diagnosis of depression or depressive symptoms before the index date were excluded from the cohort.	-	
17Pang, 2003 18[44]	Lipid-lowering drugs and the risk of depression and suicidal behavior	Matched cohort study	CPRD	1991 onwards	Treated depression (with antidepressants) referred to a consultant or patient hospitalized for depression; excluded patients who also had diagnosis of anxiety or with specific causes for depression (e.g. post-partum depression)	No	Yes  List of patients referred to hospital or consultant were manually reviewed; referral letters reviewed.	≥1 year of data available before index date	Patients with history of depression prior to study start were excluded	-	

26 CPRD – Clinical Practice Research Datalink; EHR – electronic health records; HES – Hospital Episodes Statistics; ICD-10 – International Classification of Diseases, edition 10;  
 27 ND – not defined; PCCIU – Primary Care Clinical Informatics Unit Research; SAIL – SAIL Databank - The Secure Anonymised Information Linkage Databank; THIN – The Health  
 28 Improvement Network; ONS – Office for National Statistics.

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3 **Table 3. Main characteristics of the eligible studies: composite outcomes, anxiety and depression.**  
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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
10 John, 2016 11 [45]	12 Case-finding for 13 common mental 14 disorders of anxiety and 15 depression in primary 16 care: an external 17 validation of routinely 18 collected data	19 Validation study 20 using patient 21 reported 22 outcomes	23 SAIL	24 2000-2009	25 <u>Outcome:</u> Common mental 26 disorders, defined as anxiety and 27 depression. 28 29 Read codes for: i) anxiety diagnosis, 30 e.g. generalised anxiety disorder; ii) 31 anxiety symptoms e.g. anxiousness; 32 iii) mixed anxiety and depression; iv) 33 panic attacks and panic disorders; v) 34 depression diagnoses; vi) 35 depression symptoms. 36 37 Treatment defined as having at least 38 one prescription for an 39 antidepressant, anxiolytic or 40 hypnotic within the year around the 41 date of the survey answer. 42 43 Excluded codes for other psychosis, 44 phobias, obsessive compulsive 45 disorders, post traumatic stress 46 disorder, behavioural disorders, hyperkinetic disorders, conduct disorders, disorders of social functioning, and adjustment disorders. Defined 12 algorithms with current and historical symptoms, diagnosis and treatment.	Yes	Yes  Patient reported outcomes	At least 6 months after registration with the practice	Not applicable (no exposure under study).  Incidence outcome were those where no previous entry had been recorded around 1 year of the date of the survey answer.  Other outcomes were considered historical.	-



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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Nested case control study	THIN	2009-2013	Outcome: Psychological impairment, defined as anxiety, depression and post-traumatic stress disorder.  First consultation after the index date with a Read code for symptoms or diagnosis of anxiety, depression or post-traumatic stress, plus a first prescription of an antianxiety or antidepressant drug	Yes	None stated	Practice with at least one year of up to standard data, and patients registered for at least one year with the practice. // Patient alive and registered with the practice 1 month after index	Not stated.	-

SAIL – SAIL Databank - The Secure Anonymised Information Linkage Databank; THIN – The Health Improvement Network.

Table 4. Main characteristics of the eligible studies: dementia.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Brown, 2016 [47]	Comparison of dementia recorded in routinely collected hospital admission data in England with dementia recorded in primary care	Validation study	CPRD HES	1990-2012	Read codes for dementia and/or a code for a drug specifically prescribed for dementia (i.e. donepezil, galantamine, memantine and rivastigmine).	Yes	Yes	At least 12 months before and 12 months after the first HES record of dementia	Not applicable	-
Davies, 2014 [48]	Associations of anti-hypertensive treatments with Alzheimer's disease, vascular dementia, and other dementias	Nested case-control study	CPRD	1997-2008	Alzheimer's disease, vascular dementia, or unspecified/other dementias  Created four categories: probable Alzheimer's disease, possible Alzheimer's disease, vascular dementia, combine unspecified or other dementia.	Yes	No	None stated	Not applicable	-
Donegan, 2017 [49]	Trends in diagnosis and treatment for people with dementia in the UK from 2005 to 2015: a longitudinal retrospective cohort study	Cohort study	CPRD	2005-2015	Dementia defined using Read codes listed for the condition in the Quality and Outcomes Framework	No	No	Patients were eligible for analysis if registered with the practice for the entire quarter of the year being analysed;	Not applicable (descriptive study of the incident cases of dementia)	-
Dregan, 2015 [50]	Are Inflammation and Related Therapy Associated with All-Cause Dementia in a Primary Care Population?	Matched cohort study	CPRD	2002-2013	"Medical diagnostic codes were used to identify new diagnoses of dementia including Alzheimer's disease, vascular dementia, Lewy body dementia, frontotemporal dementia, dementia in other conditions, and unspecified dementia."	No	No	None stated	Considered incident cases only	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Dregan, 2015 [51]	Patterns of anti-inflammatory drug use and risk of dementia: a matched case-control study	Matched case control study	CPRD	1992-2014	"Medical diagnostic codes were used to identify new diagnoses of dementia and include non-specific dementia (Eu02z), Alzheimer disease (F110), vascular dementia (Eu01), Lewy body dementia (Eu025), senile dementia (E00) and dementia in other conditions (Eu02)."	Yes	No	None stated	Considered incident diagnosis	-
Dunn, 2005 [52]	Does lithium therapy protect against the onset of dementia?	Nested case control study	CPRD	1992-2002	'Cases with definite diagnosis of Alzheimer disease, vascular dementia (with which there is a diagnostic overlap), and those with uncertain cause of dementia'	No	Yes GP Questionnaire	"At least 4 years of research standard data preceding the date of the diagnosis" //	Considered incident cases only	-
Dunn, 2005 [53]	Association between dementia and infectious disease: evidence from a case-control study	Nested case control study	CPRD	1992-2002	"We identified cases as all those patients with an incident dementia, as diagnosed by their GP, a GP colleague, or a hospital specialist (...) We included cases with a recorded diagnosis of Alzheimer disease, vascular dementia (with which there is diagnostic overlap), and those with uncertain cause of dementia. Other specified causes of dementia were excluded (eg, dementia in Parkinson's disease)."	No	Yes GP questionnaires	"At least 4 years of research standard data preceding the date of first diagnosis (median time from onset of symptoms to diagnosis has been estimated at 4 years)." // ND	Considered incident cases only	Cases further classified as probable or possible cases of dementia.
Emdin, 2016 [54]	Blood Pressure and Risk of Vascular Dementia: Evidence From a Primary Care Registry and a Cohort Study of Transient Ischemic Attack and Stroke	Cohort study	CPRD HES ONS	1990-2003	First record of vascular dementia, in one of the databases. For the primary analysis, cases of Alzheimer's disease and vascular dementia (i.e. mixed dementia) were included.	Yes	No	Registered with the GP practice for at least one year // First 4 years of follow up excluded from analysis	First 4 years of follow up excluded from analysis	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Goh, 2014 [55]	Angiotensin receptor blockers and risk of dementia: cohort study in UK Clinical Practice Research Datalink	Cohort study	CPRD	1995-2010	New diagnosis of dementia, defined by Read codes, excluding specific causes of dementia (e.g. dementia in neoplastic disease).	Yes	No	At least 6 months of registration with the GP practice // Outcome occurring in the first year after the index date were not considered	Excluded all individuals with a record of dementia or cognitive impairment prior to the date of entry in the study	-
Granerod, 2016 [3]	Increased rates of sequelae post-encephalitis in individuals attending primary care practices in the United Kingdom: a population-based retrospective cohort study	Nested case control study	CPRD	1998-2012	"cognitive problems (including memory loss, aphasia, difficulty processing information, difficulty reasoning, difficulty concentrating and learning disability)"	Not provided in the original study but obtained from the authors	None stated	None stated // At least one contact with the GP practice in the two years after the index date.	Analysis restricted to those at risk of a new-onset outcome, defined as no code in the year prior to the index date.	Dementia diagnosis were considered separately
Hippisley-Cox, 2010 [56]	Unintended effects of statins in men and women in England and Wales: population based cohort study using the QResearch database	Cohort study	QResearch	2002-2008	Dementia, defined with Read codes, not further specified.	No; states that code list is available on request	No	At least one year of registration with the practice // ND	Incident cases included in the study	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2012 [57]	Metformin, other antidiabetic drugs, and risk of Alzheimer's disease: a population-based case-control study	Nested case control study	CPRD	1998-2008	"either a diagnosis of AD followed by at least one prescription for an AD drug or vice versa; a diagnosis of dementia followed by at least two prescriptions for an AD drug; at least two recordings of an AD diagnosis; an AD diagnosis after a specific dementia test (e.g., Mini-Mental State Examination (MMSE), Clock Drawing Test (CDT), or Abbreviated Mental Test (7-min screen)), a referral to a specialist (e.g., neurologist, geriatrician, or psychogeriatrician), an assessment based on a neuroimaging technique (e.g., magnetic resonance imaging (MRI), computed tomography (CT), or single-photon emission CT (SPECT)); or an AD diagnosis preceded or followed by any recorded dementia symptoms (e.g., memory impairment, aphasia, apraxia, or agnosia)."	No	Yes  GP questionnaire	Patients with >3 years of active history in the database were excluded.	First time diagnosis of Alzheimer's disease included	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2013 [58]	Epidemiology, co-morbidities, and medication use of patients with Alzheimer's disease or vascular dementia in the UK	Descriptive cohort study	CPRD	1998-2008	"A patient was required to have either: 1) a diagnosis of AD followed by at least one prescription for an AD drug or vice versa; 2) a diagnosis of unspecific dementia followed by at least two prescriptions for an AD drug; 3) at least two recordings of an AD diagnosis; 4) an AD diagnosis after a specific dementia test (e.g., Mini Mental State Examination, Clock Drawing Test, or Abbreviated Mental Test [7-Minute Screen]), a referral to a specialist (e.g., neurologist, geriatrician or psycho-geriatrician), or an assessment based on neuroimaging technique (e.g., magnetic resonance imaging, computed tomography, or single photon emission computed tomography); or 5) an AD diagnosis preceded or followed by any recorded dementia symptoms (e.g., memory impairment, aphasia, apraxia, or agnosia). In addition, AD patients with a recording of any other specific dementia diagnosis (e.g., VaD, Pick's disease, or dementia with Lewy bodies) after the index date were not eligible, as well as those AD patients with a recording of stroke within two years prior to the index date."	No	Yes  GP questionnaires	None stated	Considered incident cases during the study period only	"cases were not eligible if they had had a stroke before the index date (because this is more indicative of a diagnosis of vascular dementia (VaD) <sup>16</sup> or a recording of any other specific dementia diagnosis (e.g., VaD, Pick's disease, or Lewy body dementia) after the index date."

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Imfeld, 2015 [59]	Benzodiazepine Use and Risk of Developing Alzheimer's Disease or Vascular Dementia: A Case-Control Analysis	Case control	CPRD	1998-2013	"first time diagnosis of AD, VaD, or any unspecified dementia (based on Read codes) (...), or who received a first-time prescription for an acetylcholinesterase inhibitor (i.e. donepezil, rivastigmine, galantamine, or tacrine) or the N-methyl-D-aspartate (NMDA) receptor antagonist memantine (...) To increase the probability of including only well-defined AD or VaD cases, a validated algorithm was applied (...) this algorithm was based on recordings of specific dementia tests [e.g. Mini-Mental State Examination (MMSE), Clock Drawing Test (CDT), or Abbreviated Mental Test (7-Minute Screen)], referrals to specialists (e.g. neurologists, geriatricians or psycho-geriatricians), brain imaging [computed tomography (CT), magnetic resonance imaging (MRI), or single photon emission computed tomography (SPECT)], or dementia symptoms (memory impairment, aphasia, apraxia, or agnosia) supportive of a diagnosis of a specific dementia subtype (i.e. AD or VaD)."	No	Yes  GP questionnaire	At least three years of active history in the database before diagnosis // ND	Considered incident cases during the study period only	-
Jick, 2000 [60]	Statins and the risk of dementia	Nested case control study	CPRD	1992-1998	First time diagnosis of dementia or Alzheimer's disease	No	No but refers to previous study where the validity of the same list of codes was assessed	None stated	Incidence cases considered only	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Judge, 2017 [61]	Protective effect of anti-rheumatic drugs on dementia in rheumatoid arthritis patients		CPRD	1995-2011	Dementia, including Alzheimer's dementia, vascular dementia, and mixed dementia.	Yes	No	At least one year of up to standard registration data before the index date // ND	Considered incident cases only	-
Khan, 2011 [62]	Long-term health outcomes in a British cohort of breast, colorectal and prostate cancer survivors	Cohort study	CPRD	2003-2006	Dementia, defined with Read codes, not further specified	No; states that codes are available upon request	No	None stated	Only incident cases were considered	-
Khosrow-Khavar, 2017 [63]	Androgen deprivation therapy and the risk of dementia in patients with prostate cancer	Cohort study	CPRD	1988-2016	All incident cases of dementia, including Alzheimer's disease	Yes	None stated (refers to validation in previous studies)	Patients with less than 1 year of history in CPRD were excluded // All patients had to have at least 1 year of follow up data	Excluded patients with previous diagnosis of any dementia	-
Lu, 2016 [64]	Gout and the risk of Alzheimer's disease: a population-based, BMI-matched cohort study	Cohort study	THIN	1995-2013	Alzheimer's disease	Yes	Not in the original study; refers to a previous validation study	None stated	First diagnoses only	-
Mehta, 2017 [65]	Association of Hypoglycaemia With Subsequent Dementia in Older Patients With Type 2 Diabetes Mellitus	Cohort study	CPRD	2002-2012	Dementia defined by Read codes; used the same list of codes as another previous study.	No	None stated	None stated	Excluded patients with dementia diagnosed in the year prior to the index date	-



Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Mehta, 2016 [66]	Development and validation of the RxDx-Dementia risk index to predict dementia in patients with type 2 diabetes and hypertension	Cohort study	CPRD	2003-2012	Dementia, defined with a previously validated algorithm (refers to previous publication)	No	None stated	None stated	Considered incident cases only	Sensitivity analysis include the definition of dementia as clinical diagnosis or drug prescription
Perera, 2018 [67]	Dementia prevalence and incidence in a federation of European Electronic Health Record databases: The European Medical Informatics Framework resource	Cohort study	THIN	2004-2012	'Codes that clearly indicated a dementia diagnosis, rather than those that were suggestive'	Yes	No	None stated	Not applicable (calculated incidence estimates)	-
Qizilbash, 2015 [68]	BMI and risk of dementia in two million people over two decades: a retrospective cohort study	Cohort study	CPRD	1992-2007	"Patients were classified as having dementia if, any of the following terms were recorded during follow-up: dementia, Alzheimer, Lewy body disease, Pick's disease. Dementia recorded on a death certificate was also used."	No	None stated	None stated	Excluded patients with dementia diagnosed in the year prior to the index date	-
Seshadri, 2001 [69]	Postmenopausal estrogen replacement therapy and the risk of Alzheimer disease	Cohort study	CPRD	1992-1998	First-time diagnosis of Alzheimer's disease, senile dementia or presenile dementia	No	Yes Case review	None stated	Only first time diagnosis were included	-

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Strom, 2015 [70]	Statin therapy and risk of acute memory impairment	Nested case-control study	THIN	1987-2013	"The outcome for this study was the onset of acute, reversible memory impairment. Using Read codes Clinical Terms, version 2 (...), we sought codes with descriptions specifically pertaining to memory loss including amnesia, amnesia symptom, memory loss symptom, temporary loss of memory, short-term memory loss, transient global amnesia, drug-induced amnesic syndrome, non-alcoholic amnesic syndrome, amnesia (retrograde), memory lapses, minor memory lapses, and mild memory disturbance."	Yes	Yes GP questionnaire for a random sample	At least one 365 of registration with the GP practice	Patients with codes for acute memory loss before the index date were excluded.	Excluded patients diagnosed with dementia
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Matched-cohort study	THIN	2009-2013	Read codes for diagnoses (such as 28E0.00: mild cognitive impairment) and symptoms (such as 1B1A.12: memory loss symptom) related to overall cognitive impairment and impaired individual cognitive domains. 'Cognitive impairment included memory, attention, spatial awareness, perception, apraxia and executive functioning impairments but not a diagnosis of dementia.'	Not provided in the original study but obtained from the authors	None stated	Patients alive and registered with the practice 1 month after the index date	Excluded patients with fatigue recorded on the index date	Dementia diagnosis were not included
Walters, 2016 [71]	Predicting dementia risk in primary care: development and validation of the Dementia risk score using routinely collected data		THIN	2000-2011	Newly recorded dementia diagnoses, including Alzheimer's disease, vascular dementia, and unspecified or mixed dementia.  Excluding dementia associated with Parkinson's disease, Lewy body dementia, Huntingdon, Picks, HIV and drug induced and alcohol-related dementia.	No but available upon request from the authors	No	Excluded patients with less than one year of follow up data // follow up restricted to a maximum of 5 years	Excluded patients with dementia, cognitive impairment or memory symptoms at baseline	-

CPRD – Clinical Practice Research Datalink; GP – general practitioner; HES – Hospital Episodes Statistics; THIN – The Health Improvement Network; ONS – Office for National Statistics.

Table 5. Main characteristics of the eligible studies: fatigue.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Donegan, 2013 [72]	Bivalent human papillomavirus vaccine and the risk of fatigue syndromes in girls in the UK	Ecological and self-controlled case series	CPRD	2000-2011 and 2008-2011	Chronic fatigue syndrome including chronic fatigue syndrome/myalgic asthenia, post-viral fatigue syndrome, fibromyalgia, and neurasthenia.	No  (Obtained from the authors)	None stated	None stated // At least one year of follow up available	None stated	Sensitivity analysis considered 'incident fatigue' at the earliest recording of symptoms, referrals or diagnoses.
Collin, 2017 [73]	Trends in the incidence of chronic fatigue syndrome and fibromyalgia in the UK, 2001-2013: a Clinical Practice Research Datalink Study	Descriptive cohort study	CPRD	2001-2013	Diagnoses of chronic fatigue syndrome, fibromyalgia, post-viral fatigue syndrome, or asthenia/debility diagnosis or referral to a specialist service	Yes	None stated	At least 12 months of up to standard data	Only new first ever diagnosis were considered	Symptoms of fatigue were considered separately.
Gallagher, 2004 [74]	Incidence of fatigue symptoms and diagnoses presenting in UK primary care from 1990 to 2001.	Descriptive cohort study	CPRD	1990-2001	Read codes for diagnosis of chronic fatigue syndrome; post-viral fatigue syndrome; asthenia/debility. Read codes for symptoms were classified separately.	No  (Stated that was available from the authors but could not be obtained)	None stated	Data prior to 1990 not shown due to lower numbers than expected and being the first years of data collection of the database.	Fatigue diagnosis was incident if there was no record of diagnoses in the previous year, with or without previous symptoms; symptoms were incident if there was no symptoms or diagnoses in the previous year.	-
Hamilton, 2009 [75]	Risk markers for both chronic fatigue and irritable bowel syndromes: A prospective case-control study in primary care	Nested case control study	CPRD	1988-2001	List of diagnostic codes for post-viral fatigue syndrome; chronic fatigue syndrome.	No  (refers to another publication)	None stated	Only patients with complete records for 3 years prior to the index date were included	Not applicable	-

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Petersen, 2006 [34]	Risk and predictors of fatigue after infectious mononucleosis in a large primary-care cohort	Nested case control cohort study	CPRD	1989-2000	Read codes for diagnoses of post-viral debility, post-viral fatigue syndromes, post-influenza debility and syndrome post-viral; symptoms of tiredness, malaise, lethargy, debility, and fatigue.	No  (Stated that was available from the authors but could not be obtained)	None stated	At least one year of data before diagnosis // At least one year of complete follow up after diagnosis	Included patients who did not have fatigue in the year before onset	-
Turner, 2016 [46]	Ongoing impairments following transient ischaemic attack: retrospective cohort study	Nested case-cohort study	THIN	2009-2013	First consultation after the index date with a Read code for symptoms or diagnosis of fatigue	No  Obtained from the authors	None stated	Practice with at least one year of up to standard data, and patients registered for at least one year with the practice. // Patient alive and registered with the practice 1 month after index	Excluded patients with fatigue recorded on the index date.	-

CPRD – Clinical Practice Research Datalink; THIN – The Health Improvement Network.

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Table 6. Main characteristics of the eligible studies: pain.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Becker, 2007 [76]	Migraine incidence, comorbidity and health resource utilization in the UK	Nested case-control study	CPRD	1994-2001	<u>Migraine diagnosis</u>	No	Yes  GP questionnaire	None stated	First-time diagnosis only	-
Campbell, 2015 [77]	In sickness and in health: A cross-sectional analysis of concordance for musculoskeletal pain in 13,507 couples	Descriptive	CiPCA	2005-2006	<u>Widespread body pain:</u> "All relevant codes were formed into the five most common consultation body regions (back, knee, neck, shoulder, foot), as well as codes for osteoarthritis consultations. A further category of 'any musculoskeletal' consultations were formed inclusive of the above body regions and conditions, as well as consultations for unspecified pain (e.g. arthralgia), widespread pain conditions and other single body regions where the proportion of consultations were too few to perform meaningful separate analysis (e.g. head, arm, elbow, wrist, hand, hip, pelvis, thigh and buttock)."	Yes	None stated	None stated	None stated	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Hall, 2006 [78]	Epidemiology and treatment of neurophatic pain: the UK primary care perspective	Descriptive	CPRD	1992-2002	"A <u>post-herpetic neuralgia</u> record was a specific term for post-herpetic neuralgia or an acute herpes zoster term plus either neuropathy, or neuropathic pain, 3-6 months after the first acute herpes zoster entry. A <u>trigeminal neuralgia</u> record had a specific term for this diagnosis. <u>Phantom limb pain</u> was defined as a specific term or a term for amputation plus either a neuropathy or neuropathic pain record 3–24 months after the first amputation code. Patients were included in the painful <u>diabetic neuropathy</u> cohort if their record contained a specific term; a term for diabetic neuropathy with a prescription for a treatment for pain current at the date of diagnosis; a record of diabetes and neuropathic pain or record of diabetes and both neuralgia and a treatment for pain current on the date of the neuralgia code."	No	None stated	At least year of up to standard data	None stated	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Hall, 2013 [79]	An observational descriptive study of the epidemiology and treatment of neuropathic pain in a UK general population	Cohort study, descriptive	CPRD	2005-2010	“Five neuropathic pain cohorts ( <u>post-herpetic neuralgia</u> , <u>painful diabetic neuropathy</u> , <u>phantom limb pain</u> , <u>neuropathic back pain</u> and <u>neuropathic postoperative pain</u> ) were identified from (...) a single specific Read code, or a combination of Read and therapy codes as specified in a case definition. Postherpetic neuralgia was defined as a specific code for post-herpetic neuralgia, or a code for acute zoster plus either a code for neuropathy, or neuropathic pain, between three and six months after the first acute zoster entry. Phantom limb pain (PLP) was defined as a specific code, or a code for amputation plus either a code for neuropathy or neuropathic pain between three and twenty-four months after the first amputation code. The painful diabetic neuropathy cohort included patients with a specific code for painful diabetic neuropathy; those with a code for diabetes and a general code for neuropathic pain and a third group with a code for diabetic neuropathy (or diabetes and neuralgia) with a prescription for a neuropathic pain treatment which was initiated within 28 days of the date of the neuropathy/ neuralgia code.”	No	Yes  GP questionnaires	At least of 1 year of data of good quality for research		None stated

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Mansfield, 2017 [80]	Identifying patients with chronic widespread pain in primary care	Cross sectional	CiPCA	2005-2009	(A) <u>Recurrent region pain</u> , define as: "In a period of 5 consecutive years, a patient fulfils all of 1-4: 1. At least 1 consultation for a musculoskeletal complaint in the axial skeleton (neck and back); 2. At least 1 consultation for an upper- or lower-limb complaint; 3. At least 1 consultation for a regional musculoskeletal complaint in each of 3 separate years; 4. At least 4 consultations for regional musculoskeletal complaints during the 5-year period."  (B) "Non specific <u>generalized pain conditions</u> , including fibromyalgia, fibrositis, rheumatism, myalgia, arthralgia, and polyalgia"	Yes	Yes	Patients not registered with the practice for the full 5-year period were excluded	Not applicable (cross sectional analysis)	-
Ruigomez, 2006 [81]	Chest pain in general practice: incidence, comorbidity and mortality	Case control study	CPRD	1996	<u>Chest pain:</u> Codes for chest pain that did specify the type or location of the symptom.	Yes	None stated	Registered with the GP for at least 2 years // At least one entry in the records in the last 3 years before the study	Excluded patients with history of pain the past 2 years	-
Wallander, 2007 [82]	Unspecified abdominal pain in primary care: The role of gastrointestinal morbidity	Matched cohort study	CPRD	Before 1996	<u>Abdominal pain:</u> Diagnosis of abdominal pain	Yes	None stated	At least one entry to the data in the three years prior to the study start.	Patients were excluded if they had a record of abdominal pain of any abdominal site or type in the 2 years before the study started.	-



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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Zondervan, 1999 [83]	Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database	Cohort study	Mediplus UK primary care database	1991-1995	<p><b>Chronic pelvic pain:</b> pain in the lower abdominal region persisting for at least six months.</p> <p>“Episode of chronic pelvic pain: pelvic pain on two or more contacts, with at least six months (<math>\geq 183</math> days) between the first and the last contact but with no period of more than one year (<math>&gt; 365</math> days) without a pelvic pain contact. An episode of chronic pelvic pain was defined as starting six months after the first contact and finishing at the contact preceding a pain-free, one-year interval (if any).”</p> <p>“Excluded pain due to malignancy; chronic inflammatory and other defined bowel diseases such as Crohn’s, coeliac disease, ulcerative colitis; acute conditions verified by having surgery such as appendectomy, cholecystectomy; or pregnancy. Women with pelvic pain occurring only during menstruation (dysmenorrhoea) or sexual intercourse (dyspareunia) were also excluded.”</p>	No	None stated	None stated	Not applicable. Monthly incidence estimated as the number of new episodes in a given month as a proportion of	-
<p>CiPCA - The Consultations in Primary Care Archive; CPRD – Clinical Practice Research Datalink;. NSAIDS - Nonsteroidal anti-inflammatory drug.</p>										

Table 7. Main characteristics of the eligible studies: sexual dysfunction.

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Blumentals, 2003 [84]	Antihypertensive treatment and erectile dysfunction in a cohort of type II diabetes patients	Nested case-control study	CPRD	1987-2001	Erectile dysfunction, ascertained from the diagnosis codes, not further specified	No	None stated	None stated	None stated	-
Hagberg, 2016 [85]	Risk of erectile dysfunction associated with use of 5-alpha reductase inhibitors for benign prostatic hyperplasia or alopecia: population based studies using the Clinical Practice Research Datalink	Nested case control study	CPRD	1992-2011	<u>Erectile dysfunction</u> : "diagnosis of erectile dysfunction or impotence, prescription for a phosphodiesterase type 5 inhibitor (eg, sildenafil, tadalafil, or vardenafil) where the strength and quantity prescribed was indicated for treatment of erectile dysfunction, or record of procedures for treatment of erectile dysfunction (eg, penile prosthesis, penile injection, or other operations for treatment of erectile dysfunction)." <u>Non-erectile dysfunction</u> : including ejaculatory disorder, psychosexual dysfunction, or low libido	No	None stated	At least 3 years of history before the cohort entry date;	Incident cases considered after the index date.	-
Khan, 2011 [82]	Long-term health outcomes in a British cohort of breast, colorectal and prostate cancer survivors: a database study	Cohort study	CPRD	2003-2006	Erectile dysfunction: "new prescriptions for sildenafil (Viagra, Pfizer, NY, United States), apomorphine hydrochloride, vardenafil (Levitra, Bayer Healthcare Pharmaceuticals, New Haven, USA), alprostadil (an injectable treatment) and tadalafil (Cialis, Lilly, USA)"	No	None stated	None stated	Excluded patients with erectile dysfunction recorded before the index date	-
Morant, 2008 [86]	Increased sexual dysfunction in men with storage and voiding lower urinary tract symptoms	Cross-sectional analysis	THIN	2000-2007	Male sexual dysfunction	Yes	None stated	None stated	None stated	-
Schlesinger, 2018 [87]	Gout and the Risk of Incident Erectile Dysfunction: A Body Mass Index-matched Population-based Study	Cohort study	THIN	1995-2012	Erectile dysfunction noted by the presence of the Read code E227311	Yes	None stated	At least one year of registration with the practice before the index date	Excluded prevalent cases at baseline	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
Sultan, 2017 [88]	Gout and subsequent erectile dysfunction: a population-based cohort study from England	Cohort study	CPRD, HES	1998-2004	Erectile dysfunction, ascertained from the medical codes, not further specified	Yes	None stated	At least 1 year of follow up data	Only incident cases after the index date were considered; cases in the first 6 months of registration were considered prevalent.	-

CPRD – Clinical Practice Research Datalink; HES – Hospital Episodes Statistics; THIN – The Health Improvement Network.

**Table 8. Main characteristics of the eligible studies: sleep disorder.**

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure	Notes
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CPRD – Clinical Practice Research Datalink; CiPCA - The Consultations in Primary Care Archive; PiPCA - The Prescriptions in Primary Care Archive.

**Table 9. Main characteristics of the eligible studies: fatal and non-fatal self-harm.**

Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Andersohn, 2010 [91]	Use of antiepileptic drugs in epilepsy and the risk of self-harm or suicidal behaviour	Nested case-control study	CPRD	1990-2005	"Potential cases were identified using predefined medical codes of self-harm (i.e., without a clear suicidal intention [intentional self-harm]) or suicidal behaviour (i.e., with a clear suicidal intention [attempted suicide]). Patients who died were also considered as potential cases if suicidal thoughts were recorded within 4 weeks before death."	Yes	Yes, record review	At least one year of data with the GP practice	Models adjusted for history of self-harm at baseline	In an additional analysis, the patients with codes for self-harm without explicitly mention to suicidal behaviour were excluded.
Arana, 2010 [92]	Suicide-related events in patients treated with antiepileptic drugs	Cohort study	THIN	1988-2008	"Cases of suicide-related events were based on codes for suicide, attempted suicide, and intentional self-inflicted injuries plus suicide. A completed suicide was defined as a code for suicidality followed by a code for death in the following month and a final date of any administrative activity in the database or disenrollment within 6 months after the suicidality code. If the disenrollment date occurred more than 6 months after a suicidality code, we reviewed the patient's profile. Patients with a last medical or other health related code that was recorded within 1 month after the suicide date were also considered to have completed suicide."	No	Yes GP questionnaire, record and death certificate review	Patients were eligible if they were enrolled with a clinical practice for at least 6 months during the study period	Patients with personal or family history of suicide attempt were excluded	-
Garr, 2016 [93]	The epidemiology of self-harm in a UK-wide primary care patient cohort, 2001-2013	Descriptive cohort study	CPRD	2001-2013	"Read codes incorporating all cases across the spectrum from milder forms of non-suicidal behaviour through to near-fatal suicide attempts (...) We excluded codes that referred only to thoughts of self-harm or suicidal ideation and alcohol-related codes, unless intent to actively harm oneself was specified."	Yes	None stated	None stated	None stated	None stated

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3 4 5 6 7	Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
8 9 10 11 12 13 14 15	Carr, 2017 [94]	Premature Death Among Primary Care Patients With a History of Self-Harm	Cohort study	CPRD ONS	2001-2013	Suicide, ascertained with ICD-10 codes in the ONS mortality data; including open verdicts.	Yes	Not applicable	At least one year of registration with the practice prior to the index date;	Not applicable.	-
16 17 18 19 20 21 22	Coupland, 2011 [95]	Antidepressant use and risk of adverse outcomes in older people: Population based cohort study	Cohort study	QResearch, ONS	1996-2007	Read codes for attempted suicide or self-harm, not further specified	No	None stated	At least one year of registration with the practice prior to the index date;	None stated	Suicide was also an outcome, but data for this outcome was not analysed due to small numbers.
23 24 25 26 27 28 29 30 31 32	Coupland, 2015 [96]	Antidepressant use and risk of suicide and attempted suicide or self-harm in people aged 20 to 64: cohort study using a primary care database	Cohort study	QResearch, ONS	2000-2011	code for suicide or an open verdict in their linked death certificate, or patients who had a Read code for attempted suicide or self-harm who died within 30 days.	No  (refers to codes used in other studies)	None stated	At least one year of registration with the practice prior to the index date; // Most analysis restricted to the first 5 years of follow up.	Excluded patients with a previous attempted suicide or self- harm event recorded at baseline	-
33 34 35 36 37 38	Bardet, 2012 [2]	Suicidal behavior and severe neuropsychiatric disorders following glucocorticoid therapy in primary care	Cohort study	THIN	1990-2008	Cases of suicide or suicide attempt	No	Yes  Review of death certificates	≥6 months of registration with the primary care practice	Hazards ratios adjusted for past history of neuropsychiatric disorders (yes/no)	Outcome was eligible if there was no record of the outcome in the previous 6 months
39 40 41 42 43 44 45 46	Donovan, 1996 [97]	The use of the General Practice Research Database (GPRD) to examine potential links between antidepressant medication and the incidence of suicide	Cohort study	CPRD	1988-1993	Suicide, not further specified	No	None stated	None stated	Prior suicidal history considered as a risk factor for suicide	-
	Boyle, 2016 [98]	Suicide risk in primary care patients diagnosed with a personality disorder: a nested case control study	Nested case control study	CPRD, ONS	2002-2011	Suicides and open verdicts ascertained via linkage to ONS mortality data	Yes  (ICD-10 codes)	Not applicable  (Data linked to the gold- standard)	At least one year of up to standard CPRD data	Not applicable	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
17 Gao, 2013 18 [99]	19 Association between 20 body mass index and 21 suicide, and suicide 22 attempt among British 23 adults: The health 24 improvement network 25 database	26 Cohort study	27 THIN	28 2000-2007	29 Suicide: "defined in two ways (...): 1) 30 patients with a Read code of suicide 31 attempt confirmed by death within 3 32 months or 2) patients who did not 33 have a Read code of suicide 34 attempt, but whose cause of death 35 might be suicide. To identify patients 36 using the second approach, we first 37 searched for all deaths (...) the 38 cause of death was reviewed. In 39 addition, free text records were 40 searched for potential suicide as 41 cause of death, including suicide, 42 deliberate drug overdose or self- 43 harm, self-inflicted injuries, 44 poisoning, asphyxiation, trauma, and 45 acute or multiple organ failure. 46 Death certificates for these patients were requested for the final verdict of the cause of death.  Suicide attempt: "identified using the Read codes for suicide and then by confirming that the patient was still alive for at least 3 months from the time of the event."	47 No	48 None stated	49 None stated	50 None stated	51 -
52 Gunnell, 53 2009 [19]	54 Varenicline and suicidal 55 behaviour: a cohort 56 study based on data 57 from the General 58 Practice Research 59 Database	60 Cohort study	61 CPRD	62 2006-2008	63 OXMIS and Read terms for fatal and 64 non-fatal self-harm.	65 No	66 Yes  67 Record 68 review	69 At least 1 years of 70 CPRD records 71 before index date;	72 Considered the 73 potential 74 confounding 75 effect of 76 previous self- 77 harm or suicidal 78 thoughts in 79 analysis.	80 -

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3Author, 4year of 5publication	6Study title	7Type of study	8Database(s)	9Study period (years)	10Outcome description	11List of codes available	12Validation of list of codes	13EHR-related eligibility criteria for the study // 14Follow up requirements	15Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16Notes
8Hall, 2009 9[100]	Validation of death and suicide recording on the THIN UK primary care database	Validation study	THIN	2002-2004	“Coded and free text records were searched to identify any entry for suicide or a medical cause of death which might indicate suicide, including trauma, poisoning, overdose, asphyxiation, acute or multiple organ failure or a suggestion that death was intentional. An electronic record of suicide was accepted.”	Yes	Yes  (Validation study, record review)	None stated	Not applicable (validation study)	-
16Hagberg, 172016 [21]	Incidence rates of suicidal behaviors and treated depression in patients with and without psoriatic arthritis using the Clinical Practice Research Datalink	Cohort study	CPRD	1998-2012	Suicidal behaviours, defined as: “diagnosis of suicidal ideation, suicide attempt, and/or suicide recorded after the cohort entry date. (...) If a patient had a code for suicide, but had not died, the event was classified as a suicide attempt. Suicidal ideation, attempts, and suicide were considered separately; thus a patient may have been included in more than one analysis.	No	Yes, record review	At least one year of registration with the practice prior to the index date	Patients with suicidal behaviors were included “because patients could recover from suicidal behaviors with treatment or consultation.”	-
25Hayes, 2016 26[101]	Self-harm, Unintentional Injury, and Suicide in Bipolar Disorder During Maintenance Mood Stabilizer Treatment: A UK Population-Based Electronic Health Records Study	Cohort study	THIN	1995-2013	“emergency department or primary care attendance for self-harm during the period of drug exposure and the 3 months afterward. This outcome included Read codes for intentional poisoning, intentional self injurious behavior, and self-harm acts of uncertain intent. (...) Secondary outcomes were unintentional injury (eg, falls or motor vehicle crashes) seen in primary or secondary care and a record of the patient’s suicide during this period”	No	Refers to previous validation of the list of codes	None stated	Not applicable (the outcome was diagnoses during the exposure period)	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Hesdorffer, 9 2012 [4]	Epilepsy, suicidality, and psychiatric disorders: a bidirectional association	Cohort study	CPRD	1990-2008	Read codes for suicidality including codes for attempted suicide and completed suicide.	No	None stated	At least 3 years of data before the index date, and at least 1 code for a medical or drug code in the 6 months before the index // At least 1 day of data after index date; follow up duration: 3 years after index date	Excluded subjects with a record of the outcome before the study date.	-
10 Hesdorffer, 11 2016 [102]	Occurrence and Recurrence of Attempted Suicide Among People With Epilepsy	Cohort study	CPRD	1988-2013	Diagnoses of attempted suicide identified with Read codes, not further specified.  Suicide attempts divided into incident or recurrent.	No	None stated	At least 6 month of complete records before the index date and ≥1 medical or drug codes for a condition other than epilepsy in the 6 months before the index date. // At least 1 day of data post index date	None stated	-

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3Author, 4year of 5publication	6Title	7Study title	8Type of study	9Database(s)	10Study period (years)	11Outcome description	12List of 13codes 14available	15Validation 16of list of 17codes	18EHR-related 19eligibility criteria 20for the study 21// 22Follow up 23requirements	24Handling of 25outcomes 26occurring prior 27to exposure 28(applicable to 29self-harm only)	30Notes
8Haste, 1998 9[103]	10Potential for suicide 11prevention in primary 12care? An analysis of 13factors associated with 14suicide.	15Matched cohort 16study	17CPRD	181991-1993	19Suicide: "were identified from the 20database in two ways: 1. Patients 21with a record of suicide in the notes; 22and 2. Patients who did not have a 23record of suicide, but whose record 24of cause of death on the database 25suggested that suicide might be 26possible. These causes included 27death from carbon monoxide 28poisoning (excluding accidental 29poisoning), hanging, suicidal or 30accidental overdose, and reference 31to self-inflicted injury. (...) Cases 32where the verdict was open were 33included."	34No	35Yes  36GP 37confirmation, 38review 39of death 40certificates	41None stated	42Not applicable 43(cases of 44completed 45suicide only)	46-	
19Jick, 1995 20[104]	21Antidepressants and 22suicide	23Cohort study	24CPRD	251988-1993	26"Cases of suicide were identified 27from the computer record from 28among all the study subjects who 29died. When the cause of death was 30recorded as suicide or was 31considered to be uncertain, we 32obtained further information from the 33general practitioner and the death 34certificate to determine the final 35diagnosis and means of committing 36suicide."	37No	38Yes, GP 39questionnaire	40At least 6 month of 41registration with 42the practice prior 43to the index date	44Not applicable 45(cases of 46completed suicide only)	-	
27Jick, 1998 28[105]	29A study of the relation of 30exposure to quinolones 31and suicidal behaviour	32Nested case 33control study	34CPRD	351991-1995	36Three case groups: 371) committed suicide; 382) had a diagnosis of attempted 39suicide; 403) had a diagnosis of suicidal 41ideation.  42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000	37Yes	38None 39stated	40>18 months of 41information on 42drugs prescribed 43and diagnoses 44recorded prior to 45the index.	46None stated	47-	

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3 Author, 4 year of 5 publication	6 Title	7 Study title	8 Type of study	9 Database(s)	10 Study period (years)	11 Outcome description	12 List of codes available	13 Validation of list of codes	14 EHR-related eligibility criteria for the study // Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Jick, 2000 9 [106]	10 Isotretinoin use and risk of depression, psychotic symptoms, suicide, and attempted suicide	11 Cohort study	12 CPRD	13 ?	14 Suicide and inpatient or outpatient code for attempted suicide	15 Yes	16 None stated	17 Between 5 years and 6 months of clinical records before the index date // At least 1 year of records post index date	18 Controlled for history of attempted suicide	19 -	
15 Jick, 2004 16 [107]	17 Antidepressants and risk of suicidal behaviours	18 Cohort study	19 CPRD	20 1993-1999	21 Nonfatal suicidal behaviour: "Cases were those who (1) had a first-time recorded diagnosis of nonfatal suicidal ideation (...) or attempted suicide"  22 Suicide: patients who committed suicide, not further specified.	23 Yes	24 None stated	25 At least 2 years of registration with the practice prior to the index date	26 None stated	27 -	
22 Jick, 2009 23 [108]	24 Rate of suicide in patients taking montelukast	25 Cohort study	26 CPRD	27 1998-2007	28 'computer recorded diagnosis of suicide'	29 No	30 None stated	31 None stated	32 None stated	33 -	
34 Kurd, 2010 35 [16]	36 The risk of depression, anxiety, and suicidality in patients with psoriasis: A population-based cohort study	37 Matched cohort study	38 CPRD	39 1987-2002	40 'Suicidality was defined as diagnosis of suicidal ideation, suicide attempt, or suicide', defined by diagnostic Read or OXMIS codes.	41 No	42 None stated	43 None stated	44 In sensitivity analysis, the patients with a diagnosis of the outcome measured prior to or within six months of the index date were excluded.	45 -	
46 Kotz, 2015 47 [28]	48 Cardiovascular and neuropsychiatric risks of varenicline: a retrospective cohort study	49 Cohort study	50 QResearch	51 2007-2012	52 Fatal and non-fatal self-harm, not further specified	53 None stated	54 None stated	55 Registered for >12 months before data extraction // Follow up duration 6 months	56 History of neuropsychiatric events considered as confounders	57 -	

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Kotz, 2017 9 [27]	10 Cardiovascular and 11 neuropsychiatric risks of 12 varenicline and 13 bupropion in smokers 14 with chronic obstructive 15 pulmonary disease	16 Cohort study	17 QResearch	18 2001-2012	19 Fatal and non-fatal self-harm, not 20 further specified	21 None stated	22 None 23 stated	24 None stated 25 // 26 Follow up duration 27 6 months	28 History of 29 neuropsychiatric 30 events 31 considered as 32 confounders	33 -
34 Calmohame 35 2012 36 [109]	37 Causes of death in 38 patients with multiple 39 sclerosis and matched 40 referent subjects: A 41 population-based cohort 42 study	43 Cohort study	44 CPRD 45 HES 46 ONS 47 mortality	48 2001-2008	49 Death by accident or suicide 50 ascertained in the ONS mortality 51 database	52 Yes 53 (ICD-10 54 codes)	55 Not 56 applicable 57 (ONS 58 mortality 59 database, 60 ICD-10 61 codes)	62 ≥1 year of data 63 available before 64 index date	65 None stated	66 -
67 Martinez, 68 2005 [110]	69 Antidepressant 70 treatment and the risk of 71 fatal and non-fatal self 72 harm in first episode of 73 depression: nested 74 case-control study	75 Nested case 76 control study	77 CPRD	78 1995-2001	79 Non-fatal self-harm (drug overdose, 80 deliberate self-laceration, poisoning, 81 and non-fatal suicide attempts using 82 other methods) 83 84 Suicide, identified by OXMIS and 85 Read codes	86 No 87 88 Obtained 89 from the 90 authors	91 Yes, 92 93 Review of 94 the death 95 certificates 96 and free 97 text entries	98 ≥1 year of data 99 available before 100 index date	101 Model adjusted 102 for history of 103 non-fatal self- 104 harm	105 "People with an 106 episode of non- 107 fatal self harm 108 were not 109 censored in 110 analyses with 111 suicide as the 112 end point."
113 Meier, 2004 114 [9]	115 The Risk of Severe 116 Depression, Psychosis 117 or Panic Attacks with 118 Prophylactic 119 Antimalarials	120 Cohort study	121 CPRD	122 1990-1999	123 Suicide defined by OXMIS and/or 124 ICD-8 codes	125 No	126 Yes 127 128 'reviewed 129 a list of all 130 cases to 131 determine 132 inclusion/ 133 exclusion'	134 ≥1 year of data 135 available before 136 index date and 137 "some GPRD 138 activity (diagnoses 139 or prescriptions) 140 recorded after the 141 index date" 142 // 143 Patients were 144 censored 18 145 months after 146 exposure date	147 Not applicable 148 (suicide as an 149 outcome only)	150 -
151 Mines, 2005 152 [111]	153 Prevalence of risk 154 factors for suicide in 155 patients prescribed 156 venlafaxine, fluoxetine, 157 and citalopram	158 Cohort study	159 CPRD	160 1995-2002	161 Suicidal behaviour in the year prior 162 to index date	163 Yes	164 None 165 stated	166 ≥1 year of data 167 available	168 None stated	169 -

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Osborn, 2008 [112]	Suicide and severe mental illnesses. Cohort study within the UK general practice research database	Matched cohort study	CPRD	1987-2002	Suicide, not further specified	No	None stated	None stated	None stated	
Rubino, 2007 [113]	Risk of suicide during treatment with venlafaxine, citalopram, fluoxetine, and dothiepin: retrospective cohort study	Cohort study	CPRD	1995-2005	Completed suicide: coding for death associated with mention of suicide in free text or by code for suicide in the medical record and a statement of death in the administrative record (30 days either way);  First attempted suicide (non-fatal event).	Yes	Yes  Free text search	At least one year of registration with the practice prior to the index date	Suicide attempts considered as a confounder in the models	"excluded records that at the review of free text notes did not seem to represent attempted suicide - for example, unintentional overdose or self harm without suicidal intent"
Schneider, 2010 [37]	COPD and the risk of depression	Cohort study	CPRD	1995-2005	'incident suicide or suicidal ideation', not further specified	No  Obtained from the authors	None stated	Patients with less than 3 years of active recording history prior to the date of the COPD diagnosis were excluded;	Patients with previous history of depression, suicide, suicidal ideation, etc., prior to the index date were excluded	-

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Author, year of publication	Study title	Type of study	Database(s)	Study period (years)	Outcome description	List of codes available	Validation of list of codes	EHR-related eligibility criteria for the study // Follow up requirements	Handling of outcomes occurring prior to exposure (applicable to self-harm only)	Notes
Schuerch, 2016 [114]	Impact of varying outcomes and definitions of suicidality on the associations of antiepileptic drugs and suicidality: comparisons from UK Clinical Practice Research Datalink (CPRD) and Danish national registries (DNR)	Validation study	CPRD HES ONS	1996-2009	<p><u>Suicidal ideation/intent:</u> "Recorded medical terms from the clinical and referral module, plus reasons for transfer out of the general practices to identify patients with one of these outcomes"</p> <p><u>Suicide attempt:</u> "Recorded medical terms from the clinical and referral module, plus reasons for transfer out of the GP-practice to identify patients with one of these outcomes from CPRD."</p> <p><u>Completed suicide:</u> "Term of suicidal attempt or ideation occurring simultaneously with a recording of death (+/- 4 weeks), death recorded as reason for leaving the practice (registering out), and a final date of any administrative activity in the database of disenrollment within six months after suicidality code."</p>	Yes	Yes (validation study)	At least 6 months of data before the index date //	Patients with history of suicide attempts, self-harm or suicidal ideation/intent in the 6 months before index were excluded	-
Thomas, 2013 [40]	Smoking cessation treatment and risk of depression, suicide, and self harm in the Clinical Practice Research Datalink: prospective cohort study	Nested case-control study	CPRD, HES and ONS mortality data	2006-2011	Incidence fatal and non-fatal self-harm (as measured by death from suicide in the ONS mortality database) and hospital admission for self-harm (as recorded in the HES database). Includes open verdicts.	Yes for ONS database; no for Read codes.	None stated	At least one year of registration with the practice prior to the index date	Previous self-harm considered as a potential confounder in analysis	-

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Thomas, 9 2013 [115]	10 Validation of suicide and 11 self-harm records in the 12 Clinical Practice 13 Research Datalink	14 Validation study	15 CPRD, HES, 16 ONS 17 mortality 18 data, and 19 Multicentre 20 study of self- 21 harm	22 1998-2010	23 "Cases of suicide and self-harm (the 24 'events') were identified by 25 extracting all records with Read 26 codes for suicide, attempted suicide 27 and self-harm (...). Given that 28 suicide-related Read codes may 29 refer to both fatal and nonfatal 30 suicide attempts, completed suicides 31 within the CPRD were identified 32 using the conventional CPRD 33 approach of linking patient deaths to 34 Read codes for suicide that were 35 recorded within 95 days of the 36 CPRD derived death dates"	37 Yes	38 Yes  (Validation study)	39 Registered with a 40 practice 41 contributing with 42 up to standard 43 data, and having 44 acceptable 45 records for 46 research.	47 Not applicable (descriptive study on the incidence of self- harm)	48 -
18 Tyrrell, 2016 19 [116]	20 Changes in poisonings 21 among adolescents in 22 the UK between 1992 23 and 2012: a population 24 based cohort study	25 Cohort study	26 THIN	27 1992-2012	28 "poisonings [categorised] as 29 intentional, unintentional, unknown 30 intent or alcohol related. Where 31 Read codes explicitly described the 32 intent using the words 'deliberate' or 33 'intentional' (intentional); 'accidental' 34 (unintentional); and 'unknown' or 35 'unspecified' (unknown) then they 36 were classified as such. The words 37 'suicide', 'self-inflicted', 'self- 38 poisoning' or 'overdose' were also 39 used to categorise a poisoning as 40 intentional, unless otherwise 41 specified."	42 No	43 None stated	44 None stated	45 First poisoning within the observation period	46 Multiple events occurring in the same individual within a month were counted as one event only
29 Webb, 2012 30 [17]	31 Risk of self-harm in 32 physically ill patients in 33 UK primary care	34 Nested case control study	35 CPRD	36 2001-2008	37 Suicidal ideation, defined by Read 38 coding descriptions that included the 39 terms 'suicide and self-inflicted,' 40 'suicide and self-harm,' 'para- 41 suicide' or 'attempted suicide.' 42 Cases that died following the code 43 were excluded.	44 No	45 None stated	46 At least two years of up to standard CPRD data	47 None stated	48 -
35 Webb, 2012 36 [18]	37 Suicide risk in primary 38 care patients with major 39 physical diseases: A 40 case-control study	41 Nested case control study	42 CPRD and 43 ONS 44 mortality 45 data	46 2001-2008	47 Suicides as mentioned in the death 48 certificate, and open verdicts.	49 Yes	50 Not applicable (ONS mortality data)	51 At least two years of up to standard CPRD data	52 Not applicable (study of suicide only)	53 -

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3 Author, 4 year of 5 publication	6 Study title	7 Type of study	8 Database(s)	9 Study period (years)	10 Outcome description	11 List of codes available	12 Validation of list of codes	13 EHR-related eligibility criteria for the study // 14 Follow up requirements	15 Handling of outcomes occurring prior to exposure (applicable to self-harm only)	16 Notes
8 Wijaars, 9 2013 [119]	10 Suicide-related events in 11 young people following 12 prescription of SSRIs 13 and other 14 antidepressants: A self- 15 controlled case series 16 analysis	17 Nested case 18 control study	19 THIN	20 1995-2009	21 Suicide attempts, suicidal ideation 22 and completed suicide.  23 Completed suicides: "Read codes 24 that were confirmed by a date of 25 death within 2 weeks of the suicide 26 event date. We searched a cause of 27 death, if available." 28 Excluded cases classified as open 29 verdicts.	30 No  31 Refers to a 32 previous list, 33 that was 34 updated for 35 the study	36 Yes  37 Record 38 review	39 At least 6 months 40 of up to standard 41 CPRD data	42 Accounted for in 43 analysis	44 -
16 Windfuhr, 17 2016 [120]	18 Suicide risk linked with 19 clinical consultation 20 frequency, psychiatric 21 diagnoses and 22 psychotropic medication 23 prescribing in a national 24 study of primary-care 25 patients	26 Nested case- 27 control study	28 CPRD and 29 ONS 30 mortality 31 data	32 2002-2011	33 International Classification 34 of Disease version 10 (ICD-10) 35 codes X60-84, Y10-34 36 (excluding Y33.9), Y87.0, Y87.2  37 Includes open verdicts	38 Yes	39 Not 40 applicable 41 (ONS 42 mortality 43 data)	44 ≥1 year of data 45 available after up 46 to standard data	None stated	-
22 Yang, 2003 23 [94]	24 Lipid-lowering drugs and 25 the risk of depression 26 and suicidal behaviour	27 Matched cohort 28 study	29 CPRD	30 1991 31 onwards	32 Suicidal behaviour, ideation suicidal, 33 suicidal plan, suicidal thoughts, 34 attempted suicide, threat suicide, 35 suicidal drug overdose, drug 36 overdose, para suicide and suicide.	37 Yes	38 No  39 (refers to 40 previous 41 studies 42 assessing 43 suitability 44 of the 45 records)	46 Patients with 47 history of suicidal 48 behaviour prior to 49 study start were 50 excluded	None stated	-

29 CPRD – Clinical Practice Research Datalink; THIN – The Health Improvement Network; PCCIU – Primary Care Clinical Informatics Unit; SSRI - selective serotonin re-uptake  
30 inhibitors; GP – General practice; MAOIs - monoamine oxidase inhibitors; CiPCA - Consultations in primary care archive; PiPCA - Prescriptions in primary care archive.

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**Table 1. List of Read codes used in the studies of anxiety.**

Read code	Description	Number of studies
Eu41.00	[X]Other anxiety disorders	5
Eu41100	[X]Generalized anxiety disorder	5
Eu41z11	[X]Anxiety NOS	5
Eu41000	[X]Panic disorder [episodic paroxysmal anxiety]	4
Eu05400	[X]Organic anxiety disorder	4
Eu41112	[X]Anxiety reaction	4
Eu41111	[X]Anxiety neurosis	4
Eu41z00	[X]Anxiety disorder, unspecified	4
E202.12	Phobic anxiety	4
E200200	Generalised anxiety disorder	4
E200.00	Anxiety states	4
E200000	Anxiety state unspecified	4
E200z00	Anxiety state NOS	4
Eu40.00	[X]Phobic anxiety disorders	3
Eu40z00	[X]Phobic anxiety disorder, unspecified	3
Eu41012	[X]Panic state	3
Eu41011	[X]Panic attack	3
Eu41y00	[X]Other specified anxiety disorders	3
Eu41300	[X]Other mixed anxiety disorders	3
Eu41211	[X]Mild anxiety depression	3
Eu41113	[X]Anxiety state	3
E200500	Recurrent anxiety	3
E200100	Panic disorder	3
E200111	Panic attack	3
E200400	Chronic anxiety	3
1B1V.00	C/O - panic attack	3
1B13.11	Anxiousness - symptom	3
1B13.00	Anxiousness	3
E200300	Anxiety with depression	3
Eu93200	[X]Social anxiety disorder of childhood	2
Eu34114	[X]Persistant anxiety depression	2
Eu40012	[X]Panic disorder with agoraphobia	2
Eu40y00	[X]Other phobic anxiety disorders	2
Eu41200	[X]Mixed anxiety and depressive disorder	2
Eu93y12	[X]Childhood overanxious disorder	2
Eu41y11	[X]Anxiety hysteria	2
E2D0.00	Disturbance of anxiety and fearfulness childhood/adolescent	2
E2D0z00	Disturbance anxiety and fearfulness childhood/adolescent NOS	2
E202100	Agoraphobia with panic attacks	2
E292400	Adjustment reaction with anxious mood	2
E280.00	Acute panic state due to acute stress reaction	2
Z4I7.00	Acknowledging anxiety	2
Eu40100	[X]Social phobias	1
Eu40112	[X]Social neurosis	1
Eu93000	[X]Separation anxiety disorder of childhood	1
Eu42100	[X]Predominantly compulsive acts [obsessional rituals]	1
Eu93100	[X]Phobic anxiety disorder of childhood	1
Eu42.12	[X]Obsessive-compulsive neurosis	1
Eu42.00	[X]Obsessive - compulsive disorder	1
Eu45215	[X]Nosophobia	1
Eu46z11	[X]Neurosis NOS	1

Read code	Description	Number of studies
Eu40300	[X]Needle phobia	1
Eu45213	[X]Hypochondriacal neurosis	1
Eu45212	[X]Dysmorphophobia nondelusional	1
Eu51511	[X]Dream anxiety disorder	1
Eu40213	[X]Claustrophobia	1
Eu60600	[X]Anxious [avoidant] personality disorder	1
Eu42.11	[X]Anankastic neurosis	1
Eu40011	[X]Agoraphobia without history of panic disorder	1
Eu40000	[X]Agoraphobia	1
R2y2.00	[D]Nervousness	1
R2y2.12	[D]Nervous tension	1
R2y2.11	[D]Nerves	1
1BK..00	Worried	1
1B12.12	Tension - nervous	1
E202300	Social phobia, fear of eating in public	1
E112000	Single major depressive episode, unspecified	1
E292000	Separation anxiety disorder	1
Z4I7211	Reducing anxiety	1
Z4I7100	Recognising anxiety	1
E29y100	Other post-traumatic stress disorder	1
E203z00	Obsessive-compulsive disorder NOS	1
E203100	Obsessional neurosis	1
225J.00	O/E - panic attack	1
2258.00	O/E - anxious	1
1465.00	H/O: depression	1
1466.00	H/O: anxiety state	1
1B1..00	General nervous symptoms	1
E275711	Compulsive water drinking	1
E203000	Compulsive neurosis	1
1P3..00	Compulsive behaviour	1
E202800	Claustrophobia	1
E2D0000	Childhood and adolescent overanxiousness disturbance	1
1B13.12	Anxious	1
8G94.00	Anxiety management training	1
Z4L1.00	Anxiety counselling	1
E203.11	Anancastic neurosis	1
Z4I7200	Alleviating anxiety	1
E202200	Agoraphobia without mention of panic attacks	1
1B12.00	'Nerves' - nervousness	1
1B12.11	'Nerves'	1

**Table 2. List of Read codes used in the studies of depression.**

Read code	Description	Number of studies
E112.00	Single major depressive episode	14
E112000	Single major depressive episode, unspecified	14
E112100	Single major depressive episode, mild	14
E112200	Single major depressive episode, moderate	14
E112300	Single major depressive episode, severe, without psychosis	14
E112z00	Single major depressive episode NOS	14
E135.00	Agitated depression	14
E112.11	Agitated depression	13
E112.12	Endogenous depression first episode	13
E112.13	Endogenous depression first episode	13
E112.14	Endogenous depression	13
E112500	Single major depressive episode, partial or unspec remission	13
E2B..00	Depressive disorder NEC	13
E2B1.00	Chronic depression	13
Eu32.00	[X]Depressive episode	13
E113.00	Recurrent major depressive episode	12
E11y200	Atypical depressive disorder	12
E11z200	Masked depression	12
Eu32.11	[X]Single episode of depressive reaction	12
Eu32.12	[X]Single episode of psychogenic depression	12
Eu32.13	[X]Single episode of reactive depression	12
Eu32000	[X]Mild depressive episode	12
Eu32100	[X]Moderate depressive episode	12
Eu32200	[X]Severe depressive episode without psychotic symptoms	12
Eu32400	[X]Mild depression	12
Eu32y00	[X]Other depressive episodes	12
Eu32z00	[X]Depressive episode, unspecified	12
Eu33.00	[X]Recurrent depressive disorder	12
E112400	Single major depressive episode, severe, with psychosis	11
E113.11	Endogenous depression - recurrent	11
E130.11	Psychotic reactive depression	11
Eu32212	[X]Single episode major depression w/out psychotic symptoms	11
Eu32y11	[X]Atypical depression	11
Eu32z11	[X]Depression NOS	11
Eu32z12	[X]Depressive disorder NOS	11
1B17.00	Depressed	10
E112600	Single major depressive episode, in full remission	10
E113000	Recurrent major depressive episodes, unspecified	10
E113100	Recurrent major depressive episodes, mild	10
E113200	Recurrent major depressive episodes, moderate	10
E113300	Recurrent major depressive episodes, severe, no psychosis	10
E113500	Recurrent major depressive episodes,partial/unspec remission	10
E113700	Recurrent depression	10
E113z00	Recurrent major depressive episode NOS	10
E130.00	Reactive depressive psychosis	10
E200300	Anxiety with depression	10
E291.00	Prolonged depressive reaction	10
Eu32211	[X]Single episode agitated depressn w/out psychotic symptoms	10
Eu32213	[X]Single episode vital depression w/out psychotic symptoms	10
Eu32311	[X]Single episode of major depression and psychotic symptoms	10

Read code	Description	Number of studies
Eu32313	[X]Single episode of psychotic depression	10
Eu32y12	[X]Single episode of masked depression NOS	10
Eu32z13	[X]Prolonged single episode of reactive depression	10
Eu33.11	[X]Recurrent episodes of depressive reaction	10
Eu33.12	[X]Recurrent episodes of psychogenic depression	10
Eu33.13	[X]Recurrent episodes of reactive depression	10
Eu33000	[X]Recurrent depressive disorder, current episode mild	10
Eu33100	[X]Recurrent depressive disorder, current episode moderate	10
Eu33211	[X]Endogenous depression without psychotic symptoms	10
Eu33y00	[X]Other recurrent depressive disorders	10
Eu33z00	[X]Recurrent depressive disorder, unspecified	10
Eu34114	[X]Persistant anxiety depression	10
1B1U.00	Symptoms of depression	9
1B1U.11	Depressive symptoms	9
E113600	Recurrent major depressive episodes, in full remission	9
Eu32300	[X]Severe depressive episode with psychotic symptoms	9
Eu32312	[X]Single episode of psychogenic depressive psychosis	9
Eu32314	[X]Single episode of reactive depressive psychosis	9
Eu32500	[X]Major depression, mild	9
Eu32600	[X]Major depression, moderately severe	9
Eu32700	[X]Major depression, severe without psychotic symptoms	9
Eu32z14	[X] Reactive depression NOS	9
Eu33214	[X]Vital depression, recurrent without psychotic symptoms	9
Eu33311	[X]Endogenous depression with psychotic symptoms	9
Eu33z11	[X]Monopolar depression NOS	9
Eu34113	[X]Neurotic depression	9
Eu41200	[X]Mixed anxiety and depressive disorder	9
Eu41211	[X]Mild anxiety depression	9
1B17.11	C/O - feeling depressed	8
E113400	Recurrent major depressive episodes, severe, with psychosis	8
E204.00	Neurotic depression reactive type	8
Eu33200	[X]Recurr depress disorder cur epi severe without psyc sympt	8
Eu33212	[X]Major depression, recurrent without psychotic symptoms	8
Eu33400	[X]Recurrent depressive disorder, currently in remission	8
Eu34111	[X]Depressive neurosis	8
Eu3y111	[X]Recurrent brief depressive episodes	8
1BT..00	Depressed mood	7
2257.00	O/E - depressed	7
E11..12	Depressive psychoses	7
Eu32800	[X]Major depression, severe with psychotic symptoms	7
Eu33.14	[X]Seasonal depressive disorder	7
Eu33313	[X]Recurr severe episodes/major depression+psychotic symptom	7
Eu33314	[X]Recurr severe episodes/psychogenic depressive psychosis	7
Eu33315	[X]Recurrent severe episodes of psychotic depression	7
Eu33316	[X]Recurrent severe episodes/reactive depressive psychosis	7
9H90.00	Depression annual review	6
9H91.00	Depression medication review	6
9H92.00	Depression interim review	6
9HA0.00	On depression register	6
E290.00	Brief depressive reaction	6
Eu33300	[X]Recurrent depress disorder cur epi severe with psyc symp	6
Eu34100	[X]Dysthymia	6
E118.00	Seasonal affective disorder	5

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Read code	Description	Number of studies
E204.11	Postnatal depression	5
E290z00	Brief depressive reaction NOS	5
Eu53011	[X]Postnatal depression NOS	5
Eu53012	[X]Postpartum depression NOS	5
1465.00	H/O: depression	4
1BQ..00	Loss of capacity for enjoyment	4
8HHq.00	Referral for guided self-help for depression	4
E02y300	Drug-induced depressive state	4
Eu33.15	[X]SAD - Seasonal affective disorder	4
R007z13	[D]Postoperative depression	4
1BP0.00	Loss of interest in previously enjoyable activity	3
1BT..11	Low mood	3
1BU..00	Loss of hope for the future	3
212S.00	Depression resolved	3
8CAa.00	Patient given advice about management of depression	3
9Ov0.00	Depression monitoring first letter	3
9Ov1.00	Depression monitoring second letter	3
9Ov2.00	Depression monitoring third letter	3
9Ov3.00	Depression monitoring verbal invite	3
9Ov4.00	Depression monitoring telephone invite	3
9k4..00	Depression - enhanced services administration	3
E001300	Presenile dementia with depression	3
E002100	Senile dementia with depression	3
E2B0.00	Postviral depression	3
Eu20400	[X]Post-schizophrenic depression	3
Eu34112	[X]Depressive personality disorder	3
Eu92000	[X]Depressive conduct disorder	3
1JJ..00	Suspected depression	2
8BK0.00	Depression management programme	2
9HA1.00	Removed from depression register	2
9Ov..00	Depression monitoring administration	2
9k40.00	Depression - enhanced service completed	2
9kQ..00	On full dose long term treatment depression - enh serv admin	2
E115.00	Bipolar affective disorder, currently depressed	2
E11y.00	Other and unspecified manic-depressive psychoses	2
E211200	Depressive personality disorder	2
Eu25100	[X]Schizoaffective disorder, depressive type	2
Eu25111	[X]Schizoaffective psychosis, depressive type	2
Eu25112	[X]Schizophreniform psychosis, depressive type	2
Eu32B00	[X]Antenatal depression	2
Eu33213	[X]Manic-depress psychosis,depressd,no psychotic symptoms	2
Eu34y00	[X]Other persistent mood affective disorders	2
Eu34z00	[X]Persistent mood affective disorder, unspecified	2
Eu3y100	[X]Other recurrent mood affective disorders	2
Eu3z.00	[X]Unspecified mood affective disorder	2
1645.00	Excessive fluid intake	1
1B1J.00	Emotional problem	1
1B1J.11	Emotional upset	1
1BO..00	Mood swings	1
1BP..00	Loss of interest	1
1BT..12	Sad mood	1
1S4..00	Mood observations	1
1S40.00	Dysphoric mood	1

Read code	Description	Number of studies
388J.00	Hospital anxiety and depression scale	1
388K.00	Geriatric depression scale	1
388P.00	HAD scale: depression score	1
388g.00	Beck depression inventory second edition score	1
62T1.00	Puerperal depression	1
6896.00	Depression screening using questions	1
8O82.00	Emotional and psychosocial support and advice	1
9ON3.00	Stress monitoring default	1
9ON4.00	Stress monitoring 1st letter	1
9ON5.00	Stress monitoring 2nd letter	1
9ON6.00	Stress monitoring 3rd letter	1
9ON7.00	Stress monitoring verbal inv.	1
9ON8.00	Stress monitoring phone invite	1
9ON9.00	Stress monitoring deleted	1
9ONA.00	Stress monitoring check done	1
9ONZ.00	Stress monitoring admin.NOS	1
E002.00	Senile dementia with depressive or paranoid features	1
E002z00	Senile dementia with depressive or paranoid features NOS	1
E004300	Arteriosclerotic dementia with depression	1
E115.11	Manic-depressive - now depressed	1
E115000	Bipolar affective disorder, currently depressed, unspecified	1
E115100	Bipolar affective disorder, currently depressed, mild	1
E115200	Bipolar affective disorder, currently depressed, moderate	1
E115300	Bipolar affect disord, now depressed, severe, no psychosis	1
E115400	Bipolar affect disord, now depressed, severe with psychosis	1
E115500	Bipolar affect disord, now depressed, part/unspec remission	1
E115600	Bipolar affective disorder, now depressed, in full remission	1
E115z00	Bipolar affective disorder, currently depressed, NOS	1
E11y000	Unspecified manic-depressive psychoses	1
E11z100	Rebound mood swings	1
E222		1
E283.00	Other acute stress reactions	1
E283z00	Other acute stress reaction NOS	1
E284.00	Stress reaction causing mixed disturbance of emotion/conduct	1
E28z.00	Acute stress reaction NOS	1
E292.00	Adjustment reaction, predominant disturbance other emotions	1
E292400	Adjustment reaction with anxious mood	1
E292y00	Adjustment reaction with mixed disturbance of emotion	1
E292z00	Adjustment reaction with disturbance of other emotion NOS	1
E294.00	Adjustment reaction with disturbance emotion and conduct	1
E2C4.00	Mixed disturbance of conduct and emotion	1
E2C4z00	Mixed disturbance of conduct and emotion NOS	1
E35		1
E4J5		1
Eu02z16	[X] Senile dementia, depressed or paranoid type	1
Eu3..00	[X]Mood - affective disorders	1
Eu31.11	[X]Manic-depressive illness	1
Eu31300	[X]Bipolar affect disorder cur epi mild or moderate depressn	1
Eu31400	[X]Bipol aff disord, curr epis sev depress, no psychot symp	1
Eu31500	[X]Bipolar affect dis cur epi severe depres with psyc symp	1
Eu31600	[X]Bipolar affective disorder, current episode mixed	1
Eu31y00	[X]Other bipolar affective disorders	1
Eu31y11	[X]Bipolar II disorder	1

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Read code	Description	Number of studies
Eu31z00	[X]Bipolar affective disorder, unspecified	1
Eu33312	[X]Manic-depress psychosis,depressed type+psychotic symptoms	1
Eu34.00	[X]Persistent mood affective disorders	1
Eu3y.00	[X]Other mood affective disorders	1
Eu3y000	[X]Other single mood affective disorders	1
Eu3y011	[X]Mixed affective episode	1
Eu3yy00	[X]Other specified mood affective disorders	1
Eu4..00	[X]Neurotic, stress - related and somoform disorders	1
Eu43.00	[X]Reaction to severe stress, and adjustment disorders	1
Eu43000	[X]Acute stress reaction	1
Eu43012	[X]Acute reaction to stress	1
Eu43y00	[X]Other reactions to severe stress	1
Eu43z00	[X]Reaction to severe stress, unspecified	1
Eu92.11	[X]Emotional behavioural problems	1
R007z14	[D]Work stress	1
ZR2A.00	Beck depression inventory	1
ZR2A.11	BDI - Beck depression inventory	1
ZR2B.00	Beck hopelessness scale	1
ZR2G.00	Behaviour and mood disturbance scale	1
ZR2h.00	Brief depression rating scale	1
ZR7..00	Depression anxiety scale	1
ZR8..00	Depression self rating scale	1
ZR8..11	DSRS - Depression self rating scale	1
ZRBY.00	Edinburgh postnatal depression scale	1
ZRBY.11	EPDS - Edinburgh postnatal depression scale	1
ZRL6.00	Geriatric depression scale	1
ZRL6.11	GDS - Geriatric depression scale	1
ZRL6.12	Geriatric depression score	1
ZRLU.00	Hamilton rating scale for depression	1
ZRLU.11	HAMD - Hamilton rating scale for depression	1
ZRLU.12	HRSD - Hamilton rating scale for depression	1
ZRLfH00	Health of the Nation Outcome Scale item 7 - depressed mood	1
ZRLfI00	Health of the Nation Outcome Scale item 7 - depressed mood	1
ZRLn.00	Hopelessness scale	1
ZRLr.00	Hospital anxiety and depression scale	1
ZRLr.11	HAD - Hospital anxiety and depression scale	1
ZRLr.12	HADS - Hospital anxiety and depression scale	1
ZRVM.00	Leeds scale for the self-assessment of anxiety & depression	1
ZRaH.00	Mood affective checklist	1
ZRaH.11	MACL - Mood affective checklist	1
ZRbS.00	Positive and negative affect schedule	1
ZRby.00	Profile of mood states	1
ZRby.11	POMS - Profile of mood states	1
ZRrI.00	Wakefield self-assessment depression inventory	1
ZRrY.00	WHO depression scale	1
ZRrc.00	Zung self-rating depression scale	1
ZRrc.11	SDS - Zung self-rating depression scale	1
ZV11100	[V]Personal history of affective disorder	1
ZV11111	[V]Personal history of manic-depressive psychosis	1
ZV11112	[V]Personal history of manic-depressive psychosis	1

**Table 3. List of Read codes used in the studies of composite outcomes of anxiety and depression.**

Read code	Description	Number of studies
Eu32200	[X]Severe depressive episode without psychotic symptoms	2
Eu33z00	[X]Recurrent depressive disorder, unspecified	2
Eu33400	[X]Recurrent depressive disorder, currently in remission	2
Eu33100	[X]Recurrent depressive disorder, current episode moderate	2
Eu33000	[X]Recurrent depressive disorder, current episode mild	2
Eu33.00	[X]Recurrent depressive disorder	2
Eu33200	[X]Recurr depress disorder cur epi severe without psyc sympt	2
Eu41000	[X]Panic disorder [episodic paroxysmal anxiety]	2
Eu41y00	[X]Other specified anxiety disorders	2
Eu33y00	[X]Other recurrent depressive disorders	2
Eu32y00	[X]Other depressive episodes	2
Eu41.00	[X]Other anxiety disorders	2
Eu32100	[X]Moderate depressive episode	2
Eu41200	[X]Mixed anxiety and depressive disorder	2
Eu32000	[X]Mild depressive episode	2
Eu32400	[X]Mild depression	2
Eu41100	[X]Generalized anxiety disorder	2
Eu34100	[X]Dysthymia	2
Eu32z00	[X]Depressive episode, unspecified	2
Eu32.00	[X]Depressive episode	2
Eu41z00	[X]Anxiety disorder, unspecified	2
1B1U.00	Symptoms of depression	2
E112000	Single major depressive episode, unspecified	2
E112300	Single major depressive episode, severe, without psychosis	2
E112500	Single major depressive episode, partial or unspec remission	2
E112200	Single major depressive episode, moderate	2
E112100	Single major depressive episode, mild	2
E112600	Single major depressive episode, in full remission	2
E112z00	Single major depressive episode NOS	2
E112.00	Single major depressive episode	2
E118.00	Seasonal affective disorder	2
E113500	Recurrent major depressive episodes,partial/unspec remission	2
E113000	Recurrent major depressive episodes, unspecified	2
E113300	Recurrent major depressive episodes, severe, no psychosis	2
E113200	Recurrent major depressive episodes, moderate	2
E113100	Recurrent major depressive episodes, mild	2
E113600	Recurrent major depressive episodes, in full remission	2
E113z00	Recurrent major depressive episode NOS	2
E113.00	Recurrent major depressive episode	2
E113700	Recurrent depression	2
E200500	Recurrent anxiety	2
E291.00	Prolonged depressive reaction	2
E2B0.00	Postviral depression	2
E200100	Panic disorder	2
2257.00	O/E - depressed	2
E204.00	Neurotic depression reactive type	2
E200200	Generalised anxiety disorder	2
E2B..00	Depressive disorder NEC	2
1BT..00	Depressed mood	2
1B17.00	Depressed	2



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Read code	Description	Number of studies
E2B1.00	Chronic depression	2
E200400	Chronic anxiety	2
E200300	Anxiety with depression	2
E200.00	Anxiety states	2
E200000	Anxiety state unspecified	2
E200z00	Anxiety state NOS	2
E135.00	Agitated depression	2
Eu33214	[X]Vital depression, recurrent without psychotic symptoms	1
Eu3z.00	[X]Unspecified mood affective disorder	1
Eu40100	[X]Social phobias	1
Eu40112	[X]Social neurosis	1
Eu32213	[X]Single episode vital depression w/out psychotic symptoms	1
Eu32314	[X]Single episode of reactive depressive psychosis	1
Eu32.13	[X]Single episode of reactive depression	1
Eu32313	[X]Single episode of psychotic depression	1
Eu32312	[X]Single episode of psychogenic depressive psychosis	1
Eu32.12	[X]Single episode of psychogenic depression	1
Eu32y12	[X]Single episode of masked depression NOS	1
Eu32311	[X]Single episode of major depression and psychotic symptoms	1
Eu32.11	[X]Single episode of depressive reaction	1
Eu32212	[X]Single episode major depression w/out psychotic symptoms	1
Eu32211	[X]Single episode agitated depressn w/out psychotic symptoms	1
Eu32300	[X]Severe depressive episode with psychotic symptoms	1
Eu33.14	[X]Seasonal depressive disorder	1
Eu33.15	[X]SAD - Seasonal affective disorder	1
Eu06y11	[X]Right hemispheric organic affective disorder	1
Eu33316	[X]Recurrent severe episodes/reactive depressive psychosis	1
Eu33315	[X]Recurrent severe episodes of psychotic depression	1
Eu33.13	[X]Recurrent episodes of reactive depression	1
Eu33.12	[X]Recurrent episodes of psychogenic depression	1
Eu33.11	[X]Recurrent episodes of depressive reaction	1
Eu33300	[X]Recurrent depress disorder cur epi severe with psyc symp	1
Eu3y111	[X]Recurrent brief depressive episodes	1
Eu33314	[X]Recurr severe episodes/psychogenic depressive psychosis	1
Eu33313	[X]Recurr severe episodes/major depression+psychotic symptom	1
Eu43z00	[X]Reaction to severe stress, unspecified	1
Eu43.00	[X]Reaction to severe stress, and adjustment disorders	1
Eu32z13	[X]Prolonged single episode of reactive depression	1
Eu42100	[X]Predominantly compulsive acts [obsessional rituals]	1
Eu20400	[X]Post-schizophrenic depression	1
Eu43100	[X]Post - traumatic stress disorder	1
Eu40.00	[X]Phobic anxiety disorders	1
Eu34.00	[X]Persistent mood affective disorders	1
Eu34z00	[X]Persistent mood affective disorder, unspecified	1
Eu34114	[X]Persistant anxiety depression	1
Eu41012	[X]Panic state	1
Eu40012	[X]Panic disorder with agoraphobia	1
Eu41011	[X]Panic attack	1
Eu3yy00	[X]Other specified mood affective disorders	1
Eu3y000	[X]Other single mood affective disorders	1
Eu3y100	[X]Other recurrent mood affective disorders	1
Eu43y00	[X]Other reactions to severe stress	1
Eu34y00	[X]Other persistent mood affective disorders	1

Read code	Description	Number of studies
Eu42y00	[X]Other obsessive-compulsive disorders	1
Eu3y.00	[X]Other mood affective disorders	1
Eu41300	[X]Other mixed anxiety disorders	1
Eu31y00	[X]Other bipolar affective disorders	1
Eu05300	[X]Organic mood [affective] disorders	1
Eu05400	[X]Organic anxiety disorder	1
Eu60513	[X]Obsessive-compulsive personality disorder	1
Eu42.12	[X]Obsessive-compulsive neurosis	1
Eu42z00	[X]Obsessive-compulsive disorder, unspecified	1
Eu42.00	[X]Obsessive - compulsive disorder	1
Eu4..00	[X]Neurotic, stress - related and somoform disorders	1
Eu34113	[X]Neurotic depression	1
Eu3..00	[X]Mood - affective disorders	1
Eu33z11	[X]Monopolar depression NOS	1
Eu3y011	[X]Mixed affective episode	1
Eu41211	[X]Mild anxiety depression	1
Eu31.13	[X]Manic-depressive reaction	1
Eu31.12	[X]Manic-depressive psychosis	1
Eu31.11	[X]Manic-depressive illness	1
Eu33312	[X]Manic-depress psychosis,depressed type+psychotic symptoms	1
Eu33213	[X]Manic-depress psychosis,depressd,no psychotic symptoms	1
Eu32700	[X]Major depression, severe without psychotic symptoms	1
Eu32800	[X]Major depression, severe with psychotic symptoms	1
Eu33212	[X]Major depression, recurrent without psychotic symptoms	1
Eu32600	[X]Major depression, moderately severe	1
Eu32500	[X]Major depression, mild	1
Eu33211	[X]Endogenous depression without psychotic symptoms	1
Eu33311	[X]Endogenous depression with psychotic symptoms	1
Eu51511	[X]Dream anxiety disorder	1
Eu34112	[X]Depressive personality disorder	1
Eu34111	[X]Depressive neurosis	1
Eu32z12	[X]Depressive disorder NOS	1
Eu92000	[X]Depressive conduct disorder	1
Eu32z11	[X]Depression NOS	1
Eu60511	[X]Compulsive personality disorder	1
Eu63011	[X]Compulsive gambling	1
Eu43013	[X]Combat fatigue	1
Eu31z00	[X]Bipolar affective disorder, unspecified	1
Eu31700	[X]Bipolar affective disorder, currently in remission	1
Eu31600	[X]Bipolar affective disorder, current episode mixed	1
Eu31900	[X]Bipolar affective disorder type II	1
Eu31800	[X]Bipolar affective disorder type I	1
Eu31.00	[X]Bipolar affective disorder	1
Eu31300	[X]Bipolar affect disorder cur epi mild or moderate depressn	1
Eu31500	[X]Bipolar affect dis cur epi severe depres with psyc symp	1
Eu31y11	[X]Bipolar II disorder	1
Eu31911	[X]Bipolar II disorder	1
Eu31400	[X]Bipol aff disord, curr epi sev depress, no psychot symp	1
Eu32y11	[X]Atypical depression	1
Eu41113	[X]Anxiety state	1
Eu41112	[X]Anxiety reaction	1
Eu41111	[X]Anxiety neurosis	1
Eu41y11	[X]Anxiety hysteria	1

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Read code	Description	Number of studies
Eu41z11	[X]Anxiety NOS	1
Eu42.11	[X]Anankastic neurosis	1
Eu40011	[X]Agoraphobia without history of panic disorder	1
Eu40000	[X]Agoraphobia	1
Eu3z.11	[X]Affective psychosis NOS	1
Eu34011	[X]Affective personality disorder	1
Eu43000	[X]Acute stress reaction	1
Eu43012	[X]Acute reaction to stress	1
Eu32z14	[X] Reactive depression NOS	1
ZV11112	[V]Personal history of manic-depressive psychosis	1
ZV11111	[V]Personal history of manic-depressive psychosis	1
ZV11100	[V]Personal history of affective disorder	1
R2y2.00	[D]Nervousness	1
1BK..00	Worried	1
E11y000	Unspecified manic-depressive psychoses	1
E117400	Unspecified bipolar affective disorder,severe with psychosis	1
E117000	Unspecified bipolar affective disorder, unspecified	1
E117300	Unspecified bipolar affective disorder, severe, no psychosis	1
E117200	Unspecified bipolar affective disorder, moderate	1
E117100	Unspecified bipolar affective disorder, mild	1
E117600	Unspecified bipolar affective disorder, in full remission	1
E117z00	Unspecified bipolar affective disorder, NOS	1
E117.00	Unspecified bipolar affective disorder	1
E117500	Unspecified bipolar affect disord, partial/unspec remission	1
E11z000	Unspecified affective psychoses NOS	1
E211000	Unspecified affective personality disorder	1
1JJ..00	Suspected depression	1
E284.00	Stress reaction causing mixed disturbance of emotion/conduct	1
67J..00	Stress counselling	1
E202.11	Social phobic disorders	1
E112400	Single major depressive episode, severe, with psychosis	1
E002z00	Senile dementia with depressive or paranoid features NOS	1
E002.00	Senile dementia with depressive or paranoid features	1
E002100	Senile dementia with depression	1
1BT..12	Sad mood	1
8HHq.00	Referral for guided self-help for depression	1
8HHp.00	Referral for guided self-help for anxiety	1
Z4I7211	Reducing anxiety	1
E113400	Recurrent major depressive episodes, severe, with psychosis	1
Z4I7100	Recognising anxiety	1
E11z100	Rebound mood swings	1
E130.00	Reactive depressive psychosis	1
E130.11	Psychotic reactive depression	1
E001300	Presenile dementia with depression	1
E2A2.11	Post-traumatic brain syndrome	1
E202.00	Phobic disorders	1
E202.12	Phobic anxiety	1
E202000	Phobia unspecified	1
8CAa.00	Patient given advice about management of depression	1
E200111	Panic attack	1
E29y100	Other post-traumatic stress disorder	1
E11y300	Other mixed manic-depressive psychoses	1
E11yz00	Other and unspecified manic-depressive psychoses NOS	1

Read code	Description	Number of studies
E11y.00	Other and unspecified manic-depressive psychoses	1
E11z.00	Other and unspecified affective psychoses	1
E11zz00	Other affective psychosis NOS	1
E283.00	Other acute stress reactions	1
E283z00	Other acute stress reaction NOS	1
E03y200	Organic affective syndrome	1
9kQ..00	On full dose long term treatment depression - enh serv admin	1
9HA0.00	On depression register	1
E203.00	Obsessive-compulsive disorders	1
E203z00	Obsessive-compulsive disorder NOS	1
E214100	Obsessional personality	1
E203100	Obsessional neurosis	1
225J.00	O/E - panic attack	1
2259.00	O/E - nervous	1
225K.00	O/E - fearful mood	1
2253.00	O/E - distressed	1
2258.00	O/E - anxious	1
E116000	Mixed bipolar affective disorder, unspecified	1
E116300	Mixed bipolar affective disorder, severe, without psychosis	1
E116400	Mixed bipolar affective disorder, severe, with psychosis	1
E116500	Mixed bipolar affective disorder, partial/unspec remission	1
E116200	Mixed bipolar affective disorder, moderate	1
E116100	Mixed bipolar affective disorder, mild	1
E116600	Mixed bipolar affective disorder, in full remission	1
E116z00	Mixed bipolar affective disorder, NOS	1
E116.00	Mixed bipolar affective disorder	1
E11z200	Masked depression	1
E115.11	Manic-depressive - now depressed	1
13Y3.00	Manic-depression association member	1
1BT..11	Low mood	1
1BU..00	Loss of hope for the future	1
1BQ..00	Loss of capacity for enjoyment	1
146D.00	H/O: manic depressive disorder	1
1465.00	H/O: depression	1
1466.00	H/O: anxiety state	1
1B1H.00	Frightened	1
Z522600	Flooding - obsessional compulsive disorder	1
1B1T.00	Feeling stressed	1
16ZB100	Feeling low or worried	1
E202D00	Fear of death	1
1B1H.11	Fear	1
9hC..00	Exception reporting: depression quality indicators	1
9hC0.00	Excepted from depression quality indicators: Patient unsuita	1
9hC1.00	Excepted from depression quality indicators: Informed dissen	1
E112.13	Endogenous depression first episode	1
E112.12	Endogenous depression first episode	1
E113.11	Endogenous depression - recurrent	1
E112.14	Endogenous depression	1
9N54.00	Encounter for fear	1
1B1U.11	Depressive symptoms	1
E11..12	Depressive psychoses	1
E211200	Depressive personality disorder	1
9Ov3.00	Depression monitoring verbal invite	1

	Read code	Description	Number of studies
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5	9Ov2.00	Depression monitoring third letter	1
6	9Ov4.00	Depression monitoring telephone invite	1
7	9Ov1.00	Depression monitoring second letter	1
8	9Ov0.00	Depression monitoring first letter	1
9	9Ov..00	Depression monitoring administration	1
10	9H91.00	Depression medication review	1
11	8BK0.00	Depression management programme	1
12	9H92.00	Depression interim review	1
13	9H90.00	Depression annual review	1
14	9k4..00	Depression - enhanced services administration	1
15	9k40.00	Depression - enhanced service completed	1
16	E214.00	Compulsive personality disorders	1
17	E214z00	Compulsive personality disorder NOS	1
18	E203000	Compulsive neurosis	1
19	1P3..00	Compulsive behaviour	1
20	E28..11	Combat fatigue	1
21	1B1V.00	C/O - panic attack	1
22	1B17.11	C/O - feeling depressed	1
23	E290z00	Brief depressive reaction NOS	1
24	E290.00	Brief depressive reaction	1
25	E11..11	Bipolar psychoses	1
26	E115600	Bipolar affective disorder, now depressed, in full remission	1
27	E115000	Bipolar affective disorder, currently depressed, unspecified	1
28	E115200	Bipolar affective disorder, currently depressed, moderate	1
29	E115100	Bipolar affective disorder, currently depressed, mild	1
30	E115z00	Bipolar affective disorder, currently depressed, NOS	1
31	E115.00	Bipolar affective disorder, currently depressed	1
32	E115300	Bipolar affect disord, now depressed, severe, no psychosis	1
33	E115400	Bipolar affect disord, now depressed, severe with psychosis	1
34	E115500	Bipolar affect disord, now depressed, part/unspec remission	1
35	E11y200	Atypical depressive disorder	1
36	E004300	Arteriosclerotic dementia with depression	1
37	1B1H.12	Apprehension	1
38	1B13.00	Anxiousness	1
39	8G94.00	Anxiety management training	1
40	Z4L1.00	Anxiety counselling	1
41	173f.00	Anxiety about breathlessness	1
42	6659000	Antidepressant drug treatment started	1
43	E214000	Anankastic personality	1
44	E203.11	Anancastic neurosis	1
45	Z4I7200	Alleviating anxiety	1
46	E202200	Agoraphobia without mention of panic attacks	1
47	E202100	Agoraphobia with panic attacks	1
48	E112.11	Agitated depression	1
49	E11..00	Affective psychoses	1
50	E211.00	Affective personality disorder	1
51	E292400	Adjustment reaction with anxious mood	1
52	E282.00	Acute stupor state due to acute stress reaction	1
53	E28z.00	Acute stress reaction NOS	1
54	E28..00	Acute reaction to stress	1
55	E283100	Acute posttrauma stress state	1
56	E280.00	Acute panic state due to acute stress reaction	1
57	E281.00	Acute fugue state due to acute stress reaction	1
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Read code	Description	Number of studies
Z4I7.00	Acknowledging anxiety	1
1B12.00	'Nerves' - nervousness	1
9kQ..11		1

For peer review only

**Table 4. List of Read codes used in the studies of cognitive impairment.**

Read code	Description	Number of studies
Eu01.00	[X]Vascular dementia	13
Eu01200	[X]Subcortical vascular dementia	13
Eu00112	[X]Senile dementia,Alzheimer's type	13
Eu00011	[X]Presenile dementia,Alzheimer's type	13
Eu01100	[X]Multi-infarct dementia	13
Eu00.00	[X]Dementia in Alzheimer's disease	13
Eu01.11	[X]Arteriosclerotic dementia	13
Eu00z11	[X]Alzheimer's dementia unspec	13
E000.00	Uncomplicated senile dementia	13
E004.11	Multi infarct dementia	13
E004.00	Arteriosclerotic dementia	13
F110000	Alzheimer's disease with early onset	13
F110.00	Alzheimer's disease	13
Eu01z00	[X]Vascular dementia, unspecified	12
Eu01000	[X]Vascular dementia of acute onset	12
Eu00012	[X]Primary degen dementia, Alzheimer's type, presenile onset	12
Eu00113	[X]Primary degen dementia of Alzheimer's type, senile onset	12
Eu01111	[X]Predominantly cortical dementia	12
Eu00z00	[X]Dementia in Alzheimer's disease, unspecified	12
Eu00100	[X]Dementia in Alzheimer's disease with late onset	12
Eu00000	[X]Dementia in Alzheimer's disease with early onset	12
Eu00200	[X]Dementia in Alzheimer's dis, atypical or mixed type	12
Eu00013	[X]Alzheimer's disease type 2	12
Eu00111	[X]Alzheimer's disease type 1	12
E004000	Uncomplicated arteriosclerotic dementia	12
E004200	Arteriosclerotic dementia with paranoia	12
E004300	Arteriosclerotic dementia with depression	12
E004100	Arteriosclerotic dementia with delirium	12
E004z00	Arteriosclerotic dementia NOS	12
F110100	Alzheimer's disease with late onset	12
Eu01y00	[X]Other vascular dementia	11
Eu01300	[X]Mixed cortical and subcortical vascular dementia	11
Eu02.00	[X]Dementia in other diseases classified elsewhere	11
Eu02300	[X]Dementia in Parkinson's disease	11
Eu02z00	[X] Unspecified dementia	11
Eu02z14	[X] Senile dementia NOS	11
E00..12	Senile/presenile dementia	11
E002000	Senile dementia with paranoia	11
E002100	Senile dementia with depression	11
E001.00	Presenile dementia	11
E041.00	Dementia in conditions EC	11
Fyu3000	[X]Other Alzheimer's disease	10
Eu02500	[X]Lewy body dementia	10
Eu02y00	[X]Dementia in other specified diseases classif elsewhere	10
Eu04100	[X]Delirium superimposed on dementia	10
Eu02z16	[X] Senile dementia, depressed or paranoid type	10
Eu02z13	[X] Primary degenerative dementia NOS	10
Eu02z11	[X] Presenile dementia NOS	10
E001000	Uncomplicated presenile dementia	10
E002z00	Senile dementia with depressive or paranoid features NOS	10
E002.00	Senile dementia with depressive or paranoid features	10

Read code	Description	Number of studies
E003.00	Senile dementia with delirium	10
E00..11	Senile dementia	10
E001200	Presenile dementia with paranoia	10
E001300	Presenile dementia with depression	10
E001100	Presenile dementia with delirium	10
E001z00	Presenile dementia NOS	10
Eu02000	[X]Dementia in Pick's disease	9
Eu02200	[X]Dementia in Huntington's disease	9
Eu02400	[X]Dementia in human immunodef virus [HIV] disease	8
Eu02100	[X]Dementia in Creutzfeldt-Jakob disease	8
F112.00	Senile degeneration of brain	8
F116.00	Lewy body disease	8
F111.00	Pick's disease	7
E012.00	Other alcoholic dementia	6
E012.11	Alcoholic dementia NOS	6
Eu10711	[X]Alcoholic dementia NOS	5
E00z.00	Senile or presenile psychoses NOS	5
6AB..00	Dementia annual review	5
Eu02z15	[X] Senile psychosis NOS	4
Eu02z12	[X] Presenile psychosis NOS	4
ZS7C500	Language disorder of dementia	4
E02y100	Drug-induced dementia	4
66h..00	Dementia monitoring	4
R00z011	[D]Memory deficit	3
e000.00	Uncomplicated senile dementia	3
Z7CEG00	Transient memory loss	3
Z7CF811	Short-term memory loss	3
E00..00	Senile and presenile organic psychotic conditions	3
2900	SENILE DEMENTIA	3
Z7CF800	Poor short-term memory	3
Z7CEH15	Poor memory	3
2901A	PRESENILE DEMENTIA	3
E00y.00	Other senile and presenile organic psychoses	3
3A30.00	Memory: present place not knwn	3
Z7CEH14	Memory problem	3
1B1A.12	Memory loss symptom	3
1B1A.00	Memory loss - amnesia	3
Z7CE611	Memory loss	3
Z7CEJ00	Memory lapses	3
Z7CEH00	Memory impairment	3
1B1A.13	Memory disturbance	3
Z7CEC11	Loss of memory for recent events	3
Z7CE615	Loss of memory	3
1461.00	H/O: dementia	3
3AE6.00	GDS level 7 - very severe cognitive decline	3
3AE5.00	GDS level 6 - severe cognitive decline	3
3AE4.00	GDS level 5 - moderately severe cognitive decline	3
3AE3.00	GDS level 4 - moderate cognitive decline	3
3AE2.00	GDS level 3 - mild cognitive decline	3
3AE1.00	GDS level 2 - very mild cognitive decline	3
2930	DEMENTIA ARTERIOSCLEROTIC	3
299 G	DEMENTIA AGGRESSIVE	3
299 B	DEMENTIA	3



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Read code	Description	Number of studies
E012000	Chronic alcoholic brain syndrome	3
1B1A.11	Amnesia symptom	3
ZR1K.00	Alzheimer's disease assessment scale	3
2901B	ALZHEIMER'S DISEASE	3
ZR1K.11	ADAS - Alzheimer's disease assessment scale	3
Eu80200	[X]Receptive language disorder	2
R00z000	[D]Amnesia (retrograde)	2
ZS78D00	Wernicke's dysphasia	2
ZS78D13	Wernicke's aphasia	2
Z7C3500	Unable to use verbal reasoning	2
Z7C3200	Unable to reason	2
Z7C5100	Unable to concentrate	2
1B1A000	Temporary loss of memory	2
Z7CEF00	Temporary loss of memory	2
Z7C5313	Short concentration span	2
Z7C5312	Short attention span	2
1BR0.11	Short attention span	2
8HTY.00	Referral to memory clinic	2
8H1a.00	Referral to dementia care advisor	2
Z7C5300	Reduced concentration span	2
1BR..00	Reduced concentration	2
Z7C5311	Reduced attention span	2
E00y.11	Presbyophrenic psychosis	2
Z7CEB12	Poor memory for remote events	2
Z7CFO00	Poor long-term memory	2
1BW..00	Poor concentration	2
Z7CEC12	No memory for recent events	2
Z7CEK00	Minor memory lapses	2
Z7CEL00	Mild memory disturbance	2
E2A1000	Mild memory disturbance	2
3A40.00	Memory: present year not known	2
3A20.00	Memory: present time not known	2
3A10.00	Memory: own age not known	2
3A50.00	Memory: own DOB not known	2
3A70.00	Memory: important event not kn	2
3A80.00	Memory: import.person not knwn	2
3A91.00	Memory: count down unsucc.	2
3AA1.00	Memory: address recall unsucc.	2
Z7A1500	Memory retraining	2
Z7CE412	Memory loss symptom	2
Z7CE614	Memory loss - amnesia	2
Z7CE413	Memory loss - amnesia	2
Z7CE612	Memory gone	2
Z7CEH11	Memory dysfunction	2
Z7CE400	Memory disturbance (& amnesia (& symptom))	2
Z7CE414	Memory disturbance	2
Z7CEH12	Memory deficit	2
Z7CFx00	Memory aided by use of labels	2
Z7CE415	Loss of memory	2
Z7CFO11	Long-term memory loss	2
Z7C5111	Lack of concentration	2
Z7CE616	LOM - Loss of memory	2
2901D	JACOB- CREUZFELDT DISEASE WITH DEMENTIA	2

Read code	Description	Number of studies
Z7CEN11	Invents experiences to compensate for loss of memory	2
Z7CEA11	Impairment of working memory	2
Z7CEA13	Impairment of primary memory	2
Z7C1.00	Impaired cognition	2
129B.00	FH: Alzheimer's disease	2
Z7A1A00	Executive functions training	2
9hD0.00	Excepted from dementia quality indicators: Patient unsuitabl	2
9hD1.00	Excepted from dementia quality indicators: Informed dissent	2
1S21.00	Disturbance of memory for order of events	2
Z7C3C00	Difficulty using visuospatial reasoning	2
Z7C3600	Difficulty using verbal reasoning	2
Z7C3300	Difficulty reasoning	2
Z7C4A00	Difficulty processing information at normal speed	2
Z7C4700	Difficulty processing information accurately	2
Z7C4300	Difficulty processing information	2
Z7C1100	Difficulty making plans	2
ZR3V.13	Dementia rating scale	2
9Ou4.00	Dementia monitoring verbal invite	2
9Ou3.00	Dementia monitoring third letter	2
9Ou5.00	Dementia monitoring telephone invite	2
9Ou2.00	Dementia monitoring second letter	2
9Ou1.00	Dementia monitoring first letter	2
3A...12	Dementia assessment	2
Z7CGP00	Delayed verbal memory	2
ZR3V.11	DRS - Clinical dementia rating scale	2
Y0601JS	DEMENTIA CLINIC ATTENDANCE	2
Y060 JS	DEMENTIA CLINIC	2
2919	DEMENTIA ALCOHOLIC	2
Z73..00	Cognitive intervention strategies	2
28E..00	Cognitive decline	2
ZR3V.00	Clinical dementia rating scale	2
ZR3V.12	CDR - Clinical dementia rating scale	2
Z7CEH13	Bad memory	2
ZR2X.12	BDRS - Blessed dementia rating scale	2
Z7A1400	Attention training	2
Z7CE600	Amnesia	2
EU02y..0		2
X0034		2
AE..00		2
Ryu5.00	[X]Symptoms/signs inv cognit, percept, emotion state & behav	1
Eu80000	[X]Specific speech articulation disorder	1
Eu81500	[X]Severe learning disability	1
Eu81700	[X]Profound learning disability	1
Ryu5000	[X]Other amnesia	1
Ryu5100	[X]Oth & unspec symptom/sign involv cognit funct/awareness	1
Eu81600	[X]Mild learning disability	1
Eu05700	[X]Mild cognitive disorder	1
Eu81z12	[X]Learning disorder NOS	1
Eu81z11	[X]Learning disability NOS	1
Eu81z13	[X]Learn acquisition disab NOS	1
Eu03.11	[X]Korsakov's psychosis, nonalcoholic	1
Eu10611	[X]Korsakov's psychosis, alcohol induced	1
Eu80014	[X]Functional speech articulation disorder	1

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Read code	Description	Number of studies
Eu80100	[X]Expressive language disorder	1
Eu90000	[X]Disturbance of activity and attention	1
Eu44000	[X]Dissociative amnesia	1
Ryu5700	[X]Disorientation, unspecified	1
Eu10712	[X]Chronic alcoholic brain syndrome	1
Eu80600	[X]Auditory processing disorder	1
Eu90011	[X]Attention deficit hyperactivity disorder	1
Eu9y700	[X]Attention deficit disorder	1
ZS91.12	[X]Attention deficit disorder	1
Eu04.12	[X]Acute / subacute confusional state, nonalcoholic	1
ZV40000	[V]Problems with learning	1
R045100	[D]Dysphasia	1
R00zX00	[D]Disorientation, unspecified	1
R043.00	[D]Aphasia	1
R00z500	[D]Anterograde amnesia	1
E011200	Wernicke-Korsakov syndrome	1
C253.00	Wernicke's encephalopathy	1
C251.11	Wernicke's encephalopathy	1
Z7CMB00	Visuospatial agnosia	1
Z7A1800	Visual processing training	1
F481J00	Visual disorientation syndrome	1
F584000	Unspecified other abnormal auditory perception	1
Z7CH300	Unrealistic planning	1
Z7C7200	Unable to write	1
ZT46200	Unable to use verbal communication	1
ZT49200	Unable to use non-verbal communication	1
ZT47200	Unable to use language	1
Z7CI500	Unable to use decision-making strategies	1
Z7C6200	Unable to tell the time	1
ZT4f200	Unable to responds to communication by others	1
Z7C2600	Unable to recognise surroundings	1
Z7C2200	Unable to recognise sounds	1
Z7C2D00	Unable to recognise parts of own body	1
Z7C2L11	Unable to recognise objects visually	1
Z7C2L00	Unable to recognise objects by sight	1
Z7C2H00	Unable to recognise objects	1
Z7C2T00	Unable to recognise familiar people	1
Z7C2R00	Unable to recognise faces by sight	1
Z7C2P00	Unable to recognise faces	1
Z7CFC00	Unable to recall five digit number at five minutes	1
Z7C8200	Unable to read	1
Z7C4900	Unable to process information at normal speed	1
Z7C4600	Unable to process information accurately	1
Z7C4200	Unable to process information	1
ZM18200	Unable to plan meals	1
Z7CH200	Unable to plan	1
ZN28200	Unable to organise a journey	1
Z7CI900	Unable to make considered choices	1
Z7C4C00	Unable to analyse information	1
1B1S.00	Transient global amnesia	1
Z7CE700	Transient global amnesia	1
ZS78600	Transcortical sensory dysphasia	1
ZS78411	Transcortical motor aphasia	1

Read code	Description	Number of studies
Z7CE711	TGA - Transient global amnesia	1
ZS78300	Subcortical aphasia	1
E031.00	Subacute confusional state	1
Z7A2200	Strategy training for perceptual skills	1
ZS5..00	Speech and language dyspraxias	1
ZS...00	Speech and language disorder	1
ZS73.00	Specific language impairment	1
ZS73.11	Specific language disorder	1
Z7CC700	Spatial disorientation	1
Z7CD400	Slow learner	1
F483200	Simultaneous visual perception without fusion	1
1B1A100	Short-term memory loss	1
28E2.00	Severe cognitive impairment	1
ZS78A00	Semantic dysphasia	1
9Nk1.00	Seen in memory clinic	1
9N0y.00	Seen in learning disabilities clinic	1
342 CP	SENILE PARKINSONISM	1
Z7CE900	Retrograde amnesia	1
8HHP.00	Referral to learning disability team	1
8H4f.00	Referral to learning disabilities psychiatrist	1
1BR0.00	Reduced concentration span	1
ZS72.00	Receptive language impairment	1
ZS78C00	Receptive dysphasia	1
ZS78C11	Receptive aphasia	1
Z7A1700	Reality orientation	1
Z7A1711	RO - Reality orientation	1
Z7CE911	RA - Retrograde amnesia	1
ZRbf.00	Psycholinguistic assessments of language process in aphasia	1
ZD38300	Promoting aphasics communication effectiveness programme	1
8G96.00	Problem solving therapy	1
ZS78F00	Posterior dysphasia	1
1B1Y.00	Poor visual sequential memory	1
1B1a.00	Poor auditory sequential memory	1
F591z00	Perceptive hearing loss NOS	1
F591.14	Perceptive hearing loss	1
F591.13	Perceptive deafness	1
Z7CL700	Perception that things appear grey	1
Z7CL800	Perception that things appear flat	1
Z7CLE00	Perception of things changing size	1
Z7CLH00	Perception of things changing shape	1
Z7CL911	Perception of things changing colour	1
E2F2.00	Other specific learning difficulty	1
F584z00	Other abnormal auditory perception NOS	1
F584.00	Other abnormal auditory perception	1
Z7A1600	Orientation training	1
Z7CC312	Orientation poor	1
Z7CC311	Orientation confused	1
E2A1100	Organic memory impairment	1
918e.00	On learning disability register	1
29J4.00	O/E - sensory inattention	1
2B46.11	O/E - sensory dysphasia	1
2B43.00	O/E - sensory aphasia	1
2BM3.11	O/E - perceptive deafness	1

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Read code	Description	Number of studies
2B45.11	O/E - motor dysphasia	1
2B42.00	O/E - motor aphasia	1
2B46.00	O/E - dysphasia - sensory	1
2B45.00	O/E - dysphasia - motor	1
2B47.00	O/E - dysphasia - NOS	1
2B4..12	O/E - dysphasia	1
2B44.00	O/E - aphasia NOS	1
2B4..11	O/E - aphasia	1
ZS78I00	Non-fluent dysphasia	1
ZS78I11	Non-fluent aphasia	1
28E1.00	Moderate cognitive impairment	1
ZS78200	Mixed transcortical dysphasia	1
ZS78900	Mixed dysphasia	1
ZS78911	Mixed aphasia	1
Z7C2700	Mistakes people's identity	1
28E0.00	Mild cognitive impairment	1
3A60.00	Memory: present month not knwn	1
3A11.00	Memory: own age known	1
Z7A1300	Memory skills training	1
Z7CFz00	Memory aided by use of lists	1
Z7CFw00	Memory aided by use of diary	1
ZS34.11	Learning disability	1
9HB2.00	Learning disabilities health action plan reviewed	1
9HB1.00	Learning disabilities health action plan offered	1
9HB0.00	Learning disabilities health action plan declined	1
9HB4.00	Learning disabilities health action plan completed	1
9HB6.11	Learning disabilities annual health check declined	1
9HB6.00	Learning disabilities annual health assessment declined	1
9HB5.00	Learning disabilities annual health assessment	1
Z7CD200	Learning difficulties	1
ZS3..00	Language-related cognitive disorder	1
ZS7..00	Language impairment	1
ZS7C600	Language disorder associated with thought disorder	1
13ZA.00	Language difficulty	1
E011100	Korsakov's alcoholic psychosis with peripheral neuritis	1
E011000	Korsakov's alcoholic psychosis	1
E040.11	Korsakoff's non-alcoholic psychosis	1
ZS78D12	Jargon dysphasia	1
ZS78D11	Jargon aphasia	1
A411.00	Jakob-Creutzfeldt disease	1
ZS78212	Isolation dysphasia	1
Z7CEA12	Impairment of immediate recall	1
Z7CD300	Impaired ability to learn new material	1
E201700	Hysterical amnesia	1
Z7CL100	Heightened visual perception	1
Z7CL511	Heightened perception of touch	1
Z7CLO00	Heightened perception of taste	1
Z7CLP11	Heightened perception of sound	1
Z7CLN11	Heightened perception of smells	1
Z7CLN12	Heightened perception of odours	1
Z7CLN00	Heightened olfactory perception	1
Z7CLP00	Heightened auditory perception	1
ZRLfE00	Health of the Nation Outcome Scale item 4 - cognitive probl	1

Read code	Description	Number of studies
Z7CF200	Has delayed recall	1
ZS78800	Global dysphasia	1
3AE..00	Global deterioration scale: assessment of prim deg dementia	1
ZS78811	Global aphasia	1
Z7CE500	Forgetful	1
ZS78E11	Fluent aphasia	1
1281.00	FH: Senile dementia	1
ZS71.00	Expressive language impairment	1
ZS84.00	Expressive language disorder	1
ZS78G11	Expressive aphasia	1
9hD..00	Exception reporting: dementia quality indicators	1
ZS78K00	Efferent motor dysphasia	1
ZS78K11	Efferent motor aphasia	1
ZS78.00	Dysphasia	1
ZT46400	Does not use verbal communication	1
ZT4J400	Does not use the elements of language	1
ZT49400	Does not use non-verbal communication	1
ZT4f400	Does not respond to communication by others	1
Z7C2900	Does not recognise self	1
Z7C2A00	Does not recognise photographs of self	1
Z7CEM00	Distortion of memory	1
Z7CC600	Disorientation for person	1
Z7C7300	Difficulty writing	1
ZT46500	Difficulty using verbal communication	1
ZT49500	Difficulty using non-verbal communication	1
Z7CI600	Difficulty using decision-making strategies	1
ZT4A500	Difficulty using a non-speech system for communication	1
Z7CJ100	Difficulty solving problems	1
Z7C8300	Difficulty reading	1
ZM18500	Difficulty planning meals	1
Z7C9300	Difficulty performing logical sequencing	1
ZN28500	Difficulty organising a journey	1
Z7CI200	Difficulty making decisions	1
Z7CIA00	Difficulty making considered choices	1
ZT4g500	Difficulty imitating forms of communication	1
Z7C4D00	Difficulty analysing information	1
9HB7.11	Did not attend learning disabilities annual health check	1
9HB7.00	Did not attend learning disabilities annual health assessmnt	1
9Ou..00	Dementia monitoring administration	1
ZS93.11	DAMP - Deficits in attention motor control and perception	1
ZS78B11	Conduction aphasia	1
F591y00	Combined perceptive hearing loss	1
Z7A1.00	Cognitive skills training	1
ZD15.00	Cognitive neuropsychological language therapy	1
ZD38200	Cognitive behavioural language therapy	1
E2E0z00	Child attention deficit disorder NOS	1
E2E0.00	Child attention deficit disorder	1
Z7CLK00	Changed perception of time	1
F11x700	Cerebral degeneration due to Jakob - Creutzfeldt disease	1
ZS78H00	Broca's dysphasia	1
ZS78H11	Broca's aphasia	1
ZS76.00	Auditory processing disorder	1
E2E0000	Attention deficit without hyperactivity	1

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Read code	Description	Number of studies
ZS91.00	Attention deficit disorder	1
ZS78.11	Aphasia	1
Z7CE811	Antegrade amnesia	1
ZS78511	Anomic aphasia	1
ZS78500	Anomia	1
Z7CEB00	Amnesia for remote events	1
Z7CEC00	Amnesia for recent events	1
Z7CEE00	Amnesia for important personal information	1
Z7CED00	Amnesia for day to day facts	1
13Y7.00	Alzheimer's disease society member	1
ZS7C.00	Acquired language disorder	1
ZS78100	Acquired dysphasias	1
9OIA.00	ADHD monitoring invitation third letter	1
9OI8.00	ADHD monitoring invitation first letter	1
ZS91.11	ADD - Attention deficit disorder	1
Z7C2N00		1
E0120		1
6AB.00		1
Z7C3800		1
Xa25J		1
Z7CEB11		1
Z7CC800		1
Z7C2J00		1
X00Rk		1
Z7C3B00		1
Z7A1100		1
Z7C6300		1
Z7C9200		1
Z7C3900		1
Z7C2F00		1
Z7C2B00		1
Z7A1712		1
Z7A2100		1
Z7A2300		1

**Table 5. List of Read codes used in the studies of fatigue.**

Read code	Description	Number of studies
168..00	Tiredness symptom	3
168..11	Fatigue - symptom	3
168..12	Lethargy - symptom	3
1682.00	Fatigue	3
1683.00	Tired all the time	3
1684.11	C/O - debility - malaise	3
168Z.00	Tiredness symptom NOS	3
8HkW.00	Referral to chronic fatigue syndrome specialist team	3
8HIL.00	Referral for chronic fatigue syndrome activity management	3
8Q1..00	Activity management for chronic fatigue syndrome	3
E205.00	Neurasthenia - nervous debility	3
E205.12	Tired all the time	3
Eu46011	[X]Fatigue syndrome	3
F286.00	Chronic fatigue syndrome	3
F286.11	CFS - Chronic fatigue syndrome	3
F286.12	Postviral fatigue syndrome	3
F286.13	PVFS - Postviral fatigue syn	3
F286.14	Post-viral fatigue syndrome	3
F286.15	Myalgic encephalomyelitis	3
F286.16	ME - Myalgic encephalomyelitis	3
F286000	Mild chronic fatigue syndrome	3
F286100	Moderate chronic fatigue syndrome	3
F286200	Severe chronic fatigue syndrome	3
R007.00	[D]Malaise and fatigue	3
R007100	[D]Fatigue	3
R007211	[D]General weakness	3
R007300	[D]Lethargy	3
R007400	[D]Postviral (asthenic) syndrome	3
R007411	[D]Post viral debility	3
R007500	[D]Tiredness	3
R007z00	[D]Malaise and fatigue NOS	3
168..13	Malaise - symptom	2
1683.11	C/O - 'tired all the time'	2
1684.00	Malaise/lethargy	2
1684.13	C/O - postviral syndrome	2
1688.00	Exhaustion	2
1B3..12	Weakness symptoms	2
E205.11	Nervous exhaustion	2
Eu46000	[X]Neurasthenia	2
F03y.12	Myalgic encephalomyelitis	2
N239.00	Fibromyalgia	2
N248.00	Fibromyalgia	2
R007000	[D]Malaise	2
R007200	[D]Asthenia NOS	2
R2y3.00	[D]Debility, unspecified	2
168..14	C/O 'Muzzy head'	1
1B32.00	Weakness present	1
8HkW.11	Referral to myalgic encephalomyelitis specialist team	1
8Q1..11	Activity management for myalgic encephalopathy	1
A4zy300	Encephalitis lethargica	1
Eu46y14	[X]Psychasthenia	1



Read code	Description	Number of studies
Eu46y15	[X]Psychasthenia neurosis	1
R007600	[D]Post polio exhaustion	1
R007z11	[D]Lassitude	1
R202.00	[D]Senile asthenia	1
SN44.00	Exhaustion due to exposure	1

For peer review only

**Table 6. List of Read codes used in the studies of pain.**

Read code	Description	Number of studies
NyuAG	[X]Uns sof tis d,use/overu/prs	2
NyuA	[X]Other soft tissue disorders	2
Nyu80	[X]Other myositis	2
Nyu3	[X]Other joint disorders	2
Ryu70	[X]Other chronic pain	2
NyuAF	[X]Oth spcf soft tissu disords	2
Nyu85	[X]Oth spcf disorders/muscle	2
NyuAA	[X]Oth sft tis diso/oth dis CE	2
Nyu8A	[X]Oth disorders/muscle/dis CE	2
Nyu9	[X]Disorders/synovium+tendon	2
Nyu8	[X]Disorders of muscles	2
Nyu8B	[X]Disorder of muscle, unspec	2
R01zz	[D]Nerv/musculoskel.sympt.NOS	2
R01z	[D]Nerv/musculoskel.symp.other	2
R01	[D]Musculoskeletal symptoms	2
R01z2	[D]Musculoskeletal pain	2
R00z2	[D]General aches and pains	2
N22z	Synovium/tendon/bursa dis.NOS	2
N0950	Stiff joint NEC-site unspecif.	2
N0958	Stiff joint NEC-other specif.	2
N240	Rheumatism/fibrositis NOS	2
N2	Rheumatism, excl.the back	2
N240z	Rheumatism or fibrositis NOS	2
N2400	Rheumatism NOS - shoulder	2
N2403	Rheumatic pain	2
N24z	Polyalgia	2
N09	Other/unspecif.joint disorders	2
N22yz	Other tendon disorder NOS	2
N233z	Other specif.musc.disorder NOS	2
N06yz	Other specif.arthropathy NOS	2
N06y9	Other spec.arthr.-multipl.site	2
N09y	Other spec. joint disorders	2
N24	Other soft tissue disorders	2
N3z	Other musculoskeletal dis. NOS	2
N247	Other musculoskel.limb sympts.	2
N23y	Other muscle/ligament/fascia	2
N23yz	Other musc./lig./fasc.dis.NOS	2
N096z	Other joint symptoms NOS	2
N0968	Other joint sympt.-other spec.	2
N0969	Other joint sympt.-multip.site	2
N09yz	Other joint disorders NOS	2
N09y0	Other joint dis.-site unspec.	2
N09y8	Other joint dis.-other specif.	2
N09y9	Other joint dis.-multiple site	2
N2y	Nonarticular rheumatism OS	2
N2z	Nonarticular rheumatism NOS	2
N39	Nonallopathic lesions, NEC	2
N39z	Nonallopathic lesion NEC NOS	2
N2411	Myositis unspecified	2
N2480	Myofascial pain syndrome	2
N241	Myalgia/myositis unspecified	2

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Read code	Description	Number of studies
N241z	Myalgia/myositis NOS	2
N3y	Musculoskeletal disorders OS	2
Ny	Musculoskeletal diseases OS	2
Nz	Musculoskeletal diseases NOS	2
N2402	Muscular rheumatism	2
N23z	Muscle/ligament/fascia dis.NOS	2
N2410	Muscle pain	2
N0959	Multiple joint stiffness	2
N0450	Juv ankylosing spondylitis	2
N095z	Joint stiffness NEC NOS	2
N095	Joint stiffness NEC	2
N09zz	Joint disorders NOS	2
N09z	Joint disorder NOS	2
N09z0	Joint disord.NOS-site unspecif	2
N09z8	Joint disord.NOS-other specif.	2
N09z9	Joint disord.NOS-multiple site	2
N096	Joint crepitus	2
N2401	Fibrositis unspecified	2
N2412	Fibromyositis NOS	2
N248	Fibromyalgia	2
N239	Fibromyalgia	2
N23	Fascia disorders	2
N06zB	Chronic arthritis	2
N06z0	Arthropathy NOS-site unspecif.	2
N06z8	Arthropathy NOS-other specif.	2
N06z9	Arthropathy NOS-multiple sites	2
N06zz	Arthropathy NOS	2
N0z	Arthropathies NOS	2
N06z	Arthritis	2
N0949	Arthralgia of multiple joints	2
N094z	Arthralgia NOS	2
N0940	Arthralgia - site unspecified	2
N0948	Arthralgia - other specified	2
N094	Ache in joint	2
OX7179KB	viral myalgia /ox	1
7K6T1	release of Torticollis	1
N2452	neuropathic pain	1
OX7289CH	back pain /ox	1
Syu4E	[X]Unspecif inj should/up arm	1
NyuB8	[X]Unsp osteopor + pathol frac	1
Nyu28	[X]Unilat second gonarthrosis	1
Nyu25	[X]Unilat primary gonarthrosis	1
Nyu4	[X]Systemc connctv tis disordrs	1
Nyu4C	[X]Sys diso/connctv t/o dis CE	1
Nyu95	[X]Synovitis+tenosyn/bact d CE	1
Nyu97	[X]Synovial hypertrophy, NEC	1
Ryu3	[X]Sym/sign inv nv/muscskel sy	1
Syu12	[X]Superf inj neck part unsp	1
Syu84	[X]Sprn/str oth unsp part knee	1
Syu46	[X]Spr/str oth/un part shl gir	1
Syu36	[X]Spr/str ot/un pt lum sp/pel	1
Syu18	[X]Spr/str jt/lg ot/un pt neck	1
Nyu92	[X]Spontans ruptr/oth tendons	1

Read code	Description	Number of studies
Nyu68	[X]Spondylpthy/oth diseases CE	1
Nyu66	[X]Spondylpth/o inf+paras d CE	1
Nyu69	[X]Spondylopathy unspecified	1
Nyu6	[X]Spondylopathies	1
Nyu5B	[X]Spin osteochondrosis, unsp	1
Nyu1G	[X]Seroposit rheum arthr, unsp	1
Nyu10	[X]Rheum arthrit+inv/o org/sys	1
Nyu05	[X]Reactv arthropathy/o dis CE	1
Eu45y	[X]Psychogenic torticollis	1
NyuE4	[X]Postproc muscsk disord,unsp	1
Nyu2F	[X]Post-traum arthr oth joints	1
NyuC9	[X]Periostitis/oth inf dis CE	1
Nyu51	[X]Other+unspecified kyphosis	1
Nyu64	[X]Other spondylosis	1
Nyu2D	[X]Other specified arthrosis	1
Nyu1B	[X]Other specified arthritis	1
Nyu65	[X]Other spcfd spondylopathies	1
Nyu3D	[X]Other spcfd joint disorders	1
NyuAB	[X]Other shoulder lesions	1
Nyu54	[X]Other secondary scoliosis	1
Nyu50	[X]Other secondary kyphosis	1
Nyu17	[X]Other secondary gout	1
Nyu21	[X]Other primary coxarthrosis	1
Nyu20	[X]Other polyarthrosis	1
Nyu46	[X]Other overlap syndromes	1
NyuB1	[X]Other osteoporosis	1
NyuC	[X]Other osteopathies	1
NyuC5	[X]Other osteonecrosis	1
NyuC3	[X]Other osteomyelitis	1
Nyu82	[X]Other ossification/muscle	1
Nyu37	[X]Other meniscus derangements	1
Nyu52	[X]Other lordosis	1
Nyu15	[X]Other juvenile arthritis	1
Nyu3C	[X]Other instability of joint	1
NyuA4	[X]Other infective bursitis	1
Nyu53	[X]Other idiopathic scoliosis	1
Nyu41	[X]Other giant cell arteritis	1
Nyu56	[X]Other fusion of spine	1
Nyu55	[X]Other forms of scoliosis	1
NyuAE	[X]Other enthesopathies,NEC	1
Nyu7	[X]Other dorsopathies	1
Nyu7A	[X]Other dorsalgia	1
Nyu36	[X]Other disorders of patella	1
Nyu44	[X]Other dermatomyositis	1
Nyu35	[X]Other derangements/patella	1
NyuB6	[X]Other cyst of bone	1
NyuC2	[X]Other chronic osteomyelitis	1
Nyu18	[X]Other chondrocalcinosis	1
Nyu81	[X]Other calcification/muscle	1
NyuA1	[X]Other bursitis of knee	1
NyuA6	[X]Other bursitis NEC	1
NyuA5	[X]Other bursal cyst	1
NyuA7	[X]Other bursa disorder	1

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Read code	Description	Number of studies
NyuE3	[X]Other biomechanical lesions	1
NyuB4	[X]Other adult osteomalacia	1
NyuC0	[X]Other acute osteomyelitis	1
NyuC4	[X]Other 2ndary osteonecrosis	1
Nyu47	[X]Oth syst dis/connctv tissue	1
Nyu91	[X]Oth synovitis+tenosynovitis	1
Syu40	[X]Oth sup inj should/upp arm	1
Nyu62	[X]Oth spondylosis+myelopathy	1
Nyu79	[X]Oth specified dorsopathies	1
NyuC8	[X]Oth spcfd disorders of bone	1
Nyu1A	[X]Oth spcfc arthropathies,NEC	1
Nyu12	[X]Oth spcf rheumatd arthritis	1
Nyu61	[X]Oth spcf inflam spondylpath	1
NyuD4	[X]Oth spcf disordrs/cartilage	1
Nyu59	[X]Oth spcf deform dorsopath	1
NyuD3	[X]Oth spc osteochondropathies	1
Syu3K	[X]Oth sp inj abd/low back/pel	1
Nyu2E	[X]Oth secondary coxarthrosis	1
Nyu83	[X]Oth ruptr/muscl(nontraumtc)	1
Nyu58	[X]Oth recur vertebrl subluxtn	1
Nyu03	[X]Oth reactive arthropathies	1
Nyu13	[X]Oth psoriatic arthropathies	1
Nyu26	[X]Oth post-traum gonarthrosis	1
Nyu23	[X]Oth post-traum coxarthrosis	1
NyuB0	[X]Oth osteoporosis+patholog #	1
Nyu39	[X]Oth intrnl derangemnts/knee	1
Nyu90	[X]Oth infectve(teno)synovitis	1
Nyu60	[X]Oth infectv spondylopathies	1
Nyu45	[X]Oth forms/systemc sclerosis	1
Nyu43	[X]Oth forms/sys lup erythemat	1
NyuA9	[X]Oth fibroblastic disorders	1
Nyu22	[X]Oth dysplastic coxarthrosis	1
NyuB5	[X]Oth diso/continuity of bone	1
NyuC6	[X]Oth diso/bone dvlpmnt+grwth	1
NyuE	[X]Oth dis musculnsk+connect	1
Nyu70	[X]Oth cervicl disc displacmnt	1
Nyu71	[X]Oth cervicl disc degeneratn	1
Nyu72	[X]Oth cervical disc disorders	1
Nyu3A	[X]Oth articlur cartilag disor	1
Nyu27	[X]Oth 2ndry gonarthrsis,bilat	1
Nyu24	[X]Oth 2ndry coxarthrsis,bilat	1
NyuB2	[X]Osteoporosis/oth disords CE	1
NyuBC	[X]Osteopenia	1
NyuCA	[X]Osteopathy/other inf dis CE	1
NyuCF	[X]Osteopathy/oth diseases CE	1
NyuCC	[X]Osteonecrosis/other dis CE	1
NyuCB	[X]Osteonecros/h'moglobnph CE	1
NyuCD	[X]Osteitis defrmn/neop dis CE	1
SR1z1	[X]Op multiple fractures unsp	1
Nyu00	[X]O strep arthritis+polyarthr	1
Nyu38	[X]O spontn disrptn/lig(s)knee	1
Nyu63	[X]O spondylosis+radiculopathy	1
NyuD2	[X]O spf juvnl osteochondrosis	1

Read code	Description	Number of studies
Nyu42	[X]O spcf necrotiz vasculopath	1
Nyu3B	[X]O spcf joint derangmnts,NEC	1
Nyu77	[X]O spcf intrvrtbrl disc diso	1
Nyu94	[X]O spcf diso/synovium+tendon	1
Nyu19	[X]O spcf crystl arthropathies	1
Nyu76	[X]O spc intrvrtbrl disc degenr	1
Nyu75	[X]O spc intervert disc displm	1
NyuB7	[X]O spc diso/bne dnsity+struc	1
NyuE0	[X]O spc acq defrm/muscskl sys	1
NyuA3	[X]O sft t d rl/use,overu+prss	1
Nyu11	[X]O sero+ve rheumat arthritis	1
Nyu57	[X]O recur atlantoaxl subluxtn	1
NyuE2	[X]O postproced muscskel disor	1
Nyu04	[X]O postinf arthropath/dis CE	1
NyuC7	[X]O hypertrophc osteoarhrpth	1
Nyu14	[X]O enteropathic arthrpathies	1
NyuB3	[X]O drug-indc osteomalac/adlt	1
Nyu96	[X]O diso/synovm+tendon/dis CE	1
Nyu93	[X]O contractre/tendon(sheath)	1
Nyu40	[X]O cond relt/polyarterit nod	1
NyuC1	[X]O chr h'matogens osteomyelit	1
Nyu4D	[X]Necrotis vasculopathy, unsp	1
Nyu87	[X]Myosits/protzl+paras inf CE	1
Nyu88	[X]Myositis/oth infects dis CE	1
Nyu89	[X]Myositis in sarcoidosis CE	1
Nyu86	[X]Myositi/bacterial dis CE	1
Nyu84	[X]Muscle wasting and atrophy NEC	1
SyuA4	[X]Multi disloc/spr/strns,unsp	1
Nyu4F	[X]Mixed connective tissue disease	1
Nyu74	[X]Lumb+o intvt disc d+radiclp	1
Nyu73	[X]Lumb+o intrvrt disc d+mylop	1
Nyu5A	[X]Lordosis, unspecified	1
Nyu16	[X]Juvenile arthritis/o dis CE	1
Syu1	[X]Injuries to the neck	1
Syu3	[X]Injabd/low back/lum sp/pel	1
Syu4	[X]Inj to shoulder/upper arm	1
Syu8	[X]Inj to knee and lower leg	1
Nyu1	[X]Inflammatory polyarthropathies	1
Nyu0	[X]Infectious arthropathies	1
Nyu1C	[X]Gt arthpth/enz d+o inh d CE	1
Syu16	[X]Fracture other parts neck	1
Syu44	[X]Fract should/upp arm unsp	1
Syu15	[X]Fract oth spec cervic vert	1
SyuA2	[X]Fract inv oth comb bod regn	1
NyuAH	[X]Fibroblastic disord, unspec	1
NyuA8	[X]Fasciitis,NEC	1
NyuBB	[X]Erosion of bone	1
SyuA3	[X]Dsl/spr/str,oth comb bod rg	1
SyuB3	[X]Dsl/sp/st un jt/l leg,lv un	1
NyuB	[X]Disordrs/bone dens+structur	1
Nyu3E	[X]Disorder of patella, unspec	1
NyuDE	[X]Disorder cartilage, unspec	1
NyuBA	[X]Disord bone dens/struc,unsp	1

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Read code	Description	Number of studies
Syu17	[X]Disloc oth unsp parts neck	1
SyuBC	[X]Disl/spr/str unsp body reg	1
Nyu4E	[X]Dermatopolymyositis, unsp	1
Nyu48	[X]Dermat(poly)myosit/neo d CE	1
Nyu5	[X]Deforming dorsopathies	1
Nyu1D	[X]Crys arthpht/o meta diso,CE	1
Nyu67	[X]Collapsd vertebra in dis CE	1
SR1z0	[X]Clsd multiple fracts unsp	1
NyuD	[X]Chondropathies	1
Nyu7B	[X]Cervical disc disord, unsp	1
Nyu4B	[X]Arthrpthy/hyprsens react CE	1
Nyu1F	[X]Arthrpth/o spcf diseases CE	1
Nyu1E	[X]Arthrpth/o en,nut+meta diso	1
Nyu2	[X]Arthrosis	1
Nyu4A	[X]Arthropathy/o bld disord CE	1
Nyu49	[X]Arthropathy/neoplast dis CE	1
Nyu02	[X]Arthrits/o inf+paras dis CE	1
Nyu01	[X]Arthrit+polyarth/o s bact a	1
NyuB9	[X]Adult osteomalacia, unsp	1
Nyu	[X]Ad muscskl+con t dis cls tm	1
NyuCE	[X]#bone/neoplastic disease CE	1
NyuE1	[X]#/bne f insrt/o i,j pr,bn p	1
EMISREQ 7N945(9)	[SO]Lumbosacral joint -Req.	1
HNGZ018	[RFC] Arthritis	1
R0420	[D]Swelling in head or neck	1
R042	[D]Swell.masslump head/neck	1
R027	[D]Spontaneous bruising	1
R065A	[D]Musculoskeletal chest pain	1
R137	[D]Musculoskel.ray/scan abnorm	1
R137z	[D]Musculosc xray/scan abn NOS	1
R022C	[D]Lump on knee	1
R04zz	[D]Head and neck symptoms NOS	1
R04	[D]Head and neck symptoms	1
R04z	[D]Head and neck other sympt.	1
R00z2-1	[D]General aches and pains	1
R065000	[D]CHEST PAIN, UNSPECIFIED	1
R065z00	[D]CHEST PAIN NOS	1
R065.00	[D]CHEST PAIN	1
R090z00	[D]Abdominal pain	1
R090.00	[D]Abdominal pain	1
DEGRADE_EVENT_1730_49	[DEGRADE Muscle Injury]	1
DEGRADE_EVENT_2469_340	[DEGRADE Knee Pain]	1
DEGRADE_EVENT_3154_40	[DEGRADE Knee Pain]	1
N135z-2	Wry neck	1
N05z3	Wrist osteoarthritis NOS	1
N0943-1	Wrist joint pain	1
N06z3-1	Wrist arthritis NOS	1
S5704	Whiplash injury	1
EGTONWE2	Wedge Compression # Of Dorsal Spine	1
EGTONWE1	Wedge Compression # Lumbar Spine	1
N2432	Weber - Christian disease	1
N2430	Weber - Christian disease	1
N0974	Walking difficulty-other spec.	1

Read code	Description	Number of studies
N0975	Walking difficulty-multip.site	1
N0970	Walking difficulty due to unspecified site	1
N2413	Viral myalgia	1
N092M	Villonodular synovitis of knee	1
N092z	Villonodular synovitis NOS	1
N092	Villonodular synovitis	1
N0920	Villonod.synovitis-site unspec	1
N0921	Villonod.synovitis-shoulder	1
N0928	Villonod.synovitis-other spec.	1
N0929	Villonod.synovitis-mult.sites	1
N2208	Villonod synovitis-tend sheath	1
N092B	Villonod synovitis-sternclav j	1
N092A	Villonod synovitis-shoulder	1
N092C	Villonod synovitis-acromclav j	1
N330B	Vertebral osteoporosis	1
N320	Vertebral epiphysitis	1
N1	Vertebral column syndromes	1
N1y	Vertebral column disorders OS	1
N1z	Vertebral column disorder NOS	1
N0966-2	Unstable knee	1
N0967-1	Unstable ankle	1
N066z	Unspecified monoarthritis NOS	1
N066	Unspecified monoarthritis	1
N1290	Unspec.disc disorder+myelop.	1
N0650	Unsp.polyarthr.-site unspecif.	1
N065000	Unsp.polyarthr.-site unspecif.	1
N0651	Unsp.polyarthr.-shoulder	1
N065800	Unsp.polyarthr.-other specif.	1
N0658	Unsp.polyarthr.-other specif.	1
N065900	Unsp.polyarthr.-multiple site	1
N0659	Unsp.polyarthr.-multiple site	1
N3020	Unsp.osteomyelitis-site unspec	1
N3021	Unsp.osteomyelitis-shoulder	1
N3028	Unsp.osteomyelitis-other spec.	1
N3029	Unsp.osteomyelitis-mult.site	1
N302z	Unsp.osteomyelitis NOS	1
N0660	Unsp.monoarthr.-site unspecif.	1
N0661	Unsp.monoarthr.-shoulder	1
N0668	Unsp.monoarthr.-other specif.	1
N1121	Two lev th spondyl-no myelop	1
N11B1	Two lev th spondyl + radiculop	1
N1131	Two lev th spondyl + myelop	1
N1141	Two lev lumbsac spond-no myelo	1
N1151	Two lev lumbsac spond + myelop	1
N1101	Two lev Cx spondyl-no myelop	1
N1191	Two lev Cx spondyl + radiculop	1
N1111	Two lev Cx spondyl + myelop	1
N018	Tuberculous arthritis	1
N3041	Tuberculosis of thoracic spine	1
N304	Tuberculosis of spine	1
N306	Tuberculosis of other bones	1
N3042	Tuberculosis of lumbar spine	1
N3040	Tuberculosis of cervical spine	1



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Read code	Description	Number of studies
N3060	Tuberculosis bone-site unspec.	1
N3061	Tuberculosis bone-shoulder	1
N3064	Tuberculosis bone-other sites	1
N3065	Tuberculosis bone-multip.sites	1
N306z	Tuberculosis bone NOS	1
N22yD	Tuberc infec - tendon sheath	1
N2155	Trochanteric tendinitis	1
N2157	Trochanteric bursitis	1
N0874	Triangular fibrocartilage tear	1
N0875	Triangular fibrocartil detach	1
N118	Traumatic spondylopathy	1
N2312	Traumatic myositis ossificans	1
SE46	Traumatic haematoma	1
SK	Traumatic complicat./unsp.inj.	1
N061A	Traumatic arthropathy-shoulder	1
N061M	Traumatic arthropathy-knee	1
N061z	Traumatic arthropathy NOS	1
N061	Traumatic arthropathy	1
N0610	Traumatic arthr.-site unspecif	1
N0611	Traumatic arthr.-shoulder	1
N0618	Traumatic arthr.-other specif.	1
N0619	Traumatic arthr.-multiple site	1
N061B	Traumat arthrop-sternoclav jt	1
N061C	Traumat arthrop-acromioclav jt	1
S906	Traumat amp at shoulder joint	1
SA72	Traum.unil.amput.>knee-no comp	1
N220Q	Transient synovitis	1
N064A	Transient arthropathy-shoulder	1
N064M	Transient arthropathy-knee	1
N064z	Transient arthropathy NOS	1
N064	Transient arthropathy	1
N064B	Transient arthrop-sternoclav j	1
N0640	Transient arthr.-site unspecif	1
N0641	Transient arthr.-shoulder	1
N0648	Transient arthr.-other specif.	1
N0649	Transient arthr.-multiple site	1
N064C	Transient arthr-acromioclav jt	1
N135	Torticollis unspecified	1
Q20y9	Torticollis due to birth injury	1
16A3	Torticollis - symptom	1
N2451-1	Toe pain	1
N2162	Tibial collateral lig.bursitis	1
N2450-1	Thumb pain	1
N05z4-2	Thumb osteoarthritis NOS	1
N3735	Thoracogenic scoliosis	1
N1485	Thoraco-lumbar ankylosis	1
N144	Thoracic/lumbosacral neuritis	1
N144z	Thoracic/lumbosac.neuritis NOS	1
N112-1	Thoracic spondylosis	1
N112	Thoracic spond.-no myelopathy	1
N113	Thoracic spond.+ myelopathy	1
N148B	Thoracic spine instability	1
N1484	Thoracic spine ankylosis	1

Read code	Description	Number of studies
N1401	Thoracic spinal stenosis	1
N12A2	Thoracic postlaminectomy syndr	1
N1440	Thoracic nerve root pain	1
N12z8	Thoracic discitis	1
N121	Thoracic disc displ.-no myelop	1
N1292	Thoracic disc disord.+myelop.	1
N126	Thoracic disc degeneration	1
S571	Thoracic back sprain	1
EMISNQTH14	Thoracic back pain	1
N245-8	Thigh pain	1
N11B	Th spondyl + radiculop	1
N1406	Th spin stenosis due to oth dis	1
N12C1	Th disc prolapse+radiculopathy	1
N12B1	Th disc prolapse + myelopathy	1
N2132-1	Tennis elbow	1
N2202	Tendon sheath giant cell tumor	1
ASDFGTE2	Tendon Symptoms	1
N2456	Tender heel pad	1
S46B	Tear/articular cart/knee,currnt	1
S545	Tear of ligament of knee joint	1
N000*	Systemic lupus erythematosus	1
N000	Systemic lupus erythematosus	1
N000z	Systemic lupus erythematos.NOS	1
N0012	Syst scleros induc drugs/chems	1
N0003	Syst lup eryth + organ/sys inv	1
N2227	Syphilitic bursitis	1
N2200	Synovitis or tenosynovitis NOS	1
N220z-2	Synovitis of knee	1
N220z	Synovitis of knee	1
N220V	Synovitis of knee	1
N220	Synovitis and tenosynovitis	1
N220T	Synovitis NOS	1
N2201	Synovit./tenosynovitis+dis EC	1
N22y4	Synovial plica	1
N098	Synovial osteochondromatosis	1
N2240	Synovial cyst unspecified	1
N0980	Synov osteochondromat-shoulder	1
N098B	Synov osteochondromat-knee	1
N0981	Synov osteochondromat st-cla j	1
N0982	Synov osteochondromat ac-cla j	1
1D24	Symptom: trunk posterior	1
16J4	Swollen knee	1
16J3	Swollen joint	1
16J7	Swollen foot	1
1834-1	Swollen finger	1
1JG	Suspected inflammatory arthritis	1
N21z2	Supraspinatus tendonitis	1
N2113	Supraspinatus tendinitis	1
N230	Suppurative myositis	1
SD1y4	Supl inj bk NOS-no mj opn wnd	1
SD9	Superficialinjuriesunspecif.	1
SD097	SuperficialInjury:Neck	1
SD2y1	Superficial injury of scapular NOS	1

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Read code	Description	Number of studies
SD6y2	Superficial injury of knee NOS	1
SDz	Superficial injuries NOS	1
SD0	Superficial Injury: Neck	1
SD2y0	Superfic injury shoulder NOS	1
SD2	Superf.inj.shoulder/upper arm	1
SD1z4	Superf.back inj.NOS+infect.	1
N3371	Sudek's atrophy	1
N2167	Subpatellar bursitis	1
N3y01	Subluxatn complex (vertebral)	1
N3y02	Sublux stenosis of neural canal	1
N3081	Subacute osteomyelitis-th spin	1
N3082	Subacute osteomyelitis-lu spin	1
N3080	Subacute osteomyelitis-Cx spin	1
N309	Subacute osteomyelitis	1
N308	Subacute osteomyelitis	1
N2122	Subacromial impingement	1
N2116	Subacromial bursitis	1
S3z2	Stress fracture	1
N095B	Stiff sternoclavic joint NEC	1
N095A	Stiff shoulder NEC	1
16AZ	Stiff neck symptom NOS	1
16A	Stiff neck symptom	1
N135z	Stiff neck NOS	1
16A2	Stiff neck	1
N095M	Stiff knee NEC	1
N095C	Stiff acromioclavicular joint NEC	1
S5y41	Sternoclavicular sprain	1
N0108	Staphylococc arthrit/polyarthr	1
S5410	Sprn,knee jt,medial collat	1
S5400	Sprn,knee jt,lat collat lgmt	1
S520D	Sprn triangular fibrocartilage	1
S520G	Sprn shrt intrnsc lgmnt non-sp	1
S5	Sprains and strains	1
S50	Sprained shoulder	1
S54y-99	Sprained knee NOS	1
S54-99	Sprained knee	1
S560	Sprain, lumbosacral ligament	1
S564	Sprain, iliolumbar ligament	1
S501	Sprain, coraco-clav ligament	1
S506	Sprain supraspinatus tendon	1
S505	Sprain subscapularis tendon	1
S5071	Sprain shoulder joint posterior	1
S5070	Sprain shoulder joint anterior	1
S507	Sprain shoulder joint	1
S534	Sprain patellar tendon	1
S503	Sprain infraspinatus tendon	1
S500	Sprain acromio-clav ligament	1
S542	Sprain -cruciate knee ligament	1
S541	Sprain - medial knee ligament	1
S541-99	Sprain - medial knee ligament	1
S540-99	Sprain - lateral knee ligament	1
S540	Sprain - lateral knee ligament	1
SC07	Sprain - late effect	1

Read code	Description	Number of studies
S57X	Spr/str ot/un pt lum sp/pel	1
ASDFGSP5	Sports Injury	1
N082	Spontaneous joint dislocation	1
16B3	Spontaneous bruising	1
N11z0	Spondylosis-no myelopathy,NOS	1
N11zz	Spondylosis NOS	1
N11z1	Spondylosis + myelopathy, NOS	1
N388	Spondylolysis	1
OXL7561C	Spondylolisthesis /ox	1
N10z	Spondylitis NOS	1
N374	Spine curvature+other condits.	1
N374z	Spine curvature+other cond.NOS	1
N1400	Spinal stenosis unspec.region	1
N140z	Spinal stenosis NOS	1
N140-1	Spinal stenosis	1
N140	Spinal stenosis	1
N101	Spinal enthesopathy	1
N222z	Specific bursitides NOS	1
N222	Specific bursitides	1
F1382	Spasmodic Torticollis	1
N23y4	Spasm of muscle	1
N23yE	Spasm of back muscles	1
EGTON309	Sore Neck	1
N3321	Solitary bone cyst	1
N0878	Snapping shoulder	1
N32y	Slipped radial epiphysis	1
N33zA	Skeletal fluorosis	1
N002*	Sicca (Sjogren's) syndrome	1
N2125	Shoulder tendonitis	1
S50y	Shoulder sprain NOS	1
N245-7	Shoulder pain	1
N245	Shoulder pain	1
N2457	Shoulder pain	1
N0951	Shoulder joint stiffness	1
UNMAPPC0	Shoulder injury	1
S221	Shoulder fracture - open	1
N22y5	Short tendon	1
N011	Sex acquired reactive arthrop	1
N0110	Sex acqd reac arthrop-unspec	1
N0111	Sex acqd reac arthrop-shoulder	1
N011y	Sex acqd reac arthrop-oth spec	1
N011x	Sex acqd reac arthrop-multiple	1
N011z	Sex acq reac arthropathy NOS	1
SRz0	Severe multiple injuries	1
N047	Seropositive erosive RA	1
N04X	Seroposit rheum arthr unsp	1
N040P	Seronegative rheumat arthritis	1
EGTONSE2	Sero-Negative Polyarthritis	1
N04y1	Sero negative arthritis	1
N04y10	Sero negative arthritis	1
N3301	Senile osteoporosis	1
N2169	Semimembranosus tendinitis	1
EGTON131	Semi Frozen Shoulder	1

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Read code	Description	Number of studies
N3y00	Segmental & somatic dysfunctn	1
N0505	Secondary multiple arthrosis	1
N050500	Secondary multiple arthrosis	1
EMISNQSC20	Scoliosis of thoracic spine	1
N374A	Scoliosis in skelet dysplasia	1
N374C	Scoliosis in neurofibromatosis	1
N374D	Scoliosis in conn tiss anomal	1
N3739	Scoliosis due to oth treatment	1
OX735AA	Scoliosis Acquired /ox	1
N3743	Scoliosis + other condition	1
N001	Scleroderma	1
OX353C	Sciatica Chronic /ox	1
N1240	Schmorl's nodes-unspec. region	1
N1241	Schmorl's nodes-thoracic regn.	1
N124z	Schmorl's nodes-region NOS	1
N1242	Schmorl's nodes-lumbar region	1
N124	Schmorl's nodes	1
N3201	Scheuermann's disease	1
N2121	Scapulohumeral fibrositis	1
N146z-1	Sacroiliac strain	1
N1466	Sacroiliac disorder	1
S5731	Sacral/coccyx sprain	1
N0004	SLE with pericarditis	1
N25	SAPHO syndrome	1
S5Q2	Rupture supraspinatus tendon	1
S5Q1	Rupture subscapularis tendon	1
S5U2	Rupture patellar tendon	1
N2250	Rupture of synovium unspecif.	1
N225z	Rupture of synovium NOS	1
N2251-99	Rupture of synovium - knee	1
N225	Rupture of synovium	1
S5Q0	Rupture infraspinal tendon	1
N2251	Ruptur poplit space synov cyst	1
N2110	Rotator cuff syndrome unspecif	1
S504	Rotator cuff sprain	1
N211	Rotator cuff shoulder syndrome	1
N2261	Rotator cuff complete rupture	1
N3385	Rotational mal-union of #	1
182B	Rib pain	1
EGTON425	Rheumatology	1
N040N	Rheumatoid vasculitis	1
N0422	Rheumatoid nodule	1
N040R	Rheumatoid nodule	1
N0421	Rheumatoid lung disease	1
N040Q	Rheumatoid bursitis	1
N0402	Rheumatoid arthritis-shoulder	1
N0400	Rheumatoid arthritis-Cx spine	1
N040D	Rheumatoid arthritis of knee	1
N040	Rheumatoid arthritis	1
N0403	Rheumatoid arthr-sternoclav jt	1
N0404	Rheumatoid arthr-acromioclav j	1
N1351	Rheumatic torticollis	1
N0420	Rheumatic carditis	1

Read code	Description	Number of studies
OX7149A	Rheumatic Arthritis /ox	1
N040S	Rheumat arthr - multiple joint	1
N2333	Rhabdomyolysis	1
N042z	Rh.arthr.+visc/syst.dis.NOS	1
N080A	Reverse Hill-Sachs lesion	1
N0871	Reverse Bankart lesion	1
N12zA	Resorption of thoracic disc	1
N12zE	Resorption of lumbar disc	1
N12z6	Resorption of cervical disc	1
N3732	Resolving infant.idiopath.scol	1
N246	Residual soft tiss.foreign bod	1
N339	Residual foreign body in bone	1
Ny2	Repetitive strain injury	1
N33z5	Relapsing polychondritis	1
N337	Reflex sympathetic dystrophy	1
N083	Redislocation of joint	1
S46D	Recurrent subluxation of patella	1
N083D	Recurrent sublux shoulder-post	1
N083F	Recurrent sublux shoulder-inf	1
N083C	Recurrent sublux shoulder-ant	1
N083H	Recurrent sublux shoulder-ant	1
N083q	Recurrent sublux - patella	1
N083z	Recurrent joint dislocat.NOS	1
N0839	Recurrent disloc-multip joints	1
N083B	Recurrent disloc shoulder-post	1
N083E	Recurrent disloc shoulder-inf	1
N083A	Recurrent disloc shoulder-ant	1
N083G	Recurrent disloc shoulder-ant	1
N083p	Recurrent disloc - patella	1
N083n	Recurrent disloc - knee	1
N0830	Recurr.joint disloc.-site unsp	1
N0838	Recurr.joint disloc-other spec	1
N0831	Recur. disloc.- shoulder joint	1
N0836-99	Recur. disloc. - knee joint	1
N083K	Recur sublux shoulder-multidir	1
N083J	Recur disloc shoulder-multidir	1
N1y0	Rec atlantoax subl + myelopath	1
N01w0	Reactive arthropathy-shoulder	1
N01w	Reactive arthropathy unspecified	1
N01wB	Reactive arthropathy of knee	1
N038	Reactive arthropathies	1
N01w2	Reactive arthrop-sternoclav jt	1
N01w1	Reactive arthr-acromioclav jt	1
EGTON436	Radiculopathy	1
N2422	Radiculitis unspecified	1
N3734	Radiation scoliosis	1
N3711	Radiation kyphosis	1
N0706	Radial tear of medial meniscus	1
N0717	Radial tear of lateral meniscus	1
N2204	Radial styloid tenosynovitis	1
N22yC	Pyogenic infec - tendon sheath	1
N010	Pyogenic arthritis	1
N0100	Pyogenic arthr.-site unspecif.	1

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Read code	Description	Number of studies
N0101	Pyogenic arthr.-shoulder regn.	1
N010y	Pyogenic arthr.-other specif.	1
N010x	Pyogenic arthr.-multiple sites	1
N010z	Pyogenic arthr.-NOS	1
S57z0	Pulled back muscle	1
OX848ML	Pulled Muscle /ox	1
E2601	Psychogenic Torticollis	1
N2373	Pseudosarcomatous fibromatosis	1
N33zC	Pseudarth after fusn/arthrodes	1
S5422	Prt tr,knee,post cruciate lgmt	1
N12C4	Prol lumb interv disc sciatic	1
N0010	Progressive systemic sclerosis	1
N2311	Progressive myositis ossific.	1
N3733	Progressive infant.idiop.scol.	1
N051B	Primary gonarthrosis, bilat	1
N050400	Primary general osteoarthritis	1
N0504	Primary general osteoarthritis	1
N0519	Primary coxarthrosis bilateral	1
N051C	Primary arthrosis of first carpometacarpal joints, bilateral	1
N2165	Prepatellar bursitis	1
N3736	Postural scoliosis	1
N3307	Postsurg malabsorp osteoporos	1
N3314	Postsur malab osteop+path frct	1
NyX	Postproc muscscsk disord,unsp	1
N2313	Postop.heterotopic calcificat.	1
N3306	Postoophorectomy osteoporosis	1
N3312	Postoophorc osteopor+path frct	1
N3302	Postmenopausal osteoporosis	1
N331B	Postmenop osteopor+path fract	1
N0380	Postmeningococcal arthritis	1
N12Az	Postlaminectomy syndrome NOS	1
N12A	Postlaminectomy syndrome	1
N12A0	Postlaminectomy syndr.unspec.	1
N0381	Postinf arthropath in syphilis	1
N037	Postimmunization arthropathy	1
N013	Postdysenteric react arthrop	1
N0130	Postdys react arthrop-unspec	1
N0131	Postdys react arthrop-shoulder	1
N013y	Postdys react arthrop-oth spec	1
N013x	Postdys react arthrop-multiple	1
N013z	Postdys react arthrop NOS	1
16B4	Post-traumatic bruising	1
N052B	Post-traumatic arthrosis of first carpometacarpal joints, bilateral	1
N052C	Post-trauma gonarth, unilat	1
N052A	Post-traum gonarthrosis, bilat	1
N0529	Post-traum coxarthrosis, bilat	1
N3738	Post-surgical scoliosis	1
N3721	Post-laminectomy lordosis	1
N3712	Post-laminectomy kyphosis	1
N2314	Polymyositis ossificans	1
N004	Polymyositis	1

Read code	Description	Number of studies
N20*	Polymyalgia rheumatica	1
N20	Polymyalgia	1
N065-1	Polyarthropathy NEC	1
N065.11	Polyarthropathy NEC	1
N065	Polyarthropathy NEC	1
N065z	Polyarthritis	1
N065z00	Polyarthritis	1
N307z	Poliomyelitis osteopathy NOS	1
N3070	Polio.osteopathy-site unspecif	1
N3071	Polio.osteopathy-shoulder	1
N3078	Polio.osteopathy-other sites	1
N3079	Polio.osteopathy-multiple site	1
N0109	Pneumococc arthrit & polyarthr	1
N2179	Plantar fasciitis	1
N2209	Plant thorn synovitis	1
N2161	Pes anserinus tendin./bursitis	1
SJz-98	Peripheral nerve injury NOS	1
N21zz	Peripheral enthesopathy NOS	1
N21	Peripheral enthesopathies	1
N0705	Periph detach-medial meniscus	1
N0716	Periph detach-lateral meniscus	1
N303	Periostitis, no osteomyelitis	1
N303B	Periostitis, no osteomye-th sp	1
N303C	Periostitis, no osteomye-lu sp	1
N303A	Periostitis, no osteomye-Cx sp	1
N303z	Periostitis no osteomyel NOS	1
N3030	Periostitis - site unspecified	1
N3031	Periostitis - shoulder	1
N3038	Periostitis - other sites	1
N3039	Periostitis - multiple sites	1
N2120	Periarthritis of shoulder	1
N21z1	Periarthritis NOS	1
N3843	Pedicular spondylolisthesis	1
N0432	Pauciarticular juvenile R.A.	1
N0456	Pauciartic onset juv ch arth	1
N331y	Pathological fracture OS	1
N331z	Pathological fracture NOS	1
N082z	Pathological dislocation NOS	1
N331C	Pathological # cervical vert	1
N0820	Patholog.disloc.-site unspecif	1
N0821	Patholog.disloc.-shoulder	1
N0828	Patholog.disloc.-other specif.	1
N082A	Path disloc-shoulder joint	1
N082R	Path disloc-patellofem joint	1
N082B	Path disloc-oth joint-shoulder	1
N0829	Path disloc-multiple joints	1
N082Q	Path disloc-knee joint	1
N0536-1	Patellofemoral osteoarthritis	1
N0536	Patellofemoral osteoarthritis	1
N07y6	Patellofemoral maltracking	1
N09A	Patellofemoral disorder	1
N2266	Patellar tendon nontraum.rupt.	1
N2164	Patellar tendinitis	1



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Read code	Description	Number of studies
N33z9	Partial epiphyseal arrest	1
S5421	Part tr,knee,ant cruciate lgmt	1
N2114	Part thickn rotator cuff tear	1
S5411	Part tear,knee,mdl collat lgmt	1
S5401	Part tear,knee,lat collat lgmt	1
N1y2	Pars interarticular strss frct	1
N0704	Parr beak tear-post/med menisc	1
N0715	Parr beak tear-post/lat menisc	1
N2316	Paralytic calcific/ossif muscl	1
N243	Panniculitis unspecified	1
N136	Panniculitis of neck	1
N243z	Panniculitis NOS	1
N093z	Palindromic rheumatism NOS	1
N093	Palindromic rheumatism	1
N0930	Palindromic rheum.-site unspec	1
N0931	Palindromic rheum.-shoulder	1
N0938	Palindromic rheum.-other spec.	1
N0939	Palindromic rheum.-multip.site	1
N211z	Painful arc syndrome	1
N211z-1	Painful arc syndrome	1
EGTON224	Painful Shoulder	1
EGTON279	Painful Right Knee	1
N131-1	Pain in cervical spine	1
N245-9	Pain in buttock	1
N2453	Pain in arm	1
OX7280AD	Pain Neck /ox	1
OX7873E	Pain Knee /ox	1
N245-95	Pain In Right Leg	1
N245-97	Pain In Right Arm	1
N245-96	Pain In Left Leg	1
N3101	Paget's disease-thoracic spine	1
N3106	Paget's disease-scapula	1
N310F	Paget's disease-patella	1
N310x	Paget's disease-multiple sites	1
N3102	Paget's disease-lumbar spine	1
N3105	Paget's disease-clavicle	1
N3100	Paget's disease-cervical spine	1
N310y	Paget's disease OS	1
N310z	Paget's disease NOS	1
N122-1	PID - prolapsed lumbar disc	1
N129	PID - prol i/v disc + myelop	1
S102y	Othr spec clsd # thorac vert	1
S411y	Othr opn trmtc disloctn shlder	1
S410y	Othr cls trmtc disloc shoulder	1
SK12z	Othershould/upperarminj.NOS	1
SE08	Othercontusionneck	1
N06..00	Other/unspecif. arthropathies	1
N12z2	Other thoracic disc disorders	1
N22	Other synovium/tendon/bursa	1
N22y	Other synovium/tendon/bursa	1
N096B	Other symptoms - sternoclav jt	1
N096A	Other symptoms - shoulder	1
N096M	Other symptoms - knee	1

Read code	Description	Number of studies
N096D	Other symptoms - elbow	1
N096C	Other symptoms - acromioclav j	1
SD9y	Other superficial injury, without mention of infection, NOS	1
S5y	Other sprains and strains	1
S5yz	Other sprains NOS	1
N11y	Other spondyloses/allied dis.	1
S5W	Other specified tendon rupture	1
S54w	Other specified knee sprain	1
SK1	Other specified injury	1
N06y	Other specified arthropathy	1
N233	Other specific muscle disorder	1
N04y	Other specif.infl.polyarthrop.	1
N32yz	Other spec.osteochondrop.NOS	1
N04yz	Other spec.infl.polyarthr.NOS	1
N00y	Other spec.diff.collagen dis.	1
N06y0	Other spec.arthr.-site unspec.	1
N06y1	Other spec.arthr.-shoulder	1
N06y8	Other spec.arthr.-other specif	1
S5yy	Other spec sprains and strains	1
S50w	Other shoulder sprain	1
SK122	Other shoulder injuries	1
N212	Other shoulder affections NEC	1
N212z	Other shoulder affect.NEC NOS	1
SK121	Other scapular region injuries	1
N042	Other rh.arthr.+visc/syst.dis.	1
N3722	Other post-surgical lordosis	1
N21y	Other periph. enthesopathies	1
N3272	Other osteochondr dissec-knee	1
S466	Other opn trm dscltn knee	1
S497	Other open trmtc dislocation	1
S49Fz	Other open subluxation NOS	1
S4J3	Other open #-subluxation	1
S4J1	Other open #-dislocation	1
N226z	Other nontraumatic tendon rupt	1
SK10y	Other neck injuries	1
SK1x	Other multiple injuries	1
N12z3	Other lumbar disc disorders	1
N07yy	Other knee lig. old disruption	1
SK170	Other knee injury	1
N368	Other knee deformity	1
N045	Other juvenile arthritis	1
N326	Other juven.osteochondroses	1
N0960	Other joint sympt.-site unspec	1
N0961	Other joint sympt.-shoulder	1
N09y1	Other joint dis.-shoulder	1
N08yz	Other joint derange.NEC NOS	1
SK112	Other interscapular injuries	1
N07yz	Other intern.knee derang.NOS	1
SK1z	Other injury NOS	1
N10y	Other inflamm.spondylopathies	1
N10yz	Other inflamm.spondylop.NOS	1
N30y	Other infections+bone disease	1

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Read code	Description	Number of studies
N03x	Other general dis.+arthropathy	1
N237z	Other fibromatoses NOS	1
N237	Other fibromatoses	1
SK10z	Other face and neck injuries NOS	1
S49z	Other dislocation NOS	1
N12z0	Other disc disorders unspecif.	1
N08	Other derangement of joint	1
N36y	Other deformity of bone	1
N37y	Other curvatures of spine	1
N02yz	Other crystal arthropathy NOS	1
N02y	Other crystal arthropathies	1
N02y0	Other crystal arth.-site unsp.	1
N02y1	Other crystal arth.-shoulder	1
N02yy	Other crystal arth.-other spec	1
N02yx	Other crystal arth.-mult.sites	1
S465	Other cls trm dslctn knee	1
S49E	Other closed traumatic sublux	1
S4J2	Other closed #-sublux	1
S4J0	Other closed #-dislocation	1
N13yz	Other cervical syndromes NOS	1
N13y	Other cervical syndromes	1
N12z1	Other cervical disc disorders	1
N33	Other bone/cartilage disorders	1
N31y	Other bone involve.in dis.EC	1
SK114	Other back injuries	1
N374X	Other and unspecified kyphosis	1
N06	Other and unspecified arthropathies	1
S462	Other acute meniscus tear	1
N38yz	Other acquired deformity NOS	1
N38y	Other acquired deformity	1
N38	Other acquired deformity	1
S4J	Other #-dslc or subluxation	1
N08y0	Oth.joint deran.NEC-site unsp.	1
N08y1	Oth.joint deran.NEC-shoulder	1
N08y8	Oth.joint deran.NEC-other spec	1
N08y9	Oth.joint deran.NEC-mult.sites	1
N30y0	Oth.inf.+bone dis-site unspec.	1
N30y1	Oth.inf.+bone dis-shoulder	1
N30y8	Oth.inf.+bone dis-other sites	1
N30y9	Oth.inf.+bone dis-multip.site	1
N30yz	Oth.inf.+bone dis-NOS	1
N07y	Oth. internal knee derangement	1
S49	Oth, mlti+ill-def dislc/sublux	1
N0401	Oth rheumatoid arthritis-spine	1
S49F	Oth open traumatic subluxation	1
SRy	Oth inj inv mult body reg NEC	1
S496	Oth cls trmatic dislocation	1
S49Ez	Oth closed subluxation NOS	1
N33B	Osteoradionecrosis	1
N3746	Osteoporotic kyphosis	1
N3300	Osteoporosis unspecified	1
N330C	Osteoporosis localized spine	1
N330A	Osteoporosis in endocr disord	1

Read code	Description	Number of studies
N330z	Osteoporosis NOS	1
N330	Osteoporosis	1
N330D	Osteoporos due corticosteroid	1
N3309	Osteopor,multiple myelomatosis	1
N3319	Osteopor path # thor vertebrae	1
N3318	Osteopor path # lumb vertebrae	1
N331A	Osteopor path # cerv vertebrae	1
N3313	Osteopor of disuse + path frct	1
N09B	Osteophyte	1
N307	Osteopathy from poliomyelitis	1
ASDFGOS1	Osteopaenia	1
N334B	Osteonecrosis in caisson dis	1
N3349	Osteonecrosis due to drugs	1
N334A	Osteonecr due to prev trauma	1
N334C	Osteonecr due haemoglobinopath	1
N30	Osteomyelitis/periostitis	1
N302a	Osteomyelitis of vertebra	1
N302	Osteomyelitis NOS	1
N33zH	Osteolytic lesion	1
N33zD	Osteolysis	1
N32z3	Osteochondrosis NOS	1
N32z	Osteochondropathy NOS	1
N32zz	Osteochondropathy NOS	1
N32	Osteochondropathies	1
N32z2	Osteochondritis of knee	1
N3270	Osteochondritis dissec-patella	1
N327y	Osteochondr dissec-other site	1
N3274	Osteochondr dissec-capitellum	1
N327	Osteochond dissecans	1
OX7130E	Osteoarthritis Shoulder /ox	1
OX7130B	Osteoarthritis Knee(S) /ox	1
OX7131A	Osteoarthritis Cervical Spine /ox	1
N11z	Osteoarthritis spine	1
N11D1	Osteoarthritis of thoracic spine	1
N11D3	Osteoarthritis of spine NOS	1
N11-2	Osteoarthritis of spine	1
N11D	Osteoarthritis of spine	1
N11D2	Osteoarthritis of lumbar spine	1
N11D0	Osteoarthritis of cervical spine	1
N110-2	Osteoarthritis cervical spine	1
N05z0	Osteoarthritis NOS-site unspec	1
N05z000	Osteoarthritis NOS-site unspec	1
N05z7	Osteoarthritis NOS-ankle/foot	1
N05zM	Osteoarthritis NOS, of tibio-fibular joint	1
N05zQ	Osteoarthritis NOS, of talonavicular joint	1
N05zK	Osteoarthritis NOS, of sacro-iliac joint	1
N05zR	Osteoarthritis NOS, of other tarsal joint	1
N05zF	Osteoarthritis NOS, of metacarpophalangeal joint	1
N05zT	Osteoarthritis NOS, of lesser metatarsophalangeal joint	1
N05zU	Osteoarthritis NOS, of interphalangeal joint of toe	1
N05zD	Osteoarthritis NOS, of distal radio-ulnar joint	1
N05zE	Osteoarthritis NOS of wrist	1

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Read code	Description	Number of studies
N05z4	Osteoarthritis NOS of the hand	1
N05z9	Osteoarthritis NOS of shoulder	1
N05zL	Osteoarthritis NOS of knee	1
N05zJ	Osteoarthritis NOS of hip	1
N05zC	Osteoarthritis NOS of elbow	1
N05zN	Osteoarthritis NOS of ankle	1
N05zz00	Osteoarthritis NOS	1
N05zz	Osteoarthritis NOS	1
N05z1	Osteoarthritis -shoulder joint	1
N05z800	Osteoarthritis - other joint	1
N05z8	Osteoarthritis - other joint	1
N05z6-99	Osteoarthritis - knee joint	1
N05..11	Osteoarthritis	1
N094K	Osteoarthritis	1
N05	Osteoarthritis	1
N310	Osteitis deformans-Paget's dis	1
N311	Osteitis deformans+disease EC	1
N3350	Osteitis condensans ilii	1
N335	Osteitis condensans	1
N31	Osteit.deform./osteop.+dis.EC	1
N3110	Osteit deformans,neoplast dis	1
N3y03	Osseous stenosis of neural canal	1
N3y06	Oss/sublux sten intervert foram	1
S900z	Opn wound shoulder+up limb,NOS	1
SA10	Opn wnd kneelg+ank-no cmplctn	1
S46A6	Opn trmtc sublux,head fibula	1
S413z	Opn trmtc sublux shoulder NOS	1
S468	Opn trmtc sublux pat-fem jt	1
S46A0	Opn trmtc sublux knee jt,unsp	1
S46A2	Opn trmtc sublux knee jt,post	1
S46A4	Opn trmtc sublux knee jt,ltrl	1
S46A1	Opn trmtc sublux knee jt,ant	1
S46A	Opn trmtc sublux knee jt	1
S4112	Opn trmtc dscltn shldr jt,post	1
S411z	Opn trmtc disloctn shouldr NOS	1
S4110	Opn trmtc disloctn shoulder jnt	1
S49F4	Opn trm sublux,st-clav jt,post	1
S49F3	Opn trm sublux,st-clav jt,ant	1
S49F2	Opn trm sublux st-clav jt	1
S4681	Opn trm sublux pat-fem jt,med	1
S4680	Opn trm sublux pat-fem jt,ltrl	1
S49F5	Opn trm sublux laryngl cartlge	1
S46A5	Opn trm sublux knee jt,rotatry	1
S46A3	Opn trm sublux knee jt,medial	1
S4131	Opn trm sublux acromio-clav jt	1
S4666	Opn trm dscltn, head fibula	1
S464	Opn trm dscltn patello-fem jt	1
S4641	Opn trm dscltn pat-fem jt,med	1
S4640	Opn trm dscltn pat-fem jt lat	1
S4660	Opn trm dscltn knee, unsp	1
S4664	Opn trm dscltn knee jt,lateral	1
S4662	Opn trm dscltn knee jt, post	1
S4663	Opn trm dscltn knee jt, medial	1

Read code	Description	Number of studies
S4661	Opn trm dslctn knee jt, ant	1
S4665	Opn trm dslct knee jt,rotatory	1
S4973	Opn trm dslc, stern-clav jt,ant	1
S4972	Opn trm dslc sterno-clav jt	1
S4974	Opn trm dsl, stern-clav jt,post	1
S4114	Opn trm disc acromio-clav jt	1
S413	Opn traumtc subluxatn shoulder	1
S4130	Opn traumtc sublux shouldr jnt	1
S411	Opn traumtc disloctn shoulder	1
S4115	Opn traumatic disloctn scapula	1
S49B	Opn sublux thrcic+lmbr vertbra	1
S49B1	Opn sublux thoracic spine	1
S499x	Opn sublux mlti cerv vertebrae	1
S499z	Opn sublux cerv vertebra NOS	1
S4991	Opn sublux atlanto-occipitl jt	1
S493C	Opn spnl dslc+cauda equina lsn	1
S4934	Opn spnl dslc+ant thrc crd lsn	1
S4939	Opn spnl dslc+ant lmbr crd lsn	1
S491B	Opn spnl dslc+ant cerv crd lsn	1
S493B	Opn spnl dsl+post lmbr crd lsn	1
S491D	Opn spnl dsl+post cerv crd lsn	1
S4933	Opn spnl dsl+comp thrc crd lsn	1
S4938	Opn spnl dsl+comp lmbr crd lsn	1
S4919	Opn spnl dsl+cerv crd lsn,unsp	1
S4932	Opn spn dslc+thrc crd lsn,unsp	1
S4936	Opn spn dslc+post thrc crd lsn	1
S491C	Opn spn dslc+ctrl cerv crd lsn	1
S491A	Opn spn dslc+comp cerv crd lsn	1
S4935	Opn spn dslc+cent thrc crd lsn	1
S493A	Opn spn dslc+cent lmbr crd lsn	1
S1150	Opn spn # + unsp lumb crd lesn	1
S1154	Opn spn # + post lumb crd lesn	1
S1151	Opn spn # + comp lumb crd lesn	1
S1153	Opn spn # + cent lumb crd lesn	1
S1155	Opn spn # + cauda equina lesn	1
S1152	Opn spn # + ant lumbr crd lesn	1
S5P1z	Opn dvsn,thyroid regn lgmt NOS	1
S5P1	Opn dvsn,thyroid region lgmt	1
S5P12	Opn dvsn,thyroid cartilage lgmt	1
S5P30	Opn dvsn, sternoclavicular lgmt	1
S5N	Opn dvsn,lgmt other part back	1
S5P11	Opn dvsn,cricothyroid ligament	1
S5P10	Opn dvsn,cricoaarytenoid lgmt	1
S5K1	Opn dvsn mdl collat lgmt knee	1
S5K0	Opn dvsn lat collat lgmt knee	1
S5F1	Opn dvsn coracoclavicular lgmt	1
S5F0	Opn dvsn acromioclavic lgmt	1
S5K2	Opn dvs post cruciate lgm knee	1
S5K3	Opn dvs ant cruciate lgmt knee	1
S4931	Opn dslc thoracic spine	1
S4975	Opn dslc laryngl cartilage	1
S1034	Opn # thorc vert-trnsvrse prcs	1
S1032	Opn # thorc vert-spondylolysis	1

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Read code	Description	Number of studies
S1033	Opn # thorc vert-spinous prcs	1
S1036	Opn # thor vert-tricolumnar	1
S1035	Opn # thor vert-posterior arch	1
S1055	Opn # lumb vert,posterior arch	1
S1054	Opn # lumb vert, trnsvrse prcs	1
S1056	Opn # lumb vert, tricolumnar	1
S1052	Opn # lumb vert, spondylolysis	1
S1053	Opn # lumb vert, spinous prcs	1
S101L	Opn # cerv vert, trnsvrse prcs	1
S101N	Opn # cerv vert, tricolumnar	1
S101J	Opn # cerv vert, spondylolysis	1
S101K	Opn # cerv vert, spinous prcs	1
S101M	Opn # cerv vert, post arch	1
S101D	Opn # axis, trnsvrse process	1
S1018	Opn # atlas-isol arch/art prcs	1
S89z	Open wounds NOS	1
S90	Open wound shoulder/upper limb	1
S9020	Open wound shoulder+tendon inv	1
S9010	Open wound shoulder+complicat.	1
S9021	Open wound scapular+tendon inv	1
S900	Open wound of shoulder/upper limb without complication	1
S9000	Open wound of shoulder region	1
S87	Open wound of sacroiliac reg.	1
S84	Open wound of neck	1
SA100	Open wound of knee	1
S86	Open wound of back	1
SA110	Open wound knee+complication	1
S8z	Open wound head/neck/trunk NOS	1
S8	Open wound head/neck/trunk	1
S113z	Open thoracic #+cord lesn.NOS	1
S113	Open thoracic #+cord lesion	1
S49Dz	Open subluxation of spine NOS	1
S49B0	Open subluxation lumbar spine	1
S4998	Open subluxation C7/T1	1
S4997	Open subluxation C6/C7	1
S4996	Open subluxation C5/C6	1
S4995	Open subluxation C4/C5	1
S4994	Open subluxation C3/C4	1
S4993	Open subluxation C2/C3	1
S49D0	Open sublux spine, unspecified	1
S49D	Open sublux other vertebra	1
S4990	Open sublux cerv spine, unsp	1
S499	Open sublux cerv spine	1
S4992	Open sublux atlanto-axial jt	1
S49y	Open multiple/ill-def.disloc.	1
S2921	Open mult fract clav scap hum	1
S115	Open lumbar # + cord lesion	1
S2115	Open fracture scapula, spine	1
S2116	Open fracture scapula, neck	1
S2113	Open fracture scapula, glenoid	1
S2114	Open fracture scapula, blade	1
S321	Open fracture of the patella	1

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Read code	Description	Number of studies
S105	Open fracture lumbar vertebra	1
S1260	Open fracture larynx	1
S2012	Open fracture clavicle, shaft	1
S101	Open fracture cervical spine	1
S1012	Open fracture axis	1
S1011	Open fracture atlas	1
S5N0	Open divsn, neck ligament	1
S5Fz	Open divsn shoulder lgmt NOS	1
S4911	Open dslc atlanto-occipital jt	1
S4912	Open dslc atlanto-axial jt	1
S5Nz	Open divsn, back ligament NOS	1
S5N1	Open division, thoracic lgmt	1
S5P	Open division, other ligament	1
S5Pz	Open division, other lig NOS	1
S5N2	Open division, lumbar ligament	1
S5F	Open division shoulder lgmt	1
S5Ky	Open division other knee lgmt	1
S5M5	Open division lumbosacral lgmt	1
S5K	Open division ligament knee	1
S5Kz	Open division knee lgmt NOS	1
S5M4	Open division iliolumbar lgmt	1
S4950	Open dislocation spine unspec.	1
S495z	Open dislocation spine NOS	1
S491	Open dislocation of neck	1
S4930	Open dislocation lumbar spine	1
S466z	Open dislocation knee NOS	1
S497z	Open dislocation NOS	1
S4918	Open dislocation C7/T1	1
S4917	Open dislocation C6/C7	1
S4916	Open dislocation C5/C6	1
S4915	Open dislocation C4/C5	1
S4914	Open dislocation C3/C4	1
S4913	Open dislocation C2/C3	1
S493	Open disloc.thoracic/lumbar	1
S493z	Open disloc.thorac./lumbar NOS	1
S495	Open disloc.other vertebra	1
S491x	Open disloc.mult.cerv.vertebra	1
S491z	Open disloc.cervical vert.NOS	1
S4910	Open disloc.cerv.spine unspec.	1
S111z	Open cervical#+cord lesion NOS	1
S111	Open cervical#+cord lesion	1
S1263	Open #trachea	1
S1262	Open #thyroid cartilage	1
S11y	Open #spine+cord lesion unsp.	1
S2110	Open #scapula-unspecified	1
S211z	Open #scapula NOS	1
S126z	Open #larynx/trachea NOS	1
S1261	Open #hyoid bone	1
S2010	Open #clavicle unspecified	1
S201z	Open #clavicle NOS	1
S3z1	Open #bones unspecified	1
S4F7	Open #-sublux,patello-fem jt	1
S4J33	Open #-sublux st-clav jt,post	1



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Read code	Description	Number of studies
S4J32	Open #-sublux st-clav jt,ant	1
S4A30	Open #-sublux shoulder joint	1
S4A3	Open #-sublux shoulder	1
S4F3	Open #-sublux knee joint	1
S4A31	Open #-sublux acrom-clav joint	1
S4F5	Open #-dslc,patello-fem jt	1
S4F1	Open #-dslc, knee joint	1
S4J13	Open #-dslc st-clav jt,post	1
S4J12	Open #-dslc st-clav jt,ant	1
S4A10	Open #-dslc shoulder joint	1
S4A1	Open #-dslc shoulder	1
S4A11	Open #-dslc acrom-clav joint	1
S1010	Open # unsp cerv vertebra	1
S103	Open # thoracic vertebra	1
S1031	Open # thorac vert, wedge	1
S1030	Open # thorac vert, burst	1
S1013	Open # third cerv vertebra	1
S10y	Open # spine, unspecif	1
S1016	Open # sixth cerv vertebra	1
S1017	Open # seventh cerv vert	1
S2112	Open # scapula, coracoid	1
S2111	Open # scapula, acromion	1
S211	Open # scapula	1
S3213	Open # patella, vertical	1
S3210	Open # patella, transverse	1
S3214	Open # patella, stellate	1
S3211	Open # patella, proximal pole	1
S3212	Open # patella, distal pole	1
S1051	Open # lumbar vert, wedge	1
S1050	Open # lumbar vert, burst	1
S126	Open # larynx and trachea	1
S1014	Open # fourth cerv vertebra	1
S1015	Open # fifth cerv vertebra	1
S2011	Open # clavicle, medial end	1
S2013	Open # clavicle, lateral end	1
S201	Open # clavicle	1
S101H	Open # cerv vert, wedge	1
S101G	Open # cerv vert, burst	1
S101z	Open # cerv spine NOS	1
S101F	Open # axis, tricolumnar	1
S101B	Open # axis, spondylolysis	1
S101C	Open # axis, spinous procss	1
S101E	Open # axis, posterior arch	1
S101A	Open # axis, odontoid prcss	1
S1019	Open # atlas, comminuted	1
S4113	Op tr ds shd jt,inf(infr-glen)	1
S4111	Op tr dis shld jt,ant(sub-cor)	1
S49Bz	Op sublx thrc+lmbr vertbra NOS	1
S49B2	Op spn sublx+thrc crd lsn,unsp	1
S49B6	Op spn sublx+post thrc crd lsn	1
S49BB	Op spn sublx+post lmbr crd lsn	1
S49B7	Op spn sublx+lmbr crd lsn,unsp	1
S49B3	Op spn sublx+comp thrc crd lsn	1

Read code	Description	Number of studies
S49B8	Op spn sublx+comp lmb crd lsn	1
S499A	Op spn sublx+comp cerv crd lsn	1
S499C	Op spn sublx+cntrl crv crd lsn	1
S4999	Op spn sublx+cerv crd lsn,unsp	1
S49B5	Op spn sublx+cent thrc crd lsn	1
S49BA	Op spn sublx+cent lmb crd lsn	1
S49BC	Op spn sublx+cauda equina lsn	1
S49B4	Op spn sublx+ant thrc crd lsn	1
S499D	Op spn subluc+post crv crd lsn	1
S49B9	Op spn subluc+ant lmb crd lsn	1
S499B	Op spn subluc+ant cerv crd lsn	1
S4937	Op spn dsl+lmb crd lsn unsp	1
S1134	Op spn #+pst thor crd lsn,T1-6	1
S1133	Op spn #+cnt thor crd lsn,T1-6	1
S1132	Op spn #+ant thor crd lsn,T1-6	1
S115z	Op spn # incmp lmb crd lsn NOS	1
S1130	Op sp #+unsp thor crd lsn,T1-6	1
S1136	Op sp #+unsp thor cd lsn,T7-12	1
S113A	Op sp #+pst thor crd lsn,T7-12	1
S1139	Op sp #+cnt thor crd lsn,T7-12	1
S1131	Op sp #+cmpl thor crd lsn,T1-6	1
S1137	Op sp #+cmp thor crd lsn,T7-12	1
S1138	Op sp #+ant thor crd lsn,T7-12	1
S1501	Op multi fractur of thor spine	1
SR161	Op fract/th wth lw bck+plv+lmb	1
SR101	Op fract invol head with neck	1
S113B	Op # T7-12incomp cord lsn NOS	1
S1135	Op # T1-6 incomp cord lsn NOS	1
S1116	Op # C5-7 unspc cord lesion	1
S111A	Op # C5-7 posterior cord lesn	1
S111B	Op # C5-7 incomp cord les NOS	1
S1117	Op # C5-7 compl cord lesion	1
S1119	Op # C5-7 central cord les	1
S1118	Op # C5-7 anterior cord les	1
S1110	Op # C1-C4 unspc cord les	1
S1114	Op # C1-4 post cord lesion	1
S1115	Op # C1-4 cord les. NOS	1
S1111	Op # C1-4 compl cord lesion	1
S1113	Op # C1-4 cent cord lesion	1
S1112	Op # C1-4 ant cord lesion	1
N1120	One lev th spondyl-no myelop	1
N11B0	One lev th spondyl + radiculop	1
N1130	One lev th spondyl + myelop	1
N1140	One lev lumbsac spond-no myelo	1
N1150	One lev lumbsac spond + myelop	1
N1100	One lev Cx spondyl-no myelop	1
N1190	One lev Cx spondyl + radiculop	1
N1110	One lev Cx spondyl + myelop	1
N0542	Oligoarticular osteoarthritis, unspecified, of upper arm	1
N0545	Oligoarticular osteoarthritis, unspecified, of the pelvic region and thigh	1
N0546	Oligoarticular osteoarthritis, unspecified, of lower leg	1

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Read code	Description	Number of studies
N0544	Oligoarticular osteoarthritis, unspecified, of hand	1
N0543	Oligoarticular osteoarthritis, unspecified, of forearm	1
N0547	Oligoarticular osteoarthritis, unspecified, of ankle and foot	1
N054	Oligoarticular OA unspecified	1
N0541	Oligoartic OA, unspec-shoulder	1
N0549	Oligoartic OA, unspec-multiple	1
N0540	Oligoartic OA, unsp-unsp sites	1
N0548	Oligoartic OA unspec-oth site	1
N2133	Olecranon bursitis	1
N0720	Old torn meniscus of knee	1
N070B	Old tear post horn med menis	1
N070A	Old tear of medial meniscus	1
N071C	Old tear of lateral meniscus	1
N07y9	Old post/lat caps complex tear	1
N07y3	Old post.cruciate lig.disrupt.	1
N07yF	Old part tear post cruciat lig	1
N07yA	Old part tear med collat lig	1
N07y7	Old part tear lat collat lig	1
N07yD	Old part tear ant cruciate lig	1
N07y1	Old med.collat.lig.disruption	1
N07yC	Old med capsular complex tear	1
N07y0	Old lat.collat.lig.disruption	1
N07yB	Old compl tear med collat lig	1
N07y8	Old compl tear lat collat lig	1
N07yG	Old comp tear post cruciat lig	1
N07yE	Old comp tear ant cruciate lig	1
N07y4	Old capsular knee lig.disrupt.	1
N0701	Old bucket handle tear-medial	1
N0711	Old bucket handle tear-lat men	1
N07y2	Old ant.cruciate lig.disrupt.	1
N067	Ochronotic arthropathy	1
N054z	OA,1 site +,unspecified NOS	1
N05zP	OA NOS-subtalar joint	1
N05zA	OA NOS-sternoclavicular joint	1
N05zB	OA NOS-acromioclavicular join	1
N05zG	OA NOS-PIP joint of finger	1
N05zH	OA NOS-DIP joint of finger	1
N05zS	OA NOS-1st MTP joint	1
N3381	Nonunion of fracture	1
N226	Nontraumatic tendon subluxatn	1
N23y2	Nontraumatic muscle rupture	1
N2260	Nontraum.unspec.tendon rupture	1
N392	Nonallopathic lesion-thoracic	1
N393	Nonallopathic lesion-lumbar	1
N391	Nonallopathic lesion-cervical	1
N082Z	Non-trau subl acromiocl joint	1
N044	Nodular fibrositis-chr. rheum.	1
N2372	Nodular fasciitis	1
16A1	No stiff neck	1
16C1	No backache	1
1229	No FH: Osteoporosis	1
N2471	Night cramps	1

Read code	Description	Number of studies
N11y2	Neuropathic spondylopathy	1
N2423	Neuropathic pain	1
N374B	Neuromuscular scoliosis	1
N3749	Neuromuscular lordosis	1
N3745	Neuromuscular kyphosis	1
N14A	Neurogenic claudication	1
N2421	Neuritis unspecified	1
N2420	Neuralgia unspecified	1
N242z	Neuralg./neurit./radiculit.NOS	1
N242	Neuralg./neurit./radicul.unsp.	1
SJ	Nerve/spinal cord injuries	1
EMISNQNE5	Nerve root pain present	1
SJz	Nerve and spinal cord injury NOS	1
S5700	Neck sprain unspecified	1
S570z	Neck sprain NOS	1
S570	Neck sprain	1
N12D	Narrowing disc space	1
N2332	Myositis in sarcoidosis	1
N2321	Myofibrosis	1
N241-97	Myalgia/myositis - shoulder	1
EGTON307	Myalgia	1
EMISNQMU15	Musculoskeletal symptom	1
EMISNQMU5	Musculoskeletal pain severe	1
EMISNQMU2	Musculoskeletal pain present	1
EMISNQMU4	Musculoskeletal pain moderate	1
N096-2	Musculoskeletal pain - joints	1
MAWBYMU1	Musculoskeletal Symptoms	1
N3	Musculosk.inflam/deform.+other	1
N232z	Muscle wasting/atrophy NEC NOS	1
N232	Muscle wasting and disuse atrophy NEC	1
N2322	Muscle wasting NEC	1
UNMAPM4AB	Muscle strain	1
N23yD	Muscle strain	1
N2410-2	Muscle pain	1
N231	Muscle ossification	1
S5yz1	Muscle injury / strain	1
N238	Muscle contracture	1
N231z	Muscle calcif./ossificat.NOS	1
N230D	Muscle abscess-shoulder	1
N230B	Muscle abscess-neck	1
N230C	Muscle abscess-back	1
N230A	Muscle abscess	1
ASDFGMU2	Muscle Symptoms	1
EGTON110	Muscle Injury	1
M4A8	Muscle Injury	1
N2310	Musc.calcif./ossif.unspecified	1
N0719	Multiple tears-lat meniscus	1
N0708	Multiple tears of medial meniscus	1
S101x	Multiple open # cerv vert	1
SR1z	Multiple fractures unspecified	1
S100x	Multiple clsd # cerv vert	1
N099A	Multiple clicking joints	1
S3y	Multiple #legs/arms/ribs/stern	1

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Read code	Description	Number of studies
S10A2	Multip fracture/cervical spin	1
N11C2	Multi lev lumbsac spond+radicu	1
S150	Multi fractures/thoracic spine	1
S3y1	Mult.open #legs/arms/ribs	1
S3y0	Mult.closed #legs/arms/ribs	1
N1122	Mult lev th spondyl-no myelop	1
N11B2	Mult lev th spondyl+radiculop	1
N1132	Mult lev th spondyl + myelop	1
N1142	Mult lev lumbsac spond-no myel	1
N1152	Mult lev lumbsac spond + myelo	1
N1102	Mult lev Cx spondyl-no myelop	1
N1192	Mult lev Cx spondyl+radiculop	1
N1112	Mult lev Cx spondyl + myelop	1
S10B6	Mult fractur/lumbar spine+pelv	1
S292	Mult fract/clav,scapula+humrus	1
1D17	Morning stiffness - joint	1
N3323	Monostotic fibrous dysplasia	1
N0433	Monarticular juvenile R.A.	1
EMISNQMI188	Mixed connective tissue disease	1
OX6954MC	Mixed Connective Tissue Disease /ox	1
N2224	Miners' knee	1
N2172	Metatarsalgia NOS	1
N063.11	Menopausal arthritis	1
N063	Menopausal arthritis	1
N072	Meniscus derangement NEC	1
N070	Medial meniscus derangement	1
N070z	Medial meniscus derange.NOS	1
N0703	Medial menisc.post.horn derang	1
N0700	Medial menisc.derang.unspecif	1
N0702	Medial menisc.ant.horn derang.	1
N2131	Medial epicondylitis - elbow	1
16CA	Mechanical low back pain	1
N3380	Malunion of fracture	1
N338	Malunion and nonunion of fracture	1
N11C	Lumbosacral spondylosis with radiculopathy	1
N115	Lumbosacral spond.+ myelopathy	1
SJ35	Lumbosacral plexus injury	1
N1441	Lumbosacral neuritis unspecif.	1
N1463	Lumbosacral instability	1
N1460	Lumbosacral ankylosis	1
N114-2	Lumbar spondylosis	1
N148C	Lumbar spine instability	1
N1486	Lumbar spine ankylosis	1
N1402	Lumbar spinal stenosis	1
N12A3	Lumbar postlaminectomy syndr.	1
SJ321	Lumbar nerve root injury - L2	1
N12zC	Lumbar discitis	1
N122	Lumbar disc displacement	1
N1293	Lumbar disc disord.+myelopathy	1
N127	Lumbar disc degeneration	1
S572	Lumbar back sprain	1
N1420	Lumbago with sciatica	1
N142-4	Lumbago	1

Read code	Description	Number of studies
N140A	Lu spin stenosis due to oth dis	1
N12C2	Lu disc prolapse+radiculopathy	1
N12B2	Lu disc prolapse + myelopathy	1
N12C3	Lu disc prol+caud eq compress	1
N142-1	Low back pain	1
EGTON264	Low Back Pain	1
N374W	Lordosis unspecified	1
N3747	Lordosis in skeletal dysplasia	1
N3748	Lordosis in hip disease	1
N3742	Lordosis + other condition	1
N0818	Loose joint body-multip joints	1
N081z	Loose joint body (ex.knee)NOS	1
N081A	Loose body, oth joint-shoulder	1
N0811	Loose body joint-shoulder	1
N0819	Loose body in shoulder joint	1
N073	Loose body in knee	1
N081	Loose body in joint-excl.knee	1
N0817	Loose body in joint, joint OS	1
N0810	Loose body in joint	1
N07yH	Locking knee	1
N07y5	Locked knee	1
N0522	Localised, secondary osteoarthritis of the upper arm	1
N0525	Localised, secondary osteoarthritis of the pelvic region and thigh	1
N0526	Localised, secondary osteoarthritis of the lower leg	1
N0524	Localised, secondary osteoarthritis of the hand	1
N0523	Localised, secondary osteoarthritis of the forearm	1
N0527	Localised, secondary osteoarthritis of the ankle and foot	1
N051E	Localised, primary osteoarthritis of toe	1
N0512	Localised, primary osteoarthritis of the upper arm	1
N0515	Localised, primary osteoarthritis of the pelvic region and thigh	1
N0513	Localised, primary osteoarthritis of the forearm	1
N0517	Localised, primary osteoarthritis of the ankle and foot	1
N051F	Localised, primary osteoarthritis of elbow	1
N052z	Localised secondary OA NOS	1
N051z	Localised primary OA NOS	1
N0532	Localised osteoarthritis, unspecified, of the upper arm	1
N0537	Localised osteoarthritis, unspecified, of the ankle and foot	1
N053z	Localised OA unspecified NOS	1
N053	Localised OA unspecified	1
N052	Local.secondary osteoarthritis	1
N0520	Local.secondary OA-site unsp.	1
N0521	Local.secondary OA-shoulder	1
N0528	Local.secondary OA-other spec.	1
N051	Local.primary osteoarthritis	1
N0510	Local.primary OA-site unsp.	1
N0511	Local.primary OA-shoulder regn	1
N0518	Local.primary OA-other specif	1
N0516	Local.primary OA-lower leg	1
N0514	Local.primary OA-hand	1

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Read code	Description	Number of studies
N0530	Local.OA unsp.-site unspecif.	1
N0531	Local.OA unsp.-shoulder region	1
N0538	Local.OA unsp.-other specified	1
N0534	Local.OA unsp.-hand	1
N0533	Local.OA unsp.-forearm	1
N051D	Local prim osteoarth wrist	1
N3308	Local osteoporosis - Lequesne	1
S5z	Ligament sprain NOS	1
N0001	Libman-Sacks disease	1
N245-6	Leg pain	1
N234	Laxity of ligament	1
SJ43	Latrl cutaneous branch T12 inj	1
N071	Lateral meniscus derangement	1
N0714	Lateral meniscus derangem.NOS	1
N0713	Lateral menisc.post.horn deran	1
N0710	Lateral menisc.derang.unspecif	1
N0712	Lateral menisc.ant.horn derang	1
N2132	Lateral epicondylitis of the elbow	1
MHTBALA9	Lateral Patella Release	1
SC08	Late effect-tendon injury	1
SC05	Late effect-mult./other #bones	1
SC06	Late effect-dislocation	1
SC01	Late effect-#spine-no cord les	1
SC011	Late effect # thoracic vert	1
SC012	Late effect # lumbar vertebra	1
SC010	Late effect # cervic vertebra	1
EGTON119	Laceration Nos	1
N3744	Kyphosis in skeletal dysplasia	1
N3713	Kyphosis due to oth treatment	1
N3741	Kyphosis + other condition	1
N373z	Kyphoscoliosis or scoliosis NOS	1
N373	Kyphoscoliosis and scoliosis	1
N3241	Kohler's dis.(prim.patell.ctr)	1
N0956	Knee stiff	1
S54y	Knee sprain NOS	1
S54	Knee sprain	1
N0106	Knee pyogenic arthritis	1
N0826	Knee pathological dislocation	1
1M10	Knee pain	1
N05z6	Knee osteoarthritis NOS	1
N05z6-1	Knee osteoarthritis NOS	1
N0946-1	Knee joint pain	1
N0946	Knee joint pain	1
N0846	Knee joint contracture	1
N0856	Knee joint ankylosis	1
N0966	Knee gives way	1
N216z	Knee enthesopathy NOS	1
N06z6-1	Knee arthritis NOS	1
N06z6	Knee arthritis NOS	1
ASDFGKN2	Knee Pain?	1
ASDFGKN6	Knee Pain Does Not Affect Sleep	1
ASDFGKN4	Knee Pain Affects Sleep?	1
ASDFGKN5	Knee Pain Affects Sleep	1

Read code	Description	Number of studies
ASDFGKN3	Knee Pain	1
MUNNUKN1	Knee Pain	1
MAWBYKN1	Knee Pain	1
N0836	Knee - recurrent dislocation	1
N13y1	Klippel's disease	1
N116	Kissing spine	1
N002	Keratoconjunctivitis sicca	1
N0600	Kaschin-Beck dis.-site unspec.	1
N0601	Kaschin-Beck dis.-shoulder	1
N0608	Kaschin-Beck dis.-other specif	1
N0609	Kaschin-Beck dis.-multipl.site	1
N060z	Kaschin-Beck dis.-NOS	1
N060	Kaschin - Beck disease	1
N320z	Juvenile spine osteochondr.NOS	1
N3200	Juvenile spine osteochond.unsp	1
N0455	Juvenile rheumatoid arthritis	1
N0430	Juvenile rheumatoid arthr.unsp	1
N043z	Juvenile rheumatoid arthr.NOS	1
N3263	Juvenile osteochondrosis NOS	1
N326z	Juvenile osteochondroses NOS	1
N3262	Juvenile osteochondritis NOS	1
N3261	Juvenile epiphysitis NOS	1
N0030	Juvenile dermatomyositis	1
N3260	Juvenile apophysitis NOS	1
N043	Juvenile R.A.- Still's disease	1
OX7120DA	Juvenile Arthritis /ox	1
N3243	Juv.osteoch.secondary.pat.ctre	1
N0451	Juv seronegative polyarthritis	1
N328	Juv osteochondrosis of spine	1
N0452	Juv arthritis in psoriasis	1
N0453	Juv arthritis in Crohn's dis	1
N0454	Juv arth in ulcerative colitis	1
N0900	Joint effusion-site unspecif.	1
N0901	Joint effusion-shoulder region	1
N0908	Joint effusion-other specif.	1
N09z1	Joint disord.NOS-shoulder	1
N08z	Joint derangement NOS	1
N08zz	Joint derangement NOS	1
N08z0	Joint derange.NOS-site unspec.	1
N08z1	Joint derange.NOS-shoulder	1
N08z7	Joint derange.NOS-other spec.	1
N08z8	Joint derange.NOS-multipl.site	1
N05z.11	Joint degeneration	1
N05z	Joint degeneration	1
N0840	Joint contracture-site unspec	1
N0841	Joint contracture-shoulder	1
N0848	Joint contracture-other specif	1
N0850	Joint ankylosis-site unspecif.	1
N0851	Joint ankylosis-shoulder	1
N0858	Joint ankylosis-other specif.	1
ASDFGJO2	Joint Symptoms	1
ASDFGJO3	Joint Pain	1
N3841	Isthmic spondylolisthesis	1



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Read code	Description	Number of studies
S531	Ischiocapsular sprain	1
N23yB	Ischaemic infarction of muscle	1
N123-1	Intervertebral disc prol. NOS	1
N12z	Intervertebral disc lesion NOS	1
OX7259AP	Intervertebral Disc Prolapsed /ox	1
N3y05	Intervert disc sten neur canal	1
N23y0	Interstitial myositis	1
N07z	Internal knee derangement NOS	1
N07	Internal derangement of knee	1
N1350	Intermittent torticollis	1
N090W	Intermittent hydrarthrosis	1
N084E	Int rotat contracture-shoulder	1
N08y	Instability of joint	1
SJ7z	Injury to other nerve NOS	1
SKz	Injury NOS	1
OX9967C	Injury Knee /ox	1
SJ9	Injur/nerv+spinal crd/thorx lev	1
SJB	Inj/nerves/should+upp arm lev	1
S46C	Inj/multipl structures of knee	1
S5Q6	Inj tendon rotator cuff should	1
N2166	Infrapatellar bursitis	1
N10	Inflammatory spondylopathies	1
N04	Inflammatory polyarthropathy	1
N04*	Inflammatory arthropathy	1
N10y0	Inflamm.spondylop.in dis. EC	1
N04z	Inflamm.polyarthropathy NOS	1
S4103	Inferior dislocation shoulder	1
N2302	Infective myositis-shoulder	1
N2300	Infective myositis-neck	1
N2301	Infective myositis-back	1
N01z	Infective arthritis NOS	1
N01zz	Infective arthritis NOS	1
N302B	Infection of thoracic spine	1
N302G	Infection of scapula	1
N302R	Infection of patella	1
N302Z	Infection of multiple bones	1
N302C	Infection of lumbar spine	1
N302F	Infection of clavicle	1
N302A	Infection of cervical spine	1
N01z0	Infect.arthr.NOS-site unspecif	1
N01z1	Infect.arthr.NOS-shoulder reg	1
N01zy	Infect.arthr.NOS-other specifi	1
N01zx	Infect.arthr.NOS-multiple site	1
N12zG	Infect intervert disc - pyogen	1
N01z8	Infec arthritis NOS-shoulder	1
N01zK	Infec arthritis NOS-knee	1
N01z9	Infec arthr NOS-sternoclav jt	1
N01zA	Infec arth NOS-acromioclav jt	1
N23y5	Inappropriate firing of muscle	1
N2124	Impingement syndr of shoulder	1
N2331	Immobility syndrome	1
N2159	Iliotibial band syndrome	1
N1403	Idiopathic th spinal stenosis	1

Read code	Description	Number of studies
N3730	Idiopathic scoliosis	1
N3303	Idiopathic osteoporosis	1
N1407	Idiopathic lu spinal stenosis	1
N3731	Idiopathic kyphoscoliosis	1
N33z7	Idiopathic hypertrophy of bone	1
N1300	Idiopathic Cx spinal stenosis	1
N3316	Idiopath osteopor + path fract	1
N3348	Idiopath aseptic necrosis of bone	1
N1405	iatrogenic th spinal stenosis	1
N1409	iatrogenic lu spinal stenosis	1
N1302	iatrogenic Cx spinal stenosis	1
C04*	Hypothyroidism	1
N2431	Hypertrophy of knee fat pad	1
N33z4	Hypertrophy of bone	1
N3382	Hypertrophic non-union of #	1
N312	Hypertroph.pulm.osteoarthrop.	1
N02y8	Hydroxyapatite deposition dis	1
N2225	Housemaids knee	1
N0707	Horiz cleavage tear-med menisc	1
N0718	Horiz cleavage tear-lat menisc	1
N094K-2	Hip pain	1
N05z5	Hip osteoarthritis NOS	1
N05z5-1	Hip osteoarthritis NOS	1
N0535	Hip osteoarthritis NOS	1
N0535-2	Hip osteoarthritis NOS	1
N06z5	Hip arthritis NOS	1
N0809	Hill-Sachs lesion	1
N245-5	Heel pain	1
N0507	Heberden's nodes with arthropathy	1
N245-4	Hand pain	1
N2450	Hand pain	1
N0944-1	Hand joint pain	1
N06z4-1	Hand arthritis NOS	1
N068	Haemophilic arthropathy	1
N091B	Haemarthrosis-sternoclav joint	1
N0910	Haemarthrosis-site unspecified	1
N0911	Haemarthrosis-shoulder	1
N0918	Haemarthrosis-other specified	1
N0919	Haemarthrosis-multiple joints	1
N091C	Haemarthrosis-acromioclav jt	1
N0916	Haemarthrosis of the knee	1
N091A	Haemarthrosis of shoulder	1
N091M	Haemarthrosis of knee	1
N091z	Haemarthrosis NOS	1
N091	Haemarthrosis	1
N083M	Habitual sublux shoulder	1
N083L	Habitual disloc shoulder	1
N083r	Habitual disloc - patella	1
14G8	H/O: vertebral fracture	1
14G1	H/O: rheumatoid arthritis	1
14G2	H/O: osteoarthritis	1
14GZ	H/O: musculo-skeletal dis. NOS	1
14G3	H/O: knee problem	1

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Read code	Description	Number of studies
14J	H/O: injury	1
14G4	H/O: back problem	1
14T5	H/O: artificial joint	1
14V5	H/O: arthrodesis	1
14G	H/O: arthritis	1
14N30	H/O Spinal surgery	1
16Z2	Growing pains	1
S3z00	Greenstick fracture	1
N0230	Gouty arthritis-site unspecif.	1
N0231	Gouty arthritis-shoulder	1
N023y	Gouty arthritis-other specif.	1
N023x	Gouty arthritis-multiple sites	1
N023z	Gouty arthritis NOS	1
N023	Gouty arthritis	1
N2131-1	Golfer's elbow	1
N200	Gnt cell arter+polymyalg rheum	1
EGTON444	Gluteal Muscle Injury	1
N0873	Glenoid labrum tear	1
N0872	Glenoid labrum detachment	1
N365	Genu recurvatum - acquired	1
N050z	Generalised osteoarthritis NOS	1
N050z00	Generalised osteoarthritis NOS	1
N050	Generalised osteoarthritis - OA	1
N050.0	Generalised osteoarthritis - OA	1
N065A	Generalised arthritis	1
N065A00	Generalised arthritis	1
N05000	Generalised OA-site unspecif.	1
N0500	Generalised OA-site unspecif.	1
N050200	Generalised OA-multiple sites	1
N0502	Generalised OA-multiple sites	1
N0501	Generalised OA-hand	1
N224z	Ganglion/synovial cyst NOS	1
N224	Ganglion/synov.cyst - knee	1
N224-92	Ganglion/synov.cyst - knee	1
N2243	Ganglion unspecified	1
N2245	Ganglion of wrist	1
N2242	Ganglion of tendon sheath	1
N2246	Ganglion of knee	1
N2241	Ganglion of joint	1
N224C	Ganglion of foot	1
EMISR4QFU2	Fusion Of Lumbar Spine	1
EMISR4QFU1	Fusion Of Cervical Spine	1
N2115	Full thickn rotator cuff tear	1
N210-2	Frozen shoulder	1
N331N	Fragility fracture	1
N331M	Fragility # unsp osteoporosis	1
S10B	Fracture/lumbar spine+pelvis	1
S10A1	Fracture/2nd cervical vertebra	1
S10A0	Fracture/1st cervical vertebra	1
S15	Fracture of thoracic vertebra	1
S1z	Fracture of neck and trunk NOS	1
S1	Fracture of neck and trunk	1
S10A	Fracture of neck	1

Read code	Description	Number of studies
S10B0	Fracture of lumbar vertebra	1
N338z	Fracture malunion or nonunion NOS	1
SR1	Fracture involv multi body reg	1
SR10	Fracture involv head with neck	1
S4	Fracture dislocation/subluxat	1
OX8056	Fracture Spine /ox	1
S3z	Fracture NOS	1
OXL8056LV	Fracture Lumbar Vertebra /ox	1
SR16	Fract/thorx with lw bck+plv+lmb	1
N3317	Fract of bone in neoplast dis	1
N2451	Foot pain	1
N245-3	Foot pain	1
1M11	Foot pain	1
N220B	Flexor tenosynovitis of finger	1
N3660	Flexion deformity of knee	1
N369	Flexion deformity	1
N084A	Flexion contracture-shoulder	1
N084a	Flexion contracture-knee	1
N374E	Flatback syndrome	1
N040T	Flare of rheumatoid arthritis	1
N08yA	Flail joint	1
N09C	Fistula of joint	1
N2450-2	Finger pain	1
N05z4-1	Finger osteoarthritis NOS	1
N2163	Fibular collat.lig.bursitis	1
N3324	Fibrous cortical defect	1
N2405	Fibrositis of neck	1
N00y1	Fibrosclerosis systemic	1
N087	Fibrocartilage lesion of joint	1
MHTBAFH1	Fh: Osteoporosis	1
N041	Felty's syndrome	1
N1y1	Fatigue fracture of vertebra	1
N244	Fasciitis unspecified	1
N024	Familial chondrocalcinosis	1
N14y	Facet joint syndrome	1
12I1	FH: Rheumatoid arthritis	1
1268	FH: Osteoporosis	1
12I2	FH: Osteoarthritis	1
12IZ	FH: Musculo-skeletal dis. NOS	1
12I	FH: Arthritis	1
N220D	Extensor tenosynovitis of wrist	1
N220F	Extensor tenosynovitis of thumb	1
N220E	Extensor tenosynovitis of finger	1
N084B	Extension contracture-shoulder	1
N084F	Ext rotat contracture-shoulder	1
N21z7	Exostosis	1
16C8	Exacerbation of backache	1
N0506	Erosive osteoarthrosis	1
N32z1	Epiphysitis NOS	1
N33z1	Epiphyseal arrest	1
N00y0	Eosinophilic fasciitis	1
N216	Enthesopathy of knee	1
N21z	Enthesopathy NOS	1

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Read code	Description	Number of studies
N11y1	Enterobacterial spondylitis	1
1M00-1	Elbow pain	1
1M00	Elbow pain	1
N05z2	Elbow osteoarthritis NOS	1
N06z2	Elbow arthritis NOS	1
N090B	Effusion of sternoclav joint	1
N090A	Effusion of shoulder	1
N0909	Effusion of multiple joints	1
N090M	Effusion of knee	1
N090z	Effusion of joint NOS	1
N090	Effusion of joint	1
N090C	Effusion of acromioclav joint	1
N0906	Effusion - knee joint	1
N0906-99	Effusion - knee joint	1
N3840	Dysplastic spondylolisthesis	1
N2361	Dupuyt dis-palm + nod no cont	1
N3305	Drug-induced osteoporosis	1
N0002	Drug-ind systemic lupus eryth	1
N3315	Drug-ind osteopor + path fract	1
N235	Double-jointed (hypermobility)	1
N1123	Dorsal spondylo w/o myelopath	1
N3370	Disuse atrophy of bone	1
N3304	Dissuse osteoporosis	1
N0000	Disseminated lupus erythemat.	1
N09AX	Disorder of patella unspecified	1
N33zG	Disorder of cartilage, unspec	1
N33zF	Disorder of bone unspecified	1
S46	Dislocation or subluxation of knee	1
S4z	Dislocation or subluxation NOS	1
S41z	Dislocation of shoulder NOS	1
S46z	Dislocation of knee NOS	1
S41	Dislocated shoulder	1
S463-99	Dislocated patella	1
SR20	Disloc,sprns+strns inv hd+neck	1
SR2	Dislc,sprns+strns/mult bdy reg	1
N071B	Discoid lateral meniscus	1
N123	Disc unsp.displ.-no myelopathy	1
N12B	Disc prolapse with myelopathy	1
N12C	Disc prolapse + radiculopathy	1
N12zz	Disc disorders NOS	1
N129z	Disc disorder+myelopathy NOS	1
N00	Diffuse connective tissue dis.	1
N097z	Difficulty in walking NOS	1
N097	Difficulty in walking	1
N23yA	Diastasis of muscle	1
N33z3	Diaphysitis	1
N0300	Diabetic cheiroarthropathy	1
N0301	Diabetic Charcot arthropathy	1
N003X	Dermatopolymyositis, unspec	1
N0031	Dermatopolymyositis,neoplast dis	1
N003	Dermatomyositis	1
SC0z	Delayed union of fracture	1
N3386	Delayed union of fracture	1

Read code	Description	Number of studies
S9030	Degloving injury,shoulder area	1
SA130	Degloving injury knee	1
N3842	Degenerative spondylolisthesis	1
N128	Degenerative disc disease NOS	1
N1404	Degenerativ th spinal stenosis	1
N1408	Degenerativ lu spinal stenosis	1
N1301	Degenerativ Cx spinal stenosis	1
N114	Degeneration of lumbar spine	1
N114-1	Degeneration of lumbar spine	1
N0721	Degen lesion artic cart knee	1
N36y4	Deformity of scapula	1
N36yD	Deformity of patella	1
N36y3	Deformity of clavicle	1
N36y2	Deformity of bone	1
N224D	Cyst of tendon sheath	1
N0722	Cyst of semilunar cartilage	1
N0709	Cyst of medial meniscus	1
N071A	Cyst of lateral meniscus	1
N2244	Cyst of bursa	1
N332z	Cyst of bone NOS	1
N332	Cyst of bone	1
N11A	Cx spondyl + vasc compression	1
N1303	Cx spin stenosis due to oth dis	1
N12C0	Cx disc prolapse+radiculopathy	1
N12B0	Cx disc prolapse + myelopathy	1
N3740	Curvature of spine unspecified	1
N37zz	Curvature of spine NOS	1
N37z	Curvature of spine NOS	1
N37	Curvature of spine	1
N02zK	Crystal arthropathy NOS-knee	1
N02zz	Crystal arthropathy NOS	1
N02z	Crystal arthropathy NOS	1
N02z0	Crystal arthr.NOS-site unspec.	1
N02z1	Crystal arthr.NOS-shoulder	1
N02zy	Crystal arthr.NOS-other spec.	1
N02zx	Crystal arthr.NOS-multipl.site	1
N02z9	Cryst arthr NOS-sternoclav jt	1
N02zA	Cryst arthr NOS-acromioclav jt	1
N02z8	Crys arthr NOS-shoulder	1
SF20z	Crushinjuryshlder+uparmNOS	1
SFz	Crushing injury NOS	1
SF	Crushing injury	1
SF40	Crush injury multiple sites NEC	1
SF021	Crush injury larynx	1
SF311	Crush injury knee	1
SF110	Crush injury back	1
SF4z	Crush injury	1
N13y2	Crick in neck	1
N2472	Cramp	1
N051A	Coxarthr from dysplasia, bilat	1
N3216	Coxa plana	1
182B0	Costal margin chest pain	1
N2123	Coracoid impingement	1

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Read code	Description	Number of studies
S502	Coracohumeral sprain	1
SE30z	Contusionshlder+uer arm NOS	1
SE44	Contusionlwr limbmlti sites	1
SE00	Contusion, forehead	1
SEz	Contusion with skin intact NOS	1
SE30	Contusion shoulder or upper arm	1
SE300	Contusion shoulder area	1
SE301	Contusion scapular area	1
SE231	Contusion of lower back	1
SE232	Contusion of lower back	1
SE4y	Contusion multiple sites NEC	1
SE41z	Contusion knee and lower leg NOS	1
SE411	Contusion knee	1
SE0z	Contusion face scalp+neck NOS	1
SE304	Contusion clavicular area	1
SE23z	Contusion back NOS	1
SE	Contusion (bruise) with intact skin	1
N22y0	Contracture of tendon sheath	1
N23yC	Contracture of muscle	1
N0849	Contracture of multiple joints	1
N084z	Contracture of joint NOS	1
N084	Contracture of joint	1
N	Connective tissue diseases	1
N3y04	Connect tiss sten neural canal	1
PE1	Congenital sternomastoid torticollis	1
N3y07	Con tis/disc sten intervrt for	1
N33C	Complex regionl pain syndrom I	1
S5C	Complete tear, knee ligament	1
S58z	Complete tear shoulder joint NOS	1
S58	Complete tear shoulder joint	1
N33z8	Complete epiphyseal arrest	1
N33z6	Compensatory hypertrophy-bone	1
SK0y	Compartmentsyndrome	1
S5A0D	Comp tr shrt intr lig non-sp	1
N331D	Collapsed vertebra NOS	1
N331	Collapse of vertebra NOS	1
N331F	Collapse of thoracic vertebra	1
N3310	Collapse of thoracic vertebra	1
N3311	Collapse of lumbar vertebra	1
N331G	Collapse of lumbar vertebra	1
N331E	Collapse of cervical vertebra	1
N331L	Collap vert due osteopor NOS	1
N331J	Collap lumb vert due to osteo	1
N331H	Collap cerv vert due to osteop	1
N00z	Collagen disease NOS	1
N331K	Coll thorac vert due osteopor	1
N147z	Coccyx disorder NOS	1
N1472	Coccygodynia	1
S5E1	Cmplt tr,thyroid region lgmt	1
S5E30	Cmplt tr,sternoclavicular lgmt	1
S5Ez	Cmplt tr,other lgmt NOS	1
S5Cy	Cmplt tr,other knee lgmt	1
S5C1	Cmplt tr,knee,mdl collat lgmt	1

Read code	Description	Number of studies
S5C0	Cmplt tr,knee,lat collat lgmt	1
S5Cz	Cmplt tr,knee lgmt NOS	1
S581	Cmplt tr,coraco-clav lgmt	1
S580	Cmplt tr,acromio-clav lgmt	1
S5A0A	Cmplt tr triang fibrocartilage	1
S5C3	Cmpl tr,knee,ant cruciate lgmt	1
S5y57	Cmpl tear,lumbosacral lgmt	1
S5y56	Cmpl tear,iliolumbar lgmt	1
S5C2	Cmp tr,knee,post cruciate lgmt	1
S2920	Clsd mult fract clav scap hum	1
S1000	Clsd # unsp cerv vertebra	1
S1024	Clsd # thorc vert-trnsvrs prcs	1
S1026	Clsd # thorc vert - tricolumnr	1
S1025	Clsd # thorc vert - post prcs	1
S1020	Clsd # thoracic vert, burst	1
S1021	Clsd # thoracic vert wedge	1
S102z	Clsd # thorac vert NOS	1
S1023	Clsd # thor vert-spinous prcss	1
S1003	Clsd # third cerv vertebra	1
S2102	Clsd # scapula, coracoid	1
S1041	Clsd # lumbar vert wedge	1
S1040	Clsd # lumbar vert burst	1
S1046	Clsd # lumb vert - tricolumnar	1
S1004	Clsd # fourth cerv vertebra	1
S1005	Clsd # fifth cerv vertebra	1
S2001	Clsd # clavicle medial end	1
S2003	Clsd # clavical lateral end	1
S100H	Clsd # cerv vert, wedge	1
S100G	Clsd # cerv vert, burst	1
S100z	Clsd # cerv spine NOS	1
S100F	Clsd # axis, tricolumnar	1
S100D	Clsd # axis, transvrse process	1
S100B	Clsd # axis, spondylolysis	1
S100C	Clsd # axis, spinous process	1
S100E	Clsd # axis, posterior arch	1
S100A	Clsd # axis odontoid process	1
S1009	Clsd # atlas, comminuted	1
S1106	Clsd # C5-C7 unspec cord les	1
S110A	Clsd # C5-C7 post cord lesion	1
S110B	Clsd # C5-C7 incomp cord les	1
S1107	Clsd # C5-C7 complete cord les	1
S1109	Clsd # C5-C7 cent cord lesion	1
S1108	Clsd # C5-C7 ant cord lesion	1
S1100	Clsd # C1-C4 unspec cord les	1
S1104	Clsd # C1-C4 post cord lesion	1
S1105	Clsd # C1-C4 incomp cord les	1
S1101	Clsd # C1-C4 complete cord les	1
S1103	Clsd # C1-C4 cent cord lesion	1
S1102	Clsd # C1-C4 ant cord lesion	1
S4120	Cls trmtc subluxatn shldr jnt	1
S4696	Cls trmtc sublux,head fibula	1
S467	Cls trmtc sublux pat-fem jt	1
S4690	Cls trmtc sublux knee jt,unsp	1



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Read code	Description	Number of studies
S4692	Cls trmtc sublux knee jt,post	1
S4694	Cls trmtc sublux knee jt,ltrl	1
S4691	Cls trmtc sublux knee jt,ant	1
S469	Cls trmtc sublux knee jt	1
S4102	Cls trmtc dsclctn shldr jtpost	1
S410z	Cls trmtc dislctn shoulder NOS	1
S49E4	Cls trm sublux,st-clav jt,post	1
S49E3	Cls trm sublux,st-clav jt,ant	1
S49E2	Cls trm sublux st-clav jt	1
S4671	Cls trm sublux pat-fem jt,med	1
S4670	Cls trm sublux pat-fem jt,ltrl	1
S49E5	Cls trm sublux laryngl cart	1
S4695	Cls trm sublux knee jt,rotatry	1
S4693	Cls trm sublux knee jt,medial	1
S4121	Cls trm sublux acromio-clav jt	1
S4656	Cls trm dsclctn, head fibula	1
S4631	Cls trm dsclctn pat-fem jt,med	1
S4630	Cls trm dsclctn pat-fem jt,lat	1
S4650	Cls trm dsclctn knee, unspc	1
S4654	Cls trm dsclctn knee jt,lateral	1
S4652	Cls trm dsclctn knee jt, post	1
S4653	Cls trm dsclctn knee jt, medial	1
S4651	Cls trm dsclctn knee jt, ant	1
S465z	Cls trm dsclctn knee NOS	1
S4655	Cls trm dsclct knee jt,rotatory	1
S4963	Cls trm dscl, stern-clav jt,ant	1
S4962	Cls trm dscl sterno-clav jt	1
S4965	Cls trm dscl laryngl cartilage	1
S4964	Cls trm dscl, stern-clav jt,post	1
S412	Cls traumtc subluxatn shoulder	1
S410	Cls traumtc disloctn shoulder	1
S4105	Cls traumatic disloctn scapula	1
S49A	Cls sublux thrcic+lumbar spine	1
S49A1	Cls sublux thrcic spine	1
S49Az	Cls sublux thrc+lmb spine NOS	1
S498x	Cls sublux mlti cerv vertebrae	1
S4980	Cls sublux cervical spine,unsp	1
S498	Cls sublux cervical spine	1
S498z	Cls sublux cerv vertebra NOS	1
S4981	Cls sublux atlanto-occipitl jt	1
S4982	Cls sublux atlanto-axial jt	1
S492C	Cls spnl dsclc+cauda equina lsn	1
S4924	Cls spnl dsclc+ant thrc crd lsn	1
S4929	Cls spnl dsclc+ant lmb crd lsn	1
S490B	Cls spnl dsclc+ant cerv crd lsn	1
S492B	Cls spnl dsl+post lmb crd lsn	1
S4923	Cls spnl dsl+comp thrc crd lsn	1
S4928	Cls spnl dsl+comp lmb crd lsn	1
S4922	Cls spn dsclc+thrc crd lsn,unsp	1
S4926	Cls spn dsclc+post thrc crd lsn	1
S490D	Cls spn dsclc+post cerv crd lsn	1
S4925	Cls spn dsclc+cent thrc crd lsn	1
S492A	Cls spn dsclc+cent lmb crd lsn	1

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Read code	Description	Number of studies
S1140	Cls spn # + unsp lumb crd lesn	1
S1144	Cls spn # + post lumb crd lesn	1
S1141	Cls spn # + comp lumb crd lesn	1
S1143	Cls spn # + cent lumb crd lesn	1
S1145	Cls spn # + cauda equina lesn	1
S1142	Cls spn # + ant lumbr crd lesn	1
SR100	Cls fract invol head with neck	1
S492z	Cls dslc thrcic+lmb spine NOS	1
S492	Cls dslc thoracic+lumbar spine	1
S4921	Cls dslc thoracic vertebra	1
S4920	Cls dslc lumbar spine	1
S4901	Cls dslc atlanto-occipital jnt	1
S4902	Cls dslc atlanto-axial joint	1
S4F6	Cls #-sublux,patello-fem jt	1
S4J23	Cls #-sublux st-clav jt,post	1
S4J22	Cls #-sublux st-clav jt,ant	1
S4F4	Cls #-dslc,patello-fem jt	1
S4J03	Cls #-dslc st-clav jt,post	1
S4J02	Cls #-dslc st-clav jt,ant	1
S1022	Cls # thorc vert-spondylolysis	1
S1044	Cls # lumbr vert-trnsvrse prcs	1
S1042	Cls # lumbr vert-spondylolysis	1
S1043	Cls # lumbr vert-spinous prcss	1
S1045	Cls # lumb vert-posterior arch	1
S100L	Cls # cerv vert, trnsvrse prcs	1
S100N	Cls # cerv vert, tricolumnar	1
S100J	Cls # cerv vert, spondylolysis	1
S100K	Cls # cerv vert, spinous prcss	1
S100M	Cls # cerv vert, post arch	1
S1008	Cls # atlas-isol arch/art prcs	1
S412z	Closed traumatic subluxation shoulder NOS	1
S496z	Closed traumatic disloctn NOS	1
S4100	Closed traumatic dislocation shoulder joint, unspecified	1
S463	Closed traumatic dislocation of patello-femoral joint	1
S112z	Closed thoracic#+cord lesn.NOS	1
S112	Closed thoracic #+cord lesion	1
S49Cz	Closed subluxation spine NOS	1
S49A0	Closed subluxation lumbar spine	1
S4988	Closed subluxation C7/T1	1
S4987	Closed subluxation C6/C7	1
S4986	Closed subluxation C5/C6	1
S4985	Closed subluxation C4/C5	1
S4984	Closed subluxation C3/C4	1
S4983	Closed subluxation C2/C3	1
S49C0	Closed sublux spine, unsp	1
S49C	Closed sublux other vertebra	1
S026	Closed orbital blow-out fracture	1
S114	Closed lumbar # + cord lesion	1
S102	Closed fracture thoracic vertebra	1
S2104	Closed fracture scapula, blade	1
S2105	Closed fracture scapula spine	1
S2106	Closed fracture scapula neck	1

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Read code	Description	Number of studies
S2103	Closed fracture scapula glenoid	1
S2101	Closed fracture scapula acromion	1
S3204	Closed fracture patella, comminuted (stellate)	1
S320	Closed fracture of the patella	1
S1250	Closed fracture larynx	1
S2002	Closed fracture clavicle shaft	1
S1002	Closed fracture axis	1
S1001	Closed fracture atlas	1
S4940	Closed dislocation spine unsp.	1
S494z	Closed dislocation spine NOS	1
S490	Closed dislocation cervical spine	1
S4908	Closed dislocation C7/T1	1
S4907	Closed dislocation C6/C7	1
S4906	Closed dislocation C5/C6	1
S4905	Closed dislocation C4/C5	1
S4904	Closed dislocation C3/C4	1
S4903	Closed dislocation C2/C3	1
S494	Closed disloc.other vertebra	1
S490x	Closed disloc.mult.cerv.vert.	1
S490z	Closed disloc.cervic.vert.NOS	1
S4900	Closed disloc.cerv.spine unsp.	1
S4960	Closed disloc sternoclavic. jt	1
S4104	Closed disloc acromioclavic.jt	1
S110z	Closed cervical#+cord lesn.NOS	1
S110	Closed cervical #+cord lesion	1
S1253	Closed #trachea	1
S1252	Closed #thyroid cartilage	1
S11x	Closed #spine+cord lesn.unsp.	1
S2100	Closed #scapula-unspecified	1
S210z	Closed #scapula NOS	1
S125z	Closed #larynx/trachea NOS	1
S1251	Closed #hyoid bone	1
S2000	Closed #clavicle unspecified	1
S200z	Closed #clavicle NOS	1
S3z0	Closed #bones unspecified	1
S4F2	Closed #-sublux, knee joint	1
S4A20	Closed #-sublux shoulder joint	1
S4A2	Closed #-sublux shoulder	1
S4A21	Closed #-sublux acrom-clav jt	1
S4A00	Closed #-dslc shoulder joint	1
S4A0	Closed #-dslc shoulder	1
S4F0	Closed #-dslc knee joint	1
S4A01	Closed #-dslc acrom-clav joint	1
S10x	Closed # spine unspecif	1
S210	Closed # scapula	1
S3201	Closed # patella,proximal pole	1
S3203	Closed # patella, vertical	1
S3200	Closed # patella transverse	1
S3202	Closed # patella distal pole	1
S200	Closed # clavicle	1
S100	Closed # cervical spine	1
N063000	Climacteric arthr.-site unsp.	1
N0630	Climacteric arthr.-site unsp.	1

Read code	Description	Number of studies
N0631	Climacteric arthr.-shoulder	1
N0638	Climacteric arthr.-other spec.	1
N063800	Climacteric arthr.-other spec.	1
N0639	Climacteric arthr.-multip.site	1
N063900	Climacteric arthr.-multip.site	1
N063z	Climacteric arthr.-NOS	1
N063z00	Climacteric arthr.-NOS	1
N0991	Clicking sternoclavic joint	1
N0990	Clicking shoulder	1
N099C	Clicking knee	1
N099	Clicking joint	1
N0992	Clicking acromioclavicular joint	1
N33A1	Clavicle pain	1
S490A	Cl spnl dslc+comp cerv crd lsn	1
S4909	Cl spnl dslc+cerv crd lsn,unsp	1
S49A2	Cl spn sublx+thrc crd lsn,unsp	1
S49A6	Cl spn sublx+post thrc crd lsn	1
S49AB	Cl spn sublx+post lmbcrd crd lsn	1
S49A7	Cl spn sublx+lmbcrd crd lsn,unsp	1
S49A3	Cl spn sublx+comp thrc crd lsn	1
S49A8	Cl spn sublx+comp lmbcrd crd lsn	1
S498A	Cl spn sublx+comp cerv crd lsn	1
S498C	Cl spn sublx+cntrl crv crd lsn	1
S4989	Cl spn sublx+cerv crd lsn,unsp	1
S49A5	Cl spn sublx+cent thrc crd lsn	1
S49AA	Cl spn sublx+cent lmbcrd crd lsn	1
S49AC	Cl spn sublx+cauda equina lsn	1
S49A4	Cl spn sublx+ant thrc crd lsn	1
S49A9	Cl spn sublx+ant lmbcrd crd lsn	1
S498D	Cl spn sublux+post crv crd lsn	1
S498B	Cl spn sublux+ant cerv crd lsn	1
S490C	Cl spn dslc+cntrl cerv crd lsn	1
S4927	Cl spn dsl+lmbcrd crd lsn unsp	1
S1124	Cl spn #+pst thor crd lsn,T1-6	1
S1123	Cl spn #+cnt thor crd lsn,T1-6	1
S1122	Cl spn #+ant thor crd lsn,T1-6	1
S1120	Cl sp #+unsp thor crd lsn,T1-6	1
S1126	Cl sp #+unsp thor cd lsn,T7-12	1
S112A	Cl sp #+pst thor crd lsn,T7-12	1
S1129	Cl sp #+cnt thor crd lsn,T7-12	1
S1121	Cl sp #+cmpl thor crd lsn,T1-6	1
S1127	Cl sp #+cmp thor crd lsn,T7-12	1
S1128	Cl sp #+ant thor crd lsn,T7-12	1
S1500	Cl multi fractur of thor spine	1
SR160	Cl fract/th wth lw bck+plv+lmb	1
S112B	Cl # T7-12incomp cord lsn NOS	1
S1125	Cl # T1-6 incmpl cord lesn NOS	1
N301B	Chronic osteomyelitis-th spine	1
N301C	Chronic osteomyelitis-lu spine	1
N301A	Chronic osteomyelitis-Cx spine	1
N301	Chronic osteomyelitis	1
C052*	Chronic lymphocytic thyroiditis (Hashimotos's disease)	1

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Read code	Description	Number of studies
16C9	Chronic low back pain	1
N090X	Chronic joint effusion	1
N3682	Chronic instability of knee	1
OX7289CB	Chronic Backache /ox	1
N3010	Chron.osteomyelitis-site unsp.	1
N3011	Chron.osteomyelitis-shoulder	1
N3018	Chron.osteomyelitis-other spec	1
N3019	Chron.osteomyelitis-mult.site	1
N301z	Chron.osteomyelitis NOS	1
N301L	Chron multifocal osteomyelitis	1
N301M	Chr osteomyel + draining sinus	1
N074	Chondromalacia patellae	1
N33z2	Chondromalacia NOS	1
N33zB	Chondrolysis	1
N022	Chondrocalcinosis unspecified	1
N022z	Chondrocalcinosis NOS	1
N02	Chondrocalcinosis	1
N0220	Chondrocalc.unsp.-site unspec.	1
N0221	Chondrocalc.unsp.-shoulder reg	1
N022y	Chondrocalc.unsp.-other spec.	1
N022x	Chondrocalc.unsp.-multipl.site	1
N020z	Chondrocalc.dicalc.phos.NOS	1
N021	Chondrocalc.-pyrophosph.cryst.	1
N021z	Chondrocalc.-pyrophosph.NOS	1
N020	Chondrocalc.-dicalc.phos.cryst	1
N0210	Chondroc.-pyrophos.-site unsp.	1
N0211	Chondroc.-pyrophos.-shoulder	1
N021y	Chondroc.-pyrophos.-other spec	1
N021x	Chondroc.-pyrophos.-mult.sites	1
N0216	Chondroc.-pyrophos.-knee	1
N0200	Chondroc.-dical.ph.-site unsp.	1
N0201	Chondroc.-dical.ph.-shoulder	1
N020y	Chondroc.-dical.ph.-other spec	1
N020x	Chondroc.-dical.ph.-mult.sites	1
N33zJ	Chondritis	1
182C	Chest wall pain	1
N035	Charcots arthropathy	1
N132	Cervicocranial syndrome	1
N133	Cervicobrachial syndrome	1
N148A	Cervico-thoracic instability	1
N1483	Cervico-thoracic ankylosis	1
N131	Cervicalgia	1
N138	Cervicalgia	1
N13y0	Cervical syndrome NEC	1
N119	Cervical spondylosis with radiculopathy	1
N11E	Cervical spondylosis	1
N110-1	Cervical spondylosis	1
N110	Cervical spond.- no myelopathy	1
N111	Cervical spond.+ myelopathy	1
N1489	Cervical spine instability	1
N1482	Cervical spine ankylosis	1
N130	Cervical spinal stenosis	1
N13y3	Cervical root syndrome	1

Read code	Description	Number of studies
N12A1	Cervical postlaminectomy syndr	1
N137	Cervical post.long.lig.ossific	1
SJ306	Cervical nerve root injury - C7	1
SJ305	Cervical nerve root injury - C6	1
SJ304	Cervical nerve root injury - C5	1
SJ303	Cervical nerve root injury - C4	1
SJ30	Cervical nerve root injury	1
N1113	Cervical myelopathy	1
N13	Cervical disorder NOS	1
N12z4	Cervical discitis	1
N120	Cervical disc displ.-no myelop	1
N1291	Cervical disc disord.+myelop.	1
N125	Cervical disc degeneration	1
S5701	Cervical ant.longit.lig.sprain	1
N13z	Cervical and neck disorders NOS	1
N12zH	Cerv disc disord + radiculoph	1
N21z0	Capsulitis NOS	1
N04y0	Caplan's syndrome	1
N3202	Calve's vertebral osteochondr.	1
N2454	Calf pain	1
N2226	Calcium deposit in bursa	1
N2111	Calcifying tendinitis shoulder	1
N12zB	Calcification of thoracic disc	1
N22y1	Calcification of tendon NOS	1
N12zF	Calcification of lumbar disc	1
N23y1	Calcification of ligament	1
N12z7	Calcification of cervical disc	1
N23y9	Calcific tendinitis	1
N2177	Calcaneal spur	1
N2315	Calc/ossif musc ass with burns	1
N0011	CREST syndrome	1
182Z.00	CHEST PAIN NOS	1
182..00	CHEST PAIN	1
S1007	C7 closed # - no cord lesion	1
S1006	C6 closed # - no cord lesion	1
1D12.00	C/O: stiffness	1
1D12	C/O: stiffness	1
16C7	C/O - upper back ache	1
1A53	C/O - lumbar pain	1
16C5	C/O - low back pain	1
N2118	Bursitis of shoulder	1
N223	Bursitis NOS	1
N2160-99	Bursitis - knee	1
N2160	Bursitis - knee	1
N221	Bunion	1
16BZ	Bruising symptom NOS	1
16B	Bruising symptom	1
16B2	Bruises easily	1
SE4z	Bruise NOS	1
SE41	Bruise - knee/lower leg	1
SE41-99	Bruise - knee/lower leg	1
SE23	Bruise - back	1
N11y0	Brucella spondylitis	1

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Read code	Description	Number of studies
N3325	Brown tumour-hyperparathyroid	1
N301G	Brodie's abscess-thorac spine	1
N301H	Brodie's abscess-lumbar spine	1
N301F	Brodie's abscess-cervic spine	1
N302b	Brodie's abscess	1
N0503	Bouchard's nodes with arthropathy	1
N33z	Bone/cartilage disorder NOS	1
N33z0	Bone/cartilage dis.-unspecif.	1
N21z3	Bone spur NOS	1
N33A	Bone pain	1
N33zz	Bone or cartilage disorders NOS	1
N31z	Bone involvement in dis.EC NOS	1
N30z0	Bone infectn.NOS-site unspecif	1
N30z1	Bone infectn.NOS-shoulder	1
N30z9	Bone infectn.NOS-multiple site	1
N30z	Bone infection NOS	1
N30zz	Bone infection NOS	1
N3320	Bone cyst (localised),unspecif	1
N3y0	Biomec lesn,not elsewh clas	1
N2112	Bicipital tenosynovitis	1
N2134	Biceps tendinitis	1
N0120	Behcet's syndrome arthropathy	1
N2222	Beat knee	1
N0870	Bankart lesion	1
N224A	Baker's cyst	1
N224A-1	Baker's cyst	1
16	Baker's cyst	1
16C3	Backache with radiation	1
16CZ	Backache symptom NOS	1
16C	Backache symptom	1
16C2	Backache	1
N149	Back stiffness	1
S57	Back sprain excl. lumbosacral	1
16...	Back sprain NOS	1
S57z	Back sprain NOS	1
16C4	Back pain worse on sneezing	1
16C6	Back pain without radiat NOS	1
N145-2	Back pain unspecified	1
N143	Back pain - lower	1
UNMAPPC6	Back injury	1
N14	Back disorders - other	1
N14z	Back disorder/symptom NOS	1
OX8479	Back Strain/Sprain /ox	1
OX7289A	Back Pain With Sciatica /ox	1
N2455	Axillary pain	1
N3347	Avascular necrosis-other bone	1
N3345	Avascular necrosis, capitellum	1
N334	Avascular necrosis - bone	1
N334z	Avascular bone necrosis NOS	1
N3340	Avasc.bone necrosis site unsp.	1
N3383	Atrophic non-union of fracture	1
S5703	Atlanto-occipital joint sprain	1
N1487	Atlanto-occipital instability	1

Read code	Description	Number of studies
N1480	Atlanto-occipital ankylosis	1
S5702	Atlanto-axial joint sprain	1
N1488	Atlanto-axial instability	1
N1481	Atlanto-axial ankylosis	1
14OD	At risk of osteoporotic fracture	1
14O9	At risk of osteoporosis	1
N080z	Articular cartilage disord.NOS	1
N080	Articular cart.disor.excl.knee	1
N0800	Artic.cart.dis.-site unspecif.	1
N0801	Artic.cart.dis.-shoulder	1
N0807	Artic.cart.dis.-other specif.	1
N0808	Artic.cart.dis.-multiple sites	1
N080B	Artic cart disord oth j-should	1
N0539	Arthrosis of first carpometacarpal joint, unspecified	1
OX7131C	Arthrosis Spine /ox	1
N0312	Arthropathy-Whipple's disease	1
N034	Arthropathy+respiratory disord	1
N015	Arthropathy+other viral diseas	1
N01y	Arthropathy+other inf./parasit	1
N03y	Arthropathy+other condition EC	1
N015z	Arthropathy+oth.viral dis. NOS	1
N014	Arthropathy+oth.bacterial dis.	1
N017z	Arthropathy+helminthiasis NOS	1
N032	Arthropathy+haematological dis	1
N031	Arthropathy+gastrointestin.dis	1
N030	Arthropathy+endocr./metab.dis	1
N033	Arthropathy+dermatological dis	1
N01	Arthropathy with infections	1
N0310	Arthropathy in ulcerative colitis	1
N069	Arthropathy in neoplastic dis	1
N0302	Arthropathy in amyloidosis	1
N0148	Arthropathy in Whipple's disea	1
N0311	Arthropathy in Crohn's disease	1
N0320	Arthropathy due to haemophilia	1
N06z1	Arthropathy NOS-shoulder	1
N06z4	Arthropathy NOS-hand	1
N06z3	Arthropathy NOS-forearm	1
N06z7	Arthropathy NOS, of the ankle and foot	1
N017	Arthropathy + parasite infectn	1
N016z	Arthropathy + mycoses NOS	1
N016	Arthropathy + mycoses	1
N03z	Arthropathy + disorders EC NOS	1
N03	Arthropathy + disorders EC	1
N0y	Arthropathies OS	1
N0313	Arthropath follow intes bypass	1
N036	Arthrop-hypersensitivity reacn	1
N012	Arthrop+Behcet's syndrome	1
N0121	Arthrop+Behcet's synd-shoulder	1
N012y	Arthrop+Behcet's synd-oth spec	1
N012x	Arthrop+Behcet's synd-multiple	1
N012z	Arthrop+Behcet's synd NOS	1
N2330	Arthrogryposis	1
N0	Arthritis/arthrosis	1



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Read code	Description	Number of studies
N11	Arthritis of spine	1
N010A	Arthritis in Lyme disease	1
OX6960T	Arthritis Psoriatic /ox	1
N06z-1	Arthritis	1
N094F	Arthralgia of wrist	1
N094N	Arthralgia of tibio-fibular joint	1
N094A	Arthralgia of shoulder	1
N094M	Arthralgia of knee	1
N094D	Arthralgia of elbow	1
N094P	Arthralgia of ankle	1
N094H	Arthralgia of PIP joint of finger	1
N094G	Arthralgia of MCP joint	1
N094T	Arthralgia of 1st MTP joint	1
N0942	Arthralgia - upper arm	1
N094B	Arthralgia - sternoclav joint	1
N0941	Arthralgia - shoulder	1
N0945	Arthralgia - pelvic/thigh	1
N0944	Arthralgia - hand	1
N0943	Arthralgia - forearm	1
N0947	Arthralgia - ankle/foot	1
N094C	Arthralgia - acromioclav joint	1
EGTON1	Arthralgia	1
N0150	Arthr.+oth.viral dis-site unsp	1
N0151	Arthr.+oth.viral dis-shoulder	1
N0140	Arthr.+oth.bact.dis-site unsp.	1
N0141	Arthr.+oth.bact.dis-shoulder	1
N014y	Arthr.+oth.bact.dis-other spec	1
N014x	Arthr.+oth.bact.dis-mult.sites	1
N014z	Arthr.+oth.bact. disease NOS	1
N0160	Arthr.+mycoses-site unspecif.	1
N0161	Arthr.+mycoses-shoulder region	1
N016y	Arthr.+mycoses-other specified	1
N016x	Arthr.+mycoses-multiple sites	1
N0170	Arthr.+helminth.-site unspec.	1
N0171	Arthr.+helminth.-shoulder regn	1
N017y	Arthr.+helminth.-other specif.	1
N017x	Arthr.+helminth.-multiple site	1
N015y	Arthr+oth.viral dis-other spec	1
N015x	Arthr+oth.viral dis-mult.sites	1
N03x0	Arthr assoc oth dis-shoulder	1
N03xB	Arthr assoc oth dis-knee	1
N03x1	Arthr ass oth dis-sternoclav j	1
N03x2	Arthr ass oth dis-acromioclav j	1
N01yz	Arth+other infect./parasit.NOS	1
N01y0	Arth+oth.inf/para-site unspec.	1
N01y1	Arth+oth.inf/para-shoulder reg	1
N01yy	Arth+oth.inf/para-other specif	1
N01yx	Arth+oth.inf/para-multipl.site	1
N245-2	Arm pain	1
N32z0	Apophysitis NOS	1
N006	Antiphospholipid syndrome	1
1M12	Anterior knee pain	1
N094W	Anterior knee pain	1

Read code	Description	Number of studies
S4101	Anterior dislocation of shoulder	1
N12z9	Annular tear of thoracic disc	1
N12zD	Annular tear of lumbar disc	1
N12z5	Annular tear of cervical disc	1
N148	Ankylosis/instab Cx,Th,Lu spin	1
N085B	Ankylosis other joint-shoulder	1
N085P	Ankylosis of the knee joint	1
N085A	Ankylosis of shoulder joint	1
N0859	Ankylosis of multiple joints	1
N085z	Ankylosis of joint NOS	1
N085	Ankylosis of joint	1
N117	Ankylosing verteb.hyperostosis	1
N100*	Ankylosing spondylitis	1
N100	Ankylosing spondylitis	1
N245-1	Ankle pain	1
1M13	Ankle pain	1
N05z7-1	Ankle osteoarthritis NOS	1
N3384	Angular mal-union of fracture	1
N3322	Aneurysmal bone cyst	1
N2320	Amyotrophia NOS	1
N0620	Allergic arthritis-site unsp.	1
N0621	Allergic arthritis-shoulder	1
N0628	Allergic arthritis-other spec.	1
N0629	Allergic arthritis-multip.site	1
N062z	Allergic arthritis-NOS	1
N062	Allergic arthritis	1
N337z	Algoneurodystrophy NOS	1
N3373	Algodystrophy of knee	1
N04y2	Adult-onset Still's disease	1
N32y0	Adult osteochondrosis of spine	1
N005	Adult Still's Disease	1
N370	Adolescent postural kyphosis	1
N3737	Adolescent idiopath scoliosis	1
N210	Adhesive capsulitis - shoulde	1
N2156	Adductor tendinitis	1
N084D	Adduction contracture-shoulder	1
N0431	Acute polyartic.juvenile R.A.	1
N300B	Acute osteomyelitis-thor spine	1
N3000	Acute osteomyelitis-site unsp.	1
N3001	Acute osteomyelitis-shoulder	1
N300G	Acute osteomyelitis-scapula	1
N300R	Acute osteomyelitis-patella	1
N3008	Acute osteomyelitis-other spec	1
N3009	Acute osteomyelitis-mult.site	1
N300C	Acute osteomyelitis-lumb spine	1
N300F	Acute osteomyelitis-clavicle	1
N300A	Acute osteomyelitis-cerv spine	1
N300z	Acute osteomyelitis NOS	1
N300	Acute osteomyelitis	1
S460	Acute meniscal tear medial	1
S461	Acute meniscal tear lateral	1
N090Y	Acute joint effusion	1
N300Z	Acute haematogen osteomyelitis	1

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Read code	Description	Number of studies
N145	Acute back pain - unspecified	1
N145-1	Acute back pain - unspecified	1
N141	Acute back pain - thoracic	1
N141-1	Acute back pain - thoracic	1
N142	Acute back pain - lumbar	1
N142-3	Acute back pain - lumbar	1
N12	Acute back pain - disc	1
N143-1	Acute back pain + sciatica	1
N06zA	Acute arthritis	1
EGTONAC1	Acromio-Clavicular Dislocation	1
N384	Acquired spondylolisthesis	1
N3720	Acquired postural lordosis	1
N3710	Acquired postural kyphosis	1
N372z	Acquired lordosis NOS	1
N372	Acquired lordosis	1
N371z	Acquired kyphosis NOS	1
N371	Acquired kyphosis	1
N366	Acquired knee deformity NOS	1
N37z0	Acquired hunchback	1
N3641	Acquired genu varum	1
N364z	Acquired genu valgum/varum NOS	1
N364	Acquired genu valgum/varum	1
N3640	Acquired genu valgum	1
N385	Acquired deformity spine NOS	1
N382	Acquired deformity of neck	1
N38z	Acquired deformity NOS	1
N38y0	Acquired clavicle deformity	1
1DCC.00	Aching muscles	1
1DCC	Aching muscles	1
N220H	Achilles tenosynovitis	1
N2174	Achilles tendinitis	1
N094-1	Ache in joint	1
S4604	Ac mnscl tr,med,periph,dtchmt	1
S4614	Ac mnscl tr,lat,periph,dtchmt	1
S4605	Ac mnscl tear,med,horiz clvge	1
S4615	Ac mnscl tear,lat,horiz clvge	1
S4602	Ac menscl tear,med,bckt hndle	1
S4612	Ac menscl tear,lat,bckt hndle	1
S4603	Ac meniscal tear,med,radial	1
S4601	Ac meniscal tear,med,post horn	1
S4600	Ac meniscal tear,med,ant horn	1
S4613	Ac meniscal tear,lat,radial	1
S4611	Ac meniscal tear,lat,post horn	1
S4610	Ac meniscal tear,lat,ant horn	1
N22y2	Abscess of tendon	1
N22yE	Abscess of bursa-shoulder	1
N22yJ	Abscess of bursa-knee	1
N22y3	Abscess of bursa	1
SD	Abrasions	1
N084C	Abduction contracture-shoulder	1
1969.00	Abdominal pain	1
EGTON251	? Frozen Right Shoulder	1
N11C1	2 lev lumbsac spond+radiculop	1

Read code	Description	Number of studies
N11C0	1 lev lumbsac spond+radiculop	1
HNG0160	(hn) Sports Injury	1
HNG0157	(hn) Spinal Injury	1
HNG0162	(hn) Soft tissue injuries	1
HNG0163	(hn) Rhematic problems	1
S11	#Vertebra + cord lesion	1
S10z	#Spine - no cord lesion - NOS	1
S10	#Spine - no cord lesion	1
S11z	#Spine + cord lesion NOS	1
S21z	#Scapula NOS	1
S21	#Scapula	1
S32z	#Patella NOS	1
S104	#Lumbar spine - no cord lesion	1
S32	#Knee-cap	1
S20z	#Clavicle NOS	1
S20	#Clavicle	1
S3zz	#Bones NOS	1
S4F	#-dslc/subluxation knee	1
S4A	#-dslc or subluxation shoulder	1

**Table 7. List of Read codes used in the studies of male sexual dysfunction.**

Read code	Description	Number of studies
E227311	Erectile dysfunction	3
K27y100	Impotence of organic origin	2
E227300	Impotence	2
Eu52213	[X]Psychogenic impotence	1
Eu52212	[X]Male erectile disorder	1
E227000	Unspecified psychosexual dysfunction	1
7C25E00	Treatment of erectile dysfunction NEC	1
7A6G000	Revascularisation for impotence	1
8IE8.00	Referral to erectile dysfunction clinic declined	1
8HTj.00	Referral to erectile dysfunction clinic	1
E227z00	Psychosexual dysfunction NOS	1
E227.00	Psychosexual dysfunction	1
E227700	Psychogenic dyspareunia	1
Z9E9.00	Provision of device for impotence	1
E227600	Premature ejaculation	1
7C25F00	Operations on penis for erectile dysfunction NEC	1
7A6G500	Ligation of penile veins for impotence	1
E227.11	Lack of libido	1
E227100	Inhibited sexual desire	1
E227500	Inhibited male orgasm	1
E227z11	Fear of ejaculation	1
K27y700	Erectile dysfunction due to diabetes mellitus	1
66Au.00	Diabetic erectile dysfunction review	1
66Av.00	Diabetic assessment of erectile dysfunction	1
1D1B.00	C/O erectile dysfunction	1
ZG43600	Advice on technique for impotence	1
67IA.00	Advice about impotence	1

**Table 8. List of Read codes used in the studies of sleep disorder.**

Read code	Description	Number of studies
1B1B.00	Cannot sleep - insomnia	1
1B1B.11	C/O - insomnia	1
1B1B100	Middle insomnia	1
1B1B200	Late insomnia	1
1B1Q.00	Poor sleep pattern	1
E274.00	Non-organic sleep disorders	1
E274.11	Hypersomnia of non-organic origin	1
E274.12	Insomnia due to nonorganic sleep disorder	1
E274000	Unspecified non-organic sleep disorder	1
E274100	Transient insomnia	1
E274111	Insomnia NOS	1
E274200	Persistent insomnia	1
E274300	Transient hypersomnia	1
E274311	Hypersomnia NOS	1
E274400	Persistent hypersomnia	1
E274500	Jet lag syndrome	1
E274600	Shifting sleep-work schedule	1
E274700	Somnambulism - sleep walking	1
E274800	Night terrors	1
E274900	Nightmares	1
E274A00	Sleep drunkenness	1
E274B00	Repeated rapid eye movement sleep interruptions	1
E274C00	Other sleep stage or arousal dysfunction	1
E274D00	Repetitive intrusions of sleep	1
E274D11	Restless sleep	1
E274E00	'Short-sleeper'	1
E274F00	Inversion of sleep rhythm	1
E274y00	Other non-organic sleep disorder	1
E274y11	Dreams	1
E274z00	Non-organic sleep disorder NOS	1
Eu51.00	[X]Nonorganic sleep disorders	1
Eu51000	[X]Nonorganic insomnia	1
Eu51100	[X]Nonorganic hypersomnia	1
Eu51200	[X]Nonorganic disorder of the sleep-wake schedule	1
Fy00.00	Disorders of initiating and maintaining sleep	1
Fy01.00	Disorders of excessive somnolence	1
Fy02.00	Disorders of the sleep-wake schedule	1
R005.00	[D]Sleep disturbances	1
R005.11	[D]Insomnia - symptom	1
R005.12	[D]Sleep rhythm problems	1
R005000	[D]Sleep disturbance, unspecified	1
R005100	[D]Insomnia with sleep apnoea	1
R005200	[D]Insomnia NOS	1
R005300	[D]Hypersomnia with sleep apnoea	1
R005311	[D]Sleep apnoea syndrome	1
R005312	[D]Syndrome sleep apnoea	1
R005400	[D]Hypersomnia NOS	1
R005500	[D]Sleep rhythm inversion	1
R005600	[D]Sleep rhythm irregular	1
R005700	[D]Sleep-wake rhythm non-24-hour cycle	1
R005800	[D]Sleep dysfunction with sleep stage disturbance	1

Read code	Description	Number of studies
R005900	[D]Sleep dysfunction with arousal disturbance	1
R005z00	[D]Sleep dysfunction NOS	1

For peer review only

**Table 9. List of Read codes used in the studies of fatal and non-fatal self-harm.**

Read code	Description	Number of studies
TK1y.00	Suicide and selfinflicted poisoning by other utility gas	8
TK21.00	Suicide and selfinflicted poisoning by other carbon monoxide	8
TK01000	Suicide and self inflicted injury by Amylobarbitone	8
TK03.00	Suicide + selfinflicted poisoning tranquilliser/psychotropic	8
TK0z.00	Suicide + selfinflicted poisoning by solid/liquid subst NOS	8
TK04.00	Suicide + selfinflicted poisoning by other drugs/medicines	8
TK02.00	Suicide + selfinflicted poisoning by oth sedatives/hypnotics	8
TK20.00	Suicide + selfinflicted poisoning by motor veh exhaust gas	8
TK05.00	Suicide + selfinflicted poisoning by drug or medicine NOS	8
TK07.00	Suicide + selfinflicted poisoning by corrosive/caustic subst	8
TK01.00	Suicide + selfinflicted poisoning by barbiturates	8
TK00.00	Suicide + selfinflicted poisoning by analgesic/antipyretic	8
TK06.00	Suicide + selfinflicted poisoning by agricultural chemical	8
U200.00	[X]Intent self poison/exposure to nonopioid analgesic	7
U20..11	[X]Deliberate drug overdose / other poisoning	7
TK70.00	Suicide+selfinflicted injury-jump from residential premises	7
TK71.00	Suicide+selfinflicted injury-jump from oth manmade structure	7
TK72.00	Suicide+selfinflicted injury-jump from natural sites	7
TK7z.00	Suicide+selfinflicted injury-jump from high place NOS	7
TK61.00	Suicide and selfinflicted injury by stabbing	7
TK51.00	Suicide and selfinflicted injury by shotgun	7
TKx2.00	Suicide and selfinflicted injury by scald	7
TKxy.00	Suicide and selfinflicted injury by other specified means	7
TK54.00	Suicide and selfinflicted injury by other firearm	7
TK52.00	Suicide and selfinflicted injury by hunting rifle	7
TK30.00	Suicide and selfinflicted injury by hanging	7
TK6z.00	Suicide and selfinflicted injury by cutting and stabbing NOS	7
TK60.00	Suicide and selfinflicted injury by cutting	7
TKx5.00	Suicide and selfinflicted injury by crashing motor vehicle	7
TKx1.00	Suicide and selfinflicted injury by burns or fire	7
TK...00	Suicide and selfinflicted injury	7
TK01400	Suicide and self inflicted injury by Phenobarbitone	7
TK01100	Suicide and self inflicted injury by Barbitone	7
TK...14	Suicide and self harm	7
TK0..00	Suicide + selfinflicted poisoning by solid/liquid substances	7
TK2..00	Suicide + selfinflicted poisoning by other gases and vapours	7
TK11.00	Suicide + selfinflicted poisoning by liquified petrol gas	7
TK2z.00	Suicide + selfinflicted poisoning by gases and vapours NOS	7
TK10.00	Suicide + selfinflicted poisoning by gas via pipeline	7
TK1z.00	Suicide + selfinflicted poisoning by domestic gases NOS	7
TKx0000	Suicide + selfinflicted injury-jumping before moving object	7
TK31.00	Suicide + selfinflicted injury by suffocation by plastic bag	7
TK3y.00	Suicide + selfinflicted inj oth mean hang/strangle/suffocate	7
TK3z.00	Suicide + selfinflicted inj by hang/strangle/suffocate NOS	7
TK...13	Poisoning - self-inflicted	7
TK...17	Para-suicide	7
TK...11	Cause of overdose - deliberate	7
TK...15	Attempted suicide	7
U2...13	[X]Suicide	6
U20C.11	[X]Self poisoning with weedkiller	6
U20C.12	[X]Self poisoning with paraquat	6



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Read code	Description	Number of studies
U20A.11	[X]Self poisoning from glue solvent	6
U20B.11	[X]Self carbon monoxide poisoning	6
U2...15	[X]Para-suicide	6
U20..00	[X]Intentional self poisoning/exposure to noxious substances	6
U20A.00	[X]Intentional self poison organ solvent,halogen hydrocarb	6
U20y.00	[X]Intent self poison/exposure to unspecif chemical	6
U202.00	[X]Intent self poison/exposure to sedative hypnotic	6
U204.00	[X]Intent self poison/exposure to psychotropic drug	6
U20C.00	[X]Intent self poison/exposure to pesticide	6
U20B.00	[X]Intent self poison/exposure to other gas/vapour	6
U207.00	[X]Intent self poison/exposure to oth autonomic drug	6
U206.00	[X]Intent self poison/exposure to hallucinogen	6
U201.00	[X]Intent self poison/exposure to antiepileptic	6
U20yz00	[X]Intent self poison unspecif chemical unspecif place	6
U202z00	[X]Intent self poison sedative hypnotic unspecif place	6
U204z00	[X]Intent self poison psychotropic drug unspecif place	6
U204100	[X]Intent self poison psychotropic drug at res institut	6
U20Bz00	[X]Intent self poison other gas/vapour unspecif place	6
U208z00	[X]Intent self poison oth/unsp drug/medic unspecif place	6
U207z00	[X]Intent self poison oth autonomic drug unspecif place	6
U200z00	[X]Intent self poison nonopioid analgesic unspecif place	6
U200100	[X]Intent self poison nonopioid analgesic at res institut	6
U205z00	[X]Intent self poison narcotic drug unspecif place	6
U201z00	[X]Intent self poison antiepileptic unspecif place	6
U206400	[X]Intent self pois hallucinogen in street/highway	6
U20y000	[X]Int self poison/exposure to unspecif chemical at home	6
U202000	[X]Int self poison/exposure to sedative hypnotic at home	6
U204000	[X]Int self poison/exposure to psychotropic drug at home	6
U20C000	[X]Int self poison/exposure to pesticide at home	6
U208.00	[X]Int self poison/exposure to other/unspec drug/medicament	6
U20B000	[X]Int self poison/exposure to other gas/vapour at home	6
U207000	[X]Int self poison/exposure to oth autonomic drug at home	6
U200000	[X]Int self poison/exposure to nonopioid analgesic at home	6
U205000	[X]Int self poison/exposure to narcotic drug at home	6
U201000	[X]Int self poison/exposure to antiepileptic at home	6
U20y200	[X]Int self poison unspecif chemical school/pub admin area	6
U202y00	[X]Int self poison sedative hypnotic other spec place	6
U204y00	[X]Int self poison psychotropic drug other spec place	6
U20Cy00	[X]Int self poison pesticide other spec place	6
U20B200	[X]Int self poison other gas/vapour school/pub admin area	6
U20By00	[X]Int self poison other gas/vapour other spec place	6
U208y00	[X]Int self poison oth/unsp drug/medic other spec place	6
U20A400	[X]Int self poison org solvent,halogen hydrocarb,in highway	6
U200y00	[X]Int self poison nonopioid analgesic other spec place	6
U205y00	[X]Int self poison narcotic drug other spec place	6
U2...14	[X]Attempted suicide	6
TKx7.00	Suicide and selfinflicted injury caustic subst, excl poison	6
TKxz.00	Suicide and selfinflicted injury by other means NOS	6
TKx..00	Suicide and selfinflicted injury by other means	6
TK7..00	Suicide and selfinflicted injury by jumping from high place	6
TKx3.00	Suicide and selfinflicted injury by extremes of cold	6
TKx4.00	Suicide and selfinflicted injury by electrocution	6
TK4..00	Suicide and selfinflicted injury by drowning	6

Read code	Description	Number of studies
TK6..00	Suicide and selfinflicted injury by cutting and stabbing	6
TKz..00	Suicide and selfinflicted injury NOS	6
TK1..00	Suicide + selfinflicted poisoning by gases in domestic use	6
TKx0.00	Suicide + selfinflicted injury-jump/lie before moving object	6
TK3..00	Suicide + selfinflicted injury by hang/strangulate/suffocate	6
U2y0.00	[X]Intentionl self harm by oth specif means occurrn at home	5
U2z0.00	[X]Intentional self harm by unspecif means occurrn at home	5
U290.00	[X]Intentional self harm by sharp object occurrence at home	5
U29z.00	[X]Intentional self harm by sharp object occ unspecif place	5
U2A0.00	[X]Intentional self harm by blunt object occurrence at home	5
U270.00	[X]Intention self harm by smoke fire/flames occurrn at home	5
U294.00	[X]Intention self harm by sharp object occ street/highway	5
U29y.00	[X]Intention self harm by sharp object occ oth specif place	5
U205.00	[X]Intent self poison/exposure to narcotic drug	5
U209.00	[X]Intent self poison/exposure to alcohol	5
U209z00	[X]Intent self poison alcohol unspecif place	5
U202400	[X]Intent self pois sedative hypnotic in street/highway	5
U208400	[X]Intent self pois oth/unsp drug/medic in street/highway	5
U20A000	[X]Intent self pois organ solvent,halogen hydrocarb, home	5
U200500	[X]Intent self pois nonopioid analgesic trade/service area	5
U250.00	[X]Intent self harm oth/unspecif firearm disch occ at home	5
U2D6.00	[X]Intent self harm crash motor vehic occ indust/constr area	5
U2zy.00	[X]Intent self harm by unspecif means occ oth specif place	5
U2zz.00	[X]Intent self harm by unspecif means occ at unspecif place	5
U2z2.00	[X]Intent self harm by unspec mean occ sch/ins/pub adm area	5
U27z.00	[X]Intent self harm by smoke fire/flames occ unspecif place	5
U274.00	[X]Intent self harm by smoke fire/flame occ street/highway	5
U291.00	[X]Intent self harm by sharp object occ resident instit'n	5
U2yz.00	[X]Intent self harm by oth specif means occ unspecif place	5
U2y1.00	[X]Intent self harm by oth specif means occ resid instit'n	5
U2B0.00	[X]Intent self harm by jumping from high place occ at home	5
U2B4.00	[X]Intent self harm by jump from high place occ street/h'way	5
U211.00	[X]Intent self harm by hangng strangult/suffoct resid instit	5
U21z.00	[X]Intent self harm by hangng strangul/suffoct unspecif plce	5
U21y.00	[X]Intent self harm by hangng strangul/suffoct oth spec plce	5
U210.00	[X]Intent self harm by hanging strangulat/suffocat occ home	5
U221.00	[X]Intent self harm by drowning/submersn occ resid instit'n	5
U22z.00	[X]Intent self harm by drown/submersn occ unspecified place	5
U22y.00	[X]Intent self harm by drown/submersn occ oth specif place	5
U2D0.00	[X]Intent self harm by crash of motor vehicl occurrn at home	5
U2D4.00	[X]Intent self harm by crash motor vehicl occ street/highway	5
U2A3.00	[X]Intent self harm by blunt object occ sports/athlet area	5
U2A1.00	[X]Intent self harm by blunt object occ resident instit'n	5
U242.00	[X]Int slf hrm rifl s'gun/lrg frarm dis sch/ins/pub adm area	5
U208000	[X]Int self poison/exposure to oth/unsp drug/medicam home	5
U209y00	[X]Int self poison alcohol other spec place	5
U20Az00	[X]Int self pois org solv,halogen hydrocarb, unspec place	5
U241.00	[X]Int self harm rifl s'gun/lrg frarm disch occ resid instit	5
U2C4.00	[X]Int self harm jump/lying befr mov obje occ street/highway	5
U2C1.00	[X]Int self harm jump/lying befr mov obje occ resid instit'n	5
U2Cy.00	[X]Int self harm jump/lying bef mov obje occ oth specif plce	5
U2Bz.00	[X]Int self harm by jump from high place occ unspecif place	5
U2By.00	[X]Int self harm by jump from high place occ oth specif plce	5

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Read code	Description	Number of studies
U2B6.00	[X]Int self harm by jump from high place indust/constr area	5
TK5z.00	Suicide and selfinflicted injury by firearms/explosives NOS	5
TK5..00	Suicide and selfinflicted injury by firearms and explosives	5
TKx6.00	Suicide and selfinflicted injury by crashing of aircraft	5
TK60111	Slashed wrists self inflicted	5
TK60100	Self inflicted lacerations to wrist	5
U202.13	[X]Overdose - temazepam	4
U202.11	[X]Overdose - sleeping tabs	4
U202.15	[X]Overdose - nitrazepam	4
U202.12	[X]Overdose - diazepam	4
U202.16	[X]Overdose - benzodiazepine	4
U202.17	[X]Overdose - barbiturate	4
U204.11	[X]Overdose - antidepressant	4
U202.18	[X]Overdose - amobarbital	4
U204.12	[X]Overdose - amitriptyline	4
U204.13	[X]Overdose - SSRI	4
U2z..00	[X]Intentional self harm by unspecified means	4
U27..00	[X]Intentional self harm by smoke, fire and flames	4
U29..00	[X]Intentional self harm by sharp object	4
U2y..00	[X]Intentional self harm by other specified means	4
U2B..00	[X]Intentional self harm by jumping from a high place	4
U26..00	[X]Intentional self harm by explosive material	4
U22..00	[X]Intentional self harm by drowning and submersion	4
U2D..00	[X]Intentional self harm by crashing of motor vehicle	4
U2A..00	[X]Intentional self harm by blunt object	4
U200400	[X]Intent self pois nonopioid analgesic in street/highway	4
U28z.00	[X]Intent self harm by steam hot vapour/obj occ unspec place	4
U280.00	[X]Intent self harm by steam hot vapour/hot obj occ at home	4
U24..00	[X]Intent self harm by rifle shotgun/larger firearm disch	4
U25..00	[X]Intent self harm by other/unspecified firearm discharge	4
U2C..00	[X]Intent self harm by jumping / lying before moving object	4
U21..00	[X]Intent self harm by hanging strangulation / suffocation	4
U212.00	[X]Inten slf harm hang strang/suffc sch oth ins/pub adm area	4
U209000	[X]Int self poison/exposure to alcohol at home	4
U41..00	[X]Hanging strangulation + suffocation undetermined intent	4
U4Bz.00	[X]Fall jump/push frm high plce undt intnt occ unspecif plce	4
U720.00	[X]Sequelae of intentional self-harm	3
U2...11	[X]Self inflicted injury	3
U44..00	[X]Rifle shotgun+larger firearm discharge undetermin intent	3
U40y.00	[X]Poisoning/exposure, ? intent, to unspecif chemical	3
U402.00	[X]Poisoning/exposure, ? intent, to sedative hypnotic	3
U404.00	[X]Poisoning/exposure, ? intent, to psychotropic drug	3
U40C.00	[X]Poisoning/exposure, ? intent, to pesticide	3
U40B.00	[X]Poisoning/exposure, ? intent, to other gas/vapour	3
U400.00	[X]Poisoning/exposure, ? intent, to nonopioid analgesic	3
U405.00	[X]Poisoning/exposure, ? intent, to narcotic drug	3
U409.00	[X]Poisoning/exposure, ? intent, to alcohol	3
U40..00	[X]Poisoning/expos to noxious substance,undetermined intent	3
U408.00	[X]Poison/exposure, ?intent, to other/unspec drug/medicament	3
U408000	[X]Poison/exposure ?intent, to oth/unsp drug/medicam home	3
U409000	[X]Poison/exposure ?intent, to alcohol at home	3
U40y600	[X]Poison/expos ?intent unspec chemic indust/construct area	3
U200.11	[X]Overdose - paracetamol	3

Read code	Description	Number of studies
U200.12	[X]Overdose - ibuprofen	3
U200.13	[X]Overdose - aspirin	3
U45..00	[X]Other+unspecified firearm discharge undetermined intent	3
U2...00	[X]Intentional self-harm	3
U28..00	[X]Intentional self harm by steam hot vapours / hot objects	3
U216.00	[X]Intent self harm by hang strangl/suffc indust/constr area	3
U220.00	[X]Intent self harm by drowning/submersion occurrn at home	3
U206000	[X]Int self poison/exposure to hallucinogen at home	3
U2...12	[X]Injury - self-inflicted	3
U410.00	[X]Hanging strangulat+suffocat undet intent occurrn at home	3
U4B..00	[X]Falling jumping/pushed from high place undeterm intent	3
U30..11	[X]Deliberate drug poisoning	3
ZX1R.00	Throwing self in front of vehicle	3
ZX1Q.00	Throwing self in front of train	3
TK53.00	Suicide and selfinflicted injury by military firearms	3
TK01z00	Suicide and self inflicted injury by barbiturates	3
TK2y.00	Suicide + selfinflicted poisoning by other gases and vapours	3
TKx0z00	Suicide + selfinflicted inj-jump/lie before moving obj NOS	3
ZX1N.00	Stabbing self	3
ZX1M.00	Shooting self	3
ZX1K.12	Setting self alight	3
ZX1K.11	Setting fire to self	3
ZX1H200	Self-suffocation	3
ZX1H100	Self-strangulation	3
ZX1K.00	Self-incineration	3
ZX1J.00	Self-electrocution	3
ZX1H.00	Self-asphyxiation	3
SL...15	Overdose of drug	3
SL...14	Overdose of biological substance	3
TKy..00	Late effects of selfinflicted injury	3
ZX1Q.11	Jumping under train	3
ZX1B.00	Jumping from height	3
ZX1B300	Jumping from cliff	3
ZX1B100	Jumping from building	3
ZX1B200	Jumping from bridge	3
TK...12	Injury - self-inflicted	3
ZX18.00	Hanging self	3
SLHz.00	Drug and medicament poisoning NOS	3
ZX15.00	Drowning self	3
U72..00	[X]Sequel intentn self-harm assault+event of undeterm intent	2
ZX1LD00	[X]Self mutilation	2
U40y000	[X]Poison/exposure ?intent, to unspecif chemical at home	2
U40C000	[X]Poison/exposure ?intent, to pesticide at home	2
U40A.00	[X]Pois/exposure, ?intent, to organ solvent, halogen hydrocarb	2
U40y400	[X]Pois/expos ?intent unspecif chemical in street/highway	2
U40yz00	[X]Pois/expos ?intent to unspecif chemical unspecif place	2
U402z00	[X]Pois/expos ?intent to sedative hypnotic unspecif place	2
U408z00	[X]Pois/expos ?intent to oth/unsp drug/medic unspecif place	2
U409z00	[X]Pois/expos ?intent to alcohol unspecif place	2
U40B400	[X]Pois/expos ?intent other gas/vapour in street/highway	2
U409400	[X]Pois/expos ?intent alcohol in street/highway	2
U406y00	[X]Pois/exp ?intent to hallucinogen other spec place	2
U404300	[X]Pois/exp ?intent psychotropic drug in sport/athletic area	2

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Read code	Description	Number of studies
U40A300	[X]Pois/exp ?intent org solvent,halogen hydrocarb,sport area	2
U409200	[X]Pois/exp ?intent alcohol school/pub admin area	2
U205.11	[X]Overdose - heroin	2
U2Az.00	[X]Intentional self harm by blunt object occ unspecif place	2
U206z00	[X]Intent self poison hallucinogen unspecif place	2
U209400	[X]Intent self pois alcohol in street/highway	2
U292.00	[X]Intent self harm sharp obj occ sch oth ins/pub adm area	2
U2yy.00	[X]Intent self harm oth specif means occ oth specif place	2
U2y6.00	[X]Intent self harm oth specif means occ indust/constr area	2
U2z1.00	[X]Intent self harm by unspecif means occurrn resid instit'n	2
U27y.00	[X]Intent self harm by smoke fire/flame occ oth specif plce	2
U295.00	[X]Intent self harm by sharp object occ trade/service area	2
U296.00	[X]Intent self harm by sharp object occ indust/constr area	2
U2B1.00	[X]Intent self harm by jump from high place occ resid instit	2
U213.00	[X]Intent self harm by hang strangl/suffc sport/athlet area	2
U2Dz.00	[X]Intent self harm by crash motor vehic occ unspecif place	2
U2A2.00	[X]Intent self harm blunt obj occ sch oth ins/pub adm area	2
U20Ay00	[X]Int self pois org solv,halogen hydrocarb,oth spec place	2
U200600	[X]Int self pois nonopioid analgesic indust/construct area	2
U282.00	[X]Int self harm by steam hot vapor/obj sch/ins/pub adm area	2
U4C..00	[X]Falling lying running befor/into moving obj undet intent	2
U4B6.00	[X]Fall jump/push frm high plce undt intrn indust/constr area	2
U47..00	[X]Exposure to smoke, fire and flames, undetermined intent	2
U470.00	[X]Exposure to smoke fire+flame undeterm intent occ at home	2
U42..00	[X]Drowning and submersion, undetermined intent	2
U4D7.00	[X]Crashng of motor vehicle undetermined intent occ on farm	2
U4D0.00	[X]Crashng of motor vehicle undetermined intent occ at home	2
U4D..00	[X]Crashing of motor vehicle, undetermined intent	2
U4D3.00	[X]Crash of motor vehicle undeterm intent sport/athlet area	2
U4A5.00	[X]Contct wth blunt obj undet intent occ trade/service area	2
U4A3.00	[X]Contct wth blunt obj undet intent occ sport/athletic area	2
U4A0.00	[X]Contact wth blunt object undetermined intent occ at home	2
U48..00	[X]Contact with steam hot vapours+objects undetermn intent	2
U49..00	[X]Contact with sharp object, undetermined intent	2
U49z.00	[X]Contact with sharp obj undeterm intent occ unspecif place	2
U4A..00	[X]Contact with blunt object, undetermined intent	2
U4Az.00	[X]Contact with blunt obj undeterm intent occ unspecif place	2
ZX1S.00	Throwing self onto floor	2
1BDA.00	Thoughts of deliberate self harm	2
1BD3.00	Suicidal plans	2
1BD1.00	Suicidal ideation	2
1B19.11	Suicidal - symptom	2
1B19.00	Suicidal	2
ZX19200	Slapping self	2
ZX1I.00	Self-scalding	2
ZX1L300	Self-mutilation of penis	2
ZX1L100	Self-mutilation of hands	2
ZX1L200	Self-mutilation of genitalia	2
ZX1L600	Self-mutilation of ears	2
ZX1L.00	Self-mutilation	2
ZX1G.00	Scratches self	2
ZX19100	Punching self	2
TN...11	Poisoning undetermined - accidentally or purposely inflicted	2

Read code	Description	Number of studies
ZX1E.00	Pinching self	2
ZX1C.00	Nipping self	2
14K1.00	Intentional overdose of prescription only medication	2
TN0..00	Injury ?accidental, poisoning by solid/liquid substances	2
TN0z.00	Injury ?accidental, poisoning by solid or liquid subst NOS	2
TN2y.00	Injury ?accidental, poisoning by other spec gas or vapour	2
TN04.00	Injury ?accidental, poisoning by other spec drug/medicament	2
TN02.00	Injury ?accidental, poisoning by other sedative/hypnotic	2
TN2..00	Injury ?accidental, poisoning by other gases	2
TN21.00	Injury ?accidental, poisoning by other carbon monoxide	2
TN20.00	Injury ?accidental, poisoning by motor vehicle exhaust gas	2
TN11.00	Injury ?accidental, poisoning by liquid petrol gas	2
TN1..00	Injury ?accidental, poisoning by gases in domestic use	2
TN1z.00	Injury ?accidental, poisoning by gas in domestic use NOS	2
TN10.00	Injury ?accidental, poisoning by gas distributed by pipeline	2
TN05.00	Injury ?accidental, poisoning by drug or medicament NOS	2
TN06.00	Injury ?accidental, poisoning by corrosive/caustic substance	2
TN08.00	Injury ?accidental, poisoning by arsenic or its compounds	2
TN00.00	Injury ?accidental, poisoning by analgesic or anti-pyretic	2
TN07.00	Injury ?accidental, poisoning by agricultural chemicals	2
TN3..00	Injury ?accidental, hanging, strangulation and suffocation	2
TN30.00	Injury ?accidental, hanging	2
TN01300	Injury ?accidental poisoning by Pentobarbitone	2
ZRLfC12	HoNOS item 2 - non-accidental self injury	2
ZX19.00	Hitting self	2
ZX13.00	Cutting self	2
ZX13.11	Cuts self	2
ZX12.00	Burning self	2
ZX11.00	Biting self	2
ZX11.11	Bites self	2
SL90.00	Antidepressant poisoning	2
8G6Z.00	Anti-suicide psychotherapy NOS	2
8G6..00	Anti-suicide psychotherapy	2
SL90z00	Anti-depressant poisoning NOS	2
U4z..00	[X]Unspecified event, undetermined intent	1
U4zz.00	[X]Unspecif event undeterm intent occurrn unspecif place	1
U4z3.00	[X]Unspecif event undeterm intent occurrn sport/athlet area	1
U4zy.00	[X]Unspecif event undeterm intent occurrn oth specif place	1
U4z6.00	[X]Unspecif event undeterm intent occurrn indust/constr area	1
SyuG.00	[X]Toxic effects of substances chiefly nonmedicinal source	1
SyuG700	[X]Toxic effects of other specified gases, fumes & vapours	1
SyuGH00	[X]Toxic effect of paints and dyes, NEC	1
SyuGJ00	[X]Toxic effect of other specified substances	1
SyuG900	[X]Toxic effect of other pesticides	1
SyuG800	[X]Toxic effect of other insecticides	1
SyuGC00	[X]Toxic effect of other ingested (parts of) plant(s)	1
SyuG000	[X]Toxic effect of other alcohols	1
U2E..00	[X]Self mutilation	1
U406.00	[X]Poisoning/exposure, ? intent, to hallucinogen	1
SyuFM00	[X]Poisoning by other psychotropic drugs, NEC	1
SyuFB00	[X]Poisoning by other opioids	1
SyuFW00	[X]Poisoning by other laxatives, incl intestin atonia drugs	1
SyuFT00	[X]Poisoning by other antihypertensive drugs, NEC	1

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Read code	Description	Number of studies
SyuFD00	[X]Poisoning by other and unspecified narcotics	1
SyuFA00	[X]Poisoning by other analgesics, not elsewhere classified	1
SyuF900	[X]Poisoning by oth nonsteroidal anti-inflamm drugs [NSAID]	1
SyuFc00	[X]Poisoning by oth & unspecif drugs & biologic substances	1
SyuF.00	[X]Poisoning by drugs and biological substances	1
U40Bz00	[X]Pois/expos ?intent to other gas/vapour unspecif place	1
U409100	[X]Pois/expos ?intent to alcohol at res institut	1
U408400	[X]Pois/expos ?intent oth/unsp drug/medic in street/highway	1
U40yy00	[X]Pois/exp ?intent to unspecif chemical other spec place	1
U40By00	[X]Pois/exp ?intent to other gas/vapour other spec place	1
U202.14	[X]Overdose - flurazepam	1
U4y..00	[X]Other specified events, undetermined intent	1
U4y0.00	[X]Other specified event undetermind intent occurrn at home	1
U4y3.00	[X]Oth specif event undetermin intent occ sport/athlet area	1
Eu15000	[X]Mnt/beh dis due oth stim inc caffen: acute intoxication	1
Eu18000	[X]Mental & behav dis due vol solvents: acute intoxication	1
Eu17000	[X]Mental & behav dis due to use tobacco: acute intoxication	1
Eu11000	[X]Mental & behav dis due to use opioids: acute intoxication	1
Eu14000	[X]Mental & behav dis due to use cocaine: acute intoxication	1
Eu10000	[X]Mental & behav dis due to use alcohol: acute intoxication	1
Eu13000	[X]Mental & behav dis due sed/hypntcs: acute intoxication	1
Eu16000	[X]Mental & behav dis due hallucinogens: acute intoxicatn	1
Eu12000	[X]Mental & behav dis due cannabinoids: acute intoxication	1
Eu1A000	[X]Ment behav dis due use crack cocaine: acute intoxication	1
U39..11	[X]Intentionally shot with shotgun	1
U38..11	[X]Intentionally shot with handgun	1
U41z.00	[X]Hangng strangult+suffoct undet intent occ unspecif place	1
U4B0.00	[X]Fallng jumpng/push frm high place undet intent occ home	1
U81..00	[X]Evid of alcohol involv determind by level of intoxication	1
U4D1.00	[X]Crashng of motor vehicle undeterm intent resident instit	1
U466.00	[X]Contct wth explosiv materl undet intnt indust/constr area	1
U4A6.00	[X]Contct wth blunt obj undet intent occ industr/constr area	1
U46..00	[X]Contact with explosive material, undetermined intent	1
U4Ay.00	[X]Contact with blunt obj undeter intent occ oth specif plce	1
U1AC.11	[X]Accidental poisoning with weedkiller	1
U1A2.13	[X]Accidental poisoning with temazepam	1
U1A2.11	[X]Accidental poisoning with sleeping tablets	1
U1AC.12	[X]Accidental poisoning with paraquat	1
U1A0.11	[X]Accidental poisoning with paracetamol	1
U1A2.15	[X]Accidental poisoning with nitrazepam	1
U1A0.12	[X]Accidental poisoning with ibuprofen	1
U1A5.11	[X]Accidental poisoning with heroin	1
U1A2.12	[X]Accidental poisoning with diazepam	1
U1A2.16	[X]Accidental poisoning with benzodiazepine	1
U1A2.17	[X]Accidental poisoning with barbiturate	1
U1A0.13	[X]Accidental poisoning with aspirin	1
U1A4.11	[X]Accidental poisoning with antidepressant	1
U1A4.12	[X]Accidental poisoning with amitriptyline	1
U1A4.13	[X]Accidental poisoning with SSRI	1
U1AA.11	[X]Accidental poisoning from glue solvent	1
U1AD.00	[X]Accidental poisoning by and exposure to amfetamine	1
U1A..00	[X]Accidental poisoning by + exposure to noxious substances	1
U1A..12	[X]Accidental drug overdose / other poisoning	1

Read code	Description	Number of studies
U1A..11	[X]Accidental drug / other poisoning	1
U1AB.11	[X]Accidental carbon monoxide poisoning	1
U1Ay.00	[X]Accident poisoning/exposure to unspecif chemical	1
U1A2.00	[X]Accident poisoning/exposure to sedative hypnotic	1
U1A4.00	[X]Accident poisoning/exposure to psychotropic drug	1
U1AC.00	[X]Accident poisoning/exposure to pesticide	1
U1AB.00	[X]Accident poisoning/exposure to other gas/vapour	1
U1A7.00	[X]Accident poisoning/exposure to oth autonomic drug	1
U1A0.00	[X]Accident poisoning/exposure to nonopioid analgesic	1
U1A5.00	[X]Accident poisoning/exposure to narcotic drug	1
U1A6.00	[X]Accident poisoning/exposure to hallucinogen	1
U1A3.00	[X]Accident poisoning/exposure to antiparkinson drug	1
U1A1.00	[X]Accident poisoning/exposure to antiepileptic	1
U1A9.00	[X]Accident poisoning/exposure to alcohol	1
U1AD000	[X]Accident poisoning by and exposure to amphetamine - home	1
U1Ay700	[X]Accident poison/exposure to unspecif chemical on farm	1
U1Ay000	[X]Accident poison/exposure to unspecif chemical at home	1
U1A2000	[X]Accident poison/exposure to sedative hypnotic at home	1
U1A4000	[X]Accident poison/exposure to psychotropic drug at home	1
U1AC700	[X]Accident poison/exposure to pesticide on farm	1
U1AC000	[X]Accident poison/exposure to pesticide at home	1
U1A8.00	[X]Accident poison/exposure to other/unspec drug/medicament	1
U1AB700	[X]Accident poison/exposure to other gas/vapour on farm	1
U1AB000	[X]Accident poison/exposure to other gas/vapour at home	1
U1A8000	[X]Accident poison/exposure to oth/unsp drug/medicam home	1
U1A7000	[X]Accident poison/exposure to oth autonomic drug at home	1
U1A0000	[X]Accident poison/exposure to nonopioid analgesic at home	1
U1A5000	[X]Accident poison/exposure to narcotic drug at home	1
U1A1000	[X]Accident poison/exposure to antiepileptic at home	1
U1A9000	[X]Accident poison/exposure to alcohol at home	1
U1AA.00	[X]Accid poison/exposure to organ solvent,halogen hydrocarb	1
U1Ay500	[X]Accid poison/expos unspecif chemical trade/service area	1
U1Ayz00	[X]Accid poison/expos to unspecif chemical unspecif place	1
U1Ay100	[X]Accid poison/expos to unspecif chemical at res institut	1
U1A2z00	[X]Accid poison/expos to sedative hypnotic unspecif place	1
U1A4100	[X]Accid poison/expos to psychotropic drug at res institut	1
U1ABz00	[X]Accid poison/expos to other gas/vapour unspecif place	1
U1A8100	[X]Accid poison/expos to oth/unsp drug/medicam res institut	1
U1A8z00	[X]Accid poison/expos to oth/unsp drug/medic unspecif place	1
U1A7z00	[X]Accid poison/expos to oth autonomic drug unspecif place	1
U1A0z00	[X]Accid poison/expos to nonopioid analgesic unspecif place	1
U1A5z00	[X]Accid poison/expos to narcotic drug unspecif place	1
U1A9z00	[X]Accid poison/expos to alcohol unspecif place	1
U1AA000	[X]Accid poison/expos organ solvent,halogen hydrocarb, home	1
U1A3500	[X]Accid poison/expos antiparkinson drug trade/service area	1
U1A9500	[X]Accid poison/expos alcohol trade/service area	1
U1A9400	[X]Accid poison/expos alcohol in street/highway	1
U1Ay200	[X]Acc poison/expos unspecif chemical school/pub admin area	1
U1A4200	[X]Acc poison/expos psychotropic drug school/pub admin area	1
U1AA100	[X]Acc poison/expos org solvent,halogen hydrocarb,res instit	1
U1A9200	[X]Acc poison/expos alcohol school/pub admin area	1
U1ADz00	[X]Acc poison by and exposure to amphetamine - unspec places	1
Sy...00	[X] Injury and poisoning classification terms	1



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Read code	Description	Number of studies
U60F412	[X] Adverse reaction to acetylcysteine	1
ZV15600	[V]Personal history of poisoning	1
ZV4C400	[V]Occupational exposure to toxic agents in agriculture	1
ZV71A00	[V]Obs for suspected toxic effect from ingested substance	1
SLC7100	Zinc salt poisoning	1
SM01100	Wood alcohol causing toxic effect	1
SLEz.00	Water, mineral or uric acid metabolism poisoning NOS	1
SLE..00	Water, mineral and urate metabolism poisoning	1
SL42300	Warfarin sodium poisoning	1
SL42400	Warfarin poisoning	1
SL35z00	Vitamin poisoning NOS	1
SL35.00	Vitamin poisoning NEC	1
SL35100	Vitamin D poisoning	1
SL35000	Vitamin A poisoning	1
SL44300	Urokinase poisoning	1
SLE7.00	Uric acid drug poisoning	1
SLE7.11	Urate metabolism drug poisoning	1
SM9z.00	Unspecified substance causing toxic effect NOS	1
SL50000	Unspecified opium poisoning	1
SL30400	Tripelennamine poisoning	1
SL60100	Trimethadione poisoning	1
SL92200	Trifluoperidol poisoning	1
SM23100	Trichloroethylene causing toxic effect	1
SL90300	Trazodone poisoning	1
SL95z00	Tranquilliser poisoning NOS	1
SL9..11	Tranquilliser poisoning	1
TE57.00	Toxic reactions caused by other plants	1
F036200	Toxic encephalitis due to thallium	1
F036100	Toxic encephalitis due to mercury	1
F036000	Toxic encephalitis due to lead	1
SMC..00	Toxic effect of tobacco and nicotine	1
SM57.00	Toxic effect of tin and its compounds	1
SM9A.00	Toxic effect of rodenticides	1
SMX..00	Toxic effect of paints and dyes, NEC	1
SM9X.00	Toxic effect of nitroglycerin & oth nitric acids & ester	1
SM79.00	Toxic effect of hydrogen sulfide	1
SM15.00	Toxic effect of homologues of benzene	1
SM98.00	Toxic effect of herbicides and fungicides	1
SMB..00	Toxic effect of formaldehyde	1
SM78.00	Toxic effect of fluorine gas and hydrogen fluoride	1
SM23200	Toxic effect of chloroform	1
SM7A.00	Toxic effect of carbon dioxide	1
SLG7.00	Topical dental drug poisoning	1
SL85.00	Topical and infiltration anaesthetic agent poisoning	1
SL16200	Tiabendazole poisoning	1
SL27.00	Thyroid hormone and thyroid derivatives poisoning	1
SL27z00	Thyroid hormone and thyroid derivative poisoning NOS	1
SL27300	Thyroglobulin poisoning	1
SL91400	Thioridazine poisoning	1
SLE1100	Theophylline poisoning	1
SL04000	Tetracycline poisoning	1
SL04z00	Tetracycline group poisoning NOS	1
SL04.00	Tetracycline group poisoning	1

Read code	Description	Number of studies
SM23000	Tetrachloroethylene causing toxic effect	1
SL85300	Tetracaine poisoning	1
SL21300	Testosterone poisoning	1
SLF5200	Terpin hydrate poisoning	1
SL3z.00	Systemic agent poisoning NOS	1
SLB2.00	Sympathomimetic poisoning	1
SM31200	Sulphuric acid causing toxic effect	1
SM73.00	Sulphur dioxide causing toxic effect	1
SL1x400	Sulphone poisoning	1
SL10.00	Sulphonamide poisoning	1
SL10200	Sulfamethoxazole poisoning	1
SL10000	Sulfadiazine poisoning	1
1BD4.00	Suicide risk	1
ZRn3.00	Suicide intent score subscale - attempt circumstances	1
SN47100	Suffocation by strangulation	1
SL06300	Streptomycin poisoning	1
SL44200	Streptokinase poisoning	1
SL97.11	Stimulant poisoning	1
SM2z.00	Solvents causing toxic effect NOS	1
SLC7000	Sodium morrhuate poisoning	1
SM32200	Sodium hydroxide causing toxic effect	1
SM90100	Sodium cyanide causing toxic effect	1
SM96.00	Soap and detergent causing toxic effect	1
SM96.12	Soap - toxic effect	1
SLF1.00	Smooth muscle relaxant poisoning	1
SL7z.11	Sleeping drug poisoning	1
SLF2.00	Skeletal muscle relaxant poisoning	1
ZX1..00	Self-injurious behaviour	1
ZX...00	Self-harm	1
ZX...11	Self-damage	1
SL7..12	Sedative poisoning	1
SL7z.00	Sedative and hypnotic drug poisoning NOS	1
SL7..00	Sedative and hypnotic drug poisoning	1
SL70500	Secobarbital poisoning	1
SL51100	Salicylic acid salt poisoning	1
SL51z00	Salicylate poisoning NOS	1
SL51.00	Salicylate poisoning	1
SLF7100	Salbutamol poisoning	1
ZX1..12	SIB - Self-injurious behaviour	1
SM02200	Rubbing alcohol causing toxic effect	1
SL06200	Rifampicin poisoning	1
SLF..12	Respiratory system drug poisoning	1
SL14500	Quinine poisoning	1
SLC0300	Quinidine poisoning	1
SL14400	Pyrimethamine poisoning	1
SL53.00	Pyrazole derivative poisoning	1
SL9z.00	Psychotropic agent poisoning NOS	1
SL9..00	Psychotropic agent poisoning	1
SL97.00	Psychostimulant poisoning	1
SL96400	Psilocybin poisoning	1
SL45100	Protamine sulphate poisoning	1
SLF0200	Prostaglandin poisoning	1
SLC0200	Propranolol poisoning	1

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Read code	Description	Number of studies
SM70100	Propane causing toxic effect	1
SL91300	Promazine poisoning	1
SL14300	Proguanil poisoning	1
SL22300	Progestogen poisoning	1
SL91200	Prochlorperazine poisoning	1
SLC0100	Procainamide poisoning	1
SL6x000	Primidone poisoning	1
8G61.00	Potential suicide care	1
SM32100	Potassium hydroxide causing toxic effect	1
SM90000	Potassium cyanide causing toxic effect	1
SL25.00	Posterior pituitary hormone poisoning	1
SL94600	Poisoning by temazepam	1
SLD3100	Poisoning by saline and osmotic laxatives	1
SL3..00	Poisoning by primarily systemic agents	1
SLX..00	Poisoning by oth & unspec antipsychotics & neuroleptics	1
SL29.00	Poisoning by mineralocorticoids and their antagonists	1
SLD0200	Poisoning by histamine H2-receptor antagonists	1
SL20300	Poisoning by glucocorticoids and synthetic analogues	1
SL...16	Poisoning by drug and biological substances	1
SL6x100	Poisoning by carbamazepine	1
SLC9.00	Poisoning by calcium-channel blockers	1
SLC6400	Poisoning by angiotensin-converting-enzyme inhibitors	1
SL...00	Poisoning	1
SM82.12	Plants - toxic effect	1
1BDB.00	Plans for deliberate self harm without intent	1
SL16100	Piperazine poisoning	1
SLB0200	Pilocarpine poisoning	1
SM7y000	Phosgene causing toxic effect	1
SM93500	Phosdrin causing toxic effect	1
SL61000	Phenytoin poisoning	1
SL53100	Phenylbutazone poisoning	1
SLB3000	Phenoxybenzamine poisoning	1
SL91z00	Phenothiazine poisoning NOS	1
SL91.00	Phenothiazine poisoning	1
SLD1200	Phenolphthalein poisoning	1
SM30000	Phenol causing toxic effect	1
SL70400	Phenobarbital poisoning	1
SL42200	Phenindione poisoning	1
SL52200	Phenacetin poisoning	1
SLH4.00	Pharmaceutical excipient poisoning	1
SM1z.00	Petroleum product causing toxic effect NOS	1
SM1..00	Petroleum product causing toxic effect	1
SM14.00	Petroleum ether causing toxic effect	1
SM10.00	Petrol unspecified causing toxic effect	1
SL86.00	Peripheral nerve and plexus-blocking anaesthetic poisoning	1
SL70300	Pentobarbitone poisoning	1
SL34000	Penicillinase poisoning	1
SL00z00	Penicillin poisoning NOS	1
SL00.00	Penicillin poisoning	1
SL00300	Penicillin G poisoning	1
E022.00	Pathological drug intoxication	1
E014.00	Pathological alcohol intoxication	1
SM93300	Parathion causing toxic effect	1

Read code	Description	Number of studies
SLB0.00	Parasympathomimetic poisoning	1
SL60000	Paramethadione poisoning	1
SM13.00	Paraffin wax causing toxic effect	1
SL52100	Paracetamol poisoning	1
SL1x300	Para-aminosalicylic acid poisoning	1
SLC5200	Papaverine poisoning	1
SLD4100	Papain poisoning	1
SLD4000	Pancreatin poisoning	1
SL04300	Oxytetracycline poisoning	1
SL21200	Oxymetholone poisoning	1
SL22z00	Ovarian hormone poisoning NOS	1
SL22.00	Ovarian hormone and synthetic substitute poisoning	1
SLC5.00	Other vasodilator poisoning	1
SL95.00	Other tranquilliser poisoning	1
F377.00	Other toxic agent polyneuropathy	1
SL3y.00	Other systemic agent poisoning	1
SM9y.00	Other substance causing toxic effect	1
SL0y.00	Other specific antibiotic poisoning	1
SM2yz00	Other solvents causing toxic effect NOS	1
SM2..00	Other solvents causing toxic effect	1
SM2y.00	Other solvents causing toxic effect	1
SLGx.00	Other skin and mucous membrane drug poisoning	1
SL7y.00	Other sedative and hypnotic poisoning	1
SLFy.00	Other respiratory system drug poisoning	1
SL9y.00	Other psychotropic agent poisoning	1
SM94.00	Other pesticides causing toxic effect NEC	1
SM8y.00	Other noxious substance eaten as food causing toxic effect	1
SM9..00	Other nonmedicinal substances causing toxic effect	1
SL5x.00	Other non-narcotic analgesic poisoning	1
SLF3.00	Other muscle drug poisoning	1
SLE6.00	Other mineral salt poisoning NEC	1
SM5y.00	Other metals causing toxic effect OS	1
SM5yz00	Other metals causing toxic effect NOS	1
SM5..00	Other metals causing toxic effect	1
SLC6.00	Other hypertensive agent poisoning	1
SM71.00	Other hydrocarbon gas causing toxic effect	1
SL2y.00	Other hormone or synthetic derivative poisoning	1
SLDy.00	Other gastrointestinal agent poisoning	1
SM7..00	Other gases, fumes or vapours causing toxic effect	1
SM7y.00	Other gas, fume or vapour causing toxic effect	1
SM7yz00	Other gas, fume and vapour causing toxic effect NOS	1
SLHy.00	Other drug and medicament poisoning OS	1
SLHyz00	Other drug and medicament poisoning NOS	1
SLE4z00	Other diuretic poisoning NOS	1
SLC1100	Other digitalis glycoside poisoning	1
SLAy.00	Other central nervous system stimulant poisoning	1
SLD3.00	Other cathartic poisoning	1
SL93.00	Other antipsychotics/neuroleptics/tranquilliser poisoning	1
SL15.00	Other antiprotozoal drug poisoning	1
SL30x00	Other antihistamine poisoning	1
SL6x.00	Other anticonvulsant poisoning	1
SL1..00	Other anti-infective poisoning	1
SL1y.00	Other anti-infective poisoning	1

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Read code	Description	Number of studies
SLH..00	Other and unspecified drug and medicament poisoning	1
SL5yz00	Other analgesic or antipyretic poisoning NOS	1
SL5y.00	Other analgesic and antipyretic poisoning	1
SM0y.00	Other alcohol causing toxic effect	1
SM93z00	Organophosphate and carbamate causing toxic effect NOS	1
SM93.00	Organophosphate and carbamate causing toxic effect	1
SLF1100	Orciprenaline poisoning	1
SL22000	Oral contraceptive poisoning	1
SL50.12	Opiate poisoning	1
SL50z00	Opiate or narcotic poisoning NOS	1
SLA1z00	Opiate antagonist poisoning NOS	1
SLA1.00	Opiate antagonist poisoning	1
SL50.00	Opiate and narcotic poisoning	1
SL03100	Oleandomycin poisoning	1
SL22100	Oestrogen poisoning	1
SL01200	Nystatin poisoning	1
SM8z.00	Noxious substance eaten as food causing toxic effect NOS	1
SM8..00	Noxious substance eaten as food causing toxic effect	1
SLB2100	Noradrenalin poisoning	1
SM...00	Nonmedicinal agent causing toxic effects	1
SL5xz00	Non-narcotic analgesic poisoning NOS	1
SMz..00	Non-medicinal agent causing toxic effect NOS	1
SL82100	Nitrous oxide poisoning	1
SM72.00	Nitrogen oxides causing toxic effect	1
SM72000	Nitrogen dioxide causing toxic effect	1
SL1y100	Nitrofurantoin poisoning	1
SM31100	Nitric acid causing toxic effect	1
SL94500	Nitrazepam poisoning	1
SLC4100	Nitrate poisoning	1
SM5y300	Nickel compounds causing toxic effect	1
SL50.11	Narcotic poisoning	1
SL54300	Naproxen poisoning	1
SL21100	Nandrolone poisoning	1
SM81.00	Mushrooms causing toxic effect	1
SLF..11	Muscle drug poisoning	1
SL50500	Morphine poisoning	1
1BD2.00	Morbid thoughts	1
SL90200	Monoamine oxidase inhibitor poisoning	1
1BD6.00	Moderate suicide risk	1
SL76.00	Mixed sedative poisoning NEC	1
SL07400	Mitomycin poisoning	1
SL04200	Minocycline poisoning	1
SM01.00	Methyl alcohol causing toxic effect	1
SL80100	Methocarbamol poisoning	1
SL74.00	Methaqualone compound poisoning	1
SM01000	Methanol causing toxic effect	1
SL50200	Methadone poisoning	1
SM5z.00	Metals causing toxic effect NOS	1
SL12300	Mercury compound poisoning	1
SM50.00	Mercury causing toxic effect	1
SL31600	Mercaptopurine poisoning	1
SL95100	Meprobamate poisoning	1
SL50400	Meperidine (pethidine) poisoning	1

Read code	Description	Number of studies
SL54400	Mefenamic acid poisoning	1
SL...13	Medicinal poisoning	1
SL94400	Medazepam poisoning	1
SL96200	Marihuana poisoning	1
SM93200	Malathion causing toxic effect	1
SLD0100	Magnesium trisilicate poisoning	1
SLD3000	Magnesium sulphate poisoning	1
T180.00	MVTA - accid poisoning - exhaust gas of moving motor vehicle	1
SL90211	MAOI - monoamine oxidase inhibitor poisoning	1
SL96100	Lysergide (LSD) poisoning	1
1BD7.00	Low suicide risk	1
SL94300	Lorazepam poisoning	1
SLG2.12	Local detergent poisoning	1
SLG2.11	Local astringent poisoning	1
SLG2.00	Local astringent and detergent poisoning	1
SLG0.00	Local anti-infective and anti-inflammatory poisoning	1
SL8z.00	Local anaesthetic poisoning NOS	1
SLA0000	Lobeline poisoning	1
44W8100	Lithium level high - toxic	1
SM70.00	Liquefied petrol gas causing toxic effect	1
SL85100	Lidocaine poisoning	1
SL27100	Levothyroxine sodium poisoning	1
SL6y200	Levodopa (L-dopa) poisoning	1
SL12200	Lead compound poisoning	1
SM4z.00	Lead compound causing toxic effect NOS	1
SM4..00	Lead and lead compounds causing toxic effect	1
SM41000	Lead acetate causing toxic effect	1
TH02.00	Late effects of accidental poisoning	1
SC...00	Late effects injury/poisoning/toxic effects/external causes	1
SC41.00	Late effect of poison due to nonmedical substance	1
SC40.00	Late effect of poison drug/medicament/biological substance	1
SC41.11	Late effect of poison	1
SCz..00	Late effect injury/poison/toxin effect/external cause NOS	1
SL83000	Ketamine poisoning	1
SM12.00	Kerosene causing toxic effect	1
SLG4.12	Keratoplastic poisoning	1
SL1x200	Isoniazid poisoning	1
SLD1.00	Irritant cathartic poisoning	1
SM5y200	Iron compounds causing toxic effect	1
SL40z00	Iron and iron compound poisoning NOS	1
SL40.00	Iron and iron compound poisoning	1
SL28000	Iodide poisoning	1
SP35000	Intoxication by serum	1
E250.14	Intoxication - alcohol	1
1BDC.00	Intent of deliberate self harm with detailed plans	1
SL23.00	Insulins and antidiabetic poisoning	1
SL23400	Insulin poisoning	1
TN...00	Injury undetermined whether accidentally/purposely inflicted	1
TNz..00	Injury undetermined accidental or purposely inflicted NOS	1
TM21.00	Injury due to legal intervention by poisoning by gas	1
Sz...00	Injury and poisoning NOS	1
S....00	Injury and poisoning	1
TN3y.00	Injury ?accidental, other means of hang/strangle/suffocate	1

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Read code	Description	Number of studies
TN9..00	Injury ?accidental, late effects	1
TN3z.00	Injury ?accidental, hanging/strangulation/suffocation NOS	1
TN70.00	Injury ?accidental, fall from residential premises	1
TN71.00	Injury ?accidental, fall from other man-made structure	1
TN72.00	Injury ?accidental, fall from natural site	1
TN7z.00	Injury ?accidental, fall from high place NOS	1
TN7..00	Injury ?accidental, fall from high place	1
TN4..00	Injury ?accidental, drowning	1
TN61.00	Injury ?accidental, by stabbing instrument	1
TN51.00	Injury ?accidental, by shotgun	1
TN82.00	Injury ?accidental, by scald	1
TN8y.00	Injury ?accidental, by other specified means	1
TN8..00	Injury ?accidental, by other means	1
TN54.00	Injury ?accidental, by other firearm	1
TN8z.00	Injury ?accidental, by means NOS	1
TN80100	Injury ?accidental, by lying before moving object	1
TN80.00	Injury ?accidental, by jumping or lying before moving object	1
TN80000	Injury ?accidental, by jumping before moving object	1
TN52.00	Injury ?accidental, by hunting rifle	1
TN50.00	Injury ?accidental, by handgun	1
TN5..00	Injury ?accidental, by firearms and explosives	1
TN5z.00	Injury ?accidental, by firearm or explosive NOS	1
TN83.00	Injury ?accidental, by extremes of cold	1
TN55.00	Injury ?accidental, by explosive	1
TN84.00	Injury ?accidental, by electrocution	1
TN6z.00	Injury ?accidental, by cutting or stabbing instrument NOS	1
TN60.00	Injury ?accidental, by cutting instrument	1
TN6..00	Injury ?accidental, by cutting and stabbing instruments	1
TN85.00	Injury ?accidental, by crashing of motor vehicle	1
TN86.00	Injury ?accidental, by crashing of aircraft	1
TN87.00	Injury ?accidental, by caustic substances, except poisoning	1
TN81.00	Injury ?accidental, by burns or fire	1
SL54100	Indometacin poisoning	1
SL31.12	Immunosuppressive poisoning	1
SL90100	Imipramine poisoning	1
SL54200	Ibuprofen poisoning	1
SL7..11	Hypnotic poisoning	1
SLC6z00	Hypertensive agent poisoning NOS	1
SLB1200	Hyoscine poisoning	1
SL95000	Hydroxyzine poisoning	1
SL13.11	Hydroxyquinoline poisoning	1
SM31000	Hydrochloric acid causing toxic effect	1
SL61.00	Hydantoin derivative poisoning	1
SL47100	Human fibrinogen poisoning	1
SL2z.00	Hormone or synthetic substitute poisoning NOS	1
SL2..00	Hormone and synthetic substitute poisoning	1
1BD5.00	High suicide risk	1
SL50100	Heroin poisoning	1
SL42100	Heparin poisoning	1
SL12z00	Heavy metal anti-infective poisoning NOS	1
SL12.00	Heavy metal anti-infective poisoning	1
SL3y000	Heavy metal agonist poisoning	1
1BD..00	Harmful thoughts	1

Read code	Description	Number of studies
SL81.00	Halothane poisoning	1
SL92000	Haloperidol poisoning	1
SL96z00	Hallucinogen poisoning NOS	1
SL96.00	Hallucinogen poisoning	1
SLG4.00	Hair treatment poisoning	1
14K0.00	H/O: repeated overdose	1
14K..00	H/O: poisoning	1
SL24211	Growth hormone poisoning	1
SL01100	Griseofulvin poisoning	1
SL24100	Gonadotrophin poisoning	1
SL54000	Gold salt poisoning	1
SLDz.00	Gastrointestinal agent poisoning NOS	1
SLD..00	Gastrointestinal agent poisoning	1
SM7z.00	Gases, fumes or vapours causing toxic effect NOS	1
SLC3z00	Ganglion-blocker poisoning NOS	1
SLC3.00	Ganglion-blocker poisoning	1
SM03z00	Fusel oil causing toxic effect NOS	1
SLE4100	Furosemide poisoning	1
SM74.00	Freon causing toxic effect	1
SL41000	Folic acid poisoning	1
SL94200	Flurazepam poisoning	1
SL91100	Fluphenazine poisoning	1
SL31500	Fluorouracil poisoning	1
SL1y000	Flucytosine poisoning	1
SL40100	Ferrous sulphate poisoning	1
SL40000	Ferric salt poisoning	1
SLG..00	Eye, otorhinolaryngological, skin and dental drug poisoning	1
SLG5z00	Eye drug poisoning NOS	1
SLG5.00	Eye drug poisoning NEC	1
SLG..12	Eye drug poisoning	1
SLF5.00	Expectorant poisoning	1
SM00z00	Ethyl alcohol causing toxic effect NOS	1
SM00.00	Ethyl alcohol causing toxic effect	1
SL6y100	Ethopropazine poisoning	1
SL82000	Ether poisoning	1
SM00000	Ethanol causing toxic effect	1
SL1x000	Ethambutol poisoning	1
SLE4000	Ethacrynic acid poisoning	1
SL03000	Erythromycin poisoning	1
SL03.00	Erythromycin and macrolide poisoning	1
SLF0000	Ergot alkaloid poisoning	1
E230200	Episodic acute alcoholic intoxication in alcoholism	1
SL34.00	Enzyme poisoning NEC	1
SLG3.00	Emollients, demulcents and protectant poisoning	1
SLD2.00	Emollient cathartic poisoning	1
SLD6.00	Emetic drug poisoning	1
SLE5.00	Electrolyte agent poisoning	1
SL97200	Ecstasy poisoning	1
SLG6.00	Ear, nose and throat drug poisoning NEC	1
SLz..00	Drug, medicament or biological substance poisoning NOS	1
SL...12	Drug poisoning	1
SL04100	Doxycycline poisoning	1
SLE..11	Diuretic poisoning	1



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Read code	Description	Number of studies
SLC4000	Dipyridamole poisoning	1
SL30100	Diphenhydramine poisoning	1
SLD2000	Diocetyl sulphosuccinate poisoning	1
SM02000	Dimethyl carbinol causing toxic effect	1
SL50700	Dihydrocodeine poisoning	1
SLC1000	Digoxin poisoning	1
SLD4.00	Digestant poisoning	1
SL94100	Diazepam poisoning	1
SLHy100	Diagnostic agent NEC, poisoning	1
SL50600	Dextropropoxyphene poisoning	1
SLF4000	Dextromethorphan poisoning	1
SM96.11	Detergent toxic effect	1
SM00100	Denatured alcohol causing toxic effect	1
ZX1..13	Deliberate self-harm	1
SL07300	Daunorubicin poisoning	1
SL07100	Dactinomycin poisoning	1
SM92200	DDT causing toxic effect	1
SL31400	Cytarabine poisoning	1
SL31300	Cyclophosphamide poisoning	1
SLC5000	Cyclandelate poisoning	1
SM90z00	Cyanides causing toxic effect NOS	1
SM90.00	Cyanides and hydrocyanic acid causing toxic effect	1
ZX13100	Cutting own wrists	1
SL42000	Coumarin poisoning	1
SL20000	Cortisone derivative poisoning	1
SL24000	Corticotropin poisoning	1
SM3..00	Corrosives/acids/caustic alkalis causing toxic effect	1
SM3z.00	Corrosive/acid/caustic alkali causing toxic effect NOS	1
SM30z00	Corrosive aromatics causing toxic effect NOS	1
SLC4.00	Coronary vasodilator poisoning	1
SM5y100	Copper salts causing toxic effect	1
E230100	Continuous acute alcoholic intoxication in alcoholism	1
SL22200	Combined oestrogen and progesterone poisoning	1
SLE7100	Colchicine poisoning	1
SL50300	Codeine (methyldorphine) poisoning	1
SL85000	Cocaine poisoning	1
SLC6000	Clonidine poisoning	1
SM56.00	Chromium causing toxic effect	1
SLB0z00	Cholinergic poisoning NOS	1
SLB0.11	Cholinergic poisoning	1
SL91000	Chlorpromazine poisoning	1
SL30000	Chlorphenamine poisoning	1
SL14000	Chloroquine poisoning	1
SM75100	Chloroacetophenone causing toxic effect	1
SM76.00	Chlorine gas causing toxic effect	1
SM92.00	Chlorinated hydrocarbon causing toxic effect	1
SL94000	Chlordiazepoxide poisoning	1
SL02000	Chloramphenicol poisoning	1
SL31200	Chlorambucil poisoning	1
SL71.00	Chloral hydrate poisoning	1
SL13000	Chiniofon poisoning	1
SLH2.11	Chelating agent poisoning	1
SLAz.00	Central nervous system stimulant poisoning NOS	1

Read code	Description	Number of studies
SLA..00	Central nervous system stimulant poisoning	1
SL80z00	Central nervous system muscle-tone depressant poisoning NOS	1
SL80.00	Central nervous system muscle-tone depressant poisoning	1
SL8..00	Central nervous system depressants and anaesthetic poisoning	1
SLH0000	Central appetite depressant poisoning	1
SL05000	Cefalexin poisoning	1
SM32z00	Caustic alkalis causing toxic effect NOS	1
SM32.00	Caustic alkalis causing toxic effect	1
Tz...00	Causes of injury and poisoning NOS	1
T....00	Causes of injury and poisoning	1
T8...11	Cause of overdose - accidental	1
SLC..00	Cardiovascular drug poisoning	1
SLCz.00	Cardiovascular agent poisoning NOS	1
SLC0.00	Cardiac rhythm drug poisoning	1
SLC1.00	Cardiac glycoside poisoning	1
SM21.00	Carbon tetrachloride causing toxic effect	1
SM6..00	Carbon monoxide causing toxic effect	1
SM93000	Carbaryl causing toxic effect	1
SL80000	Carbamate poisoning	1
SLB1400	Caramiphen poisoning	1
SL96000	Cannabis poisoning	1
SL97100	Caffeine poisoning	1
SM55.00	Cadmium causing toxic effect	1
SM70000	Butane causing toxic effect	1
SL70200	Butabarbitalone poisoning	1
SL31100	Busulfan poisoning	1
SL07200	Bleomycin poisoning	1
SL...11	Biological substance poisoning	1
SL23100	Biguanide poisoning	1
SLC0400	Beta blocker poisoning	1
SM53.00	Beryllium causing toxic effect	1
SM82.00	Berries and other plants causing toxic effect	1
SM82.11	Berries - toxic effect	1
SLE3000	Benzothiazide poisoning	1
SL94z00	Benzodiazepine poisoning NOS	1
SL94.00	Benzodiazepine poisoning	1
SM20.00	Benzene causing toxic effect	1
SL70z00	Barbiturate poisoning NOS	1
SL70.00	Barbiturate poisoning	1
SL70100	Barbitone poisoning	1
SL31000	Azathioprine poisoning	1
SLB..00	Autonomic nervous system drug poisoning	1
SLB1000	Atropine poisoning	1
1BD8.00	At risk of DSH - deliberate self harm	1
TL22.00	Assault by poisoning by other gases or vapours	1
TL20.00	Assault by poisoning by drugs or medicines	1
TL2z.00	Assault by poisoning NOS	1
TL2..00	Assault by poisoning	1
SL51000	Aspirin poisoning	1
SL11.00	Arsenical anti-infective poisoning	1
SM51.00	Arsenic causing toxic effect	1
SL52z00	Aromatic analgesic poisoning NOS	1
SL52.00	Aromatic analgesic poisoning NEC	1

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Read code	Description	Number of studies
SLF4z00	Antitussive poisoning NOS	1
SL28.00	Antithyroid agent poisoning	1
SL54z00	Antirheumatic poisoning NOS	1
SL54.00	Antirheumatic poisoning	1
SL5y200	Antipyretic poisoning, NEC	1
SL5..12	Antipyretic poisoning	1
SL6y.00	Antiparkinsonism drug poisoning	1
SL6yz00	Antiparkinsonian drug poisoning NOS	1
SL31z00	Antineoplastic or immunosuppressive poisoning NOS	1
SL07.00	Antineoplastic antibiotic poisoning	1
SL31.00	Antineoplastic and immunosuppressive poisoning	1
SL14z00	Antimalarial drug poisoning NOS	1
SL14.00	Antimalarial drug poisoning	1
SLC2.00	Antilipaemic and antiarteriosclerotic poisoning	1
SL30.13	Antihistamine poisoning	1
SL01.00	Antifungal antibiotic poisoning	1
SL30.12	Antiemetic poisoning	1
SLD5z00	Antidiarrhoeal poisoning NOS	1
SLD5.00	Antidiarrhoeal poisoning	1
SL6xz00	Anticonvulsant poisoning NOS	1
SL6..11	Anticonvulsant poisoning	1
SL6z.00	Anticonvulsant or antiparkinsonian drug poisoning NOS	1
SL6..00	Anticonvulsant and antiParkinsonian drug poisoning	1
SL42z00	Anticoagulant poisoning NOS	1
SL42.00	Anticoagulant poisoning	1
SL45z00	Anticoagulant agonist poisoning NOS	1
SL45.00	Anticoagulant agonist poisoning	1
SLB0100	Anticholinesterase poisoning	1
SL0z.00	Antibiotic poisoning NOS	1
SL0..00	Antibiotic poisoning	1
SLF7z00	Antiasthmatic poisoning NOS	1
SL30.00	Antiallergic and antiemetic drug poisoning	1
SL1z.00	Anti-infective poisoning NOS	1
SLD0.00	Anti-gastric acid drug poisoning	1
SLF6.00	Anti-common cold drug poisoning	1
SL16.00	Anthelmintic drug poisoning	1
SL24.00	Anterior pituitary hormone poisoning	1
SLD0z00	Antacid drug poisoning NOS	1
SLD0.11	Antacid drug poisoning	1
SL21.12	Androgen poisoning	1
SL21z00	Androgen or anabolic poisoning NOS	1
SL21.00	Androgen and anabolic poisoning	1
SL5z.00	Analgesic, antipyretic or antirheumatic poisoning NOS	1
SL5..00	Analgesic, antipyretic and antirheumatic drug poisoning	1
SL5y100	Analgesic poisoning, NEC	1
SL5..11	Analgesic poisoning	1
SLA0.00	Analeptic poisoning	1
SL8..11	Anaesthetic poisoning	1
SL21.11	Anabolic steroid poisoning	1
SM03000	Amyl alcohol causing toxic effect	1
SL00000	Ampicillin poisoning	1
SL01000	Amphotericin B poisoning	1
SL70000	Amobarbital poisoning	1

Read code	Description	Number of studies
SL90000	Amitriptyline poisoning	1
SLF7000	Aminophylline poisoning	1
SL97000	Amphetamine poisoning	1
SL6y000	Amantadine poisoning	1
SLD0000	Aluminium hydroxide poisoning	1
SLE7000	Allopurinol poisoning	1
SLH3.00	Alcohol deterrent poisoning	1
E230.11	Alcohol dependence with acute alcoholic intoxication	1
SM0z.00	Alcohol causing toxic effect NOS	1
SM0..00	Alcohol causing toxic effect	1
SL4..00	Agents affecting blood constituents, causing poisoning	1
TJF5100	Adverse reaction to ipecacuanha	1
TJF5000	Adverse reaction to acetylcysteine	1
SLC8000	Adrenochrome poisoning	1
SLB2.11	Adrenergic poisoning	1
SL20z00	Adrenal cortico-steroid poisoning NOS	1
SL20.00	Adrenal cortico-steroid poisoning	1
761H300	Administration of activated charcoal	1
E230000	Acute alcoholic intoxication, unspecified, in alcoholism	1
E230z00	Acute alcoholic intoxication in alcoholism NOS	1
E230.00	Acute alcoholic intoxication in alcoholism	1
SM31z00	Acids causing toxic effect NOS	1
SM31.00	Acids causing toxic effect	1
SL32.00	Acidifying agent poisoning	1
SLB0000	Acetylcholine poisoning	1
SM2y000	Acetone causing toxic effect	1
SL23000	Acetohexamide poisoning	1
SLE2000	Acetazolamide poisoning	1
T80yz00	Accidental poisoning-oth analgesic,antipyretic,antirheum NOS	1
T830z00	Accidental poisoning- phenothiazine-based tranquillisers NOS	1
T832z00	Accidental poisoning- benzodiazepine-based tranquilliser NOS	1
T953100	Accidental poisoning from seeds	1
T954.00	Accidental poisoning from other plants	1
T955y00	Accidental poisoning from other fungi	1
T955.00	Accidental poisoning from mushrooms and other fungi	1
T955z00	Accidental poisoning from mushrooms and fungi NOS	1
T955000	Accidental poisoning from mushrooms	1
T95..00	Accidental poisoning from foodstuffs and poisonous plants	1
T953z00	Accidental poisoning from berries or seeds NOS	1
T953.00	Accidental poisoning from berries and seeds	1
T953000	Accidental poisoning from berries	1
T937400	Accidental poisoning by zinc phosphide	1
T916300	Accidental poisoning by white washes	1
T885.00	Accidental poisoning by water,mineral,uric acid metab drugs	1
T937300	Accidental poisoning by warfarin	1
T981z00	Accidental poisoning by utility gas NOS	1
T88z.00	Accidental poisoning by unspecified drugs	1
T83z.00	Accidental poisoning by tranquillisers NOS	1
T83..00	Accidental poisoning by tranquillisers	1
T930500	Accidental poisoning by toxaphene	1
T964700	Accidental poisoning by thallium compounds	1
T937200	Accidental poisoning by thallium	1
T993.00	Accidental poisoning by tear gas	1

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Read code	Description	Number of studies
T910.00	Accidental poisoning by synthetic detergents and shampoos	1
T941200	Accidental poisoning by sulphuric acid	1
T991.00	Accidental poisoning by sulphur dioxide	1
T937100	Accidental poisoning by squill and derivatives	1
T92z.00	Accidental poisoning by solvent NOS	1
T96z.00	Accidental poisoning by solid and liquid substances NOS	1
T942000	Accidental poisoning by sodium hydroxide	1
T911.00	Accidental poisoning by soap products	1
T887z00	Accidental poisoning by skin, eye, ENT and dental drug NOS	1
T887000	Accidental poisoning by skin drugs	1
T82z.00	Accidental poisoning by sedatives and hypnotics NOS	1
T903300	Accidental poisoning by secondary propyl alcohol	1
T913000	Accidental poisoning by scouring agents	1
T803z00	Accidental poisoning by salicylates NOS	1
T803.00	Accidental poisoning by salicylates	1
T937z00	Accidental poisoning by rodenticides NOS	1
T937.00	Accidental poisoning by rodenticides	1
T815.00	Accidental poisoning by quinalbarbitone	1
T805.00	Accidental poisoning by pyrazole derivatives	1
T84z.00	Accidental poisoning by psychotropic agents NOS	1
T841400	Accidental poisoning by psilocin	1
T932200	Accidental poisoning by propoxur	1
T980200	Accidental poisoning by propane	1
T830300	Accidental poisoning by promazine	1
T830200	Accidental poisoning by prochlorperazine	1
T881.00	Accidental poisoning by primarily systemic agents	1
T912.00	Accidental poisoning by polishes	1
T965z00	Accidental poisoning by plant foods and fertilisers NOS	1
T965.00	Accidental poisoning by plant foods and fertilisers	1
T965000	Accidental poisoning by plant food	1
T973.00	Accidental poisoning by piped natural gas	1
T938200	Accidental poisoning by phosphine	1
T805100	Accidental poisoning by phenylbutazone	1
T830.00	Accidental poisoning by phenothiazine-based tranquillisers	1
T940011	Accidental poisoning by phenol	1
T814.00	Accidental poisoning by phenobarbitone	1
T804200	Accidental poisoning by phenacetin	1
T920.00	Accidental poisoning by petroleum solvents	1
T923.00	Accidental poisoning by petroleum solids	1
T920200	Accidental poisoning by petroleum naphtha	1
T921.12	Accidental poisoning by petroleum fuels	1
T920z00	Accidental poisoning by petrol solvents NOS	1
T923z00	Accidental poisoning by petrol solids NOS	1
T92..00	Accidental poisoning by petrol products	1
T921.00	Accidental poisoning by petrol fuels and cleaners	1
T921z00	Accidental poisoning by petrol fuel or cleaner NOS	1
T921200	Accidental poisoning by petrol	1
T802100	Accidental poisoning by pethidine	1
T813.00	Accidental poisoning by pentobarbitone	1
T80y000	Accidental poisoning by pentazocine	1
T935500	Accidental poisoning by paraquat	1
T923000	Accidental poisoning by paraffin wax	1
T804100	Accidental poisoning by paracetamol	1

Read code	Description	Number of studies
T916z00	Accidental poisoning by paint or varnish NOS	1
T887300	Accidental poisoning by otorhinolaryngological drugs	1
T98..00	Accidental poisoning by other utility gas + carbon monoxide	1
T981.00	Accidental poisoning by other utility gas	1
T83yz00	Accidental poisoning by other tranquilisers NOS	1
T83y.00	Accidental poisoning by other tranquilisers	1
T924z00	Accidental poisoning by other solvents NOS	1
T924.00	Accidental poisoning by other solvents	1
T96y.00	Accidental poisoning by other solid and liquid substances OS	1
T96..00	Accidental poisoning by other solid and liquid substances	1
T82y.00	Accidental poisoning by other sedatives and hypnotics OS	1
T82..00	Accidental poisoning by other sedatives and hypnotics	1
T84..00	Accidental poisoning by other psychotropic agents	1
T916.00	Accidental poisoning by other paints and varnishes	1
T802z00	Accidental poisoning by other opiates NOS	1
T802.00	Accidental poisoning by other opiates	1
T807.00	Accidental poisoning by other non-narcotic analgesics	1
T9...00	Accidental poisoning by other non-drug substances	1
T964.00	Accidental poisoning by other metals + compounds and fumes	1
T934.00	Accidental poisoning by other insecticides	1
T99y.00	Accidental poisoning by other gases and vapours OS	1
T99yz00	Accidental poisoning by other gases and vapours NOS	1
T99..00	Accidental poisoning by other gases and vapours	1
T95y.00	Accidental poisoning by other foods	1
T901.00	Accidental poisoning by other ethyl alcohol and its products	1
T85..00	Accidental poisoning by other drugs acting on nervous system	1
T88y.00	Accidental poisoning by other drugs OS	1
T88yz00	Accidental poisoning by other drugs NOS	1
T88..00	Accidental poisoning by other drugs	1
T94y.00	Accidental poisoning by other corrosives and caustics	1
T913z00	Accidental poisoning by other cleaning agents NOS	1
T913.00	Accidental poisoning by other cleaning agents	1
T90y.00	Accidental poisoning by other alcohols	1
T966y00	Accidental poisoning by other adhesives	1
T851.00	Accidental poisoning by oth central nervous syst depressants	1
T80y.00	Accidental poisoning by oth analgesics,antipyretic,antirheum	1
T931z00	Accidental poisoning by organophosphorus insecticides NOS	1
T931.00	Accidental poisoning by organophosphorus insecticides	1
T930.00	Accidental poisoning by organochlorine insecticides	1
T936000	Accidental poisoning by organic mercurials	1
T802300	Accidental poisoning by opium	1
T843100	Accidental poisoning by opiate antagonists	1
T887200	Accidental poisoning by ophthalmological drugs	1
T855100	Accidental poisoning by noradrenalin	1
T807z00	Accidental poisoning by non-narcotic analgesics NOS	1
T916200	Accidental poisoning by non-lead paints	1
T990.00	Accidental poisoning by nitrogen oxides	1
T941100	Accidental poisoning by nitric acid	1
T832500	Accidental poisoning by nitrazepam	1
T964600	Accidental poisoning by nickel compounds	1
T806200	Accidental poisoning by naproxen	1
T886.00	Accidental poisoning by muscle + respiratory system drugs	1
T887100	Accidental poisoning by mucous membrane drugs	1

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Read code	Description	Number of studies
T982.00	Accidental poisoning by motor vehicle exhaust gas	1
T802200	Accidental poisoning by morphine	1
T840200	Accidental poisoning by monoamine oxidase inhibitors	1
T933.00	Accidental poisoning by mixtures of insecticides	1
T935400	Accidental poisoning by mixtures herbicides+plant food etc	1
T825.00	Accidental poisoning by mixed sedatives NEC	1
T901100	Accidental poisoning by methylated spirit	1
T938100	Accidental poisoning by methyl bromide	1
T902.00	Accidental poisoning by methyl alcohol	1
T823.00	Accidental poisoning by methaqualone compounds	1
T902000	Accidental poisoning by methanol	1
T801.00	Accidental poisoning by methadone	1
T964z00	Accidental poisoning by metals + compounds and fumes NOS	1
T961000	Accidental poisoning by mercury, unspecified	1
T961z00	Accidental poisoning by mercury, NOS	1
T961200	Accidental poisoning by mercury fumes	1
T961.00	Accidental poisoning by mercury and its compounds and fumes	1
T832400	Accidental poisoning by medazepam	1
T964500	Accidental poisoning by manganese and its compounds	1
T931300	Accidental poisoning by malathion	1
T841100	Accidental poisoning by lysergide, LSD	1
T922.00	Accidental poisoning by lubricating oils	1
T832300	Accidental poisoning by lorazepam	1
T852.00	Accidental poisoning by local anaesthetic	1
T852100	Accidental poisoning by lignocaine	1
T960000	Accidental poisoning by lead, unspecified	1
T960z00	Accidental poisoning by lead, NOS	1
T915.00	Accidental poisoning by lead paints	1
T960.00	Accidental poisoning by lead and its compounds and fumes	1
T916000	Accidental poisoning by lacquers	1
T806400	Accidental poisoning by ketoprofen	1
T921300	Accidental poisoning by kerosene	1
T903z00	Accidental poisoning by isopropyl alcohol NOS	1
T903100	Accidental poisoning by isopropanol	1
T964400	Accidental poisoning by iron compounds	1
T934z00	Accidental poisoning by insecticides NOS	1
T806100	Accidental poisoning by indomethacin	1
T840100	Accidental poisoning by imipramine	1
T806300	Accidental poisoning by ibuprofen	1
T854200	Accidental poisoning by hyoscine	1
T941000	Accidental poisoning by hydrochloric acid	1
T850100	Accidental poisoning by hydantoin derivatives	1
T91z.00	Accidental poisoning by household agents NOS	1
T91..00	Accidental poisoning by household agents	1
T880.00	Accidental poisoning by hormones and synthetic substitutes	1
T800.00	Accidental poisoning by heroin	1
T935z00	Accidental poisoning by herbicides NOS	1
T935.00	Accidental poisoning by herbicides	1
T981300	Accidental poisoning by heating gas NOS	1
T831000	Accidental poisoning by haloperidol	1
T851200	Accidental poisoning by halogenated hydrocarbon derivatives	1
T841.00	Accidental poisoning by hallucinogens	1
T841z00	Accidental poisoning by hallucinogen NOS	1

Read code	Description	Number of studies
T806000	Accidental poisoning by gold salts	1
T966z00	Accidental poisoning by glues and adhesives NOS	1
T966.00	Accidental poisoning by glues and adhesives	1
T966000	Accidental poisoning by glues	1
T884.00	Accidental poisoning by gastrointestinal system drugs	1
T470.00	Accidental poisoning by gases or fumes on ship	1
T99z.00	Accidental poisoning by gases and vapours NOS	1
T921100	Accidental poisoning by gas oils	1
T97..00	Accidental poisoning by gas distributed by pipeline	1
T936z00	Accidental poisoning by fungicides NOS	1
T936.00	Accidental poisoning by fungicides	1
T938.00	Accidental poisoning by fumigants	1
T95z.00	Accidental poisoning by foodstuffs and poisonous plants NOS	1
T965100	Accidental poisoning by fertilisers	1
T982000	Accidental poisoning by exhaust gas-stationary farm tractor	1
T982z00	Accidental poisoning by exhaust gas from motor vehicle NOS	1
T982100	Accidental poisoning by exhaust gas from gas engine	1
T901z00	Accidental poisoning by ethyl alcohol NOS	1
T901300	Accidental poisoning by ethanol, NOS	1
T8...00	Accidental poisoning by drugs, medicines and biologicals	1
T882.00	Accidental poisoning by drugs affecting blood constituents	1
T85z.00	Accidental poisoning by drugs acting on nervous system NOS	1
T8z..00	Accidental poisoning by drugs NOS	1
T914.00	Accidental poisoning by disinfectants	1
T935300	Accidental poisoning by diquat	1
T930300	Accidental poisoning by dieldrin	1
T832100	Accidental poisoning by diazepam	1
T800.11	Accidental poisoning by diamorphine	1
T887400	Accidental poisoning by dental drugs	1
T901000	Accidental poisoning by denatured alcohol	1
T938000	Accidental poisoning by cyanides	1
T967.00	Accidental poisoning by cosmetics	1
T94z.00	Accidental poisoning by corrosives and caustics NOS	1
T94..00	Accidental poisoning by corrosives and caustics NEC	1
T940.00	Accidental poisoning by corrosive aromatics	1
T964300	Accidental poisoning by copper salts	1
T981400	Accidental poisoning by cooking gas NOS	1
T802000	Accidental poisoning by codeine	1
T852000	Accidental poisoning by cocaine	1
T971.00	Accidental poisoning by coal gas NOS	1
T853.00	Accidental poisoning by cholinergics	1
T830000	Accidental poisoning by chlorpromazine	1
T99y000	Accidental poisoning by chlorine	1
T832000	Accidental poisoning by chlordiazepoxide	1
T930100	Accidental poisoning by chlordane	1
T935200	Accidental poisoning by chlorates	1
T820.00	Accidental poisoning by chloral hydrate	1
T88y000	Accidental poisoning by central appetite depressants	1
T942z00	Accidental poisoning by caustic alkalis NOS	1
T942.00	Accidental poisoning by caustic alkalis	1
T883.00	Accidental poisoning by cardiovascular system drugs	1
T983.00	Accidental poisoning by carbon monoxide-other domestic fuel	1
T970.00	Accidental poisoning by carbon monoxide from piped gas	1



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Read code	Description	Number of studies
T98y.00	Accidental poisoning by carbon monoxide from other sources	1
T98yz00	Accidental poisoning by carbon monoxide from oth source NOS	1
T98z.00	Accidental poisoning by carbon monoxide NOS	1
T983z00	Accidental poisoning by carbon monoxide - domestic fuel NOS	1
T940000	Accidental poisoning by carbolic acid	1
T932100	Accidental poisoning by carbaryl	1
T932.00	Accidental poisoning by carbamates	1
T841000	Accidental poisoning by cannabis derivatives	1
T842100	Accidental poisoning by caffeine	1
T964200	Accidental poisoning by cadmium and its compounds	1
T980100	Accidental poisoning by butane	1
T993000	Accidental poisoning by bromobenzyl cyanide	1
T822.00	Accidental poisoning by bromine compounds	1
T822000	Accidental poisoning by bromides	1
T964100	Accidental poisoning by brass fumes	1
T964000	Accidental poisoning by beryllium and its compounds	1
T832.00	Accidental poisoning by benzodiazepine-based tranquillisers	1
T930000	Accidental poisoning by benzene hexachlorine	1
T924000	Accidental poisoning by benzene	1
T81z.00	Accidental poisoning by barbiturates NOS	1
T81..00	Accidental poisoning by barbiturates	1
T811.00	Accidental poisoning by barbitone	1
T854000	Accidental poisoning by atropine	1
T803000	Accidental poisoning by aspirin	1
T963000	Accidental poisoning by arsenic, unspecified	1
T963100	Accidental poisoning by arsenic compounds	1
T963.00	Accidental poisoning by arsenic and its compounds and fumes	1
T804.00	Accidental poisoning by aromatic analgesics NEC	1
T806z00	Accidental poisoning by antirheumatics NOS	1
T806.00	Accidental poisoning by antirheumatics	1
T840z00	Accidental poisoning by antidepressants NOS	1
T840.00	Accidental poisoning by antidepressants	1
T850z00	Accidental poisoning by anticonvulsant/anti-parkin drug NOS	1
T850.00	Accidental poisoning by anticonvulsant + anti-parkinson drug	1
T850.11	Accidental poisoning by anticonvulsant	1
T854.00	Accidental poisoning by anticholinergics	1
T86..00	Accidental poisoning by antibiotics	1
T850.12	Accidental poisoning by anti-parkinsonism drug	1
T87..00	Accidental poisoning by anti-infectives	1
T80..00	Accidental poisoning by analgesics,antipyretic,antirheumatic	1
T80z.00	Accidental poisoning by analgesics,antipyretic,antirheum NOS	1
T842000	Accidental poisoning by amphetamine	1
T840000	Accidental poisoning by amitriptyline	1
T900.00	Accidental poisoning by alcoholic beverages	1
T90..00	Accidental poisoning by alcohol, NEC	1
T90z.00	Accidental poisoning by alcohol NOS	1
T93..00	Accidental poisoning by agricultural chemical preparations	1
T855.00	Accidental poisoning by adrenergics	1
T855000	Accidental poisoning by adrenalin	1
T941z00	Accidental poisoning by acids NOS	1
T941.00	Accidental poisoning by acids	1
T981000	Accidental poisoning by acetylene	1
T930200	Accidental poisoning by DDT	1

Read code	Description	Number of studies
T983300	Accidental poisoning by CO- kerosene in domestic stove/fire	1
T983100	Accidental poisoning by CO- coke in domestic stove/fireplace	1
T983000	Accidental poisoning by CO- coal in domestic stove/fireplace	1
T98y100	Accidental poisoning by CO - kiln vapour	1
T98y200	Accidental poisoning by CO - fuels in industrial use	1
T98y000	Accidental poisoning by CO - blast furnace gas	1
T93z.00	Accidental poisoning agricultural chemical preparations NOS	1
T9z..00	Accidental poisoning NOS	1
T77z.00	Accident/poisoning occurred in residential institution NOS	1
T85y.00	Accid. poisoning by other drugs acting on nervous system OS	1
T470500	Accid poison gas/fume on ship - swimmer injured	1
SL24011	ACTH - adrenocorticotrophic hormone poisoning	1

**Table 10. ICD codes used in the studies of anxiety.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Bouras, 2016	CPRD + HES	ICD-10	F40-F48

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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**Table 11. ICD codes used in the studies of depression.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Bouras, 2016	CPRD + HES	ICD-10	F32, F33
Jenkins-Jones, 2018	CPRD + HES	ICD-10	F32, F33, F41.2, F92.0

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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**Table 12. ICD codes used in the studies of dementia.**

<b>Study</b>	<b>Databases</b>	<b>ICD version</b>	<b>List of codes</b>
Brown, 2016	CPRD + HES	ICD-10	E512, F00, F01, F02, F03, F10.6, F10.7, G30, G31.0
Emdin, 2016	CPRD + HES	ICD-10	F01

CPRD – Clinical Practice Research Datalink; HES – Hospital Episode Statistics; ICD - International Classification of Diseases.

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**Table 13. ICD codes used in the studies of fatal self-harm.**

<b>Study</b>	<b>ICD version</b>	<b>List of codes</b>
Carr, 2017	ICD-10	V01-Y98
Coupland, 2015	ICD-10	not provided
Doyle, 2016	ICD-10	X60-X84, Y10-34 (excluding Y33.9), Y87.0 and Y87.2
Lalmohamed, 2012	ICD-10	V01-Y99
Meier, 2004	ICD-10	not provided
Schuerch, 2016	ICD-10	X60-X84, Y10-Y34
Thomas, 2013	ICD-10	X60-X84, Y10-34 (excluding Y33.9)
Webb, 2012	ICD-10	X60-X84, Y10-34 (excluding Y33.9)
Windfuhr, 2016	ICD-10	X60-X84, Y10-34 (excluding Y33.9), Y87.0 and Y87.2

ICD - International Classification of Diseases



# PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
<b>TITLE</b>			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
<b>ABSTRACT</b>			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
<b>METHODS</b>			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	None exists
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix 1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Not applicable
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Not applicable



# PRISMA 2009 Checklist

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., $I^2$ ) for each meta-analysis.	7-8
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Page 1 of 2

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	Not applicable
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Not applicable
<b>RESULTS</b>			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Fig 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	App. 3-10
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Not applicable
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	App. 11-22
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Not applicable
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Not applicable
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Not applicable
<b>DISCUSSION</b>			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	14
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	14-15
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	16-19
<b>FUNDING</b>			
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# PRISMA 2009 Checklist

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Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	3
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*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: [www.prisma-statement.org](http://www.prisma-statement.org).

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