

BMJ Open

BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers' comments and the authors' responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (<http://bmjopen.bmj.com>).

If you have any questions on BMJ Open's open peer review process please email info.bmjopen@bmj.com

BMJ Open

Digital health interventions for the management of mental health in people with chronic diseases: a rapid review.

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2020-044437
Article Type:	Original research
Date Submitted by the Author:	06-Sep-2020
Complete List of Authors:	Sasseville, Maxime; Université du Québec à Chicoutimi, Health Sciences; VITAM Research Center on Sustainable Health LeBlanc, Annie; VITAM Research Center on Sustainable Health; Université Laval Boucher, Mylène; VITAM Research Center on Sustainable Health Dugas, Michèle ; VITAM Research Center on Sustainable Health Mbemba, Gisele; VITAM Research Center on Sustainable Health Tchunte, Jack; VITAM Research Center on Sustainable Health Chouinard, Maud-Christine; Université de Montréal Beaulieu, Marianne; Université Laval Beaudet, Nicolas ; Omnimed; Université de Sherbrooke Skidmore, Becky; Independent Information Specialist Cholette, Pascale ; Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale du Québec Aspiros, Christine; Patient partner Larouche, Alain; Groupe Santé Concerto Chabot, Guylaine; Groupe Santé Concerto Gagnon, Marie-Pierre; Université Laval; VITAM Research Center on Sustainable Health
Keywords:	MENTAL HEALTH, Health informatics < BIOTECHNOLOGY & BIOINFORMATICS, GENERAL MEDICINE (see Internal Medicine)

SCHOLARONE™
Manuscripts



I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our [licence](#).

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which [Creative Commons](#) licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

1
2
3 **Title: Digital health interventions for the management of mental health in people with**
4 **chronic diseases: a rapid review.**
5

6 Maxime Sasseville, RN, PhD, VITAM Research Center on Sustainable Health, Université du
7 Québec à Chicoutimi, maxime1_sasseville@uqac.ca

8 Annie LeBlanc, PhD, Université Laval; VITAM Research Center on Sustainable Health,
9 annie.leblanc@fmed.ulaval.ca

10 Mylène Boucher, MSc, VITAM Research Center on Sustainable Health,
11 Mylene.Boucher.ciusscn@ssss.gouv.qc.ca

12 Michèle Dugas, MSc, VITAM Research Center on Sustainable Health,
13 michele.dugas.1@ulaval.ca

14 Mbemba Gisèle, PhD, Université Laval, gisele-irene-claudine.mbemba.1@ulaval.ca

15 Jack Tchunte, M.A, VITAM Research Center on Sustainable Health,
16 jack.tchunte.ciusscn@ssss.gouv.qc.ca

17 Maud-Christine Chouinard, RN, PhD, Université de Montréal,
18 maud.christine.chouinard@umontreal.ca

19 Marianne Beaulieu, PhD, Université Laval, Marianne.Beaulieu@fsi.ulaval.ca

20 Nicolas Beaudet, PhD, Université de Sherbrooke, Omnimed, nbeaudet@omnimed.com

21 Becky Skidmore, MLS, Independent Information Specialist, bskidmore@rogers.com

22 Pascale Cholette, MD, Centre Intégré Universitaire de Santé et de Services Sociaux de la
23 Capitale Nationale, pascale.cholette@gmail.com

24 Christine Aspiros, B.A.A, Patient-Partner, christine.aspiros1@gmail.com

25 Alain Larouche, MD, Groupe Concerto, alarouche@groupeconcerto.com

26 Guylaine Chabot, Groupe Concerto, gchabot@groupeconcerto.com

27 Marie-Pierre Gagnon, PhD, Université Laval, VITAM Research Center on Sustainable
28 Health, Marie-Pierre.Gagnon@fsi.ulaval.ca

29
30
31
32
33
34 **Corresponding author contact e-mail:**

35 maxime1_sasseville@uqac.ca

36 **Funding statement:** This review was funded by the Canadian Institute for Health Research in
37 the Operating Grant: Knowledge Synthesis: COVID-19 in Mental Health & Substance Use
38 (2020-05-04)

39 **Declaration of competing interests:** The authors have no conflict of interests to declare.
40

41
42 **Word count: 2315 words (2500 words MAX)**
43

44 **Keywords:**

- 45 • Rapid review
- 46 • Chronic Diseases
- 47 • Digital health interventions
- 48 • Mental health
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

ABSTRACT

Objective: Determine the effectiveness of digital mental health interventions for individuals with a concomitant chronic disease.

Design: We conducted a rapid review of systematic reviews. Two reviewers independently conducted study selection, and risk of bias evaluation. A standardized extraction form was used. Data is reported narratively.

Interventions: We included systematic reviews of digital health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic disease, including chronic mental health illnesses, published in 2010 or after.

Main outcome measure: Reports on mental health outcomes (e.g.: anxiety symptoms, depression symptoms).

Results: We included 35 reviews, totalling 702 primary studies with a total sample of 50 692 participants. We structured the results in four population clusters: 1) chronic diseases; 2) cancer; 3) mental health; and 4) children and youth. For populations presenting a chronic disease or cancer, health provider-directed digital interventions (e.g., web-based consultation, internet cognitive behavior therapy) are effective and safe. Further analyses are required in order to provide stronger recommendations regarding relevance for specific population (such as children and youth). Web-based interventions and e-mail were the mode of administration that had the most reports of improvement. Virtual reality, smart-phone applications and patient portal had limited reports of improvement.

Conclusions: Digital technologies could be used to prevent and manage mental health problems in people living with chronic conditions, with consideration for the age group and type of technology used.

Strengths and limitation of this study

- We conducted a rapid review of systematic reviews published in the last 10 years, including a large body of evidence in four clusters of population.
- A panel of knowledge users were involved in each step of the review, from conceptualization to publication to ensure relevance in clinical context and policy making.
- Study selection and bias evaluation were completed by two independent reviewers and data extraction used a standardized form.
- We limited the search to the most relevant databases and the last 10 years.
- The overlapping of primary studies was not evaluated.

INTRODUCTION

Chronic diseases are the main burden on healthcare systems in developed countries and account for almost 70% of deaths worldwide(1). An individual with a chronic condition is two to three times more likely to present a concomitant mental health problem than the general population (2). As the number of physical chronic conditions increase in a population, so do the mental health ones. The co-occurrence of chronic and mental health conditions leads to an increase in total healthcare costs and services utilization, as well as poorer quality of life and health outcomes for these individuals (3, 4)..

The psychosocial consequences of the current COVID-19 pandemic are alarming and will persist long after the pandemic is over (5). In the current COVID-19 pandemic context, efforts have been invested to rapidly produce scientific evidence in mental health for adapting the clinical setting and supporting policy making (e.g., confinement measures). Adapting to telehealth, when in-person consultation is not recommended, requires efficient and relevant digital mental health interventions for the population with concomitant chronic diseases and mental health issues. While a large number of interventions using digital technologies have been evaluated for the management of depression or anxiety (6, 7), the relevance of these interventions for people living with chronic diseases remains to be defined.

This rapid review of systematic reviews aimed to determine effectiveness of digital mental health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic condition.

METHODS

We conducted a rapid review following the guidance from the Cochrane Rapid Reviews Methods Group (8). We report our results based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (9). The protocol for this rapid review was registered in the National Collaborating Centre for Methods and Tools (NCCMT) COVID-19 Rapid Evidence Service (ID 75).

Knowledge Users Engagement

We engaged a panel of knowledge users (patients, clinicians, decision makers), content experts, review methodologists, and researchers throughout the review process, from question development, literature search, data extraction and analysis, interpretation and writing of results, and dissemination of findings.

Eligibility Criteria

We followed the PICO Framework in establishing eligibility criteria (10) (Table 1). We considered any review that included digital health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic disease, including chronic mental health diseases, published in 2010 or after. There were no language restriction.

Literature Search

An experienced medical information specialist developed and tested the search strategies through an iterative process in consultation with the review team and knowledge users. Using the OVID platform, we searched Ovid MEDLINE®, including Epub Ahead of Print and In-Process & Other Non-Indexed Citations, Embase Classic+Embase, Cochrane Database of

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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

Systematic Reviews, Database of Abstracts of Reviews of Effects and the Health Technology Assessment Database. We also searched CINAHL (EBSCO) and Web of Science. All searches were performed on June 11, 2020. We used a combination of controlled vocabulary (e.g., “Chronic Disease”, “Mood Disorders”, “Internet”) and keywords (e.g., “cancer”, “anxiety”, “telehealth”), and adjusted vocabulary and syntax across the databases. We applied a systematic review filter to all searches except for the Cochrane databases, where it is not required. Specific details regarding the strategies appear in additional file 1.

Study Selection, Data Extraction, and Synthesis

Six reviewers individually performed screening for titles, abstracts and then full text using a standardized form pilot-tested by all reviewers on 25 citations. All citations were reviewed by two reviewers independently at the first level of screening. We developed a standardized extraction form that included study characteristics (e.g., authors, country, design), intervention characteristics (e.g., type of digital intervention), and outcomes reported. A senior reviewer reviewed all full-text citations for inclusion. Single reviewers extracted data which were then confirmed by a senior reviewer. We resolved discrepancies through discussion. We report data using a narrative approach which includes tables of study characteristics, intervention characteristics, and mental health outcomes.

Critical Appraisal

We used the AMSTAR 2 tool to critically appraise each included review (11). This revised version of the AMSTAR tool was developed for the evaluation of systematic reviews that include randomised or non-randomised studies of healthcare interventions. This tool has good inter-rater reliability, is widely used for healthcare research, and uses a four-level rating of overall confidence. A single reviewer rated the critical appraisal tool and all judgements were verified by a second author (11).

RESULTS

Characteristics of Included Reviews

Our search strategy identified 2320 individual citation. Following screening of titles and abstracts, we excluded 2153 records. We excluded an additional 132 citations during full-text screening, resulting in a total of 35 citations included in our review (Figure 1)(12-46).Of these reviews, there were 17 systematic reviews, 17 systematic reviews with meta-analysis and one integrative review, totalizing 702 primary studies with a total sample of 50,692 participants.

Most reviews described digital interventions performed in a specialized care setting (42%) and targeted an adult population (83%). They were looking at interventions to manage and treat a mental health problem (60%), testing web-based and internet interventions (32%) by comparing them to usual care (48%), for people affected with cancer or various chronic diseases (77%). We present the complete description of included reviews in Table 2.

The overall confidence ratings of the AMSTAR 2 tool were mostly high or moderate (31/35) with a limited number of low ratings (4/35) and no critically low rating (Table 3). A small percentage of the AMSTAR 2 items were not reported in the included reviews with the exception of the source of funding of primary studies in the included reviews (0%) (Figure 2).

We structured our synthesis according to four population clusters: 1) chronic diseases; 2) cancer; 3) mental health; and 4) children and youth. The mental health outcomes found in the included reviews were mainly depression and anxiety symptoms, assessed through

heterogeneous outcomes measures. The results are further presented by type of reporting (quantitative or narrative).

Chronic Diseases Cluster

We identified 13 reviews referring to people with various chronic diseases (Table 2). Six of the 13 reviews reported their results using pooled difference of score mean (16, 19, 23, 36, 42, 43). The majority of the reviews presenting quantitative results reported improvement of depressive symptoms (5/6), but only one identified improvement in anxiety symptoms (1/3). One review reported improvement of general distress(42). The synthesis with the largest effect size included 108 primary studies with only web-based and internet cognitive behavior therapy (CBT) interventions(23). Most of the reviews that yielded narrative results reported improvement of depressive symptoms (6/7), improvement in anxiety symptoms (6/7) and psychosocial outcomes (1/1). Only one report of inferior effectiveness was identified for both depression and anxiety symptoms(18). Narrative reports described a small to moderate effect size within group in depression and anxiety symptoms. One integrative review report based on qualitative data described that digital health interventions for people with chronic diseases promoted active acceptance of their disease, improved the awareness of physical manifestations of the disease, helped identify signs and symptoms of worsening and improved management of acute events(18). The types of digital technology that had the most reports of improvements were web-based interventions, followed by e-mail. Virtual reality and patient portal had no reports of improvements on outcomes when used (Table 4).

Cancer Cluster

We identified 14 reviews referring to people with cancer (Table 2). Quantitative reporting was present in six reviews (17, 24, 25, 30, 44, 46). Four (4/6) of those reported improvements of depressive symptoms, and half showed improvements in anxiety symptoms (3/6). Other quantitative reports of improvements in mental health outcomes included distress and quality of life. The quantitative report with the largest effect size included 20 primary studies, a total sample of 2190 participants, and looked at web-based and teleconsultations CBT interventions(17). Reviews that yielded narrative results reported improvements of depression symptoms (6/7), anxiety symptoms (5/5), distress (3/3), quality of life (1/1) and mood regulation (1/1). Pooling of the results was impossible in one review due to heterogeneity(12). The narrative outcome reports described a small effect size within group for depression and anxiety symptoms (21). The types of digital intervention that had the most reports of improvements were web-based interventions and e-mail. Virtual reality had no reports of improvements (Table 4)

Children and Youth Cluster

We identified four reviews related to digital health interventions targeting children and youth (Table 2). Two reviews reported a quantitative synthesis presenting mixed effects; one showing within group improvements in depression and anxiety, and both showing no between group difference on these outcomes (20, 39). As for narrative syntheses, both reported improvements on depression and anxiety, with one of the reviews reporting on post-traumatic stress disorder (PTSD) symptoms improvement (28, 32). The limited reports on improvement for this population was associated with the used of web-based interventions (3/4), Smart phone applications (2/4) and virtual reality (1/4) (Table 4).

Mental Health Cluster

We identified four reviews related to population with mental health problems (Table 2). The quantitative reports showed improvements in anxiety symptoms for generalized anxiety

1
2
3 disorder and disease-specific anxiety (3/3), improvements of depression symptoms (1/1) and
4 PTSD symptoms (1/1). The only narrative report for that cluster showed no improvement on
5 PTSD symptoms between groups (45). The types of digital technology that had the most
6 reports of improvement were web-based interventions (3/4) and e-mail (2/4) with unique
7 reports for smart phone applications, text-messages and online chat (table 4).
8
9

10 **DISCUSSION**

11 We conducted a rapid review of systematic reviews to identify digital health interventions
12 effective to prevent, detect or manage mental health problems in individuals with a pre-
13 existing chronic disease. In total, 35 reviews were included.
14
15

16 Our findings are in line with the extensive evidence that internet CBT interventions are
17 effective and comparable to face-to-face interventions (47). Our analysis adds to the body of
18 evidence on effectiveness regarding concomitant chronic diseases in four clusters of
19 population. For people with various chronic diseases, most of the included reviews showed
20 that digital health interventions have a positive effect on depression, anxiety, distress and
21 psychosocial outcomes. The data showed that interventions have a moderate effect size
22 within the intervention group and a small effect size when compared to usual care. For the
23 cluster of population affected by cancer (including survival), evidence already exists
24 regarding the effectiveness of digital mental health interventions with positive to mixed effect
25 (48). Our data also showed that digital health interventions are effective in improving
26 depression, anxiety, distress, quality of life and mood regulation, and teleconsultation and
27 web-based interventions were the most effective modes of delivery for this population.
28 Regarding the pediatric population, a meta-review targeting digital mental health
29 interventions for children and youth reported a positive effect for the use of web-based CBT
30 but only in children and youth with anxiety and depression with no other concomitant
31 conditions (49). Quantitative data were inconclusive regarding effectiveness and effect size
32 within group but showed a non-inferiority when compared to usual care. All included reviews
33 in this population combined smart phone applications and web-based interventions, making it
34 difficult to draw any conclusion about the most effective mode of delivery for the
35 intervention at this level of analysis. For the mental health population, the included reviews
36 emphasized that digital health interventions are effective for individuals with a combination
37 of physical and mental conditions, as well as for people with multiple mental health
38 problems.
39
40
41
42

43 Available evidence suggests that digital health interventions such as web-based CBT, e-mail
44 messaging and teleconsultation could be effective and provide an alternative to face-to-face
45 psychological interventions to prevent and manage mental health problems in people affected
46 by cancer or other chronic diseases. In line with our findings, Torous et al. described that
47 offering health provider-directed synchronous digital health solutions such as teleconsultation
48 is the first step to increase access to quality mental health care in the midst of the COVID-19
49 pandemic (50). Many of these innovations support the care of people in need of special
50 attention, including those with chronic illnesses. Due to smaller effect size, we were not able
51 to draw any conclusion related to the other forms of digital health interventions such as
52 online chat, text message and smart phone applications. These types of digital health
53 interventions are asynchronous; they may improve access and promote low-threshold
54 alternatives to mental health consultations within the health care system. However, More
55 evidence regarding implementation and evaluation to be safe for patients would be required
56 (50). Included reviews that looked at other intervention delivery methods reported smaller to
57 no effect, but it could be related to heterogeneity of the data.
58
59
60

1
2
3
4 This rapid review of reviews has limitations. In order to respect the requirements of this
5 urgent strategic call in response to the COVID-19 pandemic and provide stakeholders and
6 decision makers with up-to-date evidence, we limited the search to the most relevant
7 databases and the last 10 years. Despite our best efforts, we may have missed some
8 publications. Moreover, we did not assess the overlapping of primary studies in the included
9 reviews. While we rigorously followed guidance for the conduct of rapid reviews, results
10 from this study should be interpreted with caution. Further analyses will be required for
11 stronger recommendations, notably by considering the potential publication bias, as well as
12 other factors that could decrease the level of confidence in the reported effects.
13
14

15 16 **CONCLUSION**

17 This rapid review outlines the current evidence regarding the use of digital health
18 interventions for people with a concomitant chronic disease. For individuals with a chronic
19 disease or cancer, health provider-directed digital interventions (e.g., teleconsultation) are
20 effective and safe. However, further analyses of this large body of evidence are required in
21 order to provide precise recommendations regarding relevance for specific populations (such
22 as children and youth), modes of delivery and type of intervention. In response to the current
23 crisis, but also to better prepare for the post-crisis and future crises, digital technologies could
24 be used to prevent and manage mental health problems in people living with chronic
25 conditions, with consideration for the age group and type of technology used.
26
27

28 29 **ACKNOWLEDGEMENTS**

30 The authors would like to thank the knowledge users for their support throughout this review
31 and the SPOR Evidence Alliance for their support.
32

33 34 **PATIENT AND PUBLIC INVOLVEMENT STATEMENT**

35 A panel of knowledge users (patients and clinicians) was involved throughout the research
36 process, from funding acquisition to publication. The panel will also be involved in
37 subsequent dissemination activities.
38

39 **AUTHOR STATEMENT:** Maxime Sasseville, Annie LeBlanc, Marie-Pierre Gagnon,
40 Maud-Christine Chouinard, Marianne Beaulieu, Nicolas Beaudet, Pascale Cholette Christine
41 Aspiros, Alain Larouche, Guylaine Chabot identified the need for this study and contributed
42 to its conception and design. Maxime Sasseville, Marie-Pierre Gagnon, Mylène Boucher,
43 Michèle Dugas, Mbemba Gisèle, Jack Tchuente conducted the data collection and analysis.
44 Maxime Sasseville developed the first draft of the report. All authors contributed to writing
45 and editing and gave the final approval of the version submitted.
46
47

48 **DATA STATEMENT:** Available with the first (MS) or last (MPG) authors.
49
50
51
52
53
54
55
56
57
58
59
60

REFERENCES

1. World Health Organisation. Global status report on noncommunicable diseases. Geneva, Switzerland; 2014.
2. Chapman DP, Perry GS, Strine TW. Peer reviewed: the vital link between chronic disease and depressive disorders. *Preventing Chronic Disease*. 2005;2(1).
3. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *The Lancet*. 2012;380(9836):37-43.
4. Naylor C, Parsonage M, McDaid D, Knapp M, Fossey M, Galea A. Long-term conditions and mental health: the cost of co-morbidities. The King's Fund and Centre for Mental Health; 2012.
5. Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and Clinical Neurosciences*. 2020;74(4):281.
6. García-Lizana F, Muñoz-Mayorga I. Telemedicine for depression: a systematic review. *Perspective Psychiatry Care*. 2010;46(2):119-26.
7. Richards D, Richardson T. Computer-based psychological treatments for depression: a systematic review and meta-analysis. *Clinical Psychology Review*. 2012;32(4):329-42.
8. Garritty C GG, Kamel C, King VJ, Nussbaumer-Streit B, Stevens A, Hamel C, Affengruber L. Cochrane Rapid Reviews. . Interim Guidance from the Cochrane Rapid Reviews Methods Group. In: Reviews. CR, editor.: Cochrane Collaboration; 2020.
9. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Medicine*. 2009;6(7):e1000097.
10. Goldstein KM, Fisher DA, Wu RR, Orlando LA, Coffman CJ, Grubber JM, et al. An electronic family health history tool to identify and manage patients at increased risk for colorectal cancer: protocol for a randomized controlled trial. *Trials*. 2019;20(1):576.
11. Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ*. 2017;358:j4008.
12. Agboola SO, Ju W, Elfiky A, Kvedar JC, Jethwani K. The effect of technology-based interventions on pain, depression, and quality of life in patients with cancer: a systematic review of randomized controlled trials. *Journal of Medical Internet Research*. 2015;17(3):e65.
13. Bartolo A, Pacheco E, Rodrigues F, Pereira A, Monteiro S, Santos IM. Effectiveness of psycho-educational interventions with telecommunication technologies on emotional distress and quality of life of adult cancer patients: a systematic review. *Disability & Rehabilitation*. 2019;41(8):870-8.
14. Beatty L, Lambert S. A systematic review of internet-based self-help therapeutic interventions to improve distress and disease-control among adults with chronic health conditions. *Clinical Psychology Review*. 2013;33(4):609-22.
15. Bouma G, Admiraal JM, de Vries EGE, Schroder CP, Walenkamp AME, Reyners AKL. Internet-based support programs to alleviate psychosocial and physical symptoms in cancer patients: A literature analysis. *Critical Reviews in Oncology/Hematology*. 2015;95(1):26-37.
16. Charova E, Dorstyn D, Tully P, Mittag O. Web-based interventions for comorbid depression and chronic illness: a systematic review. *Journal of Telemedicine & Telecare*. 2015;21(4):189-201.
17. Chen YY, Guan BS, Li ZK, Li XY. Effect of telehealth intervention on breast cancer patients' quality of life and psychological outcomes: A meta-analysis. *Journal of Telemedicine & Telecare*. 2018;24(3):157-67.
18. Clari M, Conti A, Fontanella R, Rossi A, Matarese M. Mindfulness-Based Programs for People with Chronic Obstructive Pulmonary Disease: a Mixed Methods Systematic Review. *Mindfulness*. 2020:20.
19. Eccleston C, Fisher E, Brown R, Craig L, Duggan GB, Rosser BA, et al. Psychological therapies (Internet-delivered) for the management of chronic pain in adults. *Cochrane Database of Systematic Reviews*. 2019(9).

20. Fisher E, Law E, Dudeney J, Eccleston C, Palermo TM. Psychological therapies (remotely delivered) for the management of chronic and recurrent pain in children and adolescents. *Cochrane Database of Systematic Reviews*. 2019(9).
21. Forbes CC, Finlay A, McIntosh M, Siddiquee S, Short CE. A systematic review of the feasibility, acceptability, and efficacy of online supportive care interventions targeting men with a history of prostate cancer. *Journal of Cancer Survivorship : Research and Practice*. 2019;13(1):75-96.
22. Fridriksdottir N, Gunnarsdottir S, Zoega S, Ingadottir B, Hafsteinsdottir EJG. Effects of web-based interventions on cancer patients' symptoms: review of randomized trials. *Supportive Care in Cancer*. 2018;26(2):337-51.
23. Hedman E, Ljotsson B, Lindefors N. Cognitive behavior therapy via the Internet: a systematic review of applications, clinical efficacy and cost-effectiveness. *Expert Review of Pharmacoeconomics & Outcomes Research*. 2012;12(6):745-64.
24. Kim AR, Park HA. Web-based Self-management Support Interventions for Cancer Survivors: A Systematic Review and Meta-analyses. *Studies in Health Technology & Informatics*. 2015;216:142-7.
25. Kim SH, Kim K, Mayer DK. Self-Management Intervention for Adult Cancer Survivors After Treatment: A Systematic Review and Meta-Analysis. *Oncology Nursing Forum*. 2017;44(6):719-28.
26. Lewis C, Roberts NP, Bethell A, Robertson L, Bisson JI. Internet-based cognitive and behavioural therapies for post-traumatic stress disorder (PTSD) in adults. *Cochrane Database of Systematic Reviews*. 2018(12).
27. Lin H, Ye M, Chan SWC, Zhu J, He H. The effectiveness of online interventions for patients with gynecological cancer: An integrative review. *Gynecologic Oncology*. 2020.
28. Lopez-Rodriguez MM, Fernandez-Millan A, Ruiz-Fernandez MD, Dobarrío-Sanz I, Fernandez-Medina IM. New Technologies to Improve Pain, Anxiety and Depression in Children and Adolescents with Cancer: A Systematic Review. *International Journal of Environmental Research & Public Health*. 2020;17(10):19.
29. MayoWilson E, Montgomery P. Media-delivered cognitive behavioural therapy and behavioural therapy (self-help) for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*. 2013(9).
30. McCaughan E, Parahoo K, Hueter I, Northouse L, Bradbury I. Online support groups for women with breast cancer. *Cochrane Database of Systematic Reviews*. 2017;3:CD011652.
31. McCombie A, Geary R, Andrews J, Mikocka-Walus A, Mulder R. Computerised Cognitive Behavioural Therapy for Psychological Distress in Patients with Physical Illnesses: A Systematic Review. *Journal of Clinical Psychology in Medical Settings*. 2015;22(1):20-44.
32. McGar AB, Kindler C, Marsac M. Electronic Health Interventions for Preventing and Treating Negative Psychological Sequelae Resulting From Pediatric Medical Conditions: Systematic Review. *JMIR Pediatrics and Parenting*. 2019;2(2):e12427.
33. Mehta S, Peynenburg VA, Hadjistavropoulos HD. Internet-delivered cognitive behaviour therapy for chronic health conditions: a systematic review and meta-analysis. *Journal of Behavioral Medicine*. 2019;42(2):169-87.
34. Mikolasek M, Berg J, Witt CM, Barth J. Effectiveness of Mindfulness- and Relaxation-Based eHealth Interventions for Patients with Medical Conditions: a Systematic Review and Synthesis. *Int J Behav Med*. 2018;25(1):1-16.
35. Olthuis JV, Watt MC, Bailey K, Hayden JA, Stewart SH. Therapist-supported Internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*. 2016(3).
36. Palacios J, Lee GA, Duaso M, Clifton A, Norman IJ, Richards D, et al. Internet-Delivered Self-management Support for Improving Coronary Heart Disease and Self-management-Related Outcomes: A Systematic Review. *Journal of Cardiovascular Nursing*. 2017;32(4):E9-E23.
37. Paul CL, Carey ML, Sanson-Fisher RW, Houlcroft LE, Turon HE. The impact of web-based approaches on psychosocial health in chronic physical and mental health conditions. *Health Education Research*. 2013;28(3):450-71.
38. Qan'ir Y, Song L. Systematic review of technology-based interventions to improve anxiety, depression, and health-related quality of life among patients with prostate cancer. *Psycho-Oncology*. 2019;28(8):1601-13.

- 1
- 2
- 3 39. Tang WX, Zhang LF, Ai YQ, Li ZS. Efficacy of Internet-delivered cognitive-behavioral
- 4 therapy for the management of chronic pain in children and adolescents: A systematic review and
- 5 meta-analysis. *Medicine*. 2018;97(36):e12061.
- 6 40. Toivonen KI, Zernicke K, Carlson LE. Web-Based Mindfulness Interventions for People
- 7 With Physical Health Conditions: Systematic Review. *Journal of Medical Internet Research*.
- 8 2017;19(8):e303.
- 9 41. Ugalde A, Haynes K, White V, Krishnasamy M, Boltong A, Schofield P, et al. Self-guided
- 10 psychological interventions for people with cancer: A systematic review. *Asia-Pacific Journal of*
- 11 *Clinical Oncology*. 2015;4:146.
- 12 42. van Beugen S, Ferwerda M, Hoeve D, Rovers MM, Spillekom-van Koulil S, van Middendorp
- 13 H, et al. Internet-based cognitive behavioral therapy for patients with chronic somatic conditions: a
- 14 meta-analytic review. *Journal of Medical Internet Research*. 2014;16(3):e88.
- 15 43. Vugts MAP, Joosen MCW, van der Geer JE, Zedlitz AMEE, Vrijhoef HJM. The effectiveness
- 16 of various computer-based interventions for patients with chronic pain or functional somatic
- 17 syndromes: A systematic review and meta-analysis. *PLoS ONE*. 2018;13 (5) (no
- 18 pagination)(e0196467).
- 19 44. Wang Y, Lin Y, Chen J, Wang C, Hu R, Wu Y. Effects of Internet-based psycho-educational
- 20 interventions on mental health and quality of life among cancer patients: a systematic review and
- 21 meta-analysis. *Supportive Care in Cancer*. 2020;28(6):2541-52.
- 22 45. Wickersham A, Petrides PM, Williamson V, Leightley D. Efficacy of mobile application
- 23 interventions for the treatment of post-traumatic stress disorder: A systematic review. *Digit Health*.
- 24 2019;5:11.
- 25 46. Zeng Y, Zhang JE, Cheng ASK, Cheng H, Wefel JS. Meta-Analysis of the Efficacy of Virtual
- 26 Reality-Based Interventions in Cancer-Related Symptom Management. *Integrative Cancer Therapies*.
- 27 2019;18:1534735419871108.
- 28 47. Cuijpers P, Van Straten A, Andersson G. Internet-administered cognitive behavior therapy for
- 29 health problems: a systematic review. *Journal of Behavioral Medicine*. 2008;31(2):169-77.
- 30 48. McAlpine H, Joubert L, Martin-Sanchez F, Merolli M, Drummond KJ. A systematic review
- 31 of types and efficacy of online interventions for cancer patients. *Patient Education and Counseling*.
- 32 2015;98(3):283-95.
- 33 49. Hollis C, Falconer CJ, Martin JL, Whittington C, Stockton S, Glazebrook C, et al. Annual
- 34 Research Review: Digital health interventions for children and young people with mental health
- 35 problems—a systematic and meta-review. *Journal of Child Psychology and Psychiatry*.
- 36 2017;58(4):474-503.
- 37 50. Torous J, Myrick KJ, Rauseo-Ricupero N, Firth J. Digital mental health and COVID-19:
- 38 Using technology today to accelerate the curve on access and quality tomorrow. *Journal of Medical*
- 39 *Internet Research: Mental Health*. 2020;7(3):e18848.
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

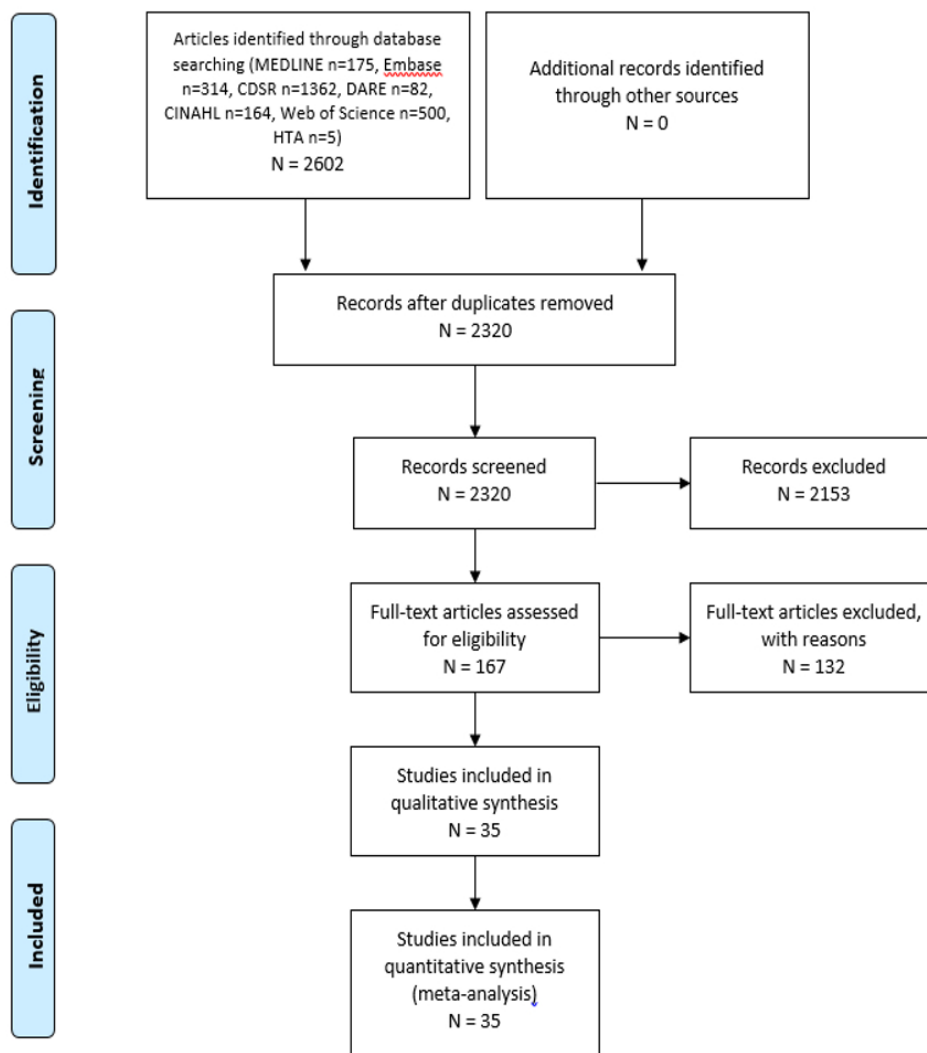


Figure 1. Study Flow Diagram

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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

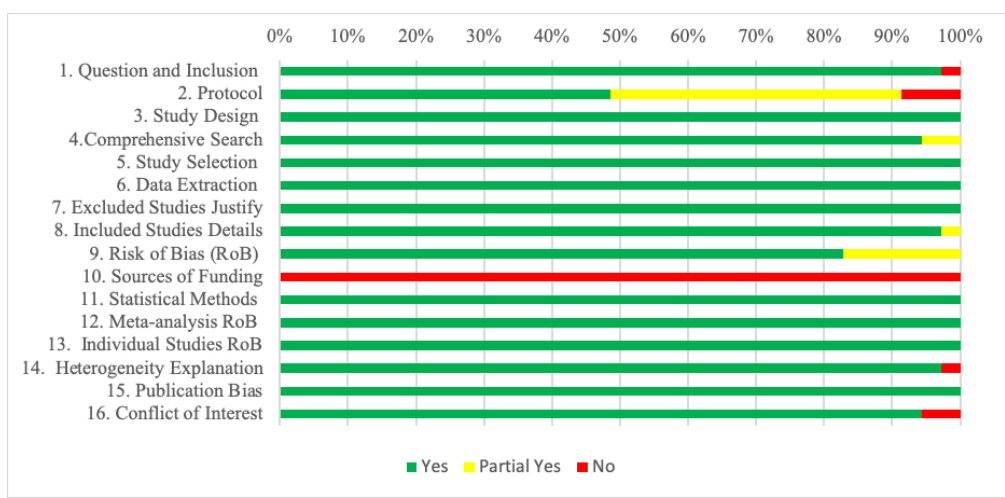


Figure 2. Risk of bias for individual items of the AMSTAR 2 tool.

Additional Table 1. Type of intervention and outcomes

	Web-based	Patient portal	Phone application	Virtual reality	Email	Text message	Online chat	Teleconsultation	Depression outcomes	Anxiety outcomes	Other mental health outcomes
CHRONIC DISEASES CLUSTER											
Hedman, 2012 (23)	X								+++	+++	NR
Eccleston, 2019 (19)	X	X						X	=	=	NR
van Beugen, 2014 (42)	X	X			X	X	X		+	=	=
Vugts, 2018 (43)	X				X	X	X	X	+	NR	NR
Charova 2015 (16)	X								+	NR	NR
Palacios, 2017 (36)	X	X			X	X			+	NR	NR
McCombie, 2015 (31)	X								+	+	NR
Beatty 2013 (14)	X	X			X			X	+	+	NR
Toivonen, 2017(40)	X				X		X		+	+	NR
Mehta, 2018 (33)	X				X				++	+	NR
Mikolasek, 2018 (34)	X								+	+	NR
Paul, 2013 (37)	X						X		+	+	+/-
Clari, 2020 (18)								X	=	=	NR
CANCER POPULATION CLUSTER											
Chen, 2018 (17)	X							X	+++	+	+
McCaughan, 2017 (30)	X	X			X		X		=	+	NR
Wang, 2020 (44)	X		X		X				+	++	NR
Zeng, 2019 (46)				X					=	=	NR
Kim, 2015 (24)	X				X	X	X	X	+	+	+
Kim, 2017 (25)	X							X	=	=	NR
Lin, 2020 (27)	X	X			X	X			+/-	+/-	NR
Qan'ir, 2019 (38)	X	X					X		+/-	+/-	NR
Forbes, 2019 (21)	X				X		X		+	NR	+
Fridriksdottir, 2017 (22)	X				X				+/-	+/-	+/-
Bouma 2015 (15)	X								+/-	+/-	+/-
Ugalde, 2015 (41)	X								NR	NR	+
Agboola 2015 (12)	X	X	X		X	X	X		=	+/-	
Bartolo 2019 (13)	X				X		X		+	NR	+
YOUTH AND CHILDREN CLUSTER											
Fisher, 2019 (20)	X	X							+	+	NR
Tang, 2018 (39)	X								+	+++	NR
McGar, 2019 (32)	X								+/-	+	+
Lopez-Rodriguez, 2020 (28)			X	X					+	+	NR
MENTAL HEALTH POPULATION											
MayoWilson, 2013 (29)	X				X	X	X		NR	++	NR
Olthuis, 2016 (35)	X	X			X		X		NR	++	NR
Wickersham, 2019 (45)		X							NR	NR	=
Lewis, 2018 (26)	X								++	+	++

NOTE: NR: not reported, + : small effect size or improvement without a report on effect size; ++ : moderate effect size ; +++ : large effect size; +/- : mixed effect ; = : no difference.

Table 1. PICO Eligibility Criteria

Population (P)	Adults with any chronic disease (e.g., diabetes, ischemic heart diseases, cerebrovascular diseases, chronic obstructive pulmonary disease (COPD), asthma, hypertension, dyslipidemia, arthritis/rheumatoid arthritis, chronic pain, cancer, chronic renal disease, inflammatory bowel diseases, mood disorders, attention deficit disorders). We will rely in the authors' definition of chronic disease AND presenting, or at risk of presenting, a concomitant mental health problem (e.g., mood disorders, depression, anxiety, obsessive compulsive disorder, panic disorder, post-traumatic stress disorder).
Intervention (I)	Digital health technologies, including but not limited to: telemedicine/teleconsultation, patient portal, electronic health record, web-based/internet intervention, or smart phone applications.
Comparator (C)	No intervention, usual care, any other (digital or non-digital) intervention.
Outcomes (O)	Prevalence of mental health problems; scores of depression, anxiety or other mental health problem; quality of life; specific clinical indicators (e.g., HbA1c for diabetes); patient satisfaction; impact on care utilization (e.g., ED visits, hospitalization, outpatient consultations); costs (for the individual and the health system).

Table 2. Description of included reviews

Author, Year	Review Design	n of primary studies, Design	n of patients (pooled)	Type of chronic diseases	Type of Digital technology interventions	Depression outcomes	Anxiety outcomes	Other mental health outcomes
Chronic Disease Cluster								
Beatty 2013 (14)	SR	24 Experimental	NR	Chronic physical diseases	Web-based/internet intervention, App, Email, Telemedicine/teleconsultation	Improvement between groups comparison. Improvement within group (moderate effect size). Improvement sustained at 12 months follow-up. iCBT with and without therapist showed no differences between groups. iCBT showed no difference when compared to group-CBT.	Improvement at 3 months and at 12 months	NR
Charova 2015 (16)	SR with MA	11 Experimental	1348	Any chronic disease with comorbid MH disorder	Web-based/internet intervention	DW 0.31; CI 0.17 to 0.45; p<0.01	NR	NR
Clari, 2020 (18)	SR	1 Mixed	84	COPD	Telemedicine/teleconsultation	No difference between groups.	No difference between groups.	Qualitative data: Promoted active acceptance of their disease /Improved the awareness of their physical sensations /Helped identify signs and symptoms /Improvement of the management of acute events.

1									
2									
3	Eccleston,	SR with	14	2012	Chronic pain	Web-based/internet	SMD = -0.26 [95% CI	SMD = -0.48 [95% CI	NR
4	2019 (19)	MA	Experimental			intervention, App,	-0.87 to 0.36]	-1.22to 0.27]	
5						Telemedicine/teleco			
6						nsultation			
7									
8	Hedman,	SR with	108	NR	Any	Web-based/internet	MD = 0.94 [95% CI:	MD = 1.12 [95% CI:	NR
9	2012 (23)	MA	Experimental			intervention	0.77-1.11] Large effect	0.61-1.62],	
10							size, within groups	Large effect size.	
11	McCombie	SR	29	3935	Chronic	Web-based/internet	Improvement of	Improvement (2/7)	NR
12	, 2015 (31)		Mixed		physical	intervention	depression scores (4/8)		
13					diseases				
14									
15	Mehta,	SR with	25	3450	Any	Web-based/internet	Improved depression	Improved anxiety,	NR
16	2018 (33)	MA	Experimental			intervention, Email	symptoms with small to	similar effect size than	
17							medium effect size.	usual care.	
18							Therapist guided ICBT		
19							showed larger effect size		
20							than self-guided ICBT.		
21	Mikolasek,	SR with	17	1855	Chronic	Web-based/internet	Active control: 2/7	Active control: 2/7	NR
22	2018 (34)	Meta-	Experimental		physical	intervention	showed superior	showed superior	
23		Analysis			diseases		effectiveness; 4/7 equal	effectiveness; 4/7 equal	
24							effectiveness; 1/7	effectiveness; 1/7	
25							inferior effectiveness.	inferior effectiveness.	
26							Usual care: 1/4 showed	Usual care: 1/4 showed	
27							superior effectiveness;	superior effectiveness;	
28							3/4 showed equal	3/4 showed equal	
29							effectiveness.	effectiveness.	
30	Palacios,	SR	7	1321	Chronic	Web-based/internet	PHQ-9 score mean from	NR	NR
31	2017 (36)		Experimental		physical	intervention, App,	12 (post) to 8.4 (follow-		
32					diseases	Email, Text	up)		
33						message			
34	Paul, 2013	SR	36	NR	Any chronic	Web-based/internet	Improved depression in	Improved anxiety in	Mixed results in
35	(37)		Experimental		disease with	intervention, Online	comparison between	comparison with	psychosocial outcomes.
36					comorbid	chat	groups.	control	
37					MH disorder				
38									
39									
40									
41									
42									
43									
44									
45									
46									

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Toivonen, 2017(40)	SR	16 Experimental	NR	Any	Web-based/internet intervention, Email, Online chat	Improved depression symptoms with a small effect size.	Improved anxiety symptoms with a small effect size.	NR
van Beugen, 2014 (42)	SR with MA	23 Experimental	2299	Any	Web-based/internet intervention, App, Email, Text message, Online chat	SMD = 0.21 [95% CI: 0.08-0.34]	SMD = 0.17 [95% CI:0.01-0.32]	General distress: SMD = 0.21 [CI:0.00-0.41]
Vugts, 2018 (43)	SR with MA	46 Experimental	NR	Chronic physical diseases	Web-based/internet intervention, Email, Text message, Online chat, Telemedicine/teleconsultation	SMD =-0.18 [95%CI -0.28, -.07] SMD =-.18 [95% CI:-.28, -.07] Passive control (post) SMD =-.29 [95% CI:-.48, -.10] Passive control (follow-up) SMD =.14 [95% CI:-.37, .09] Active control (post) SMD =.31 [95% CI: -.78, .16] Active control (follow-up)	NR	NR
Cancer Cluster								
Agboola 2015 (12)	SR	20 Experimental	3789	Cancer	Web-based/internet, App, Virtual reality, Text message, Online chat, Telemedicine/teleconsultation	heterogeneous studies no pooling possible	Improvement in anxiety symptoms (3/8)	NR
Bartolo 2019 (13)	SR	8 Experimental	1016	Cancer	Web-based/internet, Patient portal, App, Email,	Improvement in depression symptoms 3 weeks post interventions. small effect size	NR	Improvement in global distress, small effect size.

						Telemedicine/teleconsultation	The telephone intervention yielded medium effect size improvement.		
	Bouma 2015 (15)	SR	16 Experimental	2620	Cancer	Web-based/internet intervention	Improvement on depression symptoms (1/7) (between groups)	Improvement in anxiety symptoms (2/10)	Improvement on quality of life (3/11)
	Chen, 2018 (17)	SR with MA	20 Experimental	2190	Cancer	Web-based/internet intervention, Telemedicine/teleconsultation	SMD = 1.29, [95% CI 2.28 to 0.30]	SMD = 0.09, [95% CI 0.22 to 0.04]	Distress: SMD = ¼ 0.25, [95% CI 0.40 to 0.10, p < 0.001]
	Forbes, 2019 (21)	SR	16 Experimental	2446	Cancer	Web-based/internet intervention, Email, Online chat	Improvement of depression score within group.	NR	Psychological distress: effect size larger with ICBT compared with forum.
	Fridriksdotir, 2017 (22)	SR	20 Experimental	NR	Cancer	Web-based/internet intervention, Email	Better improvement with CBT compared to online forum Improvement in depression symptoms (2/10)	Improvement in anxiety symptoms (4/10)	Improvement on psychological distress. (3/8)
	Kim, 2015 (24)	SR with MA	37 Experimental	NR	Cancer	Web-based/internet intervention, Email, Text message, Online chat, Telemedicine/teleconsultation	Hedges'g = -0.169 [-0.282 - -0.055]	Hedges'g = -0.293 [-0.465 - -0.122]	QOL: Hedges'g = -0.221 [-0.359 - -0.084]
	Kim, 2017 (25)	SR with MA	19 Mixed	2381	Cancer	Web-based/internet intervention, Telemedicine/teleconsultation	d = -0.07, p = 0.284 (post) d = -0.2, p = 0.477 (follow-up)	d = -0.2, p = 0.132	NR
	Lin, 2020 (27)	Mixed	16 Mixed	1053	Cancer	Web-based/internet intervention, App,	Improvement of depression scores (5/11)	Improvement of anxiety scores (5/11)	NR

						Email, Text message			
6	McCaughan, 2017 (30)	SR	6 Experimental	492	Cancer	Web-based/internet intervention, Patient portal, Email, Online chat	SMD = -0.37, [95% CI -0.75 to 0.00]	Mean 0.4 lower at end of intervention [95% CI 6.42 lower to 5.62 higher]	NR
15	Qan'ir, 2019 (38)	SR with MA	10 Experimental	1124	Cancer	Web-based/internet intervention, App, Online chat	Improvement of depression score (between group) (2/7)	MD = -0.40, [95% CI -6.42 to 5.62]; low-quality evidence between groups Improvement of anxiety score (between group) (1/5)	NR
22	Ugalde, 2015 (41)	SR	4 Experimental	NR	Cancer	Web-based/internet intervention	Improvement of depression score (within group)(1/7) NR	Improvement of anxiety score (within group) (1/5) NR	**Improved self-efficacy for regulating negative mood.
25	Wang, 2020 (44)	SR with MA	7 Experimental	1220	Cancer	Web-based/internet intervention, App, Email	SMD = -0.58, 95% CI (-1.12, -0.03), p = 0.04 (between groups)	SMD = -1.03 [95% CI -2.63, 0.57]), (between groups)	NR
29	Zeng, 2019 (46)	SR with MA	6 Mixed	NR	Cancer	Virtual reality	WMD = -1.11 [Z scores = 1.05, P = .29]	SMD = -3.03 [95% CI = -6.20 to 0.15]	NR
Youth and Children Cluster									
33	Fisher, 2019 (20)	SR with MA	10 Mixed	697	Chronic pain	Web-based/internet intervention, App	SMD 0.04, [95% CI -0.18 to 0.26]	SMD 0.53, [95% CI -0.63 to 1.68]	NR
36	Lopez-Rodriguez, 2020 (28)	SR	8 Mixed	286	Cancer	App, Virtual reality	Improved depression (3/3)	Improved anxiety (2/3)	NR

1										
2										
3	McGar,	SR	22	1764	Chronic	Web-based/internet	Improved depression	Improved anxiety (4/5)	Improved PTSD	
4	2019 (32)		Experimental		physical	intervention	symptoms (3/7)	(post)	symptoms (2/3) (post)	
5					diseases					
6										
7	Tang, 2018	SR with	4	404	Chronic pain	Web-based/internet	MD = 0.23, [95% CI:	SMD = 3.24, [95% CI:	NR	
8	(39)	MA	Experimental			intervention	0.03–0.43] (within	1.88–4.61], (within		
9							group)	group)		
10							MD = 0.02, [95% CI:	SMD = 0.41, [95% CI:		
11							0.19–0.22] (between	1.79–0.98] (between		
12							group)	group)		
13							SMD = 0.02 [CI: 0.19,			
14							0.22, p = 0.86] (follow-			
15							up)			
16	Mental Health Cluster									
17	Lewis,	SR with	10	720	PTSD	Web-based/internet	SMD = -0.61 [95% CI –	SMD = -0.67 [95% CI	PTSD	
18	2018 (26)	MA	Experimental			intervention	1.17 to -0.05] (between	-0.98 to -0.36]	SMD = -0.60 [95% CI –	
19							groups/post)	(between groups/post)	0.97 to -0.24]. (between	
20									groups/post)	
21							MD = -8.95, 95% CI –	MD = -12.59 [95% CI	RR = 0.53 [95% CI 0.28	
22							15.57 to -2.33] (between	-20.74 to -4.44]	to 1.00] (between	
23							groups/follow-up)	(between	groups/post)	
24								groups/follow-up)		
25	MayoWils	SR with	43	8403	Anxiety	Web-based/internet	NR	SMD = 0.79, [95% CI	NR	
26	on, 2013	MA	Experimental			intervention, Email,		0.62 to 0.96] (internet-		
27	(29)					Text message,		delivered)		
28						Telemedicine/teleco				
29						nsultation				
30										
31	Olthuis,	SR with	38	3214	Anxiety	Web-based/internet	NR	*RR = 3.75 [95% CI	NR	
32	2016 (35)	MA	Experimental			intervention, App,		2.51 to 5.60]		
33						Email, Online chat		(generalized anxiety)		
34										
35								SMD = -1.06 [95% CI		
36								-1.29 to -0.8] (disorder		
37								specific anxiety)		
38										
39										
40										
41										
42										
43										
44										
45										
46										

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Wickersham, 2019 (45)	SR	5 Experimental	653	PTSD	App	NR	NR	No improvement in PTSD between groups when compared to usual care.
--------------------------	----	-------------------	-----	------	-----	----	----	--

NOTE: SR: Systematic review; MA: Meta-analysis; NR: Not reported; MH: Mental health; PTSD: Post-Traumatic Stress Disorder; COPD: Chronic Obstructive Pulmonary Disease

For peer review only

Table 3. Critical appraisal of the included reviews

	1. Question and Inclusion	2. Protocol	3. Study Design	4. Comprehensive Search	5. Study Selection	6. Data Extraction	7. Excluded Studies Justify	8. Included Studies Details	9. Risk of Bias (RoB)	10. Sources of Funding	11. Statistical Methods	12. Meta-analysis RoB	13. Individual Studies RoB	14. Heterogeneity Explanation	15. Publication Bias	16. Conflict of Interest	Overall Confidence Rating
Agboola 2015	N	PY	Y	PY	Y	Y	Y	PY	Y	N	N/A	N/A	Y	N	N/A	Y	Low
Bartolo 2017	Y	Y	Y	Y	Y	Y	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Beatty 2012	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	N	Moderate
Bouma 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Charova 2015	Y	Y	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Moderate
Chen 2018	Y	PY	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Moderate
Clari 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Eccleston 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Fisher 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Forbes 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Fridriksdottir 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Hedman 2012	Y	N	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Low
Kim 2015	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Kim 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Moderate
Lewis 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Lin 2020	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Lopez-Rodriguez 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	Y	Y	High
Mayo-Wilson 2013	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
McCaughan 2017	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
McCombie 2015	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Low
McGar 2019	Y	PY	Y	Y	Y	Y	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Mehta 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Mikolasek 2018	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Olthuis 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Palacios 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Paul 2013	Y	PY	Y	PY	N/A	N/A	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Qan'ir 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Tang 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Toivonen 2017	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Low
Ugalde 2017	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
van Beugen 2014	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Vaugts 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Wang 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Wickersham 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Zeng 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate

Abbreviations: Y=Yes, N=No, PY=Partial Yes, NA=Not Applicable, H=High, M=Moderate, L=Low, RoB=Risk of Bias.

Table 4. Studies reporting improvements classified by the type of digital technology used

	Chronic diseases cluster			Cancer cluster			Children and youth cluster		
	Depression	Anxiety	Other	Depression	Anxiety	Other	Depression	Anxiety	Other
Web-based interventions	(23) (42) (43) (16) (36) (31) (14) (40) (33) (34) (37)	(23) (31) (14) (40) (33) (34) (37)	(37)	(17) (44) (24) (21) (13)	(17) (30) (44) (24)	(17) (24) (21) (41) (13)	(20) (39)	(20) (39) (32)	(32)
Patient portal					(30)				
Smart Phone application	(42) (36) (14)	(14)		(44)	(44)		(20) (28)	(20) (28)	
Virtual reality							(28)	(28)	
Email	(42) (43) (36) (14) (40) (33)	(14) (40) (33)		(44) (24) (21) (13)	(30) (44) (24)	(24) (21) (13)			
Text message	(42) (43) (36)			(24)	(24)	(24)			
Online chat	(42) (43) (40) (37)	(40) (37)	(37)	(24) (21)	(30) (24)	(24) (21)			
Telemedicine/ Teleconsultation	(42) (14)	(14)		(17) (24) (13)	(17) (24)	(17) (24) (13)			

For peer review only

1
2
3 Chronic Disease – Mental Health

4 Final Strategies

5 2020 Jun 11

6
7
8 Ovid Multifile

9
10 Database: Ovid MEDLINE: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid
11 MEDLINE® Daily and Ovid MEDLINE® <1946-Present>, Embase Classic+Embase <1947 to 2020 June 10>
12 Search Strategy:

13 -----
14 1 exp Chronic Disease/ (463877)
15 2 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*) adj2
16 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or
17 morbidit* or syndrom* or symptom*)).tw,kf. (817409)
18 3 1 or 2 [CHRONIC DISEASE - GENERAL] (1148521)
19 4 exp Arthritis/ (769208)
20 5 (arthriti* or arthros#s or osteoarthriti* or osteo-arthriti* or osteoarthros#s or osteo-arthros#s or
21 polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*).tw,kf. (624493)
22 6 exp Asthma/ (402927)
23 7 asthma*.tw,kf. (397483)
24 8 Chronic Pain/ (75237)
25 9 Pain, Intractable/ (9868)
26 10 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
27 interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist*
28 or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt*
29 or unrelenting or unrelieved or unremit*) adj3 (neuralgi* or neuropath* or pain*).tw,kf. (240054)
30 11 exp Neoplasms/ (8206156)
31 12 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or
32 oncolog*).tw,kf. (8138150)
33 13 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-
34 sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or
35 lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*).tw,kf.
36 (1224311)
37 14 Renal Insufficiency, Chronic/ (83228)
38 15 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or
39 insufficien*).tw,kf. (202396)
40 16 (CKD or CKDs).tw,kf. (80295)
41 17 Diabetes Mellitus/ (704972)
42 18 Diabetes Mellitus, Type 1/ (112248)
43 19 Diabetes Mellitus, Type 2/ (196848)
44 20 Latent Autoimmune Diabetes in Adults/ (376)
45 21 diabet*.tw,kf. (1602750)
46 22 ("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) adj DM).tw,kf. (12572)
47 23 (IDDM or NIDDM).tw,kf. (27091)
48 24 exp Dyslipidemias/ (150214)
49 25 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or
50 hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or
51 hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).tw,kf. (196503)
52
53
54
55
56
57
58
59
60

26 exp Inflammatory Bowel Diseases/ (238290)
 27 (inflam* adj1 (bowel* or colon*)).tw,kf. (134937)
 28 IBD.tw,kf. (77069)
 29 (Crohn or "Crohn's").tw,kf. (128042)
 30 (ileitis adj2 (regional or terminal)).tw,kf. (2372)
 31 (Ileocolitis or ileo-colitis).tw,kf. (1234)
 32 ((proctocolitis or procto-colitis) adj2 idiopathic).tw,kf. (93)
 33 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).tw,kf. (169)
 34 colitis gravis.tw,kf. (11)
 35 exp Pulmonary Disease, Chronic Obstructive/ (189609)
 36 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
 37 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*)).tw,kf. (134589)
 38 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
 39 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
 40 or pan-lobular)).tw,kf. (22235)
 41 (COPD or COAD).tw,kf. (134068)
 42 exp Cardiovascular Diseases/ (6804416)
 43 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-
 44 vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or arrhythmia* or
 45 arrythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or
 46 fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or
 47 thrombo* or vasospas* or vaso-spas*)).tw,kf. (2646364)
 48 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).tw,kf. (312159)
 49 hypertens*.tw,kf. (1128918)
 50 ((elevated or high*) adj2 blood pressure*).tw,kf. (81424)
 51 or/4-43 [ITEMIZED CHRONIC DISEASES] (19898982)
 52 3 or 44 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (20427001)
 53 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
 54 comorbid* or co-morbidit* or problem*)).tw,kf. (48561)
 55 Mood Disorders/ (26170)
 56 ((affective or mood) adj disorder?).tw,kf. (80447)
 57 Cyclothymic Disorder/ (1679)
 58 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*)).tw,kf. (283)
 59 exp Anxiety Disorders/ (324405)
 60 exp Anxiety/ (303024)
 61 (anxiety or anxieties or anxious*).tw,kf. (489510)
 62 GAD.tw,kf. (22867)
 63 (hypervigilan* or hyper-vigilan* or nervous*).tw,kf. (722745)
 64 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).tw,kf. (1060)
 65 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).tw,kf. (14836)
 66 (neurocirculatory asthenia* or cardiac neurosis or effort syndrome* or hyperkinetic heart
 67 syndrome*).tw,kf. (1377)
 68 (neurotic disorder* or neurosis or psychoneurosis or psycho-neurosis).tw,kf. (25227)
 69 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive personalit*
 70 or hoarding or psychastheni*).tw,kf. (44492)
 71 (panic disorder* or (panic adj2 attack*)).tw,kf. (25995)
 72 (phobia or phobias or phobic).tw,kf. (27494)
 73 (catastrophization? or catastrophise* or catastrophising).tw,kf. (8601)

64 Attention Deficit Disorder with Hyperactivity/ (49515)
 65 attention deficit*.tw,kf. (67522)
 66 (ADDH or ADHD).tw,kf. (61164)
 67 ((hyperkinetic or hyper-kinetic) adj syndrome?).tw,kf. (891)
 68 exp Depressive Disorder/ (590789)
 69 Depression/ (488522)
 70 depress*.tw,kf. (1107871)
 71 dysthym*.tw,kf. (7359)
 72 (feel* blue or blues).tw,kf. (4041)
 73 melanchol*.tw,kf. (7378)
 74 (MDD and mental).tw,kf. (4373)
 75 Stress Disorders, Traumatic/ (37504)
 76 Stress Disorders, Post-Traumatic/ (52151)
 77 PTSD.tw,kf. (56027)
 78 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).tw,kf. (65507)
 79 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).tw,kf. (723)
 80 or/46-79 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (2618889)
 81 45 and 80 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (700259)
 82 Computer Communication Networks/ (27176)
 83 Local Area Networks/ (1636)
 84 Internet/ (180650)
 85 Internet-Based Intervention/ (311)
 86 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or deliver* or
 healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or
 service? or treat* or therap*)).tw,kf. (47403)
 87 Smartphone/ (16414)
 88 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or apps or
 application?)).tw,kf. (24259)
 89 (mobile adj3 (app or apps or application?)).tw,kf. (14699)
 90 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 psychiatr* or rehab* or treat* or therap*)).tw,kf. (12470)
 91 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).tw,kf. (1460)
 92 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 psychiatr* or rehab* or treat* or therap*)).tw,kf. (21536)
 93 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 psychiatr* or rehab* or treat* or therap*)).tw,kf. (8491)
 94 Patient Portals/ (182923)
 95 (patient? adj2 (portal or portals)).tw,kf. (11947)
 96 ((health information or medical information or clinical information) adj3 (portal or portals)).tw,kf.
 (155)
 97 ((health data or medical data or clinical data) adj3 (portal or portals)).tw,kf. (67)
 98 health portal?.tw,kf. (314)
 99 Electronic Mail/ (24709)
 100 (electronic mail* or email* or e-mail*).tw,kf. (51152)
 101 exp Telephone/ (60582)

- 1
2
3 102 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or
4 telefacsimile* or tele-facsimile* or FAX).tw,kf. (209278)
5
6 103 exp Television/ (49238)
7 104 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video
8 tap*).tw,kf. (116545)
9 105 Videoconferencing/ (5321)
10 106 (videoconferenc* or video-conference* or videophon* or video-phon*).tw,kf. (6099)
11 107 Electronic Health Records/ (34655)
12 108 electronic health record?.tw,kf. (37890)
13 109 (EHR or EHRs or EMR or EMRs or PHR or PHRs).tw,kf. (46151)
14 110 Hotlines/ (3062)
15 111 hotline?.tw,kf. (2749)
16 112 Telecommunications/ (30245)
17 113 (telecommunicat* or tele-communicat*).tw,kf. (8599)
18 114 exp Telemedicine/ (67951)
19 115 Telenursing/ (487)
20 116 (ehealth or e-health or mhealth or m-health or mobile health).tw,kf. (23436)
21 117 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or
22 telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or
23 tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).tw,kf. (37038)
24 118 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or
25 monitor* or psychiatr* or rehab* or treat* or therap*).tw,kf. (17186)
26 119 or/82-118 [DIGITAL HEALTH TECHNOLOGIES] (1032076)
27 120 81 and 119 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH TECHNOLOGIES]
28 (18971)
29 121 Systematic Review.pt. (128913)
30 122 exp Systematic Reviews as Topic/ (28375)
31 123 Meta Analysis.pt. (115626)
32 124 exp Meta-Analysis as Topic/ (61507)
33 125 (meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative
34 review* or integrative overview* or research integration or research overview* or collaborative
35 review*).tw,kf. (411235)
36 126 (systematic review* or systematic overview* or evidence-based review* or evidence-based
37 overview* or (evidence adj3 (review* or overview*)) or meta-review* or meta-overview* or meta-
38 synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA
39 or HTAs).tw,kf. (492109)
40 127 exp Technology Assessment, Biomedical/ (25470)
41 128 (cochrane or health technology assessment or evidence report or systematic reviews).jw. (47503)
42 129 (network adj (MA or MAs)).tw,kf. (30)
43 130 (NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kf. (17980)
44 131 indirect* compar*.tw,kf. (5582)
45 132 (indirect treatment* adj1 compar*).tw,kf. (910)
46 133 (mixed treatment* adj1 compar*).tw,kf. (1327)
47 134 (multiple treatment* adj1 compar*).tw,kf. (387)
48 135 (multi-treatment* adj1 compar*).tw,kf. (8)
49 136 simultaneous* compar*.tw,kf. (2407)
50 137 mixed comparison?.tw,kf. (73)
51 138 or/121-137 [REVIEWS] (850383)
52
53
54
55
56
57
58
59
60

1
2
3 139 120 and 138 [REVIEWS - CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
4 TECHNOLOGIES] (638)
5 140 exp Animals/ not Humans/ (17305531)
6 141 139 not 140 [ANIMAL-ONLY REMOVED] (431)
7 142 limit 141 to yr="2010-current" (370)
8 143 142 use ppez [MEDLINE RECORDS] (178)
9 144 exp chronic disease/ (463877)
10 145 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*)
11 adj2 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or
12 morbidit* or syndrom* or symptom*)).tw,kw. (822925)
13 146 144 or 145 [CHRONIC DISEASE - GENERAL] (1153511)
14 147 exp arthritis/ (769208)
15 148 (arthriti* or arthros#s or osteoarthriti* or osteo-arthriti* or osteoarthros#s or osteo-arthros#s or
16 polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*).tw,kw. (631277)
17 149 exp asthma/ (402927)
18 150 asthma*.tw,kw. (402449)
19 151 chronic pain/ (75237)
20 152 intractable pain/ (11527)
21 153 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
22 interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist*
23 or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt*
24 or unrelenting or unrelieved or unremit*) adj3 (neuralgi* or neuropath* or pain*)).tw,kw. (242272)
25 154 exp malignant neoplasm/ (6996129)
26 155 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or
27 oncolog*).tw,kw. (8161179)
28 156 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or
29 carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia*
30 or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*).tw,kw.
31 (1236437)
32 157 exp chronic kidney failure/ (193963)
33 158 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or
34 insufficien*).tw,kw. (205098)
35 159 (CKD or CKDs).tw,kw. (80787)
36 160 diabetes mellitus/ (704972)
37 161 exp insulin dependent diabetes mellitus/ (191892)
38 162 non insulin dependent diabetes mellitus/ (385694)
39 163 latent autoimmune diabetes in adults/ (376)
40 164 diabet*.tw,kw. (1614950)
41 165 (("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) adj DM).tw,kw. (12646)
42 166 (IDDM or NIDDM).tw,kw. (27515)
43 167 dyslipidemia/ (82310)
44 168 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or
45 hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or
46 hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).tw,kw. (200456)
47 169 exp inflammatory bowel disease/ (238290)
48 170 (inflam* adj1 (bowel* or colon*)).tw,kw. (137715)
49 171 IBD.tw,kw. (78120)
50 172 (Crohn or "Crohn's").tw,kw. (129757)
51
52
53
54
55
56
57
58
59
60

- 1
2
3 173 (ileitis adj2 (regional or terminal)).tw,kw. (1952)
4 174 (ileocolitis or ileo-colitis).tw,kw. (1242)
5 175 ((proctocolitis or procto-colitis) adj2 idiopathic).tw,kw. (93)
6 176 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).tw,kw. (171)
7 177 colitis gravis.tw,kw. (11)
8 178 chronic obstructive lung disease/ (173601)
9 179 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
10 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*)).tw,kw. (136000)
11 180 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
12 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
13 or pan-lobular)).tw,kw. (21052)
14 181 (COPD or COAD).tw,kw. (136003)
15 182 exp cardiovascular disease/ (6804416)
16 183 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or
17 cardio-vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or
18 arrhythmia* or arrythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or
19 failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or
20 syndrom* or thrombo* or vasospas* or vaso-spas*)).tw,kw. (2662750)
21 184 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).tw,kw. (331070)
22 185 hypertens*.tw,kw. (1143312)
23 186 ((elevated or high*) adj2 blood pressure*).tw,kw. (80499)
24 187 or/147-186 [ITEMIZED CHRONIC DISEASES] (19642008)
25 188 146 or 187 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (20175048)
26 189 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
27 comorbid* or co-morbidit* or problem*)).tw,kw. (48743)
28 190 exp mood disorder/ (647316)
29 191 ((affective or mood) adj disorder?).tw,kw. (82561)
30 192 cyclothymia/ (1041)
31 193 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*)).tw,kw. (289)
32 194 exp anxiety disorder/ (324405)
33 195 exp anxiety/ (303024)
34 196 (anxiety or anxieties or anxious*).tw,kw. (494827)
35 197 GAD.tw,kw. (23192)
36 198 (hypervigilan* or hyper-vigilan* or nervous*).tw,kw. (733406)
37 199 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).tw,kw. (1083)
38 200 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).tw,kw. (15157)
39 201 (neurocirculatory asthenia* or cardiac neurosis or effort syndrome* or hyperkinetic heart
40 syndrome*).tw,kw. (1416)
41 202 (neurotic disorder* or neurosis or psychoneurosis or psycho-neurosis).tw,kw. (24072)
42 203 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive
43 personalit* or hoarding or psychastheni*).tw,kw. (44330)
44 204 (panic disorder* or (panic adj2 attack*)).tw,kw. (26305)
45 205 (phobia or phobias or phobic).tw,kw. (28151)
46 206 (catastrophization? or catastrophie* or catastrophising).tw,kw. (8668)
47 207 attention deficit disorder/ (89404)
48 208 attention deficit*.tw,kw. (68677)
49 209 (ADDH or ADHD).tw,kw. (62185)
50 210 ((hyperkinetic or hyper-kinetic) adj syndrome?).tw,kw. (905)
51
52
53
54
55
56
57
58
59

- 1
2
3 211 exp depression/ (600183)
4 212 depress*.tw,kw. (1116521)
5 213 dysthym*.tw,kw. (7464)
6 214 (feel* blue or blues).tw,kw. (4061)
7 215 melanchol*.tw,kw. (7472)
8 216 (MDD and mental).tw,kw. (4396)
9 217 PTSD.tw,kw. (57477)
10 218 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).tw,kw. (66525)
11 219 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).tw,kw. (690)
12 220 or/189-219 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (2651384)
13 221 188 and 220 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (708973)
14 222 exp computer network/ (106780)
15 223 internet/ (180650)
16 224 web-based intervention/ (352)
17 225 smartphone/ (16414)
18 226 ((internet or online or web or web-based or web-site or website or www or cyber* or
19 smartphone* or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or
20 deliver* or healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or
21 rehab* or service? or treat* or therap*)).tw,kw. (47924)
22 227 ((internet or online or web or web-based or web-site or website or www or cyber* or
23 smartphone* or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or
24 apps or application?)).tw,kw. (24398)
25 228 (mobile adj3 (app or apps or application?)).tw,kw. (14549)
26 229 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
27 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).tw,kw. (1464)
28 230 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
29 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (12381)
30 231 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
31 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (21785)
32 232 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
33 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (8752)
34 233 (patient? adj2 (portal or portals)).tw,kw. (11948)
35 234 ((health information or medical information or clinical information) adj3 (portal or
36 portals)).tw,kw. (156)
37 235 ((health data or medical data or clinical data) adj3 (portal or portals)).tw,kw. (67)
38 236 health portal?.tw,kw. (322)
39 237 e-mail/ (24709)
40 238 (electronic mail* or email* or e-mail*).tw,kw. (51262)
41 239 telephone/ (50014)
42 240 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or
43 telefacsimile* or tele-facsimile* or FAX).tw,kw. (209337)
44 241 television/ (30885)
45 242 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video
46 tap*).tw,kw. (116882)
47 243 videoconferencing/ (5321)
48 244 (videoconferenc* or video-conference* or videophon* or video-phon*).tw,kw. (6193)
49 245 electronic health record/ (35864)
50 246 electronic health record?.tw,kw. (39303)
51
52
53
54
55
56
57
58
59
60

247 electronic medical record/ (74370)
 248 electronic patient record/ (2304)
 249 (EHR or EHRs or EMR or EMRs or PHR or PHRs).tw,kw. (46430)
 250 hotline/ (3071)
 251 hotline?.tw,kw. (2776)
 252 telecommunication/ (30245)
 253 (telecommunicat* or tele-communicat*).tw,kw. (8768)
 254 exp Telemedicine/ (67951)
 255 (ehealth or e-health or mhealth or m-health or mobile health).tw,kw. (26439)
 256 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or
 257 telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or
 258 tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).tw,kw. (40112)
 259 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or
 260 monitor* or psychiatr* or rehab* or treat* or therap*).tw,kw. (17322)
 261 or/222-257 [DIGITAL HEALTH TECHNOLOGIES] (895464)
 262 221 and 258 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
 263 TECHNOLOGIES] (16694)
 264 "systematic review"/ (377591)
 265 "systematic review (topic)"/ (24955)
 266 meta-analysis/ (304555)
 267 "meta analysis (topic)"/ (42125)
 268 (meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative
 269 review* or integrative overview* or research integration or research overview* or collaborative
 270 review*).tw,kw. (414401)
 271 (systematic review* or systematic overview* or evidence-based review* or evidence-based
 272 overview* or (evidence adj3 (review* or overview*)) or meta-review* or meta-overview* or meta-
 273 synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA
 274 or HTAs).tw,kw. (495920)
 275 biomedical technology assessment/ (24358)
 276 (cochrane or health technology assessment or evidence report or systematic reviews).jw. (47503)
 277 (network adj (MA or MAs)).tw,kw. (30)
 278 (NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kw. (18036)
 279 indirect* compar*.tw,kw. (5663)
 280 (indirect treatment* adj1 compar*).tw,kw. (915)
 281 (mixed treatment* adj1 compar*).tw,kw. (1349)
 282 (multiple treatment* adj1 compar*).tw,kw. (394)
 283 (multi-treatment* adj1 compar*).tw,kw. (8)
 284 simultaneous* compar*.tw,kw. (2407)
 285 mixed comparison?.tw,kw. (74)
 286 or/260-276 [REVIEWS] (926988)
 287 259 and 277 [REVIEWS - CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
 288 TECHNOLOGIES] (713)
 289 exp animal/ or exp animal experimentation/ or exp animal model/ or exp animal experiment/ or
 290 nonhuman/ or exp vertebrate/ (52856473)
 291 exp human/ or exp human experimentation/ or exp human experiment/ (40867893)
 292 279 not 280 (11990325)
 293 282 278 not 281 [ANIMAL-ONLY REMOVED] (711)
 294 283 limit 282 to yr="2010-current" (636)

1
2
3 284 283 use emczd [EMBASE RECORDS] (463)
4 285 143 or 284 [BOTH DATABASES] (641)
5 286 remove duplicates from 285 (489) [TOTAL UNIQUE RECORDS]
6 287 286 use ppez [MEDLINE UNIQUE RECORDS] (175)
7 288 286 use emczd [EMBASE UNIQUE RECORDS] (314)
8
9

10 *****

11 Cochrane Library

12
13 Database: EBM Reviews - Cochrane Database of Systematic Reviews <2005 to June 03, 2020>, EBM
14 Reviews - Database of Abstracts of Reviews of Effects <1st Quarter 2016>, EBM Reviews - Health
15 Technology Assessment <4th Quarter 2016>

16 Search Strategy:

17 -----
18
19 1 exp Chronic Disease/ (166)
20 2 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*) adj2
21 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or
22 morbidit* or syndrom* or symptom*)).ti,ab,kw,tw. (5947)
23 3 1 or 2 [CHRONIC DISEASE - GENERAL] (5947)
24 4 exp Arthritis/ (253)
25 5 (arthriti* or arthros#s or osteoarthriti* or osteo-arthritis* or osteoarthros#s or osteo-arthros#s or
26 polyarthriti* or poly-arthritis* or spondylarthriti* or spondyl-arthritis*).ti,ab,kw,tw. (2243)
27 6 exp Asthma/ (105)
28 7 asthma*.ti,ab,kw,tw. (1488)
29 8 Chronic Pain/ (24)
30 9 Pain, Intractable/ (11)
31 10 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
32 interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist*
33 or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt*
34 or unrelenting or unrelieved or unremit*) adj3 (neuralgi* or neuropath* or pain*).ti,ab,kw,tw. (1912)
35 11 exp Neoplasms/ (2532)
36 12 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or
37 oncolog*).ti,ab,kw,tw. (13669)
38 13 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-
39 sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or
40 lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or
41 thymoma*).ti,ab,kw,tw. (1492)
42 14 Renal Insufficiency, Chronic/ (13)
43 15 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or
44 insufficien*).ti,ab,kw,tw. (764)
45 16 (CKD or CKDs).ti,ab,kw,tw. (158)
46 17 Diabetes Mellitus/ (137)
47 18 Diabetes Mellitus, Type 1/ (65)
48 19 Diabetes Mellitus, Type 2/ (118)
49 20 Latent Autoimmune Diabetes in Adults/ (0)
50 21 diabet*.ti,ab,kw,tw. (5061)
51 22 (["Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID] adj DM).ti,ab,kw,tw. (19)
52 23 (IDDM or NIDDM).ti,ab,kw,tw. (37)
53
54
55
56
57
58
59
60

- 1
2
3 24 exp Dyslipidemias/ (35)
4 25 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or
5 hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or
6 hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).ti,ab,kw,tw. (469)
7 26 exp Inflammatory Bowel Diseases/ (62)
8 27 (inflam* adj1 (bowel* or colon*).ti,ab,kw,tw. (424)
9 28 IBD.ti,ab,kw,tw. (180)
10 29 (Crohn or "Crohn's").ti,ab,kw,tw. (422)
11 30 (ileitis adj2 (regional or terminal)).ti,ab,kw,tw. (5)
12 31 (Ileocolitis or ileo-colitis).ti,ab,kw,tw. (10)
13 32 ((proctocolitis or procto-colitis) adj2 idiopathic).ti,ab,kw,tw. (0)
14 33 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).ti,ab,kw,tw. (9)
15 34 colitis gravis.ti,ab,kw,tw. (1)
16 35 exp Pulmonary Disease, Chronic Obstructive/ (112)
17 36 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
18 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*).ti,ab,kw,tw. (1020)
19 37 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
20 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
21 or pan-lobular)).ti,ab,kw,tw. (120)
22 38 (COPD or COAD).ti,ab,kw,tw. (658)
23 39 exp Cardiovascular Diseases/ (1432)
24 40 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-
25 vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or arrhythmia* or
26 arrhythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or
27 fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or
28 thrombo* or vasospas* or vaso-spas*).ti,ab,kw,tw. (8162)
29 41 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).ti,ab,kw,tw. (424)
30 42 hypertens*.ti,ab,kw,tw. (3258)
31 43 ((elevated or high*) adj2 blood pressure*).ti,ab,kw,tw. (556)
32 44 or/4-43 [ITEMIZED CHRONIC DISEASES] (28740)
33 45 3 or 44 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (30275)
34 46 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
35 comorbid* or co-morbidit* or problem*).ti,ab,kw,tw. (502)
36 47 Mood Disorders/ (11)
37 48 ((affective or mood) adj disorder?).ti,ab,kw,tw. (594)
38 49 Cyclothymic Disorder/ (0)
39 50 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*).ti,ab,kw,tw. (64)
40 51 exp Anxiety Disorders/ (70)
41 52 exp Anxiety/ (22)
42 53 (anxiety or anxieties or anxious*).ti,ab,kw,tw. (3119)
43 54 GAD.ti,ab,kw,tw. (86)
44 55 (hypervigilan* or hyper-vigilan* or nervous*).ti,ab,kw,tw. (1930)
45 56 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).ti,ab,kw,tw. (14)
46 57 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).ti,ab,kw,tw. (184)
47 58 (neurocirculatory asthenia* or cardiac neurosis or effort syndrome* or hyperkinetic heart
48 syndrome*).ti,ab,kw,tw. (60)
49 59 (neurotic disorder* or neurosis or psychoneurosis or psycho-neurosis).ti,ab,kw,tw. (321)
50
51
52
53
54
55
56
57
58
59

- 1
2
3 60 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive personalit*
4 or hoarding or psychastheni*).ti,ab,kw,tw. (280)
5 61 (panic disorder* or (panic adj2 attack*)).ti,ab,kw,tw. (239)
6 62 (phobia or phobias or phobic).ti,ab,kw,tw. (282)
7 63 (catastroph#ation? or catastroph#e* or catastroph#ing).ti,ab,kw,tw. (35)
8 64 Attention Deficit Disorder with Hyperactivity/ (54)
9 65 Attention Deficit Disorder with Hyperactivity/ (54)
10 66 (ADDH or ADHD).ti,ab,kw,tw. (223)
11 67 ((hyperkinetic or hyper-kinetic) adj syndrome?).ti,ab,kw,tw. (3)
12 68 exp Depressive Disorder/ (97)
13 69 Depression/ (73)
14 70 depress*.ti,ab,kw,tw. (4605)
15 71 dysthym*.ti,ab,kw,tw. (220)
16 72 (feel* blue or blues).ti,ab,kw,tw. (28)
17 73 melanchol*.ti,ab,kw,tw. (44)
18 74 (MDD and mental).ti,ab,kw,tw. (54)
19 75 Stress Disorders, Traumatic/ (2)
20 76 Stress Disorders, Post-Traumatic/ (28)
21 77 PTSD.ti,ab,kw,tw. (211)
22 78 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).ti,ab,kw,tw. (395)
23 79 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).ti,ab,kw,tw. (9)
24 80 or/46-79 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (7124)
25 81 45 and 80 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (4063)
26 82 Computer Communication Networks/ (7)
27 83 Local Area Networks/ (0)
28 84 Internet/ (27)
29 85 Internet-Based Intervention/ (0)
30 86 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
31 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or deliver* or
32 healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or
33 service? or treat* or therap*)).ti,ab,kw,tw. (592)
34 87 Smartphone/ (0)
35 88 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
36 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or apps or
37 application?)).ti,ab,kw,tw. (108)
38 89 (mobile adj3 (app or apps or application?)).ti,ab,kw,tw. (81)
39 90 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
40 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (64)
41 91 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
42 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (43)
43 92 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
44 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (217)
45 93 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
46 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (88)
47 94 Patient Portals/ (0)
48 95 (patient? adj2 (portal or portals)).ti,ab,kw,tw. (29)
49 96 ((health information or medical information or clinical information) adj3 (portal or
50 portals)).ti,ab,kw,tw. (0)
51
52
53
54
55
56
57
58
59
60

97 ((health data or medical data or clinical data) adj3 (portal or portals)).ti,ab,kw,tw. (0)
 98 health portal?.ti,ab,kw,tw. (1)
 99 Electronic Mail/ (0)
 100 (electronic mail* or email* or e-mail*).ti,ab,kw,tw. (2207)
 101 exp Telephone/ (21)
 102 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or telefacsimile* or tele-facsimile* or FAX).ti,ab,kw,tw. (3243)
 103 exp Television/ (3)
 104 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video tap*).ti,ab,kw,tw. (510)
 105 Videoconferencing/ (2)
 106 (videoconferenc* or video-conference* or videophon* or video-phon*).ti,ab,kw,tw. (81)
 107 Electronic Health Records/ (5)
 108 electronic health record?.ti,ab,kw,tw. (64)
 109 (EHR or EHRs or EMR or EMRs or PHR or PHRs).ti,ab,kw,tw. (38)
 110 Hotlines/ (1)
 111 hotline?.ti,ab,kw,tw. (44)
 112 Telecommunications/ (6)
 113 (telecommunicat* or tele-communicat*).ti,ab,kw,tw. (107)
 114 exp Telemedicine/ (124)
 115 Telenursing/ (1)
 116 (ehealth or e-health or mhealth or m-health or mobile health).ti,ab,kw,tw. (147)
 117 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).ti,ab,kw,tw. (444)
 118 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*).ti,ab,kw,tw. (206)
 119 or/82-118 [DIGITAL HEALTH TECHNOLOGIES] (5328)
 120 81 and 119 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH TECHNOLOGIES] (1688)
 121 limit 120 to yr="2010-current" [Limit not valid in DARE; records were retained] (1449)
 122 remove duplicates from 121 (1449) [TOTAL UNIQUE RECORDS]
 123 122 use coch [CDSR UNIQUE RECORDS] (1362)
 124 122 use dare [DARE UNIQUE RECORDS] (82)
 125 122 use clhta [HTA UNIQUE RECORDS] (5)

CINAHL

#	Query	Limiters/Expanders	Last Run Via	Results
S125	S110 AND S123	Limiters - Published Date: 20100101-20201231 Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	164

			Search Database - CINAHL Plus with Full Text	
S124	S110 AND S123	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	188
S123	S111 OR S112 OR S113 OR S114 OR S115 OR S116 OR S117 OR S118 OR S119 OR S120 OR S121 OR S122	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	200,742
S122	TI simultaneous* W0 compar* OR AB simultaneous* W0 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	145
S121	TI (multi W0 treatment*) N1 compar* OR AB (multi W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	2

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S120	TI (multiple W0 treatment*) N1 compar* OR AB (multiple W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	75
S119	TI (mixed W0 treatment*) N1 compar* OR AB (mixed W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	229
S118	TI (indirect W0 treatment*) N1 compar* OR AB (indirect W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	109

S117	TI indirect* W0 compar* OR AB indirect* W0 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	818
S116	TI (NMA or NMAs or MTC or MTCs or MAIC or MAICs) OR AB (NMA or NMAs or MTC or MTCs or MAIC or MAICs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,002
S115	TI (network W0 (MA or MAs)) OR AB (network W0 (MA or MAs))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4
S114	TI ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews" or "evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews" or (evidence N3 (review* or overview*)) or "meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta W0 synthes*) or "rapid review" or "rapid reviews" or "review of reviews" or (umbrella W0 review#) or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	121,130

	(technology W0 assessment*) or HTA or HTAs) OR AB ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews" or "evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews" or (evidence N3 (review* or overview*)) or "meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta W0 synthes*) or "rapid review" or "rapid reviews" or "review of reviews" or (umbrella W0 review#) or (technology W0 assessment*) or HTA or HTAs)		with Full Text	
S113	TI ((meta W0 analy*) or metanaly* or metaanaly* or (met W0 analy*) or "integrative research" or (integrative W0 review*) or (integrative W0 overview*) or "research integration" or (research W0 overview*) or (collaborative W0 review*)) OR AB ((meta W0 analy*) or metanaly* or metaanaly* or (met W0 analy*) or "integrative research" or (integrative W0 review*) or (integrative W0 overview*) or "research integration" or (research W0 overview*) or (collaborative W0 review*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	77,959
S112	(MH "Meta Analysis") OR (MH "Meta Synthesis")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	52,660
S111	MH "Systematic Review"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database -	95,081

			CINAHL Plus with Full Text	
S110	S72 AND S109	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,893
S109	S73 OR S74 OR S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98 OR S99 OR S100 OR S101 OR S102 OR S103 OR S104 OR S105 OR S106 OR S107 OR S108	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	335,223
S108	TI (remote* N3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (remote* N3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,227
S107	TI (telecare or "tele-care" or teleconsult* or (tele W0 consult*) or telecounsel* or (tele W0 counsel*) or telehome* or (tele W0 home*) or telemed* or (tele W0 med*) or telemonitor* or (tele W0 monitor*) or telenurs* or (tele W0 nurs*) or telepsychiatr* or (tele W0 psychiatr*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen -	8,057

	or telerehab* or (tele W0 rehab*) OR AB (telecare or "tele-care" or teleconsult* or (tele W0 consult*) or telecounsel* or (tele W0 counsel*) or telehome* or (tele W0 home*) or telemed* or (tele W0 med*) or telemonitor* or (tele W0 monitor*) or telenurs* or (tele W0 nurs*) or telepsychiatr* or (tele W0 psychiatr*) or telerehab* or (tele W0 rehab*)		Advanced Search Database - CINAHL Plus with Full Text	
S106	TI (ehealth or "e-health" or mhealth or "m-health" or mobile health) OR AB (ehealth or "e-health" or mhealth or "m-health" or mobile health)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	6,246
S105	(MH "Telenursing")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,178
S104	(MH "Telemedicine+") OR (MH "Telepsychiatry")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14,054

S103	TI (telecommunicat* or (tele W0 communicat*)) OR AB (telecommunicat* or (tele W0 communicat*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,110
S102	(MH "Telecommunications")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,431
S101	TI hotline# OR AB hotline#	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	813
S100	(MH "Telephone Information Services")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	3,343

			with Full Text	
S99	TI (EHR or EHRs or EMR or EMRs or PHR or PHRs) OR AB (EHR or EHRs or EMR or EMRs or PHR or PHRs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,465
S98	TI ("electronic health record" or "electronic health records") OR AB ("electronic health record" or "electronic health records")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,666
S97	MH "Electronic Health Records"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	26,377
S96	TI (videoconferenc* or (video W0 conferenc*) or videophon* or (video W0 phon*)) OR AB (videoconferenc* or (video W0 conferenc*) or videophon* or (video W0 phon*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	1,879

			Search Database - CINAHL Plus with Full Text	
S95	(MH "Videoconferencing+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,141
S94	TI (televis* or (tele W0 vis*) or TV or TVs or videorecord* or (video W0 record*) or videotap* or (video W0 tap*).) OR AB (televis* or (tele W0 vis*) or TV or TVs or videorecord* or (video W0 record*) or videotap* or (video W0 tap*).)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,412
S93	(MH "Television") OR (MH "Videorecording+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	43,241
S92	TI (telephon* or (tele W0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or "tele-facsimile" or "tele-	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	46,130

	facsimiles" or FAX) OR AB (telephon* or (tele W0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or "tele-facsimile" or "tele-facsimiles" or FAX)		Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S91	(MH "Telephone+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	25,218
S90	TI ((electronic W0 mail*) or email* or (e W0 mail*)) OR AB ((electronic W0 mail*) or email* or (e W0 mail*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,502
S89	(MH "Email")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	6,941

S88	TI ("health portal" or "health portals") OR AB ("health portal" or "health portals")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	84
S87	TI ("health data" or "medical data" or "clinical data") N3 (portal or portals)) OR AB (("health data" or "medical data" or "clinical data") N3 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14
S86	TI ("health information" or "medical information" or "clinical information") N3 (portal or portals)) OR AB (("health information" or "medical information" or "clinical information") N3 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	67
S85	TI (patient# N2 (portal or portals)) OR AB (patient# N2 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	1,431

			with Full Text	
S84	(MH "Patient Portals")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	88
S83	TI (virtual* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (virtual* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,160
S82	TI (video* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (video* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,419
S81	TI ("technology-based" or "technology-facilitated") N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB ("technology-based" or "technology-facilitated") N3 (care or healthcare or "health care" or interven* or consult* or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	461

	counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)		Search Database - CINAHL Plus with Full Text	
S80	TI (digital* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*) OR AB (digital* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,177
S79	TI (mobile N3 (app or apps or application#)) OR AB (mobile N3 (app or apps or application#))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,366
S78	TI ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (app or apps or application#)) OR AB ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (app or apps or application#))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	5,284
S77	(MH "Smartphone")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	2,732

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S76	TI ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service# or treat* or therap*)) OR AB ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service# or treat* or therap*)).	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	16,618
S75	(MH "Internet") OR (MH "World Wide Web+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	142,133
S74	(MH "Electronic Bulletin Boards+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	427

			with Full Text	
S73	(MH "Computer Communication Networks") OR (MH "Local Area Networks+") OR (MH "Wide Area Networks")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,610
S72	S41 AND S71	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	83,256
S71	S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	347,716
S70	TI (neuros?s N3 (trauma* or posttrauma* or post-trauma*)) OR AB (neuros?s N3 (trauma* or posttrauma* or post-trauma*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	13

			Search Database - CINAHL Plus with Full Text	
S69	TI ("stress disorder" or "stress disorders") N3 (trauma* or posttrauma* or post-trauma*) OR AB ("stress disorder" or "stress disorders") N3 (trauma* or posttrauma* or post-trauma*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14,699
S68	TI PTSD OR AB PTSD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	12,171
S67	TI (MDD and mental) OR AB (MDD and mental)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	710
S66	TI ((feel* W0 blue) or blues) OR AB ((feel* W0 blue) or blues)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	9,818

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S65	TI (depress* or dysthym* or melanchol*) OR AB (depress* or dysthym* or melanchol*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	158,485
S64	MH "Depression+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	121,857
S63	TI (hyperkinetic or "hyper-kinetic") W0 syndrome#) OR AB (hyperkinetic or "hyper- kinetic") W0 syndrome#)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	20

S62	TI (ADDH or ADHD) OR AB (ADDH or ADHD)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	13,521
S61	TI ("attention deficit" or "attention deficits") OR AB ("attention deficit" or "attention deficits")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	8,622
S60	MH "Attention Deficit Hyperactivity Disorder"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,669
S59	TI (catastrophi?ation# or catastrophi?e* or catastrophi?ing) OR AB (catastrophi?ation# or catastrophi?e* or catastrophi?ing)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	2,355

			with Full Text	
S58	TI (phobia or phobias or phobic) OR AB (phobia or phobias or phobic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,144
S57	TI ((panic W0 disorder*) or (panic N2 attack*)) OR AB ((panic W0 disorder*) or (panic N2 attack*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,756
S56	TI ("obsessive-compulsive" or (anankastic W0 personalit*) or (compulsive W0 personalit*) or (obsessive W0 personalit*) or hoarding or psychastheni*) OR AB ("obsessive-compulsive" or (anankastic W0 personalit*) or (compulsive W0 personalit*) or (obsessive W0 personalit*) or hoarding or psychastheni*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	5,730
S55	TI ((neurotic W0 disorder*) or neuros?s or psychoneuros?s or psycho-neuros?s) OR AB ((neurotic W0 disorder*) or neuros?s or psychoneuros?s or psycho-neuros?s)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	629

			Search Database - CINAHL Plus with Full Text	
S54	TI ((neurocirculatory W0 asthenia*) or (cardiac W0 neuro?s or (effort W0 syndrome*) or ("hyperkinetic heart" W0 syndrome*)) OR AB ((neurocirculatory W0 asthenia*) or (cardiac W0 neuro?s or (effort W0 syndrome*) or ("hyperkinetic heart" W0 syndrome*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	15
S53	TI (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*) OR AB (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,337
S52	TI ((incessan* or obsessive* or persistan* or intense*) N3 fear*) OR AB ((incessan* or obsessive* or persistan* or intense*) N3 fear*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	174
S51	TI (hypervigilan* or hyper-vigilan* or nervous*) OR AB (hypervigilan* or hyper-vigilan* or nervous*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	30,051

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S50	TI GAD OR AB GAD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,627
S49	TI (anxiety or anxieties or anxious*) OR AB (anxiety or anxieties or anxious*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	87,663
S48	MH "Anxiety+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	49,349

S47	MH "Anxiety Disorders+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	49,095
S46	TI ((cyclothymic or "cyclo-thymic") W0 (disorder# or personalit*)) OR AB ((cyclothymic or "cyclo-thymic") W0 (disorder# or personalit*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	27
S45	MH "Cyclothymic Disorder"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	181
S44	TI ((affective or mood) W0 disorder#) OR AB ((affective or mood) W0 disorder#)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	8,199

			with Full Text	
S43	MH "Affective Disorders+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	128,800
S42	TI ((emotional* or mental* or psychological* or social*) N2 health* N3 (disorder* or morbidit* or comorbid* or co-morbidit* or problem*)) OR AB ((emotional* or mental* or psychological* or social*) N2 health* N3 (disorder* or morbidit* or comorbid* or co-morbidit* or problem*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	18,400
S41	S3 OR S40	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,920,672
S40	S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	1,836,239

			Search Database - CINAHL Plus with Full Text	
S39	TI ((elevated or high*) N2 blood pressure*) OR AB ((elevated or high*) N2 blood pressure*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	10,361
S38	TI hypertens* OR AB hypertens*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	93,958
S37	TI (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*) OR AB (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	18,802
S36	TI ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-vascul* or coronary or heart* or myocard* or ventricle*) N3 (arrest* or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	291,187

	aneurysm* or arrhythmia* or arrythmia* or disease* or disorder* or dysrhythmia* or dysrythmia* or dysfunction* or failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or thrombo* or vasospas* or vasospas*)) OR AB ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-vascul* or coronary or heart* or myocard* or ventricle*) N3 (arrest* or aneurysm* or arrhythmia* or arrythmia* or disease* or disorder* or dysrhythmia* or dysrythmia* or dysfunction* or failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or thrombo* or vasospas* or vasospas*))		Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S35	MH "Cardiovascular Diseases+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	616,463
S34	TI (COPD or COAD) OR AB (COPD or COAD)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,097
S33	TI (emphysema# N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or centriacinar or "centri-acinar" or centrilobular or "centri-lobular" or panacinar or "pan-acinar" or panlobular or "pan-lobular"))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search	1,209

	OR AB (emphysema# N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or centriacinar or "centri-acinar" or centrilobular or "centri-lobular" or panacinar or "pan-acinar" or panlobular or "pan-lobular"))		Screen - Advanced Search Database - CINAHL Plus with Full Text	
S32	TI (chronic N2 obstructi* N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*) OR AB (chronic N2 obstructi* N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,432
S31	MH "Pulmonary Disease, Chronic Obstructive+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,169
S30	TI "colitis gravis" OR AB "colitis gravis"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0

S29	TI (c(proctocolitis or "procto-colitis") N2 idiopathic) OR AB ((proctocolitis or "procto-colitis") N2 idiopathic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0
S28	TI ((proctocolitis or "procto-colitis") N2 idiopathic) OR AB ((proctocolitis or "procto-colitis") N2 idiopathic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0
S27	TI (Ileocolitis or "ileo-colitis") OR AB (Ileocolitis or "ileo-colitis")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	27
S26	TI (ileitis N2 (regional or terminal)) OR AB (ileitis N2 (regional or terminal))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	38

			with Full Text	
S25	TI (Crohn or "Crohn's") OR AB (Crohn or "Crohn's")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	7,360
S24	TI IBD OR AB IBD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,539
S23	TI (inflam* N1 (bowel* or colon*) OR AB (inflam* N1 (bowel* or colon*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	9,032
S22	MH "Inflammatory Bowel Diseases+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	15,541

			Search Database - CINAHL Plus with Full Text	
S21	TI (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid#emi* or hyper-lipemi* or hyper-lipid#emi* or lipemi* or lipid#emi* or hypercholester#emi* or hypercholester#emi* or hypertriglyceridemi* or hyper-triglyceridemi*) OR AB (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid#emi* or hyper-lipemi* or hyper-lipid#emi* or lipemi* or lipid#emi* or hypercholester#emi* or hypercholester#emi* or hypertriglyceridemi* or hyper-triglyceridemi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	15,450
S20	MH "Hyperlipidemia+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,692
S19	TI (IDDM or NIDDM) OR AB (IDDM or NIDDM)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,337
S18	TI (("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) W0 DM)) OR AB (("Type 1" or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research	1,064

	"Type I" or "Type 2" or "Type II" or ID or NID) W0 DM))		Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S17	TI diabet* OR AB diabet*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	207,171
S16	(MH "Diabetes Mellitus") OR (MH "Diabetes Mellitus, Type 1") OR (MH "Diabetes Mellitus, Type 2")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	148,760
S15	TI (CKD or CKDs) OR AB (CKD or CKDs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	9,008

S14	TI (chronic N2 (renal or kidney*) N3 (condition* or disease* or disorder* or fail* or insufficien*)) OR AB (chronic N2 (renal or kidney*) N3 (condition* or disease* or disorder* or fail* or insufficien*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	20,525
S13	MH "Renal Insufficiency, Chronic"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	28,632
S12	TI (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*) OR AB (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	56,415
S11	TI (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or oncolog*) OR AB (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or oncolog*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search	601,907

			Database - CINAHL Plus with Full Text	
S10	MH "Neoplasms+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	571,926
S9	TI ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or interminabl* or intractable or longterm or "long-term" or nonstop* or non- stop* or perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt* or unrelenting or unrelieved or unremitt*) N3 (neuralgi* or neuropath* or pain*)) OR AB ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or interminabl* or intractable or longterm or "long-term" or nonstop* or non-stop* or perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt* or unrelenting or unrelieved or unremitt*) N3 (neuralgi* or neuropath* or pain*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	46,734
S8	(MH "Chronic Pain")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	23,373

			with Full Text	
S7	TI asthma* OR AB asthma*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	39,408
S6	(MH "Asthma+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	36,911
S5	TI (arthriti* or arthros?s or osteoarthritis* or osteo-arthriti* or osteoarthros?s or osteo-arthros?s or polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*) OR AB (arthriti* or arthros?s or osteoarthritis* or osteo-arthriti* or osteoarthros?s or osteo-arthros?s or polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	72,634
S4	(MH "Arthritis+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	78,840

			Search Database - CINAHL Plus with Full Text	
S3	S1 OR S2	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	180,624
S2	TI ((chronic* or longterm or "long-term" or longstanding or "long-standing" or ongoing or persisten*) N2 (comorbid* or (co W0 morbid*) or condition* or disabilit* or disease* or disorder* or ill or illness* or morbidit* or syndrom* or symptom*)) OR AB ((chronic* or longterm or "long-term" or longstanding or "long-standing" or ongoing or persisten*) N2 (comorbid* or (co W0 morbid*) or condition* or disabilit* or disease* or disorder* or ill or illness* or morbidit* or syndrom* or symptom*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	138,197
S1	(MH "Chronic Disease+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	68,313

Web of Science

30 [500](#) #28 AND #24

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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
- Refined by: PUBLICATION YEARS:** (2020 OR 2014 OR 2019 OR 2013 OR 2018 OR 2012 OR 2017 OR 2011 OR 2016 OR 2010 OR 2015)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 29 [563](#) #28 AND #24
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 28 [555,169](#) #27 OR #26 OR #25
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 27 [16,091](#) TS=("network MA" or "network MAs") OR TS=(NMA or NMAs or MTC or MTCs or MAIC or MAICs) OR TS=(indirect* NEAR/0 compar*) OR TS=(("indirect treatment" or "indirect treatments") NEAR/1 compar*) OR TS=(("mixed treatment" or "mixed treatments") NEAR/1 compar*) OR TS=(("multiple treatment" or "multiple treatments") NEAR/1 compar*) OR TS=(("multi treatment" or "multi treatments") NEAR/1 compar*) OR TS=(simultaneous* NEAR/0 compar*) OR TS=(mixed NEAR/0 comparison*)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 26 [15,279](#) **TOPIC:** ("meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta NEAR/0 synthes*))) OR **TOPIC:** ("rapid review" or "rapid reviews" or "review of reviews" or "umbrella review" or "umbrella reviews" or "technology assessment" or "technology assessments" or HTA or HTAs)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 25 [530,270](#) **TOPIC:** ((meta NEAR/0 analy*) or metanaly* or metaanaly* or (met NEAR/0 analy*))) OR **TOPIC:** (integrative NEAR/0 (research or review* or overview*))) OR **TOPIC:** (research NEAR/0 (integration or overview*))) OR **TOPIC:** (collaborative NEAR/0 review*)) OR **TOPIC:** ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews")) OR **TOPIC:** ("evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews")) OR **TOPIC:** (evidence NEAR/3 (review* or overview*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 24 [5,800](#) #23 AND #16
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 23 [688,715](#) #22 OR #21 OR #20 OR #19 OR #18 OR #17
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 22 [64,468](#) **TOPIC:** (ehealth or "e-health" or mhealth or "m-health" or "mobile health")) OR **TOPIC:** (telecare or "tele-care" or teleconsult* or (tele NEAR/0 consult*) or telecounsel* or (tele NEAR/0 counsel*) or telehome* or (tele NEAR/0 home*) or telemed* or (tele NEAR/0 med*) or telemonitor* or (tele NEAR/0

- monitor*) or telenurs* or (tele NEAR/0 nurs*) or telepsychiatr* or (tele NEAR/0 psychiatr*) or telerehab* or (tele NEAR/0 rehab*)) OR **TOPIC:** (remote* NEAR/3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 21 [92,415](#) **TOPIC:** ("electronic health record" or "electronic health records") OR **TOPIC:** (EHR or EHRs or EMR or EMRs or PHR or PHRs) OR **TOPIC:** (hotline or hotlines) OR **TOPIC:** (telecommunicat* or (tele NEAR/0 communicat*))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 20 [357,584](#) **TOPIC:** ((electronic NEAR/0 mail*) or email* or "e-mail" or "e-mails" or "e-mailed" or "e-mailing") OR **TOPIC:** (telephon* or (tele NEAR/0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or (tele NEAR/0 facsimile) or "telefacsimiles" or FAX) OR **TOPIC:** (televis* or (tele NEAR/0 vis*) or TV or TVs or videorecord* or (video NEAR/0 record*) or videotap* or (video NEAR/0 tap*)) OR **TOPIC:** (videoconferenc* or (video NEAR/0 conferenc*) or videophon* or (video NEAR/0 phon*))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 19 [5,843](#) **TOPIC:** (patient* NEAR/2 (portal or portals)) OR **TOPIC:** (("health information" or "medical information" or "clinical information") NEAR/3 (portal or portals)) OR **TOPIC:** (("health data" or "medical data" or "clinical data") NEAR/3 (portal or portals)) OR **TOPIC:** ("health portal" or "health portals")
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 18 [31,855](#) **TOPIC:** (digital* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR **TOPIC:** (("technology-based" or "technology-facilitated") NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR **TOPIC:** (video* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR **TOPIC:** (virtual* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 17 [190,766](#) **TOPIC:** ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or "smart phone" or "smart phones" or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") NEAR/3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service or services or treat* or therap*)) OR **TOPIC:** ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or "smart phone" or "smart phones" or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") NEAR/3 (app

or apps or application or applications)) **OR TOPIC:** (mobile NEAR/3 (app or apps or application or applications))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

16 [283,795](#) #15 AND #9

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

15 [1,677,770](#) #14 OR #13 OR #12 OR #11 OR #10

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

14 [94,945](#) **TOPIC:** (PTSD) **OR TOPIC:** (ADDH or ADHD) **OR TOPIC:** ("stress disorder" NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** ("stress disorders" NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** (neurosis NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** (neuroses NEAR/3 (trauma* or posttrauma* or post-trauma*))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

13 [1,032,053](#) **TOPIC:** ("attention deficit" or "attention deficits") **OR TOPIC:** (ADDH or

ADHD) **OR TOPIC:** ((hyperkinetic or "hyper-

kinetic") NEAR/0 syndrome*) **OR TOPIC:** (depress*) **OR TOPIC:** (dysthym*) **OR TOPIC:** ((feel* NEAR/0 blue) or blues) **OR TOPIC:** (melanchol*) **OR TOPIC:** (MDD and mental)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

12 [73,711](#) TS=((neurocirculatory

NEAR/0 asthenia*) or "cardiac neurosis" or "cardiac neuroses" or (effort NEAR/0

syndrome*) or ("hyperkinetic heart" NEAR/0 syndrome*)) **OR TS=**("neurotic

disorder" or "neurotic disorders" or neurosis or neuroses or psychoneurosis or ps

ychoneuroses or "psycho-neurosis" or "psycho-neuroses") **OR TS=**("obsessive-

compulsive" or (anankastic NEAR/0 personalit*) or (compulsive NEAR/0

personalit*) or (obsessive NEAR/0

personalit*) or hoarding or psychastheni*) **OR TS=**(panic NEAR/2 (disorder* or

attack*)) **OR TS=**(phobia or phobias or phobic) **OR TS=**(catastrophisation*

or catastrophise* or catastrophising or catastrophization* or catastrophize* or cat

astrophizing)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

11 [741,658](#) **TOPIC:** ((affective or mood) NEAR/0 disorder*) **OR TOPIC:** ((cyclothymic or "cyclo-

thymic") NEAR/0 (disorder* or personalit*)) **OR TOPIC:** (anxiety or anxieties or

anxious*) **OR TOPIC:** (GAD) **OR TOPIC:** (hypervigilan* or (hyper NEAR/0

vigilan*) or nervous*) **OR TOPIC:** ((incessan* or obsessive* or persistan* or

intense*) NEAR/3 fear*) **OR TOPIC:** (agoraphobi* or claustrophobi* or homophobi*

or neophobi* or xenophobi*)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Timespan=All years

- 1
2
3
4 # 10 [29,399](#) **TOPIC:** ((emotional* or mental* or psychological* or
5 social*) NEAR/2 health* NEAR/3 (disorder* or morbidit* or comorbid* or "co-
6 morbidity" or "co-morbidities" or problem*)
7 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
8 Timespan=All years
- 9 # 9 [7,741,29](#) #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1
10 [8](#) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
11 Timespan=All years
- 12 # 8 [710,621](#) **TOPIC:** (arterioscleros* or arterio-scleros* or atheroscleros* or athero-
13 scleros*) OR **TOPIC:** (hypertens*) OR **TOPIC:** ((elevated or
14 high*) NEAR/2 "blood pressure") OR **TOPIC:** ((elevated or
15 high*) NEAR/2 "blood pressures")
16 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
17 Timespan=All years
- 18 # 7 [1,370,78](#) **TOPIC:** ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or
19 cardiovascul* or "cardio-vascular" or coronary or heart* or myocard* or
20 ventricle*) NEAR/3 (arrest* or aneurysm* or arrhythmia* or arrhythmia* or disease* or
21 disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or fibrillation* or
22 ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or stenoses or
23 syndrom* or thrombo* or vasospas* or "vaso-spasm" or "vaso-spasms"))
24 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
25 Timespan=All years
- 26 # 6 [71,527](#) **TOPIC:** (emphysema NEAR/3 (pulmonary or airway* or "air way" or "air ways" or lung
27 or lungs or airflow* or "air flow" or "air flows" or bronchitis or bronchopulmonar* or
28 "broncho-pulmonary")) OR **TOPIC:** (COAD or COPD)
29 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
30 Timespan=All years
- 31 # 5 [54,369](#) **TOPIC:** ("chronic obstructive" NEAR/3 (pulmonary or airway* or "air way" or "air ways"
32 or lung or lungs or airflow* or "air flow" or "air flows" or bronchitis or
33 bronchopulmonar* or "broncho-pulmonary"))
34 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
35 Timespan=All years
- 36 # 4 [200,828](#) TS=(dyslipidemi* or dyslipoproteinemi* or dyslipo-
37 proteinemi* or hyperlipemi* or hyperlipidaemi* or hyperlipidemi* or hyper-
38 lipemi* or hyper-lipidaemi* or hyper-
39 lipidemi* or lipemi* or lipidaemi* or lipidemi* or hypercholesteraeami* or hyperchol-
40 esteremi* or hyper-cholesteraeami* or hyper-
41 cholesteremi* or hypertriglyceridemi* or hyper-triglyceridemi*) OR TS=(inflam*
42 NEAR/1 (bowel* or colon*)) OR TS=(IBD) OR TS=(Crohn or "Crohn's") OR TS=(ileitis
43 NEAR/2 (regional or terminal)) OR TS=(Ileocolitis or "ileo-
44 colitis") OR TS=((proctocolitis or procto-
45 colitis) NEAR/2 idiopathic) OR TS=((colorectitis or proctocolitis or procto-
46 colitis) NEAR/2 (ulcer* or mucosal)) OR TS=("colitis gravis")
47 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
48 Timespan=All years
49
50
51
52
53
54
55
56
57
58
59
60

- 1
2
3 # 3 [867,623](#) **TOPIC:** ((chronic NEAR/2 (renal or kidney*) NEAR/3 (condition* or disease* or
4 disorder* or fail* or insufficien*))) **OR TOPIC:** (CKD or
5 CKDs) **OR TOPIC:** (diabet*) **OR TOPIC:** ("Type 1" or "Type I" or "Type 2" or "Type II"
6 or ID or NID) NEAR/0 DM) **OR TOPIC:** (IDDM or NIDDM)
7 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
8 Timespan=All years
9
- 10 # 2 [4,527,936](#) **TOPIC:** (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or
11 metasta* or oncolog*) **OR TOPIC:** (adenoma* or adenocarcinoma* or adeno-
12 carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or
13 hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or
14 melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*)
15 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
16 Timespan=All years
17
- 18 # 1 [1,063,650](#) **TOPIC:** ((chronic* or longterm or "long-term" or longstanding or "long-standing" or
19 ongoing or persisten*) NEAR/2 (comorbid* or co-morbid* or condition* or disabilit* or
20 disease* or disorder* or ill or illness* or morbidit* or syndrom* or
21 symptom*)) **OR TOPIC:** (arthriti* or arthrosis or arthroses or osteoarthritis* or osteo-
22 arthriti* or osteoarthros* or osteo-arthros* or polyarthriti* or poly-arthriti* or
23 spondylarthriti* or spondyl-arthriti*) **OR TOPIC:** (asthma*) **OR TOPIC:** ((chronic* or
24 constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
25 interminabl* or intractable or longterm or "long-term" or nonstop* or "non-stop" or
26 perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or
27 unceasing or unending or uninterrupt* or unrelenting or unrelieved or
28 unremitt*) NEAR/3 (neuralgi* or neuropath* or pain*))
29 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
30 Timespan=All years
31
32
33
34
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



PRISMA 2009 Checklist

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
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
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	3
METHODS			
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.	1
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.	3
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.	3-4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Add file 2
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).	4
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.	4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4
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.	4
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	NA
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.	NA



PRISMA 2009 Checklist

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).	4
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	NA
RESULTS			
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.	4,8
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.	11-17
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).	18
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.	11-17
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	NA
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	18
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	19
DISCUSSION			
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).	6-7
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).	7
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	7
FUNDING			
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.	1

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.

Page 2 of 2

For peer review only - <http://bmjopen.bmj.com/site/about/guidelines.xhtml>

BMJ Open

Digital health interventions for the management of mental health in people with chronic diseases: a rapid review.

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2020-044437.R1
Article Type:	Original research
Date Submitted by the Author:	18-Jan-2021
Complete List of Authors:	Sasseville, Maxime; Université du Québec à Chicoutimi, Health Sciences; Université Laval, Nursing LeBlanc, Annie; VITAM Research Center on Sustainable Health; Université Laval Boucher, Mylène; VITAM Research Center on Sustainable Health Dugas, Michèle ; VITAM Research Center on Sustainable Health Mbemba, Gisele; VITAM Research Center on Sustainable Health Tchuenta, Jack; VITAM Research Center on Sustainable Health Chouinard, Maud-Christine; Université de Montréal Beaulieu, Marianne; Université Laval Beaudet, Nicolas ; Omnimed; Université de Sherbrooke Skidmore, Becky; Independent Information Specialist Cholette, Pascale ; Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale du Québec Aspiros, Christine; Patient partner Larouche, Alain; Groupe Santé Concerto Chabot, Guylaine; Groupe Santé Concerto Gagnon, Marie-Pierre; Université Laval; VITAM Research Center on Sustainable Health
Primary Subject Heading:	Health informatics
Secondary Subject Heading:	Mental health, General practice / Family practice, Health services research
Keywords:	MENTAL HEALTH, Health informatics < BIOTECHNOLOGY & BIOINFORMATICS, GENERAL MEDICINE (see Internal Medicine)

SCHOLARONE™
Manuscripts



I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our [licence](#).

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which [Creative Commons](#) licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

1
2
3 **Title: Digital health interventions for the management of mental health in people with**
4 **chronic diseases: a rapid review.**
5

6 Maxime Sasseville, RN, PhD, Université du Québec à Chicoutimi, VITAM Research Center
7 on Sustainable Health, maxime1_sasseville@uqac.ca

8 Annie LeBlanc, PhD, Université Laval, VITAM Research Center on Sustainable Health,
9 annie.leblanc@fmed.ulaval.ca

10 Mylène Boucher, MSc, VITAM Research Center on Sustainable Health,
11 Mylene.Boucher.ciusscn@ssss.gouv.qc.ca

12 Michèle Dugas, MSc, VITAM Research Center on Sustainable Health,
13 michele.dugas.1@ulaval.ca

14 Mbemba Gisèle, PhD, Université Laval, gisele-irene-claudine.mbemba.1@ulaval.ca

15 Jack Tchunte, M.A, VITAM Research Center on Sustainable Health,
16 jack.tchunte.ciusscn@ssss.gouv.qc.ca

17 Maud-Christine Chouinard, RN, PhD, Université de Montréal,
18 maud.christine.chouinard@umontreal.ca

19 Marianne Beaulieu, PhD, Université Laval, Marianne.Beaulieu@fsi.ulaval.ca

20 Nicolas Beaudet, PhD, Université de Sherbrooke, Omnimed, nbeaudet@omnimed.com

21 Becky Skidmore, MLS, Independent Information Specialist, bskidmore@rogers.com

22 Pascale Cholette, MD, Centre Intégré Universitaire de Santé et de Services Sociaux de la
23 Capitale Nationale, pascale.cholette@gmail.com

24 Christine Aspiros, B.A.A, Patient-Partner, christine.aspiros1@gmail.com

25 Alain Larouche, MD, Groupe Concerto, alarouche@groupeconcerto.com

26 Guylaine Chabot, Groupe Concerto, gchabot@groupeconcerto.com

27 Marie-Pierre Gagnon, PhD, Université Laval, VITAM Research Center on Sustainable
28 Health, Marie-Pierre.Gagnon@fsi.ulaval.ca

29
30
31
32
33
34 **Corresponding author contact e-mail:**

35 maxime1_sasseville@uqac.ca

36 **Funding statement:** This review was funded by the Canadian Institute for Health Research in
37 the Operating Grant: Knowledge Synthesis: COVID-19 in Mental Health & Substance Use.
38 Grant number: 202005CMS-442711-CMV-CFBA-111141

39 **Declaration of competing interests:** The authors have no conflict of interests to declare.
40

41
42 **Word count: 2492 words (2500 words MAX)**
43

44 **Keywords:**

- 45 • Rapid review
- 46 • Chronic Diseases
- 47 • Digital health interventions
- 48 • Mental health
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

ABSTRACT

Objective: Determine the effectiveness of digital mental health interventions for individuals with a concomitant chronic disease.

Design: We conducted a rapid review of systematic reviews. Two reviewers independently conducted study selection, and risk of bias evaluation. A standardized extraction form was used. Data is reported narratively.

Interventions: We included systematic reviews of digital health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic disease, including chronic mental health illnesses, published in 2010 or after.

Main outcome measure: Reports on mental health outcomes (e.g.: anxiety symptoms, depression symptoms).

Results: We included 35 reviews, totalling 702 primary studies with a total sample of 50 692 participants. We structured the results in four population clusters: 1) chronic diseases; 2) cancer; 3) mental health; and 4) children and youth. For populations presenting a chronic disease or cancer, health provider-directed digital interventions (e.g., web-based consultation, internet cognitive behavior therapy) are effective and safe. Further analyses are required in order to provide stronger recommendations regarding relevance for specific population (such as children and youth). Web-based interventions and e-mail were the mode of administration that had the most reports of improvement. Virtual reality, smart-phone applications and patient portal had limited reports of improvement.

Conclusions: Digital technologies could be used to prevent and manage mental health problems in people living with chronic conditions, with consideration for the age group and type of technology used.

Strengths and limitation of this study

- We conducted a rapid review of systematic reviews published in the last 10 years, including a large body of evidence in four clusters of population.
- A panel of knowledge users were involved in each step of the review, from conceptualization to publication to ensure relevance in clinical context and policy making.
- Study selection and bias evaluation were completed by two independent reviewers and data extraction used a standardized form.
- We limited the search to the most relevant databases and the last 10 years.
- The overlapping of primary studies was not evaluated.

INTRODUCTION

Chronic diseases are the main burden on healthcare systems in developed countries and account for almost 70% of deaths worldwide(1). An individual with a chronic condition is two to three times more likely to present a concomitant mental health problem than the general population (2). As the number of physical chronic conditions increase in a population, so do the mental health ones. The co-occurrence of chronic and mental health conditions leads to an increase in total healthcare costs and services utilization, as well as poorer quality of life and health outcomes for these individuals (3, 4).

The psychosocial consequences of the current COVID-19 pandemic are alarming and will persist long after the pandemic is over (5). In the current COVID-19 pandemic context, efforts have been invested to rapidly produce scientific evidence in mental health for adapting the clinical setting and supporting policy making (e.g., confinement measures). Adapting to telehealth, when in-person consultation is not recommended, requires efficient and relevant digital mental health interventions for the population with concomitant chronic diseases and mental health issues. While a large number of interventions using digital technologies have been evaluated for the management of depression or anxiety (6, 7), the relevance of these interventions for people living with chronic diseases remains to be defined.

This rapid review of systematic reviews aimed to determine effectiveness of digital mental health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic condition.

METHODS

We conducted a rapid review following the guidance from the Cochrane Rapid Reviews Methods Group (8). We report our results based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (9). The protocol for this rapid review was registered in the National Collaborating Centre for Methods and Tools (NCCMT) COVID-19 Rapid Evidence Service (ID 75).

Knowledge Users Engagement

We engaged a panel of knowledge users (patients, clinicians, decision makers), content experts, review methodologists, and researchers throughout the review process, from question development, literature search, data extraction and analysis, interpretation and writing of results, and dissemination of findings.

Eligibility Criteria

We followed the PICO Framework in establishing eligibility criteria (10) (Table 1). We considered any review that included digital health interventions aiming to prevent, detect or manage mental health problems in individuals with a pre-existing chronic disease, including chronic mental health diseases, published in 2010 or after. There was no language restriction.

Table 1. PICO Eligibility Criteria

Population (P)	Adults with any chronic disease (e.g., diabetes, ischemic heart diseases, cerebrovascular diseases, chronic obstructive pulmonary disease (COPD), asthma, hypertension, dyslipidemia, arthritis/rheumatoid arthritis, chronic pain, cancer, chronic renal disease, inflammatory bowel diseases, mood disorders, attention deficit disorders). We will rely in the authors' definition
-----------------------	---

	of chronic disease AND presenting, or at risk of presenting, a concomitant mental health problem (e.g., mood disorders, depression, anxiety, obsessive compulsive disorder, panic disorder, post-traumatic stress disorder).
Intervention (I)	Digital health technologies, including but not limited to: telemedicine/teleconsultation, patient portal, electronic health record, web-based/internet intervention, or smart phone applications.
Comparator (C)	No intervention, usual care, any other (digital or non-digital) intervention.
Outcomes (O)	Prevalence of mental health problems; scores of depression, anxiety or other mental health problem; quality of life; specific clinical indicators (e.g., HbA1c for diabetes); patient satisfaction; impact on care utilization (e.g., ED visits, hospitalization, outpatient consultations); costs (for the individual and the health system).

Literature Search

An experienced medical information specialist developed and tested the search strategies through an iterative process in consultation with the review team and knowledge users. Using the OVID platform, we searched Ovid MEDLINE®, including Epub Ahead of Print and In-Process & Other Non-Indexed Citations, Embase Classic+Embase, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects and the Health Technology Assessment Database. We also searched CINAHL (EBSCO) and Web of Science. All searches were performed on June 11, 2020. We used a combination of controlled vocabulary (e.g., “Chronic Disease”, “Mood Disorders”, “Internet”) and keywords (e.g., “cancer”, “anxiety”, “telehealth”), and adjusted vocabulary and syntax across the databases. We applied a systematic review filter to all searches except for the Cochrane databases, where it is not required. Specific details regarding the strategies appear in supplementary file 1.

Study Selection, Data Extraction, and Synthesis

Six reviewers individually performed screening for titles, abstracts and then full text using a standardized form pilot-tested by all reviewers on 25 citations. All citations were reviewed by two reviewers independently at the first level of screening. We developed a standardized extraction form that included study characteristics (e.g., authors, country, design), intervention characteristics (e.g., type of digital intervention), and outcomes reported. A senior reviewer reviewed all full-text citations for inclusion. Single reviewers extracted data which were then confirmed by a senior reviewer. We resolved discrepancies through discussion. We report data using a narrative approach which includes tables of study characteristics, intervention characteristics, and mental health outcomes.

Critical Appraisal

We used the AMSTAR 2 tool to critically appraise each included review (11). This revised version of the AMSTAR tool was developed for the evaluation of systematic reviews that include randomised or non-randomised studies of healthcare interventions. This tool has good inter-rater reliability, is widely used for healthcare research, and uses a four-level rating of overall confidence. A single reviewer rated the critical appraisal tool and all judgements were verified by a second author (11).

Patient and Public involvement

1
2
3 A panel of knowledge users (patients and clinicians) was involved throughout the research
4 process, from funding acquisition to publication. The panel will also be involved in
5 subsequent dissemination activities.
6
7

8 9 **RESULTS**

10 **Characteristics of Included Reviews**

11 Our search strategy identified 2320 individual citation. Following screening of titles and
12 abstracts, we excluded 2153 records. We excluded an additional 132 citations during full-text
13 screening, resulting in a total of 35 citations included in our review (Figure 1)(12-46).Of
14 these reviews, there were 17 systematic reviews, 17 systematic reviews with meta-analysis
15 and one integrative review, totalizing 702 primary studies with a total sample of 50,692
16 participants.
17
18

19 Most reviews described digital interventions performed in a specialized care setting (42%)
20 and targeted an adult population (83%). They were looking at interventions to manage and
21 treat a mental health problem (60%), testing web-based and internet interventions (32%) by
22 comparing them to usual care (48%), for people affected with cancer or various chronic
23 diseases (77%). We present the complete description of included reviews in Table 2. A
24 presentation of the reviews by technology used in available in additional table 1.
25
26

27 The overall confidence ratings of the AMSTAR 2 tool were mostly high or moderate (31/35)
28 with a limited number of low ratings (4/35) and no critically low rating (Table 3). A small
29 percentage of the AMSTAR 2 items were not reported in the included reviews with the
30 exception of the source of funding of primary studies in the included reviews (0%) (Figure 2).
31
32

33 We structured our synthesis according to four population clusters: 1) chronic diseases; 2)
34 cancer; 3) mental health; and 4) children and youth. The mental health outcomes found in the
35 included reviews were mainly depression and anxiety symptoms, assessed through
36 heterogeneous outcomes measures. The results are further presented by type of reporting
37 (quantitative or narrative).
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 2. Description of included reviews

Author, Year	Review Design	n of primary studies, Design	n of patients (pooled)	Type of chronic diseases	Type of Digital technology interventions	Depression outcomes	Anxiety outcomes	Other mental health outcomes
Chronic Disease Cluster								
Beatty 2013 (14)	SR	24 Experimental	NR	Chronic physical diseases	Web-based/internet intervention, App, Email, Telemedicine/teleconsultation	Improvement between groups comparison. Improvement within group (moderate effect size). Improvement sustained at 12 months follow-up. iCBT with and without therapist showed no differences between groups. iCBT showed no difference when compared to group-CBT.	Improvement at 3 months and at 12 months	NR
Charova 2015 (16)	SR with MA	11 Experimental	1348	Any chronic disease with comorbid MH disorder	Web-based/internet intervention	DW 0.31; CI 0.17 to 0.45; p<0.01	NR	NR
Clari, 2020 (18)	SR	1 Mixed	84	COPD	Telemedicine/teleconsultation	No difference between groups.	No difference between groups.	Qualitative data: Promoted active acceptance of their disease /Improved the awareness of their physical sensations /Helped identify signs and symptoms /Improvement of the management of acute events.

1									
2									
3	Eccleston,	SR with	14	2012	Chronic pain	Web-based/internet	SMD = -0.26 [95% CI	SMD = -0.48 [95% CI	NR
4	2019 (19)	MA	Experimental			intervention, App,	-0.87 to 0.36]	-1.22to 0.27]	
5						Telemedicine/teleco			
6						nsultation			
7									
8	Hedman,	SR with	108	NR	Any	Web-based/internet	MD = 0.94 [95% CI:	MD = 1.12 [95% CI:	NR
9	2012 (23)	MA	Experimental			intervention	0.77-1.11] Large effect	0.61-1.62],	
10							size, within groups	Large effect size.	
11	McCombie	SR	29	3935	Chronic	Web-based/internet	Improvement of	Improvement (2/7)	NR
12	, 2015 (31)		Mixed		physical	intervention	depression scores (4/8)		
13					diseases				
14									
15	Mehta,	SR with	25	3450	Any	Web-based/internet	Improved depression	Improved anxiety,	NR
16	2018 (33)	MA	Experimental			intervention, Email	symptoms with small to	similar effect size than	
17							medium effect size.	usual care.	
18							Therapist guided ICBT		
19							showed larger effect size		
20							than self-guided ICBT.		
21	Mikolasek,	SR with	17	1855	Chronic	Web-based/internet	Active control: 2/7	Active control: 2/7	NR
22	2018 (34)	Meta-	Experimental		physical	intervention	showed superior	showed superior	
23		Analysis			diseases		effectiveness; 4/7 equal	effectiveness; 4/7 equal	
24							effectiveness; 1/7	effectiveness; 1/7	
25							inferior effectiveness.	inferior effectiveness.	
26							Usual care: 1/4 showed	Usual care: 1/4 showed	
27							superior effectiveness;	superior effectiveness;	
28							3/4 showed equal	3/4 showed equal	
29							effectiveness.	effectiveness.	
30	Palacios,	SR	7	1321	Chronic	Web-based/internet	PHQ-9 score mean from	NR	NR
31	2017 (36)		Experimental		physical	intervention, App,	12 (post) to 8.4 (follow-		
32					diseases	Email, Text	up)		
33						message			
34	Paul, 2013	SR	36	NR	Any chronic	Web-based/internet	Improved depression in	Improved anxiety in	Mixed results in
35	(37)		Experimental		disease with	intervention, Online	comparison between	comparison with	psychosocial outcomes.
36					comorbid	chat	groups.	control	
37					MH disorder				
38									
39									
40									
41									
42									
43									
44									
45									
46									

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Toivonen, 2017(40)	SR	16 Experimental	NR	Any	Web-based/internet intervention, Email, Online chat	Improved depression symptoms with a small effect size.	Improved anxiety symptoms with a small effect size.	NR
van Beugen, 2014 (42)	SR with MA	23 Experimental	2299	Any	Web-based/internet intervention, App, Email, Text message, Online chat	SMD = 0.21 [95% CI: 0.08-0.34]	SMD = 0.17 [95% CI:0.01-0.32]	General distress: SMD = 0.21 [CI:0.00-0.41]
Vugts, 2018 (43)	SR with MA	46 Experimental	NR	Chronic physical diseases	Web-based/internet intervention, Email, Text message, Online chat, Telemedicine/teleconsultation	SMD =-0.18 [95%CI -0.28, -0.07] SMD =-.18 [95% CI:-.28, -.07] Passive control (post) SMD =-.29 [95% CI:-.48, -.10] Passive control (follow-up) SMD =.14 [95% CI:-.37, .09] Active control (post) SMD =.31 [95% CI: -.78, .16] Active control (follow-up)	NR	NR
Cancer Cluster								
Agboola 2015 (12)	SR	20 Experimental	3789	Cancer	Web-based/internet, App, Virtual reality, Text message, Online chat, Telemedicine/teleconsultation	heterogeneous studies no pooling possible	Improvement in anxiety symptoms (3/8)	NR
Bartolo 2019 (13)	SR	8 Experimental	1016	Cancer	Web-based/internet, Patient portal, App, Email,	Improvement in depression symptoms 3 weeks post interventions. small effect size	NR	Improvement in global distress, small effect size.

						Telemedicine/teleconsultation	The telephone intervention yielded medium effect size improvement.		
	Bouma 2015 (15)	SR	16 Experimental	2620	Cancer	Web-based/internet intervention	Improvement on depression symptoms (1/7) (between groups)	Improvement in anxiety symptoms (2/10)	Improvement on quality of life (3/11)
	Chen, 2018 (17)	SR with MA	20 Experimental	2190	Cancer	Web-based/internet intervention, Telemedicine/teleconsultation	SMD = 1.29, [95% CI 2.28 to 0.30]	SMD = 0.09, [95% CI 0.22 to 0.04]	Distress: SMD = ¼ 0.25, [95% CI 0.40 to 0.10, p < 0.001]
	Forbes, 2019 (21)	SR	16 Experimental	2446	Cancer	Web-based/internet intervention, Email, Online chat	Improvement of depression score within group.	NR	Psychological distress: effect size larger with ICBT compared with forum.
	Fridriksdotir, 2017 (22)	SR	20 Experimental	NR	Cancer	Web-based/internet intervention, Email	Better improvement with CBT compared to online forum Improvement in depression symptoms (2/10)	Improvement in anxiety symptoms (4/10)	Improvement on psychological distress. (3/8)
	Kim, 2015 (24)	SR with MA	37 Experimental	NR	Cancer	Web-based/internet intervention, Email, Text message, Online chat, Telemedicine/teleconsultation	Hedges'g = -0.169 [-0.282 - -0.055]	Hedges'g = -0.293 [-0.465 - -0.122]	QOL: Hedges'g = -0.221 [-0.359 - -0.084]
	Kim, 2017 (25)	SR with MA	19 Mixed	2381	Cancer	Web-based/internet intervention, Telemedicine/teleconsultation	d = -0.07, p = 0.284 (post) d = -0.2, p = 0.477 (follow-up)	d = -0.2, p = 0.132	NR
	Lin, 2020 (27)	Mixed	16 Mixed	1053	Cancer	Web-based/internet intervention, App,	Improvement of depression scores (5/11)	Improvement of anxiety scores (5/11)	NR

1						Email, Text message				
2										
3										
4										
5										
6	McCaughan, 2017 (30)	SR	6 Experimental	492	Cancer	Web-based/internet intervention, Patient portal, Email, Online chat	SMD = -0.37, [95% CI -0.75 to 0.00]	Mean 0.4 lower at end of intervention [95% CI 6.42 lower to 5.62 higher]	NR	
7										
8										
9										
10										
11								MD = -0.40, [95% CI -6.42 to 5.62]; low-quality evidence between groups		
12								Improvement of anxiety score (between group) (1/5)	NR	
13										
14										
15	Qan'ir, 2019 (38)	SR with MA	10 Experimental	1124	Cancer	Web-based/internet intervention, App, Online chat	Improvement of depression score (between group) (2/7)	Improvement of anxiety score (within group) (1/5)	NR	
16										
17										
18										
19										
20										
21	Ugalde, 2015 (41)	SR	4 Experimental	NR	Cancer	Web-based/internet intervention	NR	NR	**Improved self-efficacy for regulating negative mood.	
22										
23										
24										
25	Wang, 2020 (44)	SR with MA	7 Experimental	1220	Cancer	Web-based/internet intervention, App, Email	SMD = -0.58, 95% CI (-1.12, -0.03), p = 0.04 (between groups)	SMD = -1.03 [95% CI -2.63, 0.57], (between groups)	NR	
26										
27										
28	Zeng, 2019 (46)	SR with MA	6 Mixed	NR	Cancer	Virtual reality	WMD = -1.11 [Z scores = 1.05, P = .29]	SMD = -3.03 [95% CI = -6.20 to 0.15]	NR	
29										
30										
31	Youth and Children Cluster									
32										
33	Fisher, 2019 (20)	SR with MA	10 Mixed	697	Chronic pain	Web-based/internet intervention, App	SMD 0.04, [95% CI -0.18 to 0.26]	SMD 0.53, [95% CI -0.63 to 1.68]	NR	
34										
35	Lopez-Rodriguez, 2020 (28)	SR	8 Mixed	286	Cancer	App, Virtual reality	Improved depression (3/3)	Improved anxiety (2/3)	NR	
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										

McGar, 2019 (32)	SR	22 Experimental	1764	Chronic physical diseases	Web-based/internet intervention	Improved depression symptoms (3/7)	Improved anxiety (4/5) (post)	Improved PTSD symptoms (2/3) (post)	
Tang, 2018 (39)	SR with MA	4 Experimental	404	Chronic pain	Web-based/internet intervention	MD = 0.23, [95% CI: 0.03–0.43] (within group) MD = 0.02, [95% CI: 0.19–0.22] (between group) SMD = 0.02 [CI: 0.19, 0.22, p = 0.86] (follow-up)	SMD = 3.24, [95% CI: 1.88–4.61], (within group) SMD = 0.41, [95% CI: 1.79–0.98] (between group)	NR	
Mental Health Cluster									
Lewis, 2018 (26)	SR with MA	10 Experimental	720	PTSD	Web-based/internet intervention	SMD = -0.61 [95% CI – 1.17 to –0.05] (between groups/post) MD = – 8.95, 95% CI – 15.57 to –2.33] (between groups/follow-up)	SMD = –0.67 [95% CI –0.98 to –0.36] (between groups/post) MD = –12.59 [95% CI –20.74 to –4.44] (between groups/follow-up)	PTSD SMD = –0.60 [95% CI –0.97 to –0.24] (between groups/post) RR = 0.53 [95% CI 0.28 to 1.00] (between groups/post)	
MayoWilson, 2013 (29)	SR with MA	43 Experimental	8403	Anxiety	Web-based/internet intervention, Email, Text message, Telemedicine/teleconsultation	NR	SMD = 0.79, [95% CI 0.62 to 0.96] (internet-delivered)	NR	
Olthuis, 2016 (35)	SR with MA	38 Experimental	3214	Anxiety	Web-based/internet intervention, App, Email, Online chat	NR	*RR = 3.75 [95% CI 2.51 to 5.60] (generalized anxiety) SMD = -1.06 [95% CI -1.29 to -0.8] (disorder specific anxiety)	NR	

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Wickersham, 2019 (45)	SR	5 Experimental	653	PTSD	App	NR	NR	No improvement in PTSD between groups when compared to usual care.
--------------------------	----	-------------------	-----	------	-----	----	----	--

NOTE: SR: Systematic review; MA: Meta-analysis; NR: Not reported; MH: Mental health; PTSD: Post-Traumatic Stress Disorder; COPD: Chronic Obstructive Pulmonary Disease

Table 3. Critical appraisal of the included reviews

	1. Question and Inclusion	2. Protocol	3. Study Design	4. Comprehensive Search	5. Study Selection	6. Data Extraction	7. Excluded Studies Justify	8. Included Studies Details	9. Risk of Bias (RoB)	10. Sources of Funding	11. Statistical Methods	12. Meta-analysis RoB	13. Individual Studies RoB	14. Heterogeneity Explanation	15. Publication Bias	16. Conflict of Interest	Overall Confidence Rating
Agboola 2015	N	PY	Y	PY	Y	Y	Y	PY	Y	N	N/A	N/A	Y	N	N/A	Y	Low
Bartolo 2017	Y	Y	Y	Y	Y	Y	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Beatty 2012	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	N	Moderate
Bouma 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Charova 2015	Y	Y	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Moderate
Chen 2018	Y	PY	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Moderate
Clari 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Eccleston 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Fisher 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Forbes 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Fridriksdottir 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Hedman 2012	Y	N	Y	Y	Y	Y	Y	Y	PY	N	Y	Y	Y	Y	Y	Y	Low
Kim 2015	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Kim 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Moderate
Lewis 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Lin 2020	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Lopez-Rodriguez 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	Y	Y	High

Mayo-Wilson 2013	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
McCaughan 2017	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
McCombie 2015	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Low
McGar 2019	Y	PY	Y	Y	Y	Y	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Mehta 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Mikolasek 2018	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Olthuis 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Palacios 2017	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Paul 2013	Y	PY	Y	PY	N/A	N/A	Y	Y	PY	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Qan'ir 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Moderate
Tang 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Toivonen 2017	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	Low
Ugalde 2017	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
van Beugen 2014	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate
Vaugts 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Wang 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	High
Wickersham 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N/A	N/A	Y	Y	N/A	Y	High
Zeng 2019	Y	PY	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Moderate

Abbreviations: Y=Yes, N=No, PY=Partial Yes, NA=Not Applicable, H=High, M=Moderate, L=Low, RoB=Risk of Bias.

Table 4. Studies reporting improvements classified by the type of digital technology used

	Chronic diseases cluster			Cancer cluster			Children and youth cluster			Mental health cluster		
	Depression	Anxiety	Other	Depression	Anxiety	Other	Depression	Anxiety	Other	Depression	Anxiety	Other
Web-based interventions	(23) (42) (43) (16) (36) (31) (14) (40) (33) (34) (37)	(23) (31) (14) (40) (33) (34) (37)	(37)	(17) (44) (24) (21) (13)	(17) (30) (44) (24)	(17) (24) (21) (41) (13)	(20) (39)	(20) (39) (32) (32)	(32)	(26)	(29) (35) (26) (26)	(26)
Patient portal					(30)							
Smart Phone application	(42) (36) (14) (14)			(44)	(44)		(20) (28)	(20) (28)			(35)	
Virtual reality							(28)	(28)				
Email	(42) (43) (36) (14) (40) (33)	(14) (40) (33)		(44) (24) (21) (13)	(30) (44) (24)	(24) (21) (13)					(29) (35)	

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Text message	(42) (43) (36)		(24)	(24)	(24)		(29)
Online chat	(42) (43) (40) (37)	(40) (37)	(37)	(24) (21)	(30) (24)	(24) (21)	(35)
Telemedicine/ Teleconsultation	(42) (14)	(14)		(17) (24) (13)	(17) (24)	(17) (24) (13)	(29)

For peer review only

Chronic Diseases Cluster

We identified 13 reviews referring to people with various chronic diseases (Table 2). Six of the 13 reviews reported their results using pooled difference of score mean (16, 19, 23, 36, 42, 43). The majority of the reviews presenting quantitative results reported improvement of depressive symptoms (5/6), but only one identified improvement in anxiety symptoms (1/3). One review reported improvement of general distress (42). The synthesis with the largest effect size included 108 primary studies with only web-based and internet cognitive behavior therapy (CBT) interventions (23). Most of the reviews that yielded narrative results reported improvement of depressive symptoms (6/7), improvement in anxiety symptoms (6/7) and psychosocial outcomes (1/1). Only one report of inferior effectiveness was identified for both depression and anxiety symptoms (18). Narrative reports described a small to moderate effect size within group in depression and anxiety symptoms. One integrative review report based on qualitative data described that digital health interventions for people with chronic diseases promoted active acceptance of their disease, improved the awareness of physical manifestations of the disease, helped identify signs and symptoms of worsening and improved management of acute events (18). The types of digital technology that had the most reports of improvements were web-based interventions, followed by e-mail. Virtual reality and patient portal had no reports of improvements on outcomes when used (Table 4).

Cancer Cluster

We identified 14 reviews referring to people with cancer (Table 2). Quantitative reporting was present in six reviews (17, 24, 25, 30, 44, 46). Four (4/6) of those reported improvements of depressive symptoms, and half showed improvements in anxiety symptoms (3/6). Other quantitative reports of improvements in mental health outcomes included distress and quality of life. The quantitative report with the largest effect size included 20 primary studies, a total sample of 2190 participants, and looked at web-based and teleconsultations CBT interventions (17). Reviews that yielded narrative results reported improvements of depression symptoms (6/7), anxiety symptoms (5/5), distress (3/3), quality of life (1/1) and mood regulation (1/1). Pooling of the results was impossible in one review due to heterogeneity (12). The narrative outcome reports described a small effect size within group for depression and anxiety symptoms (21). The types of digital intervention that had the most reports of improvements were web-based interventions and e-mail. Virtual reality had no reports of improvements (Table 4)

Children and Youth Cluster

We identified four reviews related to digital health interventions targeting children and youth (Table 2). Two reviews reported a quantitative synthesis presenting mixed effects; one showing within group improvements in depression and anxiety, and both showing no between group difference on these outcomes (20, 39). As for narrative syntheses, both reported improvements on depression and anxiety, with one of the reviews reporting on post-traumatic stress disorder (PTSD) symptoms improvement (28, 32). The limited reports on improvement for this population was associated with the used of web-based interventions (3/4), smart phone applications (2/4) and virtual reality (1/4) (Table 4).

Mental Health Cluster

We identified four reviews related to population with mental health conditions (Table 2). The quantitative reports showed improvements in anxiety symptoms for generalized anxiety disorder and disease-specific anxiety (3/3), improvements of depression symptoms (1/1) and PTSD symptoms (1/1). The only narrative report for that cluster showed no improvement on

1
2
3 PTSD symptoms between groups (45). The types of digital technology that had the most
4 reports of improvement were web-based interventions (3/4) and e-mail (2/4) with unique
5 reports for smart phone applications, text-messages and online chat (table 4).
6

7 8 **DISCUSSION**

9 We conducted a rapid review of systematic reviews to identify digital health interventions
10 effective to prevent, detect or manage mental health problems in individuals with a pre-
11 existing chronic disease. In total, 35 reviews were included.
12

13 Our findings are in line with the extensive evidence that internet CBT interventions are
14 effective and comparable to face-to-face interventions (47). Our analysis adds to the body of
15 evidence on effectiveness regarding concomitant chronic diseases in four clusters of
16 population. For people with various chronic diseases, most of the included reviews showed
17 that digital health interventions have a positive effect on depression, anxiety, distress and
18 psychosocial outcomes. The data showed that interventions have a moderate effect size
19 within the intervention group and a small effect size when compared to usual care. For the
20 cluster of population affected by cancer (including survival), evidence already exists
21 regarding the effectiveness of digital mental health interventions with positive to mixed effect
22 (48). Our data also showed that digital health interventions are effective in improving
23 depression, anxiety, distress, quality of life and mood regulation. Also, teleconsultation and
24 web-based interventions were the most effective modes of delivery for this population.
25 Regarding the pediatric population, a meta-review targeting digital mental health
26 interventions for children and youth reported a positive effect for the use of web-based CBT
27 but only in children and youth with anxiety and depression with no other concomitant
28 conditions (49). Quantitative data were inconclusive regarding effectiveness and effect size
29 within group but showed a non-inferiority when compared to usual care. All included reviews
30 in this population combined smart phone applications and web-based interventions, making it
31 difficult to draw any conclusion about the most effective mode of delivery for the
32 intervention at this level of analysis. For the mental health population, the included reviews
33 emphasized that digital health interventions are effective for individuals with a combination
34 of physical and mental conditions, as well as for people with multiple mental health
35 problems.
36
37
38
39
40

41 Available evidence suggests that digital health interventions such as web-based CBT, e-mail
42 messaging and teleconsultation could be effective and provide an alternative to face-to-face
43 psychological interventions to prevent and manage mental health problems in people affected
44 by cancer or other chronic diseases. In line with our findings, Torous et al. described that
45 offering health provider-directed synchronous digital health solutions such as teleconsultation
46 is the first step to increase access to quality mental health care in the midst of the COVID-19
47 pandemic (50). Many of these innovations support the care of people in need of special
48 attention, including those with chronic illnesses. Due to smaller effect size, we were not able
49 to draw any conclusion related to the other forms of digital health interventions such as
50 online chat, text message and smart phone applications. These types of digital health
51 interventions are asynchronous; they may improve access and promote low-threshold
52 alternatives to mental health consultations within the health care system. However, more
53 evidence regarding implementation and evaluation to be safe for patients would be required
54 (50). Included reviews that looked at other intervention delivery methods reported smaller to
55 no effect, but it could be related to heterogeneity of the data. Even with reports of
56 effectiveness, there is still a lack of evidence of economic data to perform a proper cost
57 analysis of digital health interventions (51, 52).
58
59
60

1
2
3 This review was rapidly performed to inform knowledge users in a timely matter. In line with
4 recommendations for rapid reviews (53), methods that would lead to a systematic review
5 were not followed as strictly to allow for a faster methodology. We limited the scope of the
6 search to the aim of the study by looking at limited databases and imposing a period of
7 publication. These methodological choices resulted in the ability to perform an appropriate
8 and structured study selection, data extraction and critical appraisal.
9
10

11 This rapid review of reviews has limitations. In order to respect the requirements of this
12 urgent strategic call in response to the COVID-19 pandemic and provide stakeholders and
13 decision makers with up-to-date evidence, we limited the search to the most relevant
14 databases and the last 10 years. Despite our best efforts, we may have missed some
15 publications. Moreover, we did not assess the overlapping of primary studies in the included
16 reviews. While we rigorously followed guidance for the conduct of rapid reviews, results
17 from this study should be interpreted with caution. Further analyses will be required for
18 stronger recommendations, notably by considering the potential publication bias, as well as
19 other factors that could decrease the level of confidence in the reported effects.
20
21

22 Future research on digital mental health interventions should provide economic data to give a
23 broader insight for possible implementation. Research on digital mental health interventions
24 could also further assess the safety and limitations of asynchronous and self-administered
25 technologies. Finally, efforts should be put on developing a structured method to report what
26 kind of technology (e.g.: internet-based, smartphone app) and function (e.g.: communication,
27 intervention, evaluation) were used in the intervention. A structured method of reporting
28 would improve the evidence precision and knowledge implementation.
29
30

31 **CONCLUSION**

32 This rapid review outlines the current evidence regarding the use of digital health
33 interventions for people with a concomitant chronic disease. For individuals with a chronic
34 disease or cancer, health provider-directed digital interventions (e.g., teleconsultation) are
35 effective and safe. However, further analyses of this large body of evidence are required in
36 order to provide precise recommendations regarding relevance for specific populations (such
37 as children and youth), modes of delivery and type of intervention. In response to the current
38 crisis, but also to better prepare for the post-crisis and future crises, digital technologies could
39 be used to prevent and manage mental health problems in people living with chronic
40 conditions, with consideration for the age group and type of technology used.
41
42

43 **ACKNOWLEDGEMENTS**

44 The authors would like to thank the knowledge users for their support throughout this review
45 and the SPOR Evidence Alliance for their support.
46
47

48 **RESEARCH ETHICS APPROVAL**

49 Not applicable
50
51

52 **CONTRIBUTORSHIP STATEMENT**

53 Maxime Sasseville, Annie LeBlanc, Marie-Pierre Gagnon, Maud-Christine Chouinard,
54 Marianne Beaulieu, Nicolas Beaudet, Pascale Cholette Christine Aspiros, Alain Larouche,
55 Guylaine Chabot identified the need for this study and contributed to its conception and
56 design. Becky Skidmore developed and conducted the search strategy. Maxime Sasseville,
57 Marie-Pierre Gagnon, Mylène Boucher, Michèle Dugas, Mbemba Gisèle, Jack Tchuenta
58 conducted the data collection and analysis. Maxime Sasseville developed the first draft of the
59
60

1
2
3 report. All authors contributed to writing and editing and gave the final approval of the
4 version submitted.
5

6 **COMPETING INTERESTS**

7
8 The authors have no conflict of interests to declare.
9

10 **FUNDING**

11 This review was funded by the Canadian Institute for Health Research in the Operating Grant:
12 Knowledge Synthesis: COVID-19 in Mental Health & Substance Use. Grant number:
13 202005CMS-442711-CMV-CFBA-111141
14

15
16 **DATA STATEMENT:** Available with reasonable request whit the first (MS) or last (MPG)
17 authors.
18

19 **FIGURES LEGENDS:**

20 Figure 1. PRISMA flow diagram of study inclusion process.

21 Figure 2. Overall critical appraisal of the included studies using the AMSTAR 2 tool.
22
23
24
25
26
27
28
29
30
31
32
33
34
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

REFERENCES

1. World Health Organisation. Global status report on noncommunicable diseases. Geneva, Switzerland; 2014.
2. Chapman DP, Perry GS, Strine TW. Peer reviewed: the vital link between chronic disease and depressive disorders. *Preventing Chronic Disease*. 2005;2(1).
3. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *The Lancet*. 2012;380(9836):37-43.
4. Naylor C, Parsonage M, McDaid D, Knapp M, Fossey M, Galea A. Long-term conditions and mental health: the cost of co-morbidities. The King's Fund and Centre for Mental Health; 2012.
5. Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: mental health consequences and target populations. *Psychiatry and clinical neurosciences*. 2020;74(4):281.
6. García-Lizana F, Muñoz-Mayorga I. Telemedicine for depression: a systematic review. *Perspective Psychiatry Care*. 2010;46(2):119-26.
7. Richards D, Richardson T. Computer-based psychological treatments for depression: a systematic review and meta-analysis. *Clinical Psychology Review*. 2012;32(4):329-42.
8. Garritty C GG, Kamel C, King VJ, Nussbaumer-Streit B, Stevens A, Hamel C, Affengruber L. Cochrane Rapid Reviews. . Interim Guidance from the Cochrane Rapid Reviews Methods Group. In: *Reviews*. CR, editor.: Cochrane Collaboration; 2020.
9. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Medicine*. 2009;6(7):e1000097.
10. Goldstein KM, Fisher DA, Wu RR, Orlando LA, Coffman CJ, Grubber JM, et al. An electronic family health history tool to identify and manage patients at increased risk for colorectal cancer: protocol for a randomized controlled trial. *Trials*. 2019;20(1):576.
11. Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ*. 2017;358:j4008.
12. Agboola SO, Ju W, Elfiky A, Kvedar JC, Jethwani K. The effect of technology-based interventions on pain, depression, and quality of life in patients with cancer: a systematic review of randomized controlled trials. *Journal of Medical Internet Research*. 2015;17(3):e65.
13. Bartolo A, Pacheco E, Rodrigues F, Pereira A, Monteiro S, Santos IM. Effectiveness of psycho-educational interventions with telecommunication technologies on emotional distress and quality of life of adult cancer patients: a systematic review. *Disability & Rehabilitation*. 2019;41(8):870-8.
14. Beatty L, Lambert S. A systematic review of internet-based self-help therapeutic interventions to improve distress and disease-control among adults with chronic health conditions. *Clinical Psychology Review*. 2013;33(4):609-22.
15. Bouma G, Admiraal JM, de Vries EGE, Schroder CP, Walenkamp AME, Reyners AKL. Internet-based support programs to alleviate psychosocial and physical symptoms in cancer patients: A literature analysis. *Critical Reviews in Oncology/Hematology*. 2015;95(1):26-37.
16. Charova E, Dorstyn D, Tully P, Mittag O. Web-based interventions for comorbid depression and chronic illness: a systematic review. *Journal of Telemedicine & Telecare*. 2015;21(4):189-201.
17. Chen YY, Guan BS, Li ZK, Li XY. Effect of telehealth intervention on breast cancer patients' quality of life and psychological outcomes: A meta-analysis. *Journal of Telemedicine & Telecare*. 2018;24(3):157-67.
18. Clari M, Conti A, Fontanella R, Rossi A, Matarese M. Mindfulness-Based Programs for People with Chronic Obstructive Pulmonary Disease: a Mixed Methods Systematic Review. *Mindfulness*. 2020:20.

19. Eccleston C, Fisher E, Brown R, Craig L, Duggan GB, Rosser BA, et al. Psychological therapies (Internet-delivered) for the management of chronic pain in adults. *Cochrane Database of Systematic Reviews*. 2019(9).
20. Fisher E, Law E, Dudeney J, Eccleston C, Palermo TM. Psychological therapies (remotely delivered) for the management of chronic and recurrent pain in children and adolescents. *Cochrane Database of Systematic Reviews*. 2019(9).
21. Forbes CC, Finlay A, McIntosh M, Siddiquee S, Short CE. A systematic review of the feasibility, acceptability, and efficacy of online supportive care interventions targeting men with a history of prostate cancer. *Journal of Cancer Survivorship : Research and Practice*. 2019;13(1):75-96.
22. Fridriksdottir N, Gunnarsdottir S, Zoega S, Ingadottir B, Hafsteinsdottir EJG. Effects of web-based interventions on cancer patients' symptoms: review of randomized trials. *Supportive Care in Cancer*. 2018;26(2):337-51.
23. Hedman E, Ljotsson B, Lindefors N. Cognitive behavior therapy via the Internet: a systematic review of applications, clinical efficacy and cost-effectiveness. *Expert Review of Pharmacoeconomics & Outcomes Research*. 2012;12(6):745-64.
24. Kim AR, Park HA. Web-based Self-management Support Interventions for Cancer Survivors: A Systematic Review and Meta-analyses. *Studies in Health Technology & Informatics*. 2015;216:142-7.
25. Kim SH, Kim K, Mayer DK. Self-Management Intervention for Adult Cancer Survivors After Treatment: A Systematic Review and Meta-Analysis. *Oncology Nursing Forum*. 2017;44(6):719-28.
26. Lewis C, Roberts NP, Bethell A, Robertson L, Bisson JI. Internet-based cognitive and behavioural therapies for post-traumatic stress disorder (PTSD) in adults. *Cochrane Database of Systematic Reviews*. 2018(12).
27. Lin H, Ye M, Chan SWC, Zhu J, He H. The effectiveness of online interventions for patients with gynecological cancer: An integrative review. *Gynecologic Oncology*. 2020.
28. Lopez-Rodriguez MM, Fernandez-Millan A, Ruiz-Fernandez MD, Dobarrio-Sanz I, Fernandez-Medina IM. New Technologies to Improve Pain, Anxiety and Depression in Children and Adolescents with Cancer: A Systematic Review. *International Journal of Environmental Research & Public Health*. 2020;17(10):19.
29. MayoWilson E, Montgomery P. Media-delivered cognitive behavioural therapy and behavioural therapy (self-help) for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*. 2013(9).
30. McCaughan E, Parahoo K, Hueter I, Northouse L, Bradbury I. Online support groups for women with breast cancer. *Cochrane Database of Systematic Reviews*. 2017;3:CD011652.
31. McCombie A, Geary R, Andrews J, Mikocka-Walus A, Mulder R. Computerised Cognitive Behavioural Therapy for Psychological Distress in Patients with Physical Illnesses: A Systematic Review. *Journal of Clinical Psychology in Medical Settings*. 2015;22(1):20-44.
32. McGar AB, Kindler C, Marsac M. Electronic Health Interventions for Preventing and Treating Negative Psychological Sequelae Resulting From Pediatric Medical Conditions: Systematic Review. *JMIR Pediatrics and Parenting*. 2019;2(2):e12427.
33. Mehta S, Peynenburg VA, Hadjistavropoulos HD. Internet-delivered cognitive behaviour therapy for chronic health conditions: a systematic review and meta-analysis. *Journal of Behavioral Medicine*. 2019;42(2):169-87.
34. Mikolasek M, Berg J, Witt CM, Barth J. Effectiveness of Mindfulness- and Relaxation-Based eHealth Interventions for Patients with Medical Conditions: a Systematic Review and Synthesis. *Int J Behav Med*. 2018;25(1):1-16.
35. Olthuis JV, Watt MC, Bailey K, Hayden JA, Stewart SH. Therapist-supported Internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*. 2016(3).
36. Palacios J, Lee GA, Duaso M, Clifton A, Norman IJ, Richards D, et al. Internet-Delivered Self-management Support for Improving Coronary Heart Disease and Self-management-Related Outcomes: A Systematic Review. *Journal of Cardiovascular Nursing*. 2017;32(4):E9-E23.

- 1
2
3 37. Paul CL, Carey ML, Sanson-Fisher RW, Houlcroft LE, Turon HE. The impact of web-based
4 approaches on psychosocial health in chronic physical and mental health conditions. *Health*
5 *Education Research*. 2013;28(3):450-71.
- 6 38. Qan'ir Y, Song L. Systematic review of technology-based interventions to improve anxiety,
7 depression, and health-related quality of life among patients with prostate cancer. *Psycho-Oncology*.
8 2019;28(8):1601-13.
- 9 39. Tang WX, Zhang LF, Ai YQ, Li ZS. Efficacy of Internet-delivered cognitive-behavioral therapy
10 for the management of chronic pain in children and adolescents: A systematic review and meta-
11 analysis. *Medicine*. 2018;97(36):e12061.
- 12 40. Toivonen KI, Zernicke K, Carlson LE. Web-Based Mindfulness Interventions for People With
13 Physical Health Conditions: Systematic Review. *Journal of Medical Internet Research*.
14 2017;19(8):e303.
- 15 41. Ugalde A, Haynes K, White V, Krishnasamy M, Boltong A, Schofield P, et al. Self-guided
16 psychological interventions for people with cancer: A systematic review. *Asia-Pacific Journal of*
17 *Clinical Oncology*. 2015;4):146.
- 18 42. van Beugen S, Ferwerda M, Hoeve D, Rovers MM, Spillekom-van Koulik S, van Middendorp H,
19 et al. Internet-based cognitive behavioral therapy for patients with chronic somatic conditions: a
20 meta-analytic review. *Journal of Medical Internet Research*. 2014;16(3):e88.
- 21 43. Vugts MAP, Joosen MCW, van der Geer JE, Zedlitz AMEE, Vrijhoef HJM. The effectiveness of
22 various computer-based interventions for patients with chronic pain or functional somatic
23 syndromes: A systematic review and meta-analysis. *PLoS ONE*. 2018;13 (5) (no
24 pagination)(e0196467).
- 25 44. Wang Y, Lin Y, Chen J, Wang C, Hu R, Wu Y. Effects of Internet-based psycho-educational
26 interventions on mental health and quality of life among cancer patients: a systematic review and
27 meta-analysis. *Supportive Care in Cancer*. 2020;28(6):2541-52.
- 28 45. Wickersham A, Petrides PM, Williamson V, Leightley D. Efficacy of mobile application
29 interventions for the treatment of post-traumatic stress disorder: A systematic review. *Digit Health*.
30 2019;5:11.
- 31 46. Zeng Y, Zhang JE, Cheng ASK, Cheng H, Wefel JS. Meta-Analysis of the Efficacy of Virtual
32 Reality-Based Interventions in Cancer-Related Symptom Management. *Integrative Cancer Therapies*.
33 2019;18:1534735419871108.
- 34 47. Cuijpers P, Van Straten A, Andersson G. Internet-administered cognitive behavior therapy for
35 health problems: a systematic review. *Journal of Behavioral Medicine*. 2008;31(2):169-77.
- 36 48. McAlpine H, Joubert L, Martin-Sanchez F, Merolli M, Drummond KJ. A systematic review of
37 types and efficacy of online interventions for cancer patients. *Patient Education and Counseling*.
38 2015;98(3):283-95.
- 39 49. Hollis C, Falconer CJ, Martin JL, Whittington C, Stockton S, Glazebrook C, et al. Annual
40 Research Review: Digital health interventions for children and young people with mental health
41 problems—a systematic and meta-review. *Journal of Child Psychology and Psychiatry*.
42 2017;58(4):474-503.
- 43 50. Torous J, Myrick KJ, Rauseo-Ricupero N, Firth J. Digital mental health and COVID-19: Using
44 technology today to accelerate the curve on access and quality tomorrow. *Journal of Medical*
45 *Internet Research: Mental Health*. 2020;7(3):e18848.
- 46 51. Iribarren SJ, Cato K, Falzon L, Stone PW. What is the economic evidence for mHealth? A
47 systematic review of economic evaluations of mHealth solutions. *PloS one*. 2017;12(2):e0170581.
- 48 52. Badawy SM, Kuhns LM. Economic evaluation of text-messaging and smartphone-based
49 interventions to improve medication adherence in adolescents with chronic health conditions: a
50 systematic review. *JMIR mHealth and uHealth*. 2016;4(4):e121.
- 51 53. Garritty C, Gartlehner G, Nussbaumer-Streit B, King VJ, Hamel C, Kamel C, et al. Cochrane
52 Rapid Reviews Methods Group offers evidence-informed guidance to conduct rapid reviews. *Journal*
53 *of Clinical Epidemiology*. 2020.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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

For peer review only

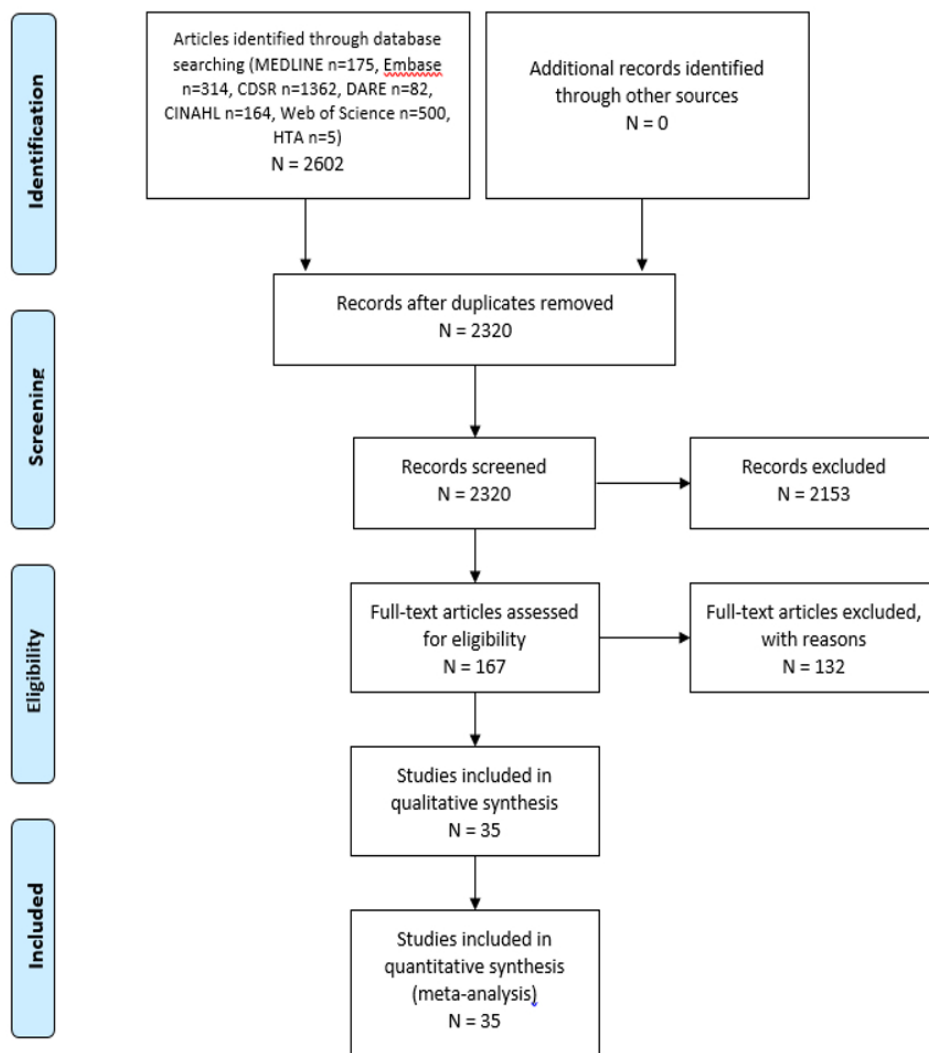


Figure 1. Study Flow Diagram



Figure 2. Risk of bias for individual items of the AMSTAR 2 tool.

Additional Table 1. Type of intervention and outcomes

	Web-based	Patient portal	Phone application	Virtual reality	Email	Text message	Online chat	Teleconsultation	Depression outcomes	Anxiety outcomes	Other mental health outcomes
CHRONIC DISEASES CLUSTER											
Hedman, 2012 (23)	X								+++	+++	NR
Eccleston, 2019 (19)	X	X						X	=	=	NR
van Beugen, 2014 (42)	X	X			X	X	X		+	=	=
Vugts, 2018 (43)	X				X	X	X	X	+	NR	NR
Charova 2015 (16)	X								+	NR	NR
Palacios, 2017 (36)	X	X			X	X			+	NR	NR
McCombie, 2015 (31)	X								+	+	NR
Beatty 2013 (14)	X	X			X			X	+	+	NR
Toivonen, 2017(40)	X				X		X		+	+	NR
Mehta, 2018 (33)	X				X				++	+	NR
Mikolasek, 2018 (34)	X								+	+	NR
Paul, 2013 (37)	X						X		+	+	+/-
Clari, 2020 (18)								X	=	=	NR
CANCER POPULATION CLUSTER											
Chen, 2018 (17)	X							X	+++	+	+
McCaughan, 2017 (30)	X	X			X		X		=	+	NR
Wang, 2020 (44)	X		X		X				+	++	NR
Zeng, 2019 (46)				X					=	=	NR
Kim, 2015 (24)	X				X	X	X	X	+	+	+
Kim, 2017 (25)	X							X	=	=	NR
Lin, 2020 (27)	X	X			X	X			+/-	+/-	NR
Qan'ir, 2019 (38)	X	X					X		+/-	+/-	NR
Forbes, 2019 (21)	X				X		X		+	NR	+
Fridriksdottir, 2017 (22)	X				X				+/-	+/-	+/-
Bouma 2015 (15)	X								+/-	+/-	+/-
Ugalde, 2015 (41)	X								NR	NR	+
Agboola 2015 (12)	X	X	X		X	X	X		=	+/-	
Bartolo 2019 (13)	X				X			X	+	NR	+
YOUTH AND CHILDREN CLUSTER											
Fisher, 2019 (20)	X	X							+	+	NR
Tang, 2018 (39)	X								+	+++	NR
McGar, 2019 (32)	X								+/-	+	+
Lopez-Rodriguez, 2020 (28)			X	X					+	+	NR
MENTAL HEALTH POPULATION											
MayoWilson, 2013 (29)	X				X	X		X	NR	++	NR
Olthuis, 2016 (35)	X	X			X		X		NR	++	NR
Wickersham, 2019 (45)		X							NR	NR	=
Lewis, 2018 (26)	X								++	+	++

NOTE: NR: not reported, + : small effect size or improvement without a report on effect size; ++ : moderate effect size ; +++ : large effect size; +/- : mixed effect ; = : no difference.

Chronic Disease – Mental Health
 Final Strategies
 2020 Jun 11

Ovid Multifile

Database: Ovid MEDLINE: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE® Daily and Ovid MEDLINE® <1946-Present>, Embase Classic+Embase <1947 to 2020 June 10>
 Search Strategy:

- 1 exp Chronic Disease/ (463877)
- 2 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*) adj2 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or morbidit* or syndrom* or symptom*)).tw,kf. (817409)
- 3 1 or 2 [CHRONIC DISEASE - GENERAL] (1148521)
- 4 exp Arthritis/ (769208)
- 5 (arthriti* or arthros#s or osteoarthriti* or osteo-arthriti* or osteoarthros#s or osteo-arthros#s or polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*).tw,kf. (624493)
- 6 exp Asthma/ (402927)
- 7 asthma*.tw,kf. (397483)
- 8 Chronic Pain/ (75237)
- 9 Pain, Intractable/ (9868)
- 10 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt* or unrelenting or unrelieved or unremit*) adj3 (neuralgi* or neuropath* or pain*)).tw,kf. (240054)
- 11 exp Neoplasms/ (8206156)
- 12 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or oncolog*).tw,kf. (8138150)
- 13 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*).tw,kf. (1224311)
- 14 Renal Insufficiency, Chronic/ (83228)
- 15 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or insufficien*)).tw,kf. (202396)
- 16 (CKD or CKDs).tw,kf. (80295)
- 17 Diabetes Mellitus/ (704972)
- 18 Diabetes Mellitus, Type 1/ (112248)
- 19 Diabetes Mellitus, Type 2/ (196848)
- 20 Latent Autoimmune Diabetes in Adults/ (376)
- 21 diabet*.tw,kf. (1602750)
- 22 ("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) adj DM).tw,kf. (12572)
- 23 (IDDM or NIDDM).tw,kf. (27091)
- 24 exp Dyslipidemias/ (150214)
- 25 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).tw,kf. (196503)

26 exp Inflammatory Bowel Diseases/ (238290)
 27 (inflam* adj1 (bowel* or colon*)).tw,kf. (134937)
 28 IBD.tw,kf. (77069)
 29 (Crohn or "Crohn's").tw,kf. (128042)
 30 (ileitis adj2 (regional or terminal)).tw,kf. (2372)
 31 (Ileocolitis or ileo-colitis).tw,kf. (1234)
 32 ((proctocolitis or procto-colitis) adj2 idiopathic).tw,kf. (93)
 33 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).tw,kf. (169)
 34 colitis gravis.tw,kf. (11)
 35 exp Pulmonary Disease, Chronic Obstructive/ (189609)
 36 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
 37 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*)).tw,kf. (134589)
 38 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
 39 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
 40 or pan-lobular)).tw,kf. (22235)
 41 (COPD or COAD).tw,kf. (134068)
 42 exp Cardiovascular Diseases/ (6804416)
 43 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-
 44 vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or arrhythmia* or
 45 arrythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or
 46 fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or
 47 thrombo* or vasospas* or vaso-spas*)).tw,kf. (2646364)
 48 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).tw,kf. (312159)
 49 hypertens*.tw,kf. (1128918)
 50 ((elevated or high*) adj2 blood pressure*).tw,kf. (81424)
 51 or/4-43 [ITEMIZED CHRONIC DISEASES] (19898982)
 52 3 or 44 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (20427001)
 53 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
 54 comorbid* or co-morbidit* or problem*)).tw,kf. (48561)
 55 Mood Disorders/ (26170)
 56 ((affective or mood) adj disorder?).tw,kf. (80447)
 57 Cyclothymic Disorder/ (1679)
 58 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*)).tw,kf. (283)
 59 exp Anxiety Disorders/ (324405)
 60 exp Anxiety/ (303024)
 61 (anxiety or anxieties or anxious*).tw,kf. (489510)
 62 GAD.tw,kf. (22867)
 63 (hypervigilan* or hyper-vigilan* or nervous*).tw,kf. (722745)
 64 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).tw,kf. (1060)
 65 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).tw,kf. (14836)
 66 (neurocirculatory asthenia* or cardiac neurosis or effort syndrome* or hyperkinetic heart
 67 syndrome*).tw,kf. (1377)
 68 (neurotic disorder* or neurosis or psychoneurosis or psycho-neurosis).tw,kf. (25227)
 69 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive personalit*
 70 or hoarding or psychastheni*).tw,kf. (44492)
 71 (panic disorder* or (panic adj2 attack*)).tw,kf. (25995)
 72 (phobia or phobias or phobic).tw,kf. (27494)
 73 (catastrophization? or catastrophie* or catastrophizing).tw,kf. (8601)

1
 2
 3 64 Attention Deficit Disorder with Hyperactivity/ (49515)
 4 65 attention deficit*.tw,kf. (67522)
 5 66 (ADDH or ADHD).tw,kf. (61164)
 6 67 ((hyperkinetic or hyper-kinetic) adj syndrome?).tw,kf. (891)
 7 68 exp Depressive Disorder/ (590789)
 8 69 Depression/ (488522)
 9 70 depress*.tw,kf. (1107871)
 10 71 dysthym*.tw,kf. (7359)
 11 72 (feel* blue or blues).tw,kf. (4041)
 12 73 melanchol*.tw,kf. (7378)
 13 74 (MDD and mental).tw,kf. (4373)
 14 75 Stress Disorders, Traumatic/ (37504)
 15 76 Stress Disorders, Post-Traumatic/ (52151)
 16 77 PTSD.tw,kf. (56027)
 17 78 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).tw,kf. (65507)
 18 79 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).tw,kf. (723)
 19 80 or/46-79 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (2618889)
 20 81 45 and 80 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (700259)
 21 82 Computer Communication Networks/ (27176)
 22 83 Local Area Networks/ (1636)
 23 84 Internet/ (180650)
 24 85 Internet-Based Intervention/ (311)
 25 86 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
 26 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or deliver* or
 27 healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or
 28 service? or treat* or therap*)).tw,kf. (47403)
 29 87 Smartphone/ (16414)
 30 88 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
 31 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or apps or
 32 application?)).tw,kf. (24259)
 33 89 (mobile adj3 (app or apps or application?)).tw,kf. (14699)
 34 90 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 35 psychiatr* or rehab* or treat* or therap*)).tw,kf. (12470)
 36 91 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
 37 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).tw,kf. (1460)
 38 92 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 39 psychiatr* or rehab* or treat* or therap*)).tw,kf. (21536)
 40 93 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
 41 psychiatr* or rehab* or treat* or therap*)).tw,kf. (8491)
 42 94 Patient Portals/ (182923)
 43 95 (patient? adj2 (portal or portals)).tw,kf. (11947)
 44 96 ((health information or medical information or clinical information) adj3 (portal or portals)).tw,kf.
 45 (155)
 46 97 ((health data or medical data or clinical data) adj3 (portal or portals)).tw,kf. (67)
 47 98 health portal?.tw,kf. (314)
 48 99 Electronic Mail/ (24709)
 49 100 (electronic mail* or email* or e-mail*).tw,kf. (51152)
 50 101 exp Telephone/ (60582)
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60

- 1
2
3 102 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or
4 telefacsimile* or tele-facsimile* or FAX).tw,kf. (209278)
5 103 exp Television/ (49238)
6 104 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video
7 tap*).tw,kf. (116545)
8 105 Videoconferencing/ (5321)
9 106 (videoconferenc* or video-conference* or videophon* or video-phon*).tw,kf. (6099)
10 107 Electronic Health Records/ (34655)
11 108 electronic health record?.tw,kf. (37890)
12 109 (EHR or EHRs or EMR or EMRs or PHR or PHRs).tw,kf. (46151)
13 110 Hotlines/ (3062)
14 111 hotline?.tw,kf. (2749)
15 112 Telecommunications/ (30245)
16 113 (telecommunicat* or tele-communicat*).tw,kf. (8599)
17 114 exp Telemedicine/ (67951)
18 115 Telenursing/ (487)
19 116 (ehealth or e-health or mhealth or m-health or mobile health).tw,kf. (23436)
20 117 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or
21 telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or
22 tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).tw,kf. (37038)
23 118 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or
24 monitor* or psychiatr* or rehab* or treat* or therap*).tw,kf. (17186)
25 119 or/82-118 [DIGITAL HEALTH TECHNOLOGIES] (1032076)
26 120 81 and 119 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH TECHNOLOGIES]
27 (18971)
28 121 Systematic Review.pt. (128913)
29 122 exp Systematic Reviews as Topic/ (28375)
30 123 Meta Analysis.pt. (115626)
31 124 exp Meta-Analysis as Topic/ (61507)
32 125 (meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative
33 review* or integrative overview* or research integration or research overview* or collaborative
34 review*).tw,kf. (411235)
35 126 (systematic review* or systematic overview* or evidence-based review* or evidence-based
36 overview* or (evidence adj3 (review* or overview*)) or meta-review* or meta-overview* or meta-
37 synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA
38 or HTAs).tw,kf. (492109)
39 127 exp Technology Assessment, Biomedical/ (25470)
40 128 (cochrane or health technology assessment or evidence report or systematic reviews).jw. (47503)
41 129 (network adj (MA or MAs)).tw,kf. (30)
42 130 (NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kf. (17980)
43 131 indirect* compar*.tw,kf. (5582)
44 132 (indirect treatment* adj1 compar*).tw,kf. (910)
45 133 (mixed treatment* adj1 compar*).tw,kf. (1327)
46 134 (multiple treatment* adj1 compar*).tw,kf. (387)
47 135 (multi-treatment* adj1 compar*).tw,kf. (8)
48 136 simultaneous* compar*.tw,kf. (2407)
49 137 mixed comparison?.tw,kf. (73)
50 138 or/121-137 [REVIEWS] (850383)
51
52
53
54
55
56
57
58
59
60

1
2
3 139 120 and 138 [REVIEWS - CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
4 TECHNOLOGIES] (638)
5 140 exp Animals/ not Humans/ (17305531)
6 141 139 not 140 [ANIMAL-ONLY REMOVED] (431)
7 142 limit 141 to yr="2010-current" (370)
8 143 142 use ppez [MEDLINE RECORDS] (178)
9 144 exp chronic disease/ (463877)
10 145 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*)
11 adj2 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or
12 morbidit* or syndrom* or symptom*)).tw,kw. (822925)
13 146 144 or 145 [CHRONIC DISEASE - GENERAL] (1153511)
14 147 exp arthritis/ (769208)
15 148 (arthriti* or arthros#s or osteoarthriti* or osteo-arthriti* or osteoarthros#s or osteo-arthros#s or
16 polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*).tw,kw. (631277)
17 149 exp asthma/ (402927)
18 150 asthma*.tw,kw. (402449)
19 151 chronic pain/ (75237)
20 152 intractable pain/ (11527)
21 153 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
22 interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist*
23 or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt*
24 or unrelenting or unrelieved or unremit*) adj3 (neuralgi* or neuropath* or pain*)).tw,kw. (242272)
25 154 exp malignant neoplasm/ (6996129)
26 155 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or
27 oncolog*).tw,kw. (8161179)
28 156 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or
29 carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia*
30 or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*).tw,kw.
31 (1236437)
32 157 exp chronic kidney failure/ (193963)
33 158 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or
34 insufficien*).tw,kw. (205098)
35 159 (CKD or CKDs).tw,kw. (80787)
36 160 diabetes mellitus/ (704972)
37 161 exp insulin dependent diabetes mellitus/ (191892)
38 162 non insulin dependent diabetes mellitus/ (385694)
39 163 latent autoimmune diabetes in adults/ (376)
40 164 diabet*.tw,kw. (1614950)
41 165 (("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) adj DM).tw,kw. (12646)
42 166 (IDDM or NIDDM).tw,kw. (27515)
43 167 dyslipidemia/ (82310)
44 168 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or
45 hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or
46 hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).tw,kw. (200456)
47 169 exp inflammatory bowel disease/ (238290)
48 170 (inflam* adj1 (bowel* or colon*)).tw,kw. (137715)
49 171 IBD.tw,kw. (78120)
50 172 (Crohn or "Crohn's").tw,kw. (129757)
51
52
53
54
55
56
57
58
59
60

- 1
2
3 173 (ileitis adj2 (regional or terminal)).tw,kw. (1952)
4 174 (ileocolitis or ileo-colitis).tw,kw. (1242)
5 175 ((proctocolitis or procto-colitis) adj2 idiopathic).tw,kw. (93)
6 176 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).tw,kw. (171)
7 177 colitis gravis.tw,kw. (11)
8 178 chronic obstructive lung disease/ (173601)
9 179 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
10 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*)).tw,kw. (136000)
11 180 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
12 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
13 or pan-lobular)).tw,kw. (21052)
14 181 (COPD or COAD).tw,kw. (136003)
15 182 exp cardiovascular disease/ (6804416)
16 183 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or
17 cardio-vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or
18 arrhythmia* or arrythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or
19 failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or
20 syndrom* or thrombo* or vasospas* or vaso-spas*)).tw,kw. (2662750)
21 184 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).tw,kw. (331070)
22 185 hypertens*.tw,kw. (1143312)
23 186 ((elevated or high*) adj2 blood pressure*).tw,kw. (80499)
24 187 or/147-186 [ITEMIZED CHRONIC DISEASES] (19642008)
25 188 146 or 187 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (20175048)
26 189 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
27 comorbid* or co-morbidit* or problem*)).tw,kw. (48743)
28 190 exp mood disorder/ (647316)
29 191 ((affective or mood) adj disorder?).tw,kw. (82561)
30 192 cyclothymia/ (1041)
31 193 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*)).tw,kw. (289)
32 194 exp anxiety disorder/ (324405)
33 195 exp anxiety/ (303024)
34 196 (anxiety or anxieties or anxious*).tw,kw. (494827)
35 197 GAD.tw,kw. (23192)
36 198 (hypervigilan* or hyper-vigilan* or nervous*).tw,kw. (733406)
37 199 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).tw,kw. (1083)
38 200 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).tw,kw. (15157)
39 201 (neurocirculatory asthenia* or cardiac neuros#s or effort syndrome* or hyperkinetic heart
40 syndrome*).tw,kw. (1416)
41 202 (neurotic disorder* or neuros#s or psychoneuros#s or psycho-neuros#s).tw,kw. (24072)
42 203 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive
43 personalit* or hoarding or psychastheni*).tw,kw. (44330)
44 204 (panic disorder* or (panic adj2 attack*)).tw,kw. (26305)
45 205 (phobia or phobias or phobic).tw,kw. (28151)
46 206 (catastroph#ation? or catastroph#e* or catastroph#ing).tw,kw. (8668)
47 207 attention deficit disorder/ (89404)
48 208 attention deficit*.tw,kw. (68677)
49 209 (ADDH or ADHD).tw,kw. (62185)
50 210 ((hyperkinetic or hyper-kinetic) adj syndrome?).tw,kw. (905)
51
52
53
54
55
56
57
58
59

- 1
2
3 211 exp depression/ (600183)
4 212 depress*.tw,kw. (1116521)
5 213 dysthym*.tw,kw. (7464)
6 214 (feel* blue or blues).tw,kw. (4061)
7 215 melanchol*.tw,kw. (7472)
8 216 (MDD and mental).tw,kw. (4396)
9 217 PTSD.tw,kw. (57477)
10 218 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).tw,kw. (66525)
11 219 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).tw,kw. (690)
12 220 or/189-219 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (2651384)
13 221 188 and 220 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (708973)
14 222 exp computer network/ (106780)
15 223 internet/ (180650)
16 224 web-based intervention/ (352)
17 225 smartphone/ (16414)
18 226 ((internet or online or web or web-based or web-site or website or www or cyber* or
19 smartphone* or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or
20 deliver* or healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or
21 rehab* or service? or treat* or therap*)).tw,kw. (47924)
22 227 ((internet or online or web or web-based or web-site or website or www or cyber* or
23 smartphone* or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or
24 apps or application?)).tw,kw. (24398)
25 228 (mobile adj3 (app or apps or application?)).tw,kw. (14549)
26 229 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
27 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).tw,kw. (1464)
28 230 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
29 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (12381)
30 231 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
31 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (21785)
32 232 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor*
33 or psychiatr* or rehab* or treat* or therap*)).tw,kw. (8752)
34 233 (patient? adj2 (portal or portals)).tw,kw. (11948)
35 234 ((health information or medical information or clinical information) adj3 (portal or
36 portals)).tw,kw. (156)
37 235 ((health data or medical data or clinical data) adj3 (portal or portals)).tw,kw. (67)
38 236 health portal?.tw,kw. (322)
39 237 e-mail/ (24709)
40 238 (electronic mail* or email* or e-mail*).tw,kw. (51262)
41 239 telephone/ (50014)
42 240 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or
43 telefacsimile* or tele-facsimile* or FAX).tw,kw. (209337)
44 241 television/ (30885)
45 242 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video
46 tap*).tw,kw. (116882)
47 243 videoconferencing/ (5321)
48 244 (videoconferenc* or video-conference* or videophon* or video-phon*).tw,kw. (6193)
49 245 electronic health record/ (35864)
50 246 electronic health record?.tw,kw. (39303)
51
52
53
54
55
56
57
58
59
60

1
2
3 247 electronic medical record/ (74370)
4 248 electronic patient record/ (2304)
5 249 (EHR or EHRs or EMR or EMRs or PHR or PHRs).tw,kw. (46430)
6 250 hotline/ (3071)
7 251 hotline?.tw,kw. (2776)
8 252 telecommunication/ (30245)
9 253 (telecommunicat* or tele-communicat*).tw,kw. (8768)
10 254 exp Telemedicine/ (67951)
11 255 (ehealth or e-health or mhealth or m-health or mobile health).tw,kw. (26439)
12 256 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or
13 telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or
14 tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).tw,kw. (40112)
15 257 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or
16 monitor* or psychiatr* or rehab* or treat* or therap*).tw,kw. (17322)
17 258 or/222-257 [DIGITAL HEALTH TECHNOLOGIES] (895464)
18 259 221 and 258 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
19 TECHNOLOGIES] (16694)
20 260 "systematic review"/ (377591)
21 261 "systematic review (topic)"/ (24955)
22 262 meta-analysis/ (304555)
23 263 "meta analysis (topic)"/ (42125)
24 264 (meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative
25 review* or integrative overview* or research integration or research overview* or collaborative
26 review*).tw,kw. (414401)
27 265 (systematic review* or systematic overview* or evidence-based review* or evidence-based
28 overview* or (evidence adj3 (review* or overview*)) or meta-review* or meta-overview* or meta-
29 synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA
30 or HTAs).tw,kw. (495920)
31 266 biomedical technology assessment/ (24358)
32 267 (cochrane or health technology assessment or evidence report or systematic reviews).jw. (47503)
33 268 (network adj (MA or MAs)).tw,kw. (30)
34 269 (NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kw. (18036)
35 270 indirect* compar*.tw,kw. (5663)
36 271 (indirect treatment* adj1 compar*).tw,kw. (915)
37 272 (mixed treatment* adj1 compar*).tw,kw. (1349)
38 273 (multiple treatment* adj1 compar*).tw,kw. (394)
39 274 (multi-treatment* adj1 compar*).tw,kw. (8)
40 275 simultaneous* compar*.tw,kw. (2407)
41 276 mixed comparison?.tw,kw. (74)
42 277 or/260-276 [REVIEWS] (926988)
43 278 259 and 277 [REVIEWS - CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH
44 TECHNOLOGIES] (713)
45 279 exp animal/ or exp animal experimentation/ or exp animal model/ or exp animal experiment/ or
46 nonhuman/ or exp vertebrate/ (52856473)
47 280 exp human/ or exp human experimentation/ or exp human experiment/ (40867893)
48 281 279 not 280 (11990325)
49 282 278 not 281 [ANIMAL-ONLY REMOVED] (711)
50 283 limit 282 to yr="2010-current" (636)
51
52
53
54
55
56
57
58
59
60

1
2
3 284 283 use emczd [EMBASE RECORDS] (463)
4 285 143 or 284 [BOTH DATABASES] (641)
5 286 remove duplicates from 285 (489) [TOTAL UNIQUE RECORDS]
6 287 286 use ppez [MEDLINE UNIQUE RECORDS] (175)
7 288 286 use emczd [EMBASE UNIQUE RECORDS] (314)
8
9

10 *****

11 Cochrane Library

12
13 Database: EBM Reviews - Cochrane Database of Systematic Reviews <2005 to June 03, 2020>, EBM
14 Reviews - Database of Abstracts of Reviews of Effects <1st Quarter 2016>, EBM Reviews - Health
15 Technology Assessment <4th Quarter 2016>
16 Search Strategy:
17 -----
18

19 1 exp Chronic Disease/ (166)
20 2 ((chronic* or longterm or long-term or longstanding or long-standing or ongoing or persisten*) adj2
21 (comorbid* or co-morbid* or condition* or disabilit* or disease* or disorder* or ill or illness* or
22 morbidit* or syndrom* or symptom*)).ti,ab,kw,tw. (5947)
23 3 1 or 2 [CHRONIC DISEASE - GENERAL] (5947)
24 4 exp Arthritis/ (253)
25 5 (arthriti* or arthros#s or osteoarthriti* or osteo-arthriti* or osteoarthros#s or osteo-arthros#s or
26 polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*).ti,ab,kw,tw. (2243)
27 6 exp Asthma/ (105)
28 7 asthma*.ti,ab,kw,tw. (1488)
29 8 Chronic Pain/ (24)
30 9 Pain, Intractable/ (11)
31 10 ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
32 interminabl* or intractable or longterm or long-term or nonstop* or non-stop* or perpetual* or persist*
33 or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt*
34 or unrelenting or unrelieved or unremitt*) adj3 (neuralgi* or neuropath* or pain*)).ti,ab,kw,tw. (1912)
35 11 exp Neoplasms/ (2532)
36 12 (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or
37 oncolog*).ti,ab,kw,tw. (13669)
38 13 (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-
39 sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or
40 lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or
41 thymoma*).ti,ab,kw,tw. (1492)
42 14 Renal Insufficiency, Chronic/ (13)
43 15 (chronic adj2 (renal or kidney*) adj3 (condition* or disease* or disorder* or fail* or
44 insufficien*).ti,ab,kw,tw. (764)
45 16 (CKD or CKDs).ti,ab,kw,tw. (158)
46 17 Diabetes Mellitus/ (137)
47 18 Diabetes Mellitus, Type 1/ (65)
48 19 Diabetes Mellitus, Type 2/ (118)
49 20 Latent Autoimmune Diabetes in Adults/ (0)
50 21 diabet*.ti,ab,kw,tw. (5061)
51 22 (["Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID] adj DM).ti,ab,kw,tw. (19)
52 23 (IDDM or NIDDM).ti,ab,kw,tw. (37)
53
54
55
56
57
58
59
60

- 1
2
3 24 exp Dyslipidemias/ (35)
4 25 (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid?emi* or
5 hyper-lipemi* or hyper-lipid?emi* or lipemi* or lipid?emi* or hypercholester?emi* or
6 hypercholester?emi* or hypertriglyceridemi* or hyper-triglyceridemi*).ti,ab,kw,tw. (469)
7 26 exp Inflammatory Bowel Diseases/ (62)
8 27 (inflam* adj1 (bowel* or colon*)).ti,ab,kw,tw. (424)
9 28 IBD.ti,ab,kw,tw. (180)
10 29 (Crohn or "Crohn's").ti,ab,kw,tw. (422)
11 30 (ileitis adj2 (regional or terminal)).ti,ab,kw,tw. (5)
12 31 (Ileocolitis or ileo-colitis).ti,ab,kw,tw. (10)
13 32 ((proctocolitis or procto-colitis) adj2 idiopathic).ti,ab,kw,tw. (0)
14 33 ((colorectitis or proctocolitis or procto-colitis) adj2 (ulcer* or mucosal)).ti,ab,kw,tw. (9)
15 34 colitis gravis.ti,ab,kw,tw. (1)
16 35 exp Pulmonary Disease, Chronic Obstructive/ (112)
17 36 (chronic adj2 obstructi* adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air
18 flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*)).ti,ab,kw,tw. (1020)
19 37 (emphysema? adj3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or
20 centriacinar or centri-acinar or centrilobular or centri-lobular or panacinar or pan-acinar or panlobular
21 or pan-lobular)).ti,ab,kw,tw. (120)
22 38 (COPD or COAD).ti,ab,kw,tw. (658)
23 39 exp Cardiovascular Diseases/ (1432)
24 40 ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-
25 vascul* or coronary or heart* or myocard* or ventricle*) adj3 (arrest* or aneurysm* or arrhythmia* or
26 arrhythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or
27 fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or
28 thrombo* or vasospas* or vaso-spas*)).ti,ab,kw,tw. (8162)
29 41 (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*).ti,ab,kw,tw. (424)
30 42 hypertens*.ti,ab,kw,tw. (3258)
31 43 ((elevated or high*) adj2 blood pressure*).ti,ab,kw,tw. (556)
32 44 or/4-43 [ITEMIZED CHRONIC DISEASES] (28740)
33 45 3 or 44 [CHRONIC DISEASES, INCLUDING NAMED CONDITIONS] (30275)
34 46 ((emotional* or mental* or psychological* or social*) adj2 health* adj3 (disorder* or morbidit* or
35 comorbid* or co-morbidit* or problem*)).ti,ab,kw,tw. (502)
36 47 Mood Disorders/ (11)
37 48 ((affective or mood) adj disorder?).ti,ab,kw,tw. (594)
38 49 Cyclothymic Disorder/ (0)
39 50 ((cyclothymic or cyclo-thymic) adj (disorder? or personalit*)).ti,ab,kw,tw. (64)
40 51 exp Anxiety Disorders/ (70)
41 52 exp Anxiety/ (22)
42 53 (anxiety or anxieties or anxious*).ti,ab,kw,tw. (3119)
43 54 GAD.ti,ab,kw,tw. (86)
44 55 (hypervigilan* or hyper-vigilan* or nervous*).ti,ab,kw,tw. (1930)
45 56 ((incessan* or obsessive* or persistan* or intense*) adj3 fear*).ti,ab,kw,tw. (14)
46 57 (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*).ti,ab,kw,tw. (184)
47 58 (neurocirculatory asthenia* or cardiac neurosis or effort syndrome* or hyperkinetic heart
48 syndrome*).ti,ab,kw,tw. (60)
49 59 (neurotic disorder* or neurosis or psychoneurosis or psycho-neurosis).ti,ab,kw,tw. (321)
50
51
52
53
54
55
56
57
58
59

- 1
2
3 60 (obsessive-compulsive or anankastic personalit* or compulsive personalit* or obsessive personalit*
4 or hoarding or psychastheni*).ti,ab,kw,tw. (280)
5
6 61 (panic disorder* or (panic adj2 attack*)).ti,ab,kw,tw. (239)
7 62 (phobia or phobias or phobic).ti,ab,kw,tw. (282)
8 63 (catastroph#ation? or catastroph#e* or catastroph#ing).ti,ab,kw,tw. (35)
9 64 Attention Deficit Disorder with Hyperactivity/ (54)
10 65 Attention Deficit Disorder with Hyperactivity/ (54)
11 66 (ADDH or ADHD).ti,ab,kw,tw. (223)
12 67 ((hyperkinetic or hyper-kinetic) adj syndrome?).ti,ab,kw,tw. (3)
13 68 exp Depressive Disorder/ (97)
14 69 Depression/ (73)
15 70 depress*.ti,ab,kw,tw. (4605)
16 71 dysthym*.ti,ab,kw,tw. (220)
17 72 (feel* blue or blues).ti,ab,kw,tw. (28)
18 73 melanchol*.ti,ab,kw,tw. (44)
19 74 (MDD and mental).ti,ab,kw,tw. (54)
20 75 Stress Disorders, Traumatic/ (2)
21 76 Stress Disorders, Post-Traumatic/ (28)
22 77 PTSD.ti,ab,kw,tw. (211)
23 78 (stress disorder? adj3 (trauma* or posttrauma* or post-trauma*)).ti,ab,kw,tw. (395)
24 79 (neuros#s adj3 (trauma* or posttrauma* or post-trauma*)).ti,ab,kw,tw. (9)
25 80 or/46-79 [MENTAL/MOOD DISORDERS - GENERAL AND NAMED] (7124)
26 81 45 and 80 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS] (4063)
27 82 Computer Communication Networks/ (7)
28 83 Local Area Networks/ (0)
29 84 Internet/ (27)
30 85 Internet-Based Intervention/ (0)
31 86 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
32 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (care or deliver* or
33 healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or
34 service? or treat* or therap*)).ti,ab,kw,tw. (592)
35 87 Smartphone/ (0)
36 88 ((internet or online or web or web-based or web-site or website or www or cyber* or smartphone*
37 or smart phone* or iphone* or i-phone* or ipad or i-pad or ipads or i-pads) adj3 (app or apps or
38 application?)).ti,ab,kw,tw. (108)
39 89 (mobile adj3 (app or apps or application?)).ti,ab,kw,tw. (81)
40 90 (digital* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
41 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (64)
42 91 ((technology-based or technology-facilitated) adj3 (care or healthcare or health care or interven*
43 or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (43)
44 92 (video* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
45 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (217)
46 93 (virtual* adj3 (care or healthcare or health care or interven* or consult* or counsel* or monitor* or
47 psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (88)
48 94 Patient Portals/ (0)
49 95 (patient? adj2 (portal or portals)).ti,ab,kw,tw. (29)
50 96 ((health information or medical information or clinical information) adj3 (portal or
51 portals)).ti,ab,kw,tw. (0)
52
53
54
55
56
57
58
59
60

97 ((health data or medical data or clinical data) adj3 (portal or portals)).ti,ab,kw,tw. (0)
 98 health portal?.ti,ab,kw,tw. (1)
 99 Electronic Mail/ (0)
 100 (electronic mail* or email* or e-mail*).ti,ab,kw,tw. (2207)
 101 exp Telephone/ (21)
 102 (telephon* or tele-phon* or phone or phoned or phones or phoning or answering service? or telefacsimile* or tele-facsimile* or FAX).ti,ab,kw,tw. (3243)
 103 exp Television/ (3)
 104 (televis* or tele-vis* or TV or TVs or videorecord* or video-record* or videotap* or video tap*).ti,ab,kw,tw. (510)
 105 Videoconferencing/ (2)
 106 (videoconferenc* or video-conference* or videophon* or video-phon*).ti,ab,kw,tw. (81)
 107 Electronic Health Records/ (5)
 108 electronic health record?.ti,ab,kw,tw. (64)
 109 (EHR or EHRs or EMR or EMRs or PHR or PHRs).ti,ab,kw,tw. (38)
 110 Hotlines/ (1)
 111 hotline?.ti,ab,kw,tw. (44)
 112 Telecommunications/ (6)
 113 (telecommunicat* or tele-communicat*).ti,ab,kw,tw. (107)
 114 exp Telemedicine/ (124)
 115 Telenursing/ (1)
 116 (ehealth or e-health or mhealth or m-health or mobile health).ti,ab,kw,tw. (147)
 117 (telecare or tele-care or teleconsult* or tele-consult* or telecounsel* or tele-counsel* or telehome* or tele-home* or telemed* or tele-med* or telemonitor* or tele-monitor* or telenurs* or tele-nurs* or telepsychiatr* or tele-psychiatr* or telerehab* or tele-rehab*).ti,ab,kw,tw. (444)
 118 (remote\$2 adj3 (care or healthcare or health care or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*)).ti,ab,kw,tw. (206)
 119 or/82-118 [DIGITAL HEALTH TECHNOLOGIES] (5328)
 120 81 and 119 [CHRONIC DISEASE & MENTAL HEALTH PROBLEMS - DIGITAL HEALTH TECHNOLOGIES] (1688)
 121 limit 120 to yr="2010-current" [Limit not valid in DARE; records were retained] (1449)
 122 remove duplicates from 121 (1449) [TOTAL UNIQUE RECORDS]
 123 122 use coch [CDSR UNIQUE RECORDS] (1362)
 124 122 use dare [DARE UNIQUE RECORDS] (82)
 125 122 use clhta [HTA UNIQUE RECORDS] (5)

CINAHL

#	Query	Limiters/Expanders	Last Run Via	Results
S125	S110 AND S123	Limiters - Published Date: 20100101-20201231 Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	164

			Search Database - CINAHL Plus with Full Text	
S124	S110 AND S123	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	188
S123	S111 OR S112 OR S113 OR S114 OR S115 OR S116 OR S117 OR S118 OR S119 OR S120 OR S121 OR S122	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	200,742
S122	TI simultaneous* W0 compar* OR AB simultaneous* W0 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	145
S121	TI (multi W0 treatment*) N1 compar* OR AB (multi W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	2

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S120	TI (multiple W0 treatment*) N1 compar* OR AB (multiple W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	75
S119	TI (mixed W0 treatment*) N1 compar* OR AB (mixed W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	229
S118	TI (indirect W0 treatment*) N1 compar* OR AB (indirect W0 treatment*) N1 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	109

S117	TI indirect* W0 compar* OR AB indirect* W0 compar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	818
S116	TI (NMA or NMAs or MTC or MTCs or MAIC or MAICs) OR AB (NMA or NMAs or MTC or MTCs or MAIC or MAICs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,002
S115	TI (network W0 (MA or MAs)) OR AB (network W0 (MA or MAs))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4
S114	TI ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews" or "evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews" or (evidence N3 (review* or overview*)) or "meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta W0 synthes*) or "rapid review" or "rapid reviews" or "review of reviews" or (umbrella W0 review#) or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	121,130

	(technology W0 assessment*) or HTA or HTAs) OR AB ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews" or "evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews" or (evidence N3 (review* or overview*)) or "meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta W0 synthes*) or "rapid review" or "rapid reviews" or "review of reviews" or (umbrella W0 review#) or (technology W0 assessment*) or HTA or HTAs)		with Full Text	
S113	TI ((meta W0 analy*) or metanaly* or metaanaly* or (met W0 analy*) or "integrative research" or (integrative W0 review*) or (integrative W0 overview*) or "research integration" or (research W0 overview*) or (collaborative W0 review*)) OR AB ((meta W0 analy*) or metanaly* or metaanaly* or (met W0 analy*) or "integrative research" or (integrative W0 review*) or (integrative W0 overview*) or "research integration" or (research W0 overview*) or (collaborative W0 review*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	77,959
S112	(MH "Meta Analysis") OR (MH "Meta Synthesis")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	52,660
S111	MH "Systematic Review"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database -	95,081

			CINAHL Plus with Full Text	
S110	S72 AND S109	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,893
S109	S73 OR S74 OR S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98 OR S99 OR S100 OR S101 OR S102 OR S103 OR S104 OR S105 OR S106 OR S107 OR S108	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	335,223
S108	TI (remote* N3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (remote* N3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,227
S107	TI (telecare or "tele-care" or teleconsult* or (tele W0 consult*) or telecounsel* or (tele W0 counsel*) or telehome* or (tele W0 home*) or telemed* or (tele W0 med*) or telemonitor* or (tele W0 monitor*) or telenurs* or (tele W0 nurs*) or telepsychiatr* or (tele W0 psychiatr*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen -	8,057

	or telerehab* or (tele W0 rehab*) OR AB (telecare or "tele-care" or teleconsult* or (tele W0 consult*) or telecounsel* or (tele W0 counsel*) or telehome* or (tele W0 home*) or telemed* or (tele W0 med*) or telemonitor* or (tele W0 monitor*) or telenurs* or (tele W0 nurs*) or telepsychiatr* or (tele W0 psychiatr*) or telerehab* or (tele W0 rehab*)		Advanced Search Database - CINAHL Plus with Full Text	
S106	TI (ehealth or "e-health" or mhealth or "m-health" or mobile health) OR AB (ehealth or "e-health" or mhealth or "m-health" or mobile health)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	6,246
S105	(MH "Telenursing")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,178
S104	(MH "Telemedicine+") OR (MH "Telepsychiatry")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14,054

S103	TI (telecommunicat* or (tele W0 communicat*) OR AB (telecommunicat* or (tele W0 communicat*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,110
S102	(MH "Telecommunications")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,431
S101	TI hotline# OR AB hotline#	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	813
S100	(MH "Telephone Information Services")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	3,343

			with Full Text	
S99	TI (EHR or EHRs or EMR or EMRs or PHR or PHRs) OR AB (EHR or EHRs or EMR or EMRs or PHR or PHRs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,465
S98	TI ("electronic health record" or "electronic health records") OR AB ("electronic health record" or "electronic health records")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,666
S97	MH "Electronic Health Records"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	26,377
S96	TI (videoconferenc* or (video W0 conferenc*) or videophon* or (video W0 phon*)) OR AB (videoconferenc* or (video W0 conferenc*) or videophon* or (video W0 phon*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	1,879

			Search Database - CINAHL Plus with Full Text	
S95	(MH "Videoconferencing+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,141
S94	TI (televis* or (tele W0 vis*) or TV or TVs or videorecord* or (video W0 record*) or videotap* or (video W0 tap*).) OR AB (televis* or (tele W0 vis*) or TV or TVs or videorecord* or (video W0 record*) or videotap* or (video W0 tap*).)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,412
S93	(MH "Television") OR (MH "Videorecording+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	43,241
S92	TI (telephon* or (tele W0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or "tele-facsimile" or "tele-	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	46,130

	facsimiles" or FAX) OR AB (telephon* or (tele W0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or "tele-facsimile" or "tele-facsimiles" or FAX)		Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S91	(MH "Telephone+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	25,218
S90	TI ((electronic W0 mail*) or email* or (e W0 mail*)) OR AB ((electronic W0 mail*) or email* or (e W0 mail*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	11,502
S89	(MH "Email")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	6,941

S88	TI ("health portal" or "health portals") OR AB ("health portal" or "health portals")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	84
S87	TI ("health data" or "medical data" or "clinical data") N3 (portal or portals)) OR AB ("health data" or "medical data" or "clinical data") N3 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14
S86	TI ("health information" or "medical information" or "clinical information") N3 (portal or portals)) OR AB ("health information" or "medical information" or "clinical information") N3 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	67
S85	TI (patient# N2 (portal or portals)) OR AB (patient# N2 (portal or portals))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	1,431

			with Full Text	
S84	(MH "Patient Portals")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	88
S83	TI (virtual* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (virtual* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,160
S82	TI (video* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB (video* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,419
S81	TI ("technology-based" or "technology-facilitated") N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)) OR AB ("technology-based" or "technology-facilitated") N3 (care or healthcare or "health care" or interven* or consult* or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	461

	counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)		Search Database - CINAHL Plus with Full Text	
S80	TI (digital* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*) OR AB (digital* N3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,177
S79	TI (mobile N3 (app or apps or application#)) OR AB (mobile N3 (app or apps or application#))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,366
S78	TI ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (app or apps or application#)) OR AB ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (app or apps or application#))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	5,284
S77	(MH "Smartphone")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	2,732

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S76	TI ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service# or treat* or therap*)) OR AB ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or (smart W0 phone*) or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") N3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service# or treat* or therap*)).	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	16,618
S75	(MH "Internet") OR (MH "World Wide Web+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	142,133
S74	(MH "Electronic Bulletin Boards+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	427

			with Full Text	
S73	(MH "Computer Communication Networks") OR (MH "Local Area Networks+") OR (MH "Wide Area Networks")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,610
S72	S41 AND S71	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	83,256
S71	S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	347,716
S70	TI (neuros?s N3 (trauma* or posttrauma* or post-trauma*)) OR AB (neuros?s N3 (trauma* or posttrauma* or post-trauma*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	13

			Search Database - CINAHL Plus with Full Text	
S69	TI ("stress disorder" or "stress disorders") N3 (trauma* or posttrauma* or post-trauma*) OR AB ("stress disorder" or "stress disorders") N3 (trauma* or posttrauma* or post-trauma*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	14,699
S68	TI PTSD OR AB PTSD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	12,171
S67	TI (MDD and mental) OR AB (MDD and mental)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	710
S66	TI ((feel* W0 blue) or blues) OR AB ((feel* W0 blue) or blues)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	9,818

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S65	TI (depress* or dysthym* or melanchol*) OR AB (depress* or dysthym* or melanchol*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	158,485
S64	MH "Depression+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	121,857
S63	TI (hyperkinetic or "hyper-kinetic") W0 syndrome#) OR AB (hyperkinetic or "hyper- kinetic") W0 syndrome#)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	20

S62	TI (ADDH or ADHD) OR AB (ADDH or ADHD)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	13,521
S61	TI ("attention deficit" or "attention deficits") OR AB ("attention deficit" or "attention deficits")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	8,622
S60	MH "Attention Deficit Hyperactivity Disorder"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,669
S59	TI (catastrophi?ation# or catastrophi?e* or catastrophi?ing) OR AB (catastrophi?ation# or catastrophi?e* or catastrophi?ing)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	2,355

			with Full Text	
S58	TI (phobia or phobias or phobic) OR AB (phobia or phobias or phobic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,144
S57	TI ((panic W0 disorder*) or (panic N2 attack*)) OR AB ((panic W0 disorder*) or (panic N2 attack*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,756
S56	TI ("obsessive-compulsive" or (anankastic W0 personalit*) or (compulsive W0 personalit*) or (obsessive W0 personalit*) or hoarding or psychastheni*) OR AB ("obsessive-compulsive" or (anankastic W0 personalit*) or (compulsive W0 personalit*) or (obsessive W0 personalit*) or hoarding or psychastheni*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	5,730
S55	TI ((neurotic W0 disorder*) or neuros?s or psychoneuros?s or psycho-neuros?s) OR AB ((neurotic W0 disorder*) or neuros?s or psychoneuros?s or psycho-neuros?s)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	629

			Search Database - CINAHL Plus with Full Text	
S54	TI ((neurocirculatory W0 asthenia*) or (cardiac W0 neuro?s or (effort W0 syndrome*) or ("hyperkinetic heart" W0 syndrome*)) OR AB ((neurocirculatory W0 asthenia*) or (cardiac W0 neuro?s or (effort W0 syndrome*) or ("hyperkinetic heart" W0 syndrome*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	15
S53	TI (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*) OR AB (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,337
S52	TI ((incessan* or obsessive* or persistan* or intense*) N3 fear*) OR AB ((incessan* or obsessive* or persistan* or intense*) N3 fear*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	174
S51	TI (hypervigilan* or hyper-vigilan* or nervous*) OR AB (hypervigilan* or hyper-vigilan* or nervous*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	30,051

			Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S50	TI GAD OR AB GAD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,627
S49	TI (anxiety or anxieties or anxious*) OR AB (anxiety or anxieties or anxious*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	87,663
S48	MH "Anxiety+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	49,349

S47	MH "Anxiety Disorders+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	49,095
S46	TI ((cyclothymic or "cyclo-thymic") W0 (disorder# or personalit*)) OR AB ((cyclothymic or "cyclo-thymic") W0 (disorder# or personalit*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	27
S45	MH "Cyclothymic Disorder"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	181
S44	TI ((affective or mood) W0 disorder#) OR AB ((affective or mood) W0 disorder#)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	8,199

			with Full Text	
S43	MH "Affective Disorders+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	128,800
S42	TI ((emotional* or mental* or psychological* or social*) N2 health* N3 (disorder* or morbidit* or comorbid* or co-morbidit* or problem*)) OR AB ((emotional* or mental* or psychological* or social*) N2 health* N3 (disorder* or morbidit* or comorbid* or co-morbidit* or problem*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	18,400
S41	S3 OR S40	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	1,920,672
S40	S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	1,836,239

			Search Database - CINAHL Plus with Full Text	
S39	TI ((elevated or high*) N2 blood pressure*) OR AB ((elevated or high*) N2 blood pressure*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	10,361
S38	TI hypertens* OR AB hypertens*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	93,958
S37	TI (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*) OR AB (arterioscleros* or arterio-scleros* or atheroscleros* or athero-scleros*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	18,802
S36	TI ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-vascul* or coronary or heart* or myocard* or ventricle*) N3 (arrest* or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	291,187

	aneurysm* or arrhythmia* or arrhythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or thrombo* or vasospas* or vasospas*) OR AB ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or cardiovascul* or cardio-vascul* or coronary or heart* or myocard* or ventricle*) N3 (arrest* or aneurysm* or arrhythmia* or arrhythmia* or disease* or disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or fibrillation* or ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or syndrom* or thrombo* or vasospas* or vasospas*))		Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S35	MH "Cardiovascular Diseases+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	616,463
S34	TI (COPD or COAD) OR AB (COPD or COAD)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,097
S33	TI (emphysema# N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or centriacinar or "centri-acinar" or centrilobular or "centri-lobular" or panacinar or "pan-acinar" or panlobular or "pan-lobular"))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search	1,209

	OR AB (emphysema# N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or centriacinar or "centri-acinar" or centrilobular or "centri-lobular" or panacinar or "pan-acinar" or panlobular or "pan-lobular"))		Screen - Advanced Search Database - CINAHL Plus with Full Text	
S32	TI (chronic N2 obstructi* N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*) OR AB (chronic N2 obstructi* N3 (pulmonary or airway* or air way* or lung or lungs or airflow* or air flow* or bronchitis or bronchopulmonar* or broncho-pulmonar*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	17,432
S31	MH "Pulmonary Disease, Chronic Obstructive+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,169
S30	TI "colitis gravis" OR AB "colitis gravis"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0

S29	TI (c(proctocolitis or "procto-colitis") N2 idiopathic) OR AB ((proctocolitis or "procto-colitis") N2 idiopathic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0
S28	TI ((proctocolitis or "procto-colitis") N2 idiopathic) OR AB ((proctocolitis or "procto-colitis") N2 idiopathic)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	0
S27	TI (Ileocolitis or "ileo-colitis") OR AB (Ileocolitis or "ileo-colitis")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	27
S26	TI (ileitis N2 (regional or terminal)) OR AB (ileitis N2 (regional or terminal))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	38

			with Full Text	
S25	TI (Crohn or "Crohn's") OR AB (Crohn or "Crohn's")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	7,360
S24	TI IBD OR AB IBD	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,539
S23	TI (inflam* N1 (bowel* or colon*) OR AB (inflam* N1 (bowel* or colon*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	9,032
S22	MH "Inflammatory Bowel Diseases+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	15,541

			Search Database - CINAHL Plus with Full Text	
S21	TI (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid#emi* or hyper-lipemi* or hyper-lipid#emi* or lipemi* or lipid#emi* or hypercholester#emi* or hypercholester#emi* or hypertriglyceridemi* or hyper-triglyceridemi*) OR AB (dyslipidemi* or dyslipoproteinemi* or dyslipo-proteinemi* or hyperlipemi* or hyperlipid#emi* or hyper-lipemi* or hyper-lipid#emi* or lipemi* or lipid#emi* or hypercholester#emi* or hypercholester#emi* or hypertriglyceridemi* or hyper-triglyceridemi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	15,450
S20	MH "Hyperlipidemia+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	21,692
S19	TI (IDDM or NIDDM) OR AB (IDDM or NIDDM)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,337
S18	TI (("Type 1" or "Type I" or "Type 2" or "Type II" or ID or NID) W0 DM)) OR AB (("Type 1" or	Search modes - Boolean/Phrase	Interface - EBSCOhost Research	1,064

	"Type I" or "Type 2" or "Type II" or ID or NID) W0 DM))		Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	
S17	TI diabet* OR AB diabet*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	207,171
S16	(MH "Diabetes Mellitus") OR (MH "Diabetes Mellitus, Type 1") OR (MH "Diabetes Mellitus, Type 2")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	148,760
S15	TI (CKD or CKDs) OR AB (CKD or CKDs)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	9,008

S14	TI (chronic N2 (renal or kidney*) N3 (condition* or disease* or disorder* or fail* or insufficien*)) OR AB (chronic N2 (renal or kidney*) N3 (condition* or disease* or disorder* or fail* or insufficien*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	20,525
S13	MH "Renal Insufficiency, Chronic"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	28,632
S12	TI (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*) OR AB (adenoma* or adenocarcinoma* or adeno-carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	56,415
S11	TI (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or oncolog*) OR AB (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or metasta* or oncolog*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search	601,907

			Database - CINAHL Plus with Full Text	
S10	MH "Neoplasms+"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	571,926
S9	TI ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or interminabl* or intractable or longterm or "long-term" or nonstop* or non-stop* or perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt* or unrelenting or unrelieved or unremitt*) N3 (neuralgi* or neuropath* or pain*)) OR AB ((chronic* or constant* or continual* or continuous* or ceaseless* or endless* or incessant* or interminabl* or intractable or longterm or "long-term" or nonstop* or non-stop* or perpetual* or persist* or recur* or refractory or sustained or relentless* or unabat* or unceasing or unending or uninterrupt* or unrelenting or unrelieved or unremitt*) N3 (neuralgi* or neuropath* or pain*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	46,734
S8	(MH "Chronic Pain")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus	23,373

			with Full Text	
S7	TI asthma* OR AB asthma*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	39,408
S6	(MH "Asthma+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	36,911
S5	TI (arthriti* or arthros?s or osteoarthriti* or osteo-arthriti* or osteoarthros?s or osteo-arthros?s or polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*) OR AB (arthriti* or arthros?s or osteoarthriti* or osteo-arthriti* or osteoarthros?s or osteo-arthros?s or polyarthriti* or poly-arthriti* or spondylarthriti* or spondyl-arthriti*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	72,634
S4	(MH "Arthritis+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced	78,840

			Search Database - CINAHL Plus with Full Text	
S3	S1 OR S2	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	180,624
S2	TI ((chronic* or longterm or "long-term" or longstanding or "long-standing" or ongoing or persisten*) N2 (comorbid* or (co W0 morbid*) or condition* or disabilit* or disease* or disorder* or ill or illness* or morbidit* or syndrom* or symptom*)) OR AB ((chronic* or longterm or "long-term" or longstanding or "long-standing" or ongoing or persisten*) N2 (comorbid* or (co W0 morbid*) or condition* or disabilit* or disease* or disorder* or ill or illness* or morbidit* or syndrom* or symptom*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	138,197
S1	(MH "Chronic Disease+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	68,313

Web of Science

30 [500](#) #28 AND #24

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
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
- Refined by: PUBLICATION YEARS:** (2020 OR 2014 OR 2019 OR 2013 OR 2018 OR 2012 OR 2017 OR 2011 OR 2016 OR 2010 OR 2015)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 29 [563](#) #28 AND #24
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 28 [555,169](#) #27 OR #26 OR #25
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 27 [16,091](#) TS=("network MA" or "network MAs") OR TS=(NMA or NMAs or MTC or MTCs or MAIC or MAICs) OR TS=(indirect* NEAR/0 compar*) OR TS=(("indirect treatment" or "indirect treatments") NEAR/1 compar*) OR TS=(("mixed treatment" or "mixed treatments") NEAR/1 compar*) OR TS=(("multiple treatment" or "multiple treatments") NEAR/1 compar*) OR TS=(("multi treatment" or "multi treatments") NEAR/1 compar*) OR TS=(simultaneous* NEAR/0 compar*) OR TS=(mixed NEAR/0 comparison*)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 26 [15,279](#) **TOPIC:** ("meta-review" or "meta-reviews" or "meta-overview" or "meta-overviews" or (meta NEAR/0 synthes*))) OR **TOPIC:** ("rapid review" or "rapid reviews" or "review of reviews" or "umbrella review" or "umbrella reviews" or "technology assessment" or "technology assessments" or HTA or HTAs)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 25 [530,270](#) **TOPIC:** ((meta NEAR/0 analy*) or metanaly* or metaanaly* or (met NEAR/0 analy*))) OR **TOPIC:** (integrative NEAR/0 (research or review* or overview*))) OR **TOPIC:** (research NEAR/0 (integration or overview*))) OR **TOPIC:** (collaborative NEAR/0 review*)) OR **TOPIC:** ("systematic review" or "systematic reviews" or "systematic overview" or "systematic overviews")) OR **TOPIC:** ("evidence-based review" or "evidence-based reviews" or "evidence-based overview" or "evidence-based overviews")) OR **TOPIC:** (evidence NEAR/3 (review* or overview*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 24 [5,800](#) #23 AND #16
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 23 [688,715](#) #22 OR #21 OR #20 OR #19 OR #18 OR #17
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years
- # 22 [64,468](#) **TOPIC:** (ehealth or "e-health" or mhealth or "m-health" or "mobile health")) OR **TOPIC:** (telecare or "tele-care" or teleconsult* or (tele NEAR/0 consult*) or telecounsel* or (tele NEAR/0 counsel*) or telehome* or (tele NEAR/0 home*) or telemed* or (tele NEAR/0 med*) or telemonitor* or (tele NEAR/0

- monitor*) or telenurs* or (tele NEAR/0 nurs*) or telepsychiatr* or (tele NEAR/0 psychiatr*) or telerehab* or (tele NEAR/0 rehab*)) OR **TOPIC:** (remote* NEAR/3 (care or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or treat* or therap*))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 21 [92,415](#) **TOPIC:** ("electronic health record" or "electronic health records") OR **TOPIC:** (EHR or EHRs or EMR or EMRs or PHR or PHRs) OR **TOPIC:** (hotline or hotlines) OR **TOPIC:** (telecommunicat* or (tele NEAR/0 communicat*)))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 20 [357,584](#) **TOPIC:** ((electronic NEAR/0 mail*) or email* or "e-mail" or "e-mails" or "e-mailed" or "e-mailing") OR **TOPIC:** (telephon* or (tele NEAR/0 phon*) or phone or phoned or phones or phoning or "answering service" or "answering services" or telefacsimile* or (tele NEAR/0 facsimile) or "telefacsimiles" or FAX) OR **TOPIC:** (televis* or (tele NEAR/0 vis*) or TV or TVs or videorecord* or (video NEAR/0 record*) or videotap* or (video NEAR/0 tap*))) OR **TOPIC:** (videoconferenc* or (video NEAR/0 conferenc*) or videophon* or (video NEAR/0 phon*)))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 19 [5,843](#) **TOPIC:** (patient* NEAR/2 (portal or portals)) OR **TOPIC:** (("health information" or "medical information" or "clinical information") NEAR/3 (portal or portals)) OR **TOPIC:** (("health data" or "medical data" or "clinical data") NEAR/3 (portal or portals)) OR **TOPIC:** ("health portal" or "health portals")
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 18 [31,855](#) **TOPIC:** (digital* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))) OR **TOPIC:** (("technology-based" or "technology-facilitated") NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))) OR **TOPIC:** (video* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*))) OR **TOPIC:** (virtual* NEAR/3 (care or healthcare or "health care" or interven* or consult* or counsel* or monitor* or psychiatr* or rehab* or treat* or therap*)))
 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
 Timespan=All years
- # 17 [190,766](#) **TOPIC:** ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or "smart phone" or "smart phones" or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") NEAR/3 (care or deliver* or healthcare or "health care" or consult* or counsel* or interven* or monitor* or psychiatr* or rehab* or service or services or treat* or therap*))) OR **TOPIC:** ((internet* or online or web or "web-based" or "web-site" or website or www or cyber* or smartphone* or "smart phone" or "smart phones" or iphone* or "i-phone" or "i-phones" or ipad or "i-pad" or ipads or "i-pads") NEAR/3 (app

or apps or application or applications)) **OR TOPIC:** (mobile NEAR/3 (app or apps or application or applications))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

16 [283,795](#) #15 AND #9

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

15 [1,677,770](#) #14 OR #13 OR #12 OR #11 OR #10

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

14 [94,945](#) **TOPIC:** (PTSD) **OR TOPIC:** (ADDH or ADHD) **OR TOPIC:** ("stress disorder" NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** ("stress disorders" NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** (neurosis NEAR/3 (trauma* or posttrauma* or post-trauma*)) **OR TOPIC:** (neuroses NEAR/3 (trauma* or posttrauma* or post-trauma*))

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

13 [1,032,053](#) **TOPIC:** ("attention deficit" or "attention deficits") **OR TOPIC:** (ADDH or

ADHD) **OR TOPIC:** ((hyperkinetic or "hyperkinetic") NEAR/0 syndrome*) **OR TOPIC:** (depress*) **OR TOPIC:** (dysthym*) **OR TOPIC:** ((feel* NEAR/0 blue) or blues) **OR TOPIC:** (melanchol*) **OR TOPIC:** (MDD and mental)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

12 [73,711](#) TS=((neurocirculatory

NEAR/0 asthenia*) or "cardiac neurosis" or "cardiac neuroses" or (effort NEAR/0 syndrome*) or ("hyperkinetic heart" NEAR/0 syndrome*)) **OR** TS=("neurotic disorder" or "neurotic disorders" or neurosis or neuroses or psychoneurosis or psychoneuroses or "psycho-neurosis" or "psycho-neuroses") **OR** TS=("obsessive-compulsive" or (anankastic NEAR/0 personalit*) or (compulsive NEAR/0 personalit*) or (obsessive NEAR/0 personalit*) or hoarding or psychastheni*) **OR** TS=(panic NEAR/2 (disorder* or attack*)) **OR** TS=(phobia or phobias or phobic) **OR** TS=(catastrophisation* or catastrophise* or catastrophising or catastrophization* or catastrophize* or catastrophizing)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

11 [741,658](#) **TOPIC:** ((affective or mood) NEAR/0 disorder*) **OR TOPIC:** ((cyclothymic or "cyclothymic") NEAR/0 (disorder* or personalit*)) **OR TOPIC:** (anxiety or anxieties or anxious*) **OR TOPIC:** (GAD) **OR TOPIC:** (hypervigilan* or (hyper NEAR/0 vigilan*) or nervous*) **OR TOPIC:** ((incessan* or obsessive* or persistan* or intense*) NEAR/3 fear*) **OR TOPIC:** (agoraphobi* or claustrophobi* or homophobi* or neophobi* or xenophobi*)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Timespan=All years

- 1
2
3
4 # 10 [29,399](#) **TOPIC:** ((emotional* or mental* or psychological* or
5 social*) NEAR/2 health* NEAR/3 (disorder* or morbidit* or comorbid* or "co-
6 morbidity" or "co-morbidities" or problem*))
7 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
8 Timespan=All years
- 9 # 9 [7,741,29](#) #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1
10 [8](#) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
11 Timespan=All years
- 12 # 8 [710,621](#) **TOPIC:** (arterioscleros* or arterio-scleros* or atheroscleros* or athero-
13 scleros*) OR **TOPIC:** (hypertens*) OR **TOPIC:** ((elevated or
14 high*) NEAR/2 "blood pressure") OR **TOPIC:** ((elevated or
15 high*) NEAR/2 "blood pressures")
16 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
17 Timespan=All years
- 18 # 7 [1,370,78](#) **TOPIC:** ((artery or arteries or arterial or atrial* or atrium* or cardiac* or cardio* or
19 cardiovascul* or "cardio-vascular" or coronary or heart* or myocard* or
20 ventricle*) NEAR/3 (arrest* or aneurysm* or arrhythmia* or arrhythmia* or disease* or
21 disorder* or dysrhythmia* or dysrhythmia* or dysfunction* or failure* or fibrillation* or
22 ischemi* or infarction* or obstruct* or occlu* or rupture* or stenosis or stenoses or
23 syndrom* or thrombo* or vasospas* or "vaso-spasm" or "vaso-spasms")))
24 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
25 Timespan=All years
- 26 # 6 [71,527](#) **TOPIC:** (emphysema NEAR/3 (pulmonary or airway* or "air way" or "air ways" or lung
27 or lungs or airflow* or "air flow" or "air flows" or bronchitis or bronchopulmonar* or
28 "broncho-pulmonary")) OR **TOPIC:** (COAD or COPD)
29 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
30 Timespan=All years
- 31 # 5 [54,369](#) **TOPIC:** ("chronic obstructive" NEAR/3 (pulmonary or airway* or "air way" or "air ways"
32 or lung or lungs or airflow* or "air flow" or "air flows" or bronchitis or
33 bronchopulmonar* or "broncho-pulmonary")))
34 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
35 Timespan=All years
- 36 # 4 [200,828](#) TS=(dyslipidemi* or dyslipoproteinemi* or dyslipo-
37 proteinemi* or hyperlipemi* or hyperlipidaemi* or hyperlipidemi* or hyper-
38 lipemi* or hyper-lipidaemi* or hyper-
39 lipidemi* or lipemi* or lipidaemi* or lipidemi* or hypercholesteraeami* or hyperchol-
40 esteremi* or hyper-cholesteraeami* or hyper-
41 cholesteremi* or hypertriglyceridemi* or hyper-triglyceridemi*) OR TS=(inflam*
42 NEAR/1 (bowel* or colon*)) OR TS=(IBD) OR TS=(Crohn or "Crohn's") OR TS=(ileitis
43 NEAR/2 (regional or terminal)) OR TS=(Ileocolitis or "ileo-
44 colitis") OR TS=((proctocolitis or procto-
45 colitis) NEAR/2 idiopathic) OR TS=((colorectitis or proctocolitis or procto-
46 colitis) NEAR/2 (ulcer* or mucosal)) OR TS=("colitis gravis")
47 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
48 Timespan=All years
49
50
51
52
53
54
55
56
57
58
59
60

- 1
2
3 # 3 [867,623](#) **TOPIC:** ((chronic NEAR/2 (renal or kidney*) NEAR/3 (condition* or disease* or
4 disorder* or fail* or insufficien*))) **OR TOPIC:** (CKD or
5 CKDs) **OR TOPIC:** (diabet*) **OR TOPIC:** ("Type 1" or "Type I" or "Type 2" or "Type II"
6 or ID or NID) NEAR/0 DM) **OR TOPIC:** (IDDM or NIDDM)
7 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
8 Timespan=All years
9
- 10 # 2 [4,527,936](#) **TOPIC:** (neoplas* or cancer* or tumour* or tumor* or carcinoma* or malignan* or
11 metasta* or oncolog*) **OR TOPIC:** (adenoma* or adenocarcinoma* or adeno-
12 carcinoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or hematoma* or
13 hepatoblastoma* or hepato-blastoma* or leukemia* or leukaemia* or lymphoma* or
14 melanoma* or mesenchymoma* or mesothelioma* or sarcoma* or thymoma*)
15 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
16 Timespan=All years
17
- 18 # 1 [1,063,650](#) **TOPIC:** ((chronic* or longterm or "long-term" or longstanding or "long-standing" or
19 ongoing or persisten*) NEAR/2 (comorbid* or co-morbid* or condition* or disabilit* or
20 disease* or disorder* or ill or illness* or morbidit* or syndrom* or
21 symptom*)) **OR TOPIC:** (arthriti* or arthrosis or arthroses or osteoarthritis* or osteo-
22 arthriti* or osteoarthros* or osteo-arthros* or polyarthriti* or poly-arthriti* or
23 spondylarthriti* or spondyl-arthriti*) **OR TOPIC:** (asthma*) **OR TOPIC:** ((chronic* or
24 constant* or continual* or continuous* or ceaseless* or endless* or incessant* or
25 interminabl* or intractable or longterm or "long-term" or nonstop* or "non-stop" or
26 perpetual* or persist* or recur* or refractory or sustained or relentless* or unabab* or
27 unceasing or unending or uninterrupt* or unrelenting or unrelieved or
28 unremitt*) NEAR/3 (neuralgi* or neuropath* or pain*))
29 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
30 Timespan=All years
31
32
33
34
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



PRISMA 2009 Checklist

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
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
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	3
METHODS			
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.	1
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.	3
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.	3-4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Add file 2
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).	4
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.	4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4
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.	4
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	NA
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.	NA



PRISMA 2009 Checklist

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).	4
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	NA
RESULTS			
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.	4,8
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.	11-17
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).	18
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.	11-17
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	NA
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	18
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	19
DISCUSSION			
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).	6-7
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).	7
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	7
FUNDING			
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.	1

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.

Page 2 of 2

For peer review only - <http://bmjopen.bmj.com/site/about/guidelines.xhtml>