Supplementary Appendix 1: Full text and source of quality indicators

Indicator text used for data extraction *(notes)*	**Source of indicator**	**Source indicator text**
1. Asthma		
The percentage of patients aged eight and over diagnosed as having asthma where the diagnosis has been confirmed by spirometry or peak flow measurement *(whenever diagnosed, to enable comparison of pre and post April 2003 samples).*	QOF[1]	The percentage of patients aged eight and over diagnosed as having asthma from 1st April 2003 where the diagnosis has been confirmed by spirometry or peak flow measurement.
The percentage of patients with asthma who have had an asthma review in the last 15 months *(any consultation labelled 'asthma review' whether or not all the recommended elements were present)*.	QOF[1]	The percentage of patients with asthma who have had an asthma review in the last 15 months.
The percentage of patients with asthma either on current medication, or presenting with asthma in the past 5 years, who have had their predicted peak flow calculated on at least one occasion.	QIGP[2]	Patients with asthma, if on current medication, should have their pedicted peak flow calculated on at least one occasion. Patients presenting with asthma in the last 5 years but not on current medication, should have their predicted peak flow calculated on at least one occasion.
The percentage of patients with asthma either on current medication or presenting with asthma, who have had their inhaler technique checked at least once in the last 5 years *(to relevant assessment cut-off date)*.	QIGP[2]	Patients on current medication or presenting with asthma should have their inhaler technique checked at least once every 5 years.
The percentage of patients with asthma either on current medication or presenting with asthma, who have been asked at their latest asthma consultation (if in the last year) about: (1) any difficulty sleeping due to asthma. (2) any asthma symptoms during the day (eg cough, wheeze). (3) whether asthma has interfered with usual daily activities.	QIGP[2]	For patients on current medication or presenting with asthma, patients should be asked at every asthma consultation in the last year about: • any difficulty sleeping due to asthma. • any asthma symptoms during the day (eg cough, wheeze). • whether asthma has interfered with usual daily activities.
2 Hypertension		
The percentage of patients with hypertension whose notes record smoking status at least once.	QOF[1]	The percentage of patients with hypertension whose notes record smoking status at least once.
The percentage of patients with hypertension who smoke, whose notes contain a record that smoking cessation advice has been offered at least once.	QOF[1]	The percentage of patients with hypertension who smoke, whose notes contain a record that smoking cessation advice has been offered at least once.
The percentage of patients with hypertension in which there is a record of the blood pressure in the past 9 months.	QOF[1]	The percentage of patients with hypertension in which there is a record of the blood pressure in the past 9 months.
The percentage of patients with hypertension in whom the last blood pressure (measured in last 9 months) is 150/90 or less *(defined as systolic BP<=150 AND diastolic BP<=90).*	QOF[1]	The percentage of patients with hypertension in whom the last blood pressure (measured in last 9 months) is 150/90 or less.
The percentage of patients with hypertension who have been recommended lifestyle modification for treatment of hypertension at least once.	NICE[3] QSHC[4]	An individual in whom hypertension is identified or for whom hypertension is treated is offered lifestyle advice at the following times: a. initially. b. periodically. IF a person aged 65 or older is diagnosed with hypertension, THEN non-pharmacological therapy with lifestyle modification for treatment of hypertension should be recommended.

Indicator text used for data extraction *(notes)*	**Source of indicator**	**Source indicator text**
The percentage of patients with hypertension whose notes document assessment of the following from within three months prior to diagnosis: 1. personal history of peripheral vascular disease. 2. diabetes. 3. hyperlipidaemia. 4. alcohol consumption. *(at any time up to relevant assessment cut-off date)*	NICE[3] QIGP[2]	When an individual is identified as having hypertension, a formal cardiovascular risk assessment including the following is carried out: a) medical history. Ascertain patients' alcohol consumption and encourage a reduced intake if patients drink excessively. Initial history should document assessment of the following within 3 months of diagnosis (list as specified in left hand column).
The percentage of patients with hypertension whose notes document the following laboratory investigations and tests from within three months prior to diagnosis: 1. urine strip test for protein. 2. serum creatinine and electrolytes. 3. blood glucose. 4. serum/total cholesterol. 5. ECG. *(at any time up to relevant assessment cut-off date)*	NICE[3] QIGP[2]	When an individual is identified as having hypertension, a formal cardiovascular risk assessment including the following is carried out: • urine strip test for blood and protein. • blood electrolytes and creatinine. • blood glucose. • serum total and HDL cholesterol. • 12-lead electrocardiogram. Initial laboratory investigations should include the following tests within 3 months of diagnosis (list as 1-5 specified in left hand column).
3 Depression		
The percentage of patients receiving a diagnosis of a new depression episode, for whom presence or absence of thoughts about suicide is recorded at diagnosis *(ie at the first or second diagnostic visit. Second diagnostic visit not more than 2 weeks after first consultation for this episode)*.	NICE[5] QSHC[4] QIGP[2]	Healthcare professionals should always ask patients with depression directly about suicidal ideas and intent. IF a person aged 65 or older receives a diagnosis of a new depression episode, THEN the diagnosing physician should ask on the day of diagnosis whether the person aged 65 or older had any thoughts about suicide. The presence or absence of suicidal thoughts should be sought out routinely in all patients found to be depressed.
The percentage of patients receiving assessment of depression, whose notes contain a record that they were asked about: (1) alcohol use. (2) substance misuse. (3) current medication. *(ie at the first or second diagnostic visit. Second diagnostic visit not more than 2 weeks after first consultation for this episode.)*	QIGP[2]	In the assessment of depression, enquiry should be made about: • alcohol use. • substance misuse. • current medication.
The percentage of patients receiving treatment for a new depression episode, whose notes contain a record that they were offered a follow-up appointment within 4 weeks.	NICE[5] QSHC[4] QIGP[2]	Patients started on antidepressants who are not considered to be at increased risk of suicide should normally be seen after 2 weeks. IF a person aged 65 or older receives a diagnosis of a new depression episode, THEN they should be offered a follow-up appointment within 4 weeks. Patients with depression prescribed antidepressant drug treatment should be invited for review by a health care professional within 4 weeks of initiating of initiating antidepressant drug treatment.

Indicator text used for data extraction *(notes)*	**Source of indicator**	**Source indicator text**
The percentage of patients diagnosed with clinical depression, whose notes contain a record that they were offered antidepressant treatment or talking treatment within 2 weeks after diagnosis unless within that period the patient has improved, or unless the patient has substance abuse or dependence.	QSHC[4]	IF a person aged 65 or older is diagnosed with clinical depression, THEN antidepressant treatment, talking treatment, or electroconvulsive therapy should be offered within 2 weeks after diagnosis unless within that period the patient has improved, or unless the patient has substance abuse or dependence, in which case treatment may wait until 8 weeks after the patient is in a drug- or alcohol-free state.
	QIGP[2]	Patients with a diagnosis of depressive disorder... should be offered an effective first-line treatment (antidepressant or cognitive behaviour therapy or problem solving).
4. Osteoarthritis		
The percentage of patients in whom oral pharmacological therapy was initiated to treat osteoarthritis, whose notes contain a record that they were offered paracetamol first, unless there is a contraindication to use. (*This indicator was interpreted to allow paracetamol combinations such as coproxamol.)*	QSHC[4]	IF oral pharmacological therapy is initiated to treat osteoarthritis among people aged 65 or older, THEN paracetamol should be the first drug used, unless there is a contraindication to use.
	QIGP[2]	Patients with a new diagnosis of osteoarthritis who wish to take medication for joint symptoms should be offered a trial of paracetamol if not already tried.
The percentage of patients in whom oral pharmacological therapy for osteoarthritis is changed from paracetamol to a different oral agent, whose notes contain a record that they were offered a trial of maximum dose paracetamol. *(Max dose specified as 4g/day = 8 standard 500mg tablets (BNF 43 p210).)*	QSHC[4]	IF oral pharmacological therapy for osteoarthritis is changed from paracetamol to a different oral agent among people aged 65 or older, THEN the patient should have had a trial of maximum dose paracetamol (suitable for age/co-morbidities).
The percentage of patients with osteoarthritis treated with a NSAID, whose notes contain a record that ibuprofen or a cox-2 inhibitor has been considered for first line treatment unless contraindicated or intolerant.	QIGP[2]	If NSAIDS are considered, ibuprofen should be considered for first line treatment unless contraindicated or intolerant.
	NICE[6]	Cox II selective inhibitors …. should be used, in preference to standard NSAIDs, when clearly indicated as part of the management of RA or OA only in patients who may be at 'high risk' of developing serious gastrointestinal adverse effects.
The percentage of patients treated for symptomatic osteoarthritis, whose notes contain a record that they have been assessed for (1) functional status and (2) degree of pain in the last year *(to relevant assessment cut-off date)*.	QSHC[4]	IF a person aged 65 or older is treated for symptomatic osteoarthritis, THEN functional status and degree of pain should be assessed at least annually.
The percentage of patients with symptomatic osteoarthritis who notes contain a record that they have been offered education regarding the natural history, treatment and self-management of the disease at least once.	QSHC[4]	IF an ambulatory person aged 65 or older has a diagnosis of symptomatic osteoarthritis, THEN education regarding the natural history, treatment and self-management of the disease should be offered at least once.
The percentage of patients with osteoarthritis treated with a NSAID, whose notes contain a record that they have been advised of the gastrointestinal and renal risks associated with this drug *(at any time since NSAIDS initially discussed).*	QSHC[4]	IF a person aged 65 or older is treated with a non-selective NSAID, or IF a person aged 65 or older is treated with a COX-2 selective NSAID THEN the patient should be advised of the gastrointestinal and renal risks associated with this drug.
The percentage of patients with osteoarthritis regularly treated with an NSAID, whose notes contain a record that they have been asked about gastro-intestinal symptoms within the previous 12 months *(to relevant assessment cut-off date)*.	QSHC[4]	IF a person aged 65 or over is treated with an NSAID (selective or non-selective), THEN they should be asked about gastro-intestinal symptoms at least annually.

Indicator text used for data extraction *(notes)*	Source of indicator	Source indicator text
The percentage of patients with severe symptomatic osteoarthritis of the knee or hip that has failed to respond to non- pharmacological and pharmacological therapy, whose notes contain a record that they were offered referral to an orthopaedic surgeon to be evaluated for total joint replacement within 6 months unless surgery is contraindicated.	QSHC[4]	IF a person aged 65 or older with severe symptomatic osteoarthritis of the knee or hip has failed to respond to non- pharmacological and pharmacological therapy, THEN the patient should be offered referral to an orthopaedic surgeon to be evaluated for total joint replacement within 6 months unless surgery is contraindicated.
	QIGP[2]	Patients with severe symptomatic osteoarthritis of knee or hip who have failed to respond to conservative therapy should be offered referral to an orthopaedic surgeon for consideration of joint replacement.

1. QOF: "Quality and Outcomes Framework updated version of original QOF guidance and evidence base 25th August 2004" http://www.dh.gov.uk/assetRoot/04/08/86/93/04088693.pdf (last accessed 31/5/06)
2. QIGP: Marshall M, Campbell S, Hacker J, Roland M. "Quality Indicators for General Practice. A Practical Guide for Health Professionals and Managers". London: Royal Society of Medicine Press; 2002.
3. NICE: National Institute for Health and Clinical Excellence "CG18 Hypertension (persistently high blood pressure) in adults: NICE guideline 25 August 2004". http://www.nice.org.uk/download.aspx?o=CG018NICEguideline (last accessed 23/5/06)
4. QSHC: Steel N, Melzer D, Shekelle PG, Wenger NS, Forsyth D, McWilliams BC. Appendix to "Developing quality indicators for older adults: transfer from the USA to the UK is feasible". Quality and Safety in Health Care 2004; 13(4):260-264. http://qhc.bmjjournals.com/cgi/data/13/4/260/DC1/1 (last accessed 31/5/06)
5. NICE: National Institute for Health and Clinical Excellence "CG23 Depression: NICE guideline 6 December 2004." http://www.nice.org.uk/download.aspx?o=cg023niceguidelineword (last accessed 23/5/06)
6. NICE: National Institute for Health and Clinical Excellence "TA27 Osteoarthritis and rheumatoid arthritis - cox II inhibitors: Guidance 25 July 2001". http://www.nice.org.uk/page.aspx?o=TA027guidance (last accessed 23/5/06)

Steel N, Maisey S, Clark A, *et al*. Quality of clinical primary care and targeted incentive payments: an observational study. *Br J Gen Pract* 2007; **57(539):** 449–454.