

# Recorded quality of care for depression in general practice: an observational study

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## ABSTRACT

### Background

Depression is a leading cause of disease and disability internationally, and is responsible for many primary care consultations. Little is known about the quality of primary care for depression in the UK.

### Aim

To determine the prevalence of good-quality primary care for depression, and to analyse variations in quality by patient and practice characteristics.

### Design of study

Retrospective observational study.

### Setting

Eighteen general practices in England.

### Method

Medical records were examined for 279 patients. The percentage of eligible participants diagnosed with depression who received the care specified by each of six quality indicators in 2002 and 2004 was assessed. Associations between quality achievement and age, sex, patient deprivation score, timepoint, and practice size were estimated using logistic regression.

### Results

There was very wide variation in achievement of different indicators (range 1–97%). Achievement was higher for indicators referring to treatment and follow-up than for indicators referring to history taking. Achievement of quality indicators was low overall (37%). Quality did not vary significantly by patient or practice characteristics.

### Conclusion

There is substantial scope for improvement in the quality of primary care for depression, if the highest achievement rates could be matched for all indicators. Given the lack of variation by practice characteristics, system-level and educational interventions may be the best ways to improve quality. The equitable distribution of quality by patient deprivation score is an important achievement that may be challenging to maintain as quality improves.

### Keywords

depression; primary health care; quality indicators; quality of health care.

## INTRODUCTION

Every year 6% of UK adults will experience an episode of depression, with a lifetime incidence of 15%.<sup>1</sup> Depression is more common than diabetes and asthma, and is responsible for 15% of general practice consultations.<sup>2</sup> About 90% of episodes of depression are managed in primary care.<sup>3</sup> The annual cost of depression in England alone is estimated at £9 billion in 2000, of which 90% was attributable to an estimated 110 million lost working days.<sup>4</sup> Depression has been shown to be an independent risk factor for cardiovascular disease,<sup>5</sup> and is a major international cause of disease and disability.<sup>6</sup>

High quality of care for depression in primary care settings is clearly important to minimise the morbidity caused by such a prevalent condition. The National Institute for Health and Clinical Excellence (NICE) has recognised the need for depression to be managed better, with updated guidelines being introduced in 2008/2009.<sup>7</sup> The Royal College of General Practitioners has a Mental Health Task Force which aims to improve management of depressive disorders in primary care settings, and which has called for incentives to improve primary mental health care.<sup>8</sup> The National Service Framework for Mental Health aimed to drive up quality and reduce unacceptable variations in health and social services.<sup>9</sup>

There is considerable literature about approaches

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to managing depression in primary care, but it is not consistent in its findings. Little information is available about the prevalence of good-quality health care for depression. A systematic review by Seddon *et al* of quality of care in general practice reported that treatment doses for depression were inadequate, but this was over 10 years ago.<sup>10</sup>

Robust quality indicators have been previously developed, and all the quality indicators to be used in this study came from at least one of three sources: NICE,<sup>11</sup> Quality Indicators for General Practice developed at the National Primary Care and Research Development Centre,<sup>12</sup> and RAND health indicators adapted for the UK and previously published in *Quality and Safety in Health Care* (QSHC)<sup>13</sup> (Table 1). These indicators have been validated by independent expert panels, which included British GPs.

Using existing quality indicators, the aim of this study was to determine the prevalence of good-quality primary care in the UK for depression at two time points, and to analyse the variations in quality of care by patient and practice characteristics.

## METHOD

### Participants

Data collected were part of a larger study involving 1156 patients with four chronic conditions where quality was assessed over time.<sup>14</sup> Practices in Norfolk primary care trusts were selected to give equal numbers in each of three groups stratified by national deprivation, to improve generalisability. Practice deprivation scores were calculated as weighted means based on the deprivation scores of registered patients at each of the practices.<sup>15</sup> Quality indicators were measured in 18 general practices in Norfolk; and between 20 and 40 randomly selected eligible patients at each practice were contacted for permission to examine their full records.

### Data collection

Data were extracted from electronic and paper records for six indicators in depression for 6 months between April and September 2002 and again for 6 months from April to September 2004. Patient deprivation scores were estimated by using the National Statistics Postcode Directory<sup>16</sup> to find each Lower Super Output Area (LSOA) of residence, and then using the Index of Multiple Deprivation 2007 rank of the LSOA as an indicator of deprivation.<sup>17</sup> The criteria used to identify depression are given in Box 1, and details of READ codes used are given in Appendix 1. Depressed mood can occur as part of other diagnoses; for example, mixed-anxiety or borderline personality disorder may have been associated diagnoses.

## How this fits in

Depression is a prevalent disease that is frequently treated in general practice, yet little is known about the quality of care for depression. This study assessed whether the recorded quality of primary care for depression accorded with quality indicators. Substantial variation was found in quality of care by indicator, and equitable distribution of quality. Initiatives are necessary to improve quality of care.

### Data analysis

Quality of healthcare scores were calculated for each indicator as the percentage of eligible patients for whom the indicator was achieved. Associations with patient and practice characteristics were estimated using logistic regression models. The outcome variable was quality indicator achievement, and the explanatory variables were: age group (18–37, 38–55, and ≥56 years), sex, patient deprivation group (1 = least deprived, 3 = most deprived), practice size (1 = smallest, 3 = largest), and timepoint (2002 or 2004). Appropriate adjustments were made for clustering at practice levels using a random hierarchical effects model. All analyses were conducted using STATA (version 9.1 SE, Texas US). The numbers of participants achieving indicators Depression(D)2,

**Table 1. Quality indicators and source.**

Indicator category	Quality indicator	Source(s) of indicator
History taking	(D1) Percentage of patients receiving a diagnosis of a new depression episode, for whom presence or absence of thoughts about suicide is recorded at diagnosis.	NICE <sup>11</sup> QSHC <sup>13</sup> QIGP <sup>12</sup>
	Percentage of patients assessed for depression, whose notes contained a record that they were asked about: (D2) alcohol use (D3) substance misuse (D4) current medication.	QIGP <sup>12</sup>
Treatment	(D5) Percentage of patients diagnosed with clinical depression, whose notes contained a record that they were offered antidepressant treatment or talking treatment within 2 weeks of diagnosis unless within that period the patient has improved, or unless the patient has substance abuse or dependence.	QSHC <sup>13</sup> QIGP <sup>12</sup>
Follow-up	(D6) 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 of first treatment.	NICE <sup>11</sup> QSHC <sup>13</sup> QIGP <sup>12</sup>

NICE = National Institute for Health and Clinical Excellence. QSHC = Quality and Safety in Health Care. QIGP = Quality Indicators for General Practice.

**Box 1. Criteria for inclusion in depression group.**

- ▶ Patients aged 18 years or over, with a READ diagnosis code for endogenous or exogenous depression.
- ▶ Patients with a symptom code for 'depressed' or 'depressive episode', PLUS positive evidence in the notes of a previous episode of depression, free text record of a diagnosis of depression, or specific evidence of specific treatment for depression, in the 6 months after 1 April 2002 and 2004 respectively.
- ▶ Patients diagnosed with depression or with antidepressant prescribed in the year prior to 1 April 2002 and 2004 respectively were excluded, so that only new depression episodes were included.

See Appendix 1 for further READ code inclusion criteria.

D3, and D4 were so low (fewer than 25 patients) that regression analysis was not conducted on these indicators.

**RESULTS**

A total of 515 patients were invited to take part, of whom 279 (53%) consented. Sample characteristics are given in Table 2.

Mean age of participants was 50 years, and 72% were female, compared with a mean age of 45 years and 69% female in the population invited to participate. The practice deprivation scores ranged from 7% to 73% of the full range of national practice deprivation scores.

There was considerable variation between quality indicators, from 1% to 97% (Table 3). The overall

achievement was 37% (95% confidence interval = 35 to 40%).

For indicators D2, D3, and D4 relating to history taking, achievement was less than 10%. Achievement of indicators D5 and D6, relating to recording treatment and follow-up was considerably higher (78–97%).

**DISCUSSION****Summary of main findings**

Recorded quality of care for depression in primary care varied substantially according to the indicator measured. Care was provided equitably, with no variation in quality by patient or practice characteristics.

**Strengths and limitations of the study**

This study has a number of strengths. The indicators in the study have been through rigorous development processes,<sup>11–13</sup> and so differences in professional values are unlikely to account for the low scores in D1 to D4. Data were collected by hand searching of both electronic and paper patient records, using clear criteria. The practices in this study were broadly representative of the English national range of socioeconomic deprivation.<sup>14</sup> The quality indicators in this paper refer to processes of health care rather than outcomes, as processes have fewer problems with case mix bias than outcome measures, are more sensitive measures of quality than outcomes, and are more clearly linked to any action that should be taken to improve quality.<sup>18,19</sup>

One limitation of this study is that the method relied on care being recorded in the notes, and it is possible that care was delivered but not recorded. This would underestimate quality of care. However, it can be argued that recording of care is essential in team-based care for chronic diseases<sup>20</sup> and that without this one cannot assume any action was taken.

One of the study's selection criteria related to whether the patient was on treatment, and this may

**Table 2. Sample characteristics.**

Non-patient variables		Description	
		<i>n</i>	%
Practice size	Small (501–5000 patients)	43	15
	Medium (5001–10 000 patients)	139	50
	Large (>10 000 patients)	97	34
	Total	279	100
Timepoint	2003	145	52
	2005	134	48
	Total	279	100
Patient variables			
		<i>n</i>	%
Patient LSOA deprivation	High (IMD 106–10 972)	92	33
	Medium (IMD 11 165–20 432)	94	34
	Low (IMD 20 642–32 306)	90	32
	Total	276	99
Patient LSOA deprivation	Rank	Median 18 007	Range 106–32 306
Age	Years	Median 48	Range 19–95
Sex		<i>n</i>	%
	Male	79	28
	Female	200	72
	Total	279	100

LSOA = Lower Super Output Area. IMD = Indices of Multiple Deprivation 2007 rank.

**Table 3. Achievement of quality indicators by sample characteristics.**

Quality indicators <sup>a</sup>				Sample characteristics				
Quality indicator	Patients eligible, <i>n</i>	Patients for whom indicators were achieved, <i>n</i>	Quality indicators achieved, % (95% CI)	Age group versus 18–37, OR (95%CI)	Sex versus males, OR (95% CI)	Timepoint versus 2003, OR (95% CI)	Practice size versus smallest, OR (95% CI)	Patient IMD 2007 rank versus least deprived, OR (95% CI)
D1	279	99	35 (30 to 41)	0.68 (0.43 to 1.11)	0.58 (0.31 to 1.11)	1.05 (0.60 to 1.83)	1.12 (0.74 to 1.68)	1.17 (0.87 to 1.57)
D2	279	24	9 (6 to 13)	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
D3	279	4	1 (0 to 4)	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
D4	279	12	4 (2 to 7)	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
D5	277	271	97 (95 to 99)	1.02 (0.56 to 1.86)	1.28 (0.21 to 7.62)	1.81 (0.29 to 11.36)	1.14 (0.37 to 3.49)	1.30 (0.50 to 3.38)
D6	271	213	78 (73 to 83)	0.79 (0.48 to 1.28)	0.59 (0.29 to 1.19)	0.97 (0.64 to 1.49)	0.93 (0.55 to 1.54)	1.14 (0.79 to 1.65)

<sup>a</sup>For a full list of quality indicator, see Table 1. <sup>b</sup>Excluded from further analysis due to low numbers (fewer than 25 achieved quality indicators). OR = odds ratios. IMD = Indices of Multiple Deprivation.

account for the high score of indicator D5. Time constraints for a consultation regarding a new diagnosis of depression have been reported,<sup>21</sup> and this may lead to selective recording of information.

The indicators used in this paper refer to clinical effectiveness, which is only part of primary healthcare for depression. Within each group of 'eligible' patients, there may be some who, on clinical assessment, would not require the specified intervention. However, higher scores at population level clearly represent better quality of care for that indicator.

The response rate (53%) is comparable to other studies involving patients with depression.<sup>22</sup> This relatively low response may be a source of bias if non-responders differed systematically from responders, but they were broadly similar with respect to age and sex.

### Comparison with existing literature

Data from the US by Wells *et al* concur that quality of depression care is low to moderate in primary care settings.<sup>23</sup> Research from the US suggests that when quality improvement programmes were initiated in primary care settings, such as training staff to identify depression, mental health outcomes and employment retention rates improved.<sup>24</sup>

The lack of a link between quality of care for depression and patient deprivation in general practice is supported by Weich *et al*,<sup>25</sup> although they report those without educational qualifications were less likely to receive psychological treatments.

This study suggests that once a diagnosis is made, quality of care is equitable (that is, it does not differ between different patient groups or practices), but numbers of patients to differentiate between subgroups was low. It is not possible to comment, from the data in this study, on whether some patients (for example, with lower socioeconomic

status or education) were less likely to be diagnosed. It cannot be assumed that equity of care is the same as equity of workload: patients in poorer areas may have fewer GPs with higher consultation rates, who therefore have to work harder to achieve the same level of care.<sup>26</sup> Longer consultations may be associated with better patient outcomes.<sup>27</sup> Average consultation length is shorter in deprived areas, and high socioeconomic deprivation is associated with a higher prevalence of psychologically distressed patients.<sup>28</sup> This combination of higher prevalence with greater demand and potential limits on capacity and access to care follows Tudor Hart's 'inverse care law'.<sup>29</sup>

### Implications for clinical practice

The substantial variation in the quality of primary care for depression by quality indicator, but not by practice or patient characteristics, suggests that there is considerable scope for reduction in psychiatric morbidity, if the highest levels of achievement found could be replicated for indicators where quality was poor. The equitable distribution of quality suggests that system-level changes may be indicated, as nearly all practices performed poorly on some indicators. Educational initiatives that enhance doctors' skills and motivation may help improve care and the recording of it.<sup>30</sup>

When these data were collected, no indicators for mild to moderate depression were included in the Quality and Outcomes Framework (QOF) of the incentive scheme for UK general practices.<sup>31</sup> The 2006–2007 QOF includes two indicators referring to the use of validated tools for diagnosis and screening, and 79–85% achievement was reported.<sup>32</sup> The indicators used in this study go beyond these case finding indicators to cover history taking, treatment, and follow-up for depression.



This is an initial assessment of quality of depression care in general practice. Research involving more patients and quality indicators, as well as different approaches to measuring quality (for example, consultation analysis) is needed. The quality indicators used in this study are a starting point, and further research is needed to determine which indicators should be used, especially as patient groups and doctors differ in their choices.<sup>33</sup>

This study has shown that it is feasible to measure quality of primary care for depression across a range of interventions, and found that quality was highly variable. Interventions are required to improve the quality of care for low-scoring quality indicators, without losing the equitable distribution of care found in this study.

### Online version

Additional information can be found in the online version of this article: <http://www.rcgp.org.uk/bjgp>

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### Ethical approval

The Norwich Research Ethics Committee provided ethical approval of the study (REC 05/Q0101/37)

### Competing interests

The authors have stated that there are none

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### Discuss this article

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## Appendix 1. Full READ code inclusion criteria for electronic searches

Setting the criteria for this sample was challenging, because of the variety of ways GPs recorded depression. The initial search criteria were very inclusive. A few patients who had only a symptom code and no corroboration in text notes or from referral letters or prescriptions were manually excluded on detailed notes review, as were a few who had an episode of depression that had clearly started before the qualifying period, but who had not been prescribed medication in the 12-month run up.

The full criteria for the electronic searches are given below.

### Depression 2002

- ▶ Currently registered
- ▶ AND date of birth before 1/4/1984
- ▶ AND with READ code E11... to E11z anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code E130 anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code E135 anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code E291 anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code E2B... to E2Bz anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code IB17 anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code 1B1U anywhere in record between 1/4/2002 and 30/9/2002
  - OR with READ code Eu32... to Eu32z anywhere in record between 1/4/2002 and 30/9/2002
- ▶ EXCLUDE patients with
  - READ code d6... to d6z anywhere in record between 1/4/2001 and 31/3/2002
  - OR with READ code d7... to d7z anywhere in record between 1/4/2001 and 31/3/2002
  - OR with READ code d8... to d8z anywhere in record between 1/4/2001 and 31/3/2002
  - OR with READ code d9... to d9z anywhere in record between 1/4/2001 and 31/3/2002
  - OR with READ code da... to daz anywhere in record between 1/4/2001 and 31/3/2002
  - OR with BNF code 4.2.3 anywhere in record between 1/4/2001 and 31/3/2002
  - OR with BNF code 4.3 anywhere in record between 1/4/2001 and 31/3/2002

### Depression 2004

- ▶ Currently registered
- ▶ AND date of birth before 1/4/1986
- ▶ AND with READ code E11... to E11z anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code E130 anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code E135 anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code E291 anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code E2B... to E2Bz anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code 1B17 anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code 1B1U anywhere in record between 1/4/2004 and 30/9/2004
  - OR with READ code Eu32... to Eu32z anywhere in record between 1/4/2004 and 30/9/2004
- ▶ EXCLUDE patients with
  - READ code d6... to d6z anywhere in record between 1/4/2003 and 31/3/2004
  - OR with READ code d7... to d7z anywhere in record between 1/4/2003 and 31/3/2004
  - OR with READ code d8... to d8z anywhere in record between 1/4/2003 and 31/3/2004
  - OR with READ code d9... to d9z anywhere in record between 1/4/2003 and 31/3/2004
  - OR with READ code da... to daz anywhere in record between 1/4/2003 and 31/3/2004
  - OR with BNF code 4.2.3 anywhere in record between 1/4/2003 and 31/3/2004
  - OR with BNF code 4.2 anywhere in record between 1/4/2003 and 31/3/2004

BNF = British National Formulary.