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| <b>Institution:</b> University of Southampton   |
| <b>Unit of Assessment:</b> 02 Health services, public health and primary care   |
| <b>Title of case study:</b> 02-12 Impact on assessment of depression  |
| <p><b>1. Summary of the impact</b></p> <p>Southampton's research into the management of depression highlighted deficits in the way GPs were assessing and treating depression, and demonstrated failure to improve their performance through education alone. The findings were included in guidelines drawn up by the National Institute for Health and Care Excellence (NICE) and led to incentives for questionnaire assessments of depression being introduced into the GP contract Quality Outcomes Framework (QOF). UK-wide QOF data from 2008-2013 demonstrated questionnaire assessments in 2.2 million cases of depression. Subsequent Southampton-led research showed that improved targeting of treatment resulted from questionnaire assessments, and trial evidence shows such assessments improve patient outcomes.</p>   |
| <p><b>2. Underpinning research</b></p> <p>Depression is common, disabling and costly. More than 80% of cases are managed in primary care, so effective management in primary care is crucial. However, in the 1990s management of depression by GPs was found to be poor. GPs failed to recognise around one-third of cases, and most patients received either no treatment, or their treatment was inadequate.</p> <p>A study on the Swedish island of Gotland suggested education was the way to improve GP management of depression, so Southampton researchers tested that proposition in the UK. The Hampshire Depression Project (HDP) was a randomised controlled trial (RCT), carried out between 1994 and 1998, funded by the Medical Research Council (MRC) and led by Chris Thompson (Professor of Psychiatry, left 2003) and Ann Louise Kinmonth (Professor of Primary Care, left 1996). This trial (21,409 patients, 60 practices) was ground-breaking in showing that guideline-based education of GPs alone did not improve recognition of depression or patient outcomes [3.1]. From 1998 to 1999, Tony Kendrick (Professor of Primary Care from April 1998 to August 2010 and again since May 2013) led a new analysis of the trial's findings, showing a lack of impact on appropriate targeting of treatment. Only 15% of those with possible, and 26% of those with probable, major depression were prescribed the doses and duration of antidepressants recommended by guidelines [3.2].</p> <p>Subsequent research led by Kendrick (694 patients, seven practices, between 1999 and 2003) showed that this poor targeting was due to inaccurate GP assessment. GPs tried to follow guidance to offer antidepressants to patients with more severe depression, but their ratings of severity were inaccurate when compared with the Hospital Anxiety and Depression Scale validated severity measure, and almost half of the patients offered antidepressants did not have major depression according to that measure [3.3].</p> <p>Subsequently, NICE depression guidelines (2004) recommended symptom questionnaires be considered to aid assessment at diagnosis, and an indicator was introduced into the GP contract QOF (2006) to promote their use. Following this, Kendrick led further research (2,294 patients, 38 practices in 2007-8) with Dowrick (Liverpool) and Howe (East Anglia), which showed that decisions to prescribe antidepressants, or refer for therapy, were significantly associated with higher severity scores on symptom questionnaires at diagnosis (<math>p &lt; 0.001</math>) [3.4].</p> <p>In 2007-8, Michael Moore (Reader, at Southampton since 2005) led an analysis of the General Practice Research Database (153,931 patients, 170 practices) showing that more than half of patients treated with antidepressants between 1993 and 2005 received prescriptions for only one or two months [3.5]. This contributed to the introduction of a second indicator in the QOF (2009) promoting follow-up questionnaire assessments 5-12 weeks after diagnosis.</p> <p>Following the introduction of the follow-up indicator, Moore led further research (604 patients, 13</p> |

practices, in 2010-11) showing that follow-up scores appeared to influence decisions to change treatment. After controlling for confounders, patients who showed an inadequate response in questionnaire score change at follow-up were nearly five times more likely to experience a subsequent change in treatment compared to those with an adequate response (odds ratio 4.72, 95% confidence interval 2.83 to 7.86) [3.6].

### 3. References to the research

**3.1** Thompson C, Kinmonth AL, Stevens L, Peveler RC, Stevens A, Ostler KJ, Pickering RM, Baker NG, Henson A, Preece J, Cooper D, Campbell MJ. Effects of a clinical-practice guideline and practice-based education on detection and outcome of depression in primary care: Hampshire Depression Project randomised controlled trial. *Lancet*. 2000;355:185-91.

**Funding:** MRC project grant: Evaluation of the impact of an educational package on recognition and management of depression. £412,847 to Christopher Thompson, Ann Louise Kinmonth, Robert Peveler & Lesley Stevens, 01.10.94 to 30.09.97.

**3.2** Kendrick T, Stevens L, Bryant A, Goddard J, Stevens A, Raftery J and Thompson C. Hampshire Depression Project: changes in the process of care and cost consequences. *British Journal of General Practice* 2001;51:911-913.

**Funding:** South & West Regional Health Authority NHS R&D project grant: The Hampshire Depression Project: a randomised controlled trial of education on depression for primary care workers. £133,188 to Christopher Thompson, Ann Louise Kinmonth & Robert Peveler, 01.01.95 to 31.12.97.

**3.3** Kendrick T, King F, Albertella L, Smith P. GP treatment decisions for patients with depression: an observational study. *British Journal of General Practice* 2005;55:280-286.

**Funding:** supported by NIHR infrastructure funding to Primary Medical Care, Southampton.

**3.4** Kendrick T, Dowrick C, McBride A, Howe A, Clarke P, Maisey S, Moore M, Smith PW. Management of depression in UK general practice in relation to scores on depression severity questionnaires: analysis of medical record data. *British Medical Journal* 2009; 338: b750. doi: 10.1136/bmj.b750.

**Funding:** Lilly, Lundbeck, Servier, and Wyeth Pharmaceutical Companies unrestricted educational grant: Observational study of GP treatment of depression following the introduction of quality indicators in the new GP contract. £70,000 to Tony Kendrick, Christopher Dowrick, Michael Moore, and Amanda Howe, 1.10.06 to 28.2.08.

**3.5** Moore M, Yuen HM, Dunn N, Mullee MA, Maskell J, Kendrick T. Explaining the rise in antidepressant prescribing: a descriptive study using the general practice research database. *British Medical Journal* 2009; 339:b3999 doi:10.1136/bmj.b3999.

**Funding:** supported by NIHR infrastructure funding to Primary Medical Care, Southampton.

**3.6** Moore M, Ali S, Stuart B, Leydon GM, Ovens J, Goodall C, Kendrick T. Depression management in primary care: an observational study of management changes related to PHQ-9 score for depression monitoring. *British Journal of General Practice* 2012;62:310-311.

**Funding:** NIHR National School for Primary Care Research project grant: Effects of monitoring depression in primary care. £123,971 to Tony Kendrick, Michael Moore and Geraldine Leydon, 1.1.10-30.6.11.

### 4. Details of the impact

Southampton research into depression assessment has had significant impacts on UK healthcare guidelines, on GP practice, and - the trial evidence suggests - on patient well-being.

The 2009 NICE depression guideline CG90 made direct reference to Thompson, Kinmonth and Kendrick's findings that attempts to improve the rate of recognition of depression by GPs using education had not improved recognition or outcomes [5.1]. It also referred to Kendrick's (2005)

finding that, while the probability of prescribing antidepressants was associated with GPs' ratings of severity of depression, almost half of the people offered antidepressants were not depressed according to a validated measure [3.3]. Following Kendrick, the guideline recommended (page 118): *"When assessing a person with suspected depression, consider using a validated measure (for example, for symptoms, functions and/or disability) to inform and evaluate treatment"* (Recommendation 5.2.13.4) [5.1]. The subsequent NICE quality standard on the assessment of depression issued in March 2011 recommended the use of a formal rating scale for symptom severity, and was endorsed by the British Association for Psychopharmacology, the British Psychological Society, the College of Mental Health Pharmacy, the College of Occupational Therapists, Depression Alliance, MIND, the Royal College of Nursing, and the Royal College of Psychiatrists [5.2].

A performance indicator for assessment of depression was introduced into the QOF in April 2006 which had a sustained impact on care through to 2013. This made direct reference to the findings of Kendrick and colleagues, stating (page 141): *"GP global assessment of severity does not accord closely with more structured assessment of symptoms (Kendrick et al. British Journal of General Practice 2005; 55:280-286). Assessment of severity is essential to decide on appropriate interventions and improve the quality of care"* [5.3]. Thus, QOF points (giving increased funding) were awarded for the assessment of depression at diagnosis using validated symptom questionnaires. Other researchers, including David Goldberg (at the Institute of Psychiatry), Linda Gask (University of Manchester) and Christopher Dowrick (University of Liverpool) had shown that global GP assessment was inaccurate, but it was Kendrick and colleagues who demonstrated that GP treatment with antidepressants was poorly targeted as a result. Kendrick, Gask and Dowrick were members of the mental health expert advisory group for the QOF.

The impact was immediate, widespread and sustained throughout the REF assessment period. NHS data from all UK general practices show that a total of 2,402,400 new episodes of depression were diagnosed and recorded by GPs between April 2008 and March 2013 inclusively, of which 2,213,485 (92.1%) were assessed using symptom questionnaires [5.4].

In 2009 another indicator was added to the QOF, promoting follow-up assessment of depression with symptom questionnaires 5 to 12 weeks after diagnosis. The QOF guidance reminded practitioners of the importance of follow-up [5.5], citing the Southampton analysis of the GP research database [3.5] (on page 110): *"Analysis of the GPRD from 1993 to 2005 found that more than half of patients treated with antidepressants only received prescriptions for one or two months of treatment"* [5.5].

Between April 2009 and March 2013, UK GPs reported completing a total of 1,109,284 follow-up assessments using validated severity measures (74.0% of 1,497,914 eligible cases) [5.4].

The Southampton group's observational research indicates that questionnaire assessment has improved the targeting of treatment for patients compared to the situation prior to its introduction in the QOF [3.4, 3.6]. GPs' decisions to start or change treatment, or refer patients, became much more in line with NICE guidance than before the introduction of the indicators. There is also trial evidence of benefit on patient outcomes of symptom questionnaire assessment and monitoring. A 2012 primary care trial in the USA found that questionnaire feedback led to increased remission and response rates among patients with depression [5.6]. This is consistent with systematic review evidence of clear benefit of monitoring in terms of patient outcomes from research in psychological and psychiatric practice [5.7].

Patient experience of the use of questionnaires has been positive, as was shown by qualitative interviews in 2007-8 led by Geraldine Leydon (Reader, at Southampton since 2005) in collaboration with Dowrick (Liverpool) and Amanda Howe (East Anglia). Patients said they saw the questionnaires as helpful adjuncts to medical judgment, and their use as an indication that their depressive symptoms were taken seriously [5.8]. The requirement to use symptom questionnaires has been somewhat controversial, however. Some GPs complained that questionnaires cannot be

used with patients with language or literacy difficulties, are sometimes inaccurate, and may be intrusive in sensitive consultations. Research led by Leydon showed some GPs considered their clinical judgment more important than questionnaires, and were concerned that questionnaires reduced the human element of the consultation and were a threat to their professionalism [5.9]. Symptom questionnaires are now an optional component, rather than a requirement, of the structured assessment of depression promoted by indicators in the QOF (2013) [5.5]. However, an email survey in October 2013 of Hampshire general practices asking about their use of depression symptom questionnaires since these became optional showed that more than half of practices were still using questionnaires to aid the assessment of selected patients [5.10].

## 5. Sources to corroborate the impact

**5.1** National Institute for Health and Clinical Excellence. National Collaborating Centre for Mental Health. Depression. The treatment and management of depression in adults. NICE Clinical Guideline 90. London: 2009 (page 29 refers to Thompson et al., 2000 and Kendrick et al., 2001, and page 98 to Kendrick et al., 2005).

<http://www.nice.org.uk/nicemedia/live/12329/45896/45896.pdf> (Accessed 22nd August 2013).

**5.2** NICE Quality Standards for the Management of Depression in Adults, NICE, London, 2011.

<http://publications.nice.org.uk/depression-in-adults-quality-standard-qs8/quality-statement-1-assessment> (Accessed 22nd August 2013).

**5.3** BMA, NHS Employers. Revisions to the GMS contract 2006/07. Delivering investment in general practice. London: 2006 (page 141 refers to Kendrick et al., 2005). (This guidance was in place from 2006 until 2013, throughout most of the REF assessment period).

[http://www.nhsemployers.org/SiteCollectionDocuments/Revisions\\_to\\_the\\_GMS\\_contract\\_-\\_full\\_CD\\_120209.pdf](http://www.nhsemployers.org/SiteCollectionDocuments/Revisions_to_the_GMS_contract_-_full_CD_120209.pdf) (Accessed 22nd August 2013).

**5.4** UK level data for Quality and Outcomes Framework 2008-2013 depression indicators:

<http://www.gpcontract.co.uk/browse/UK/Depression/13> (accessed 21st November 2013).

**5.5** BMA, NHS Commissioning Board, NHS Employers. Quality and Outcomes Framework guidance for GMS contract 2013/14. London: 2013 (page 111 refers to Moore et al., 2009).

<http://www.nhsemployers.org/Aboutus/Publications/Documents/qof-2013-14.pdf> (Accessed 22nd August 2013).

**5.6** Yeung AS, Jing Y, Brenneman SK, Chang TE, Baer L, Hebden T, Kalsekar I, McQuade RD, Kurlander J, Siebenaler J, Fava, M. Clinical Outcomes in Measurement based Treatment (COMET): a trial of depression monitoring and feedback to primary care physicians. *Depression and Anxiety* 2012; 29(10):865–873.

**5.7** Knaup C, Koesters M, Schoefer D, et al. Effect of feedback of treatment outcome in specialist mental healthcare: meta-analysis. *British Journal of Psychiatry* 2009; 195:15-22

**5.8** Dowrick C, Leydon GM, McBride A, Howe A, Burgess H, Clarke P, Maisey S, Kendrick T. Patients' and doctors' views on depression severity questionnaires incentivised in UK quality and outcomes framework: qualitative study. *British Medical Journal* 2009; 338:b663

**5.9** Leydon GM, Dowrick CF, McBride A, Burgess H, Howe AC, Moore M, Clarke PD, Maisey, SP, Kendrick, T on behalf of the QOF Depression Study Team. Questionnaire severity measures for depression: a threat to the doctor-patient relationship? *British Journal of General Practice* 2011; 61:117-123.

**5.10** Email survey of Hampshire general practices asking about their use of symptom questionnaires since these became an optional component, rather than a requirement, of the structured assessment of depression promoted by indicators in the GP contract QOF (*confidential: data available from Southampton*).