

Institution: University of Aberdeen
Unit of Assessment: 1 - Clinical Medicine
Title of case study: Depressive disorder research leads to changes in government health care policy
1. Summary of the impact Research conducted at the University of Aberdeen into the treatment of depressive disorder in primary care has directly led to the revision of health care policy by the Scottish Government Health Department. The work initiated debate over the validity of tools for the assessment of depression, contributing to revision of the Quality and Outcomes Framework (QOF), a system for the performance management and payment of GPs in the NHS in the UK. The findings are now being discussed in commentaries on the development of forthcoming disease classification systems for depression in the US (Diagnostic and Statistical Manual DSM- revision V) and Europe (International Classification of Disease – ICD revision 11). <i>Therefore the claimed impact is on: health and welfare; changes to public policy and on impact on practitioners and services.</i>
2. Underpinning research Depressive disorder is one of the leading causes of disability world-wide, and the condition has been shown repeatedly to be under-diagnosed and under-treated. However, against a rising background of concern about the increasing volume of chemical antidepressant prescription, the Scottish National Party made a manifesto commitment in 2007 to reduce antidepressant prescription in Scotland by 10%. This subsequently became Scottish Health Department policy, underpinned by an assumption on the part of ministers, media, managers and many clinicians that rising dispensing rates represented inappropriate over-prescription of antidepressants in primary care. Initiatives were launched to curb prescribing, including incentivisation of the use of patient-completed rating scales to “better target” interventions for depression in primary care. This latter initiative was implemented nationally across the UK through the national Quality and Outcomes Framework. The policy lacked critical clinical evidence based on research, and had the potential to harm patients and families if it was found to be unsubstantiated. Although it had been widely assumed that more and more people were being given antidepressants, the Psychiatry research group at Aberdeen University (Ian Reid, Professor of Mental Health and Isobel Cameron, Lecturer) in concert with University colleagues from Primary Care (Ken Lawton, Senior Lecturer), Psychology (John Crawford, Professor) and NHS colleagues, recognised that prescription volumes need not relate to the number of people being treated, and might instead reflect changes in dosing or length of treatment. In 2007, the group initiated an investigation of GP prescribing habits by directly screening patients in primary care for depression and observing the actions taken by their doctors. Specifically, consecutive consenting patients attending practices (for any reason) were screened for mood disorder by the research team, and then GPs, blind to this assessment, made their own appraisal and treatment decisions. The identification of patients with depressive disorder by GPs was then compared with the assessments made by the research group screening team; with this approach, the frequency of antidepressant prescription and its rationale could directly be analysed. By 2009, the team had discovered that, contrary to the prevailing view, GPs were actually very conservative in their prescription of antidepressants, and in fact tended to under-prescribe. Indeed, the study showed that GPs failed to recognise around half the cases of depression presenting to them [1]. In the subsequent publication in the British Journal of General Practice, the authors suggested that changes over the last 10 years in the dose and duration of antidepressant prescription, in accordance with good-practice guidelines, instead accounted for the rise in prescription volumes, rather than indiscriminate prescribing to an expanding patient cohort [1]. This

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was subsequently confirmed in other national research, together indicating that efforts to reduce prescribing by 10% would have harmful consequences for the treatment of depressed patients.

The research was recognised by the Scottish Public Audit Committee, which recommended that the Scottish Government review its target. In light of this, the Scottish Health Minister withdrew the target in 2010, specifically citing the University of Aberdeen research to justify the decision to withdraw.

Concurrent studies of the use of Quality and Outcome Framework processes to guide GP prescription were conducted and it was demonstrated that the recommended rating instruments were not valid for the task proposed – the measurement of the severity of depressive disorder. The University of Aberdeen team found that the QOF endorsed rating instruments, when administered to the same population of patients, did not agree with one another [2], or with “gold standard” assessments of depression severity [3]. These findings contributed to recommendations by the National Institute for Health and Clinical Excellence (NICE) that the use of the rating scales be abandoned.

The research findings have since been discussed in commentaries on the development of forthcoming US and European disease classifications systems. Commentators (cited below) stated the view that the Aberdeen University findings indicated that the use of severity rating scales should not inform diagnostic classification systems given this research demonstrating their invalidity.

3. References to the research

[1] Cameron, IM, Lawton, K & Reid, IC. (2009). Appropriateness of antidepressant prescribing: an observational study in a Scottish primary-care setting. *British Journal of General Practice*, 59: 644-649.

This study shows that GPs fail to recognise approximately 50% of patients with depressive symptoms. For those recognised, 42% were prescribed antidepressants. Importantly, less than 1% of those without significant depressive symptoms were prescribed antidepressants inappropriately. These findings indicate under prescription, rather than over prescription of antidepressants – rendering the Scottish Government’s target to reduce prescribing untenable and potentially harmful.

[2] Cameron, IM, Crawford, JR, Lawton, K & Reid, IC. (2008). Psychometric comparison of PHQ-9 and HADS for measuring depression severity in primary care. *British Journal of General Practice*, v 58: 32-36.

This study shows that QOF recommended questionnaire based severity assessments of depression are discordant in their findings within the same population, implying that they are invalid to the task proposed in national guidance.

[3] Cameron, IM, Cardy, AH, Crawford, JR, du Toit, S, Hay, S., Lawton, K, Mitchell, K, Sharma, S, Shivaprasad, S, Winning, S & Reid, IC. (2011). Measuring depression severity in general practice: discriminatory performance of the PHQ-9, HADS-D, and BDI-II. *British Journal of General Practice*, 61: e419-e426.

This study shows that all three QOF recommended rating scales are invalid in the measurement of depression severity and do not meet established standards as valid clinical tools.

Relevant grant funding:

- Assessing the validity of the PHQ-9:HADS and BD-II in measuring severity of depression in a sample of primary care patients with a new episode of depression. (NHS Quality Improvement Scotland). February 2008. £75,000

4. Details of the impact

The research directly addressed the issue of over-prescribing for depression in primary care in Scotland by observing prospectively the activity of over 30 GPs assessing and treating almost 1,000

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patients in four general practices in the Grampian region. The work was peer-reviewed and published in the British Journal of General Practice [1]. The study was reported widely in the media, and appeared on BBC and Scottish Television News web-sites [a]. The research team lead appeared on the Radio 4 "Today" programme [a].

The findings were also noted by the Scottish Parliament Public Audit Committee and described in its 3rd report 2010 "Overview of Mental Health Services" (SP Paper 433; PAU/S3/10/R3) [b]. The Committee stated: "*The Committee is concerned that the HEAT target on reducing the increase in antidepressant prescribing may be too simplistic. It notes the University of Aberdeen study results, which identified that, in around 98 per cent of cases, people on a prescription are receiving the medication appropriately. The Committee feels that no explanation has been given as to how this HEAT target can therefore be appropriately achieved and recommends that the Scottish Government reviews the target, in light of the results of this study.*"

The findings of the study were acknowledged in the Scottish Parliament in a written answer to a question from an MSP (Member of the Scottish Parliament) (S3W-34428, 25th June, 2010) [c]:

"Since 2008 there has been significant work to support appropriate prescribing in Scotland through the work of the mental health collaborative which is in place to work with NHS boards in supporting delivery of NHS mental health targets. Research work undertaken by the University of Aberdeen, and published in the British Journal of General Practice, September 2009, would suggest that in 99% of cases, the prescribing is in accordance with clinical guidelines." Shona Robinson, MSP.

The target to reduce antidepressant prescribing was withdrawn shortly afterwards, thus changing Scottish Healthcare policy for the benefit of patients, and reversing a Scottish National Party manifesto commitment made in 2007. This work therefore directly resulted in a major change to health policy in Scotland, and has further implications for antidepressant prescribing practice on a world-wide basis.

The concurrent work on the use of rating scales to determine severity of depressive disorder was also published in the British Journal of General Practice [2,3], showing that the rating scales produced results inconsistent with one another, and inconsistent with "gold standard" assessment of depressive disorder severity, thus demonstrating their lack of validity. The results were controversial, given that the rating scales had already been embedded in the performance management and payment systems for all of UK general practice, and were in daily use. The research was the subject of two editorials in the British Journal of General Practice [d,e]. The findings were replicated and cited by research groups in Sweden [f], the Netherlands [g], Australia [h], and the US [i].

The Aberdeen University publications were cited in subsequent iterations of the Quality and Outcomes framework for UK General Practice (2009/10; 2012-13) [j], forming part of the evidence base used by NICE to "retire" those measures that the Aberdeen researchers had described as "invalid" (2013/2014 [k]). This will have a positive impact on the daily assessment of depressed patients in primary care throughout the UK. The research findings have since been discussed in commentaries on the development of forthcoming US (DSM-V) [i] and European (ICD-11) [l] disease classifications systems, and are likely to contribute to global definitions of depressive disorder.

Claimed impact as defined by REF guidance: outcome for patients has improved; healthcare guidelines have changed; decisions by health services have been informed by research; professional guidelines have been influenced by research and practitioners have used these research findings in conducting their work.

5. Sources to corroborate the impact

[a] Media Links

- Link to BBC News web site: http://news.bbc.co.uk/1/hi/scotland/north_east/8256501.stm

Media report of Aberdeen University findings showing that antidepressants are underprescribed, rather than overprescribed as commonly believed.

- Link to Scottish Television Website: <http://News.stv.tv/north/123192-study-denies-gps-are-over-prescribing-anti-depressants/>

Media report of Aberdeen University findings showing that antidepressants are underprescribed, rather than overprescribed as commonly believed.

- Link to Today Programme recording:

http://news.bbc.co.uk/today/hi/today/newsid_9449000/9449895.stm

Media report, with live interview, of Aberdeen University findings showing that antidepressants are underprescribed, rather than overprescribed as commonly believed.

[b] Scottish Parliament Public Audit Committee 3rd Report 2010 Overview of Mental Health Services (SP Paper 433; PAU/S3/10/R3)

The Audit Committee cites Aberdeen University work and challenges Health Department Representatives over the rationale underpinning attempts to reduce antidepressant prescribing.

[c] Question S3W-34428: Ross Finnie, West of Scotland, Scottish Liberal Democrats, Date Lodged: 11/06/2010 (Scottish Parliament Web Site).

MSP asks Deputy Health Secretary about antidepressant prescribing. Deputy Health Secretary concedes antidepressant prescribing appropriate, cites University of Aberdeen research and announces replacement of prescribing reduction target.

[d] Dowrick, C (2009). 'Reasons to be cheerful'. *British Journal of General Practice*, 59: 636-637.

Editorial acknowledging Aberdeen research on underprescribing of antidepressants in primary care.

[e] Toop, L. (2011). The QOF, NICE, and depression: a clumsy mechanism that undermines clinical judgment. *British Journal of General Practice*, 61: 432-433.

Editorial acknowledging the Aberdeen research team's demonstration that depression rating scales recommended in QOF are not fit for purpose.

[f] Hansson, M, Chotai, J, Nordstöm, A, Bodlund, O. (2009). 'Comparison of two self-rating scales to detect depression: HADS and PHQ-9' *British Journal of General Practice*, 59: e283-e288.

[g] Wittkampf, K, Van Ravesteijn, H, Baas, K, Van De Hoogen, H, Schene, A, Bindels, P, Lucassen, P, Van De Lisdonk, E, Van Weert, H. (2009). The accuracy of Patient Health Questionnaire-9 in detecting depression and measuring depression severity in high-risk groups in primary care. *General Hospital Psychiatry*, 31: 451-459.

[h] Reddy, P, Philpot, B, Ford, D, Dunbar JA. (2010). Identification of depression in diabetes: the efficacy of PHQ-9 and HADS-D. *British Journal of General Practice*, 60: e239-245.

[i] Zimmerman, M. (2012). Symptom severity and guideline-based treatment recommendations for depressed patients: Implications of DSM-5's potential recommendation of the PHQ-9 as the measure of choice for depression severity. *Psychotherapy and Psychosomatics*, 81: 329-332.

[j] Quality and Outcomes Framework guidance for GMS contract 2009/10. Available from www.nhsemployers.org and Quality and Outcomes Framework for 2012/13: Guidance for PCOs and practices. Available from www.nhsemployers.org

[k] Summary of recommendations for the NICE menu and recommendations for the retirement of indicators (Aug-12). Available from www.nice.org.uk

[l] Miklowitz, DJ, First, MB. (2012). Specifiers as aids to treatment selection and clinical management in the ICD classification of mood disorders. *World Psychiatry*, 11: 11-16.

[m] IC Reid. (2013). Are antidepressants overprescribed? Head to Head article, *BMJ*, 346: f190 doi: 10.1136/bmj.f190.