

Discussion paper

Health promotion and ill-health prevention: the role of general practice

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ABSTRACT

Background This paper reports on research undertaken for the King's Fund inquiry into quality in general practice and examines the health promotion role of the general practitioner.

Methods Literature review of health promotion in general practice focusing on smoking cessation, childhood immunisation, coronary heart disease (CHD) and obesity. In addition the paper draws on interviews with practice and public health staff.

Results General practitioners (GPs) and their practice teams have a crucial role in promoting health and preventing disease. Consultations provide an

ideal opportunity for preventing illness and disease but general practice focuses primarily on secondary prevention. Many GPs state they lack the skills needed to deliver effective health promotion.

Conclusions Issues, such as GP commissioning, provide a new set of challenges for public health and ill-health prevention. The evidence base is growing but general practice, public health and academics need to work together to improve this.

Keywords: general practice, health promotion, public health

How this fits in with quality in primary care

What do we know?

Primary care is seen as a key building block of public health and there is increasing interest in extending and incentivising the public health role of GPs.

What does this paper add?

These are significant challenges to ensure that good quality prevention and health promotion services are delivered within general practice. These include expressed lack of skills among GPs, reorganisation of health services, the changing workforce and the lack of evidence for effectiveness or cost-effectiveness for many public health interventions in general practice.

Introduction

There has been a growing interest in the role of primary care and general practice in public health, with primary care seen as a key building block of public health.^{1,2} In the UK, general practice remains

the most accessed part of the healthcare system, occupying a unique position to both provide medical care and promote the health and wellbeing of patients. There are over 300 million GP consultations per year

in the UK and in a two-week period 15% of the population see a GP. GPs are seen as 'key agents', uniquely placed to do a great deal more in public health.^{3–5} Tannahill argues that public health in primary care incorporates clinical and non-clinical dimensions and challenges GPs to be more proactive in addressing their patient population's needs.⁶ This view is supported by the new Coalition Government which has identified the need to extend the public health role of GPs and intends to further incentivise public health activity through the Quality and Outcomes Framework (QOF).⁷

In 2010 the King's Fund inquiry into the quality of general practice commissioned a number of working groups to review and report on aspects of general practice.⁸ This paper reports on the findings of a review of health promotion in general practice⁹ and discusses these in relation to the quality of general practice provision in the UK and how these findings relate to current proposals in England to reorganise the funding and delivery of public health. The paper initially examines the historical context of the delivery of public health in general practice and then presents a summary of the King's Fund review findings. We then discuss what the review adds to our knowledge of general practice and its implications for the delivery of good quality care.

Methods

To inform the inquiry panel deliberations, non-systematic literature reviews examining health promotion and ill-health prevention at both the primary and secondary prevention levels in general practice were undertaken. Four case studies from primary and secondary prevention activities that GPs would be expected to undertake and that were likely to have evidence of quality, effectiveness and cost-effectiveness were selected for fuller analysis. These were: childhood immunisation for primary prevention; smoking cessation; screening for cardiovascular disease via testing for lipid levels for secondary prevention; and obesity, as this involves primary, secondary and tertiary prevention.

Electronic searches of the Health Management Information Consortium, the Cochrane Library, Science Direct, the National Library for Public Health, Medline, PubMed and Google Scholar were conducted for articles published between 1999 and 2010. Manual searches of the bibliographies of the retrieved articles led to further manual searches, resulting in a snowball reviewing approach. These articles reflect a variety of research designs and methodologies. However, the aim was to give an overview of the evidence rather than systematic analysis of research findings.

In addition, the review drew on interview data from a National Institute for Health Research Service Delivery and Organisation (NIHR SDO) programme-funded research project examining the impact of the QOF on the public health activities of general practice, involving two of the review authors.¹⁰ Interviews were conducted in practices and primary care trusts (PCTs) in four areas in London, the Midlands and the North West of England. Practices were selected using a stratified random sampling method and were selected from localities in the lowest deprivation quintile of the Government Index of Deprivation. They were then stratified into three categories of QOF performance (i.e. 'poor' performance, 'improving' performance and 'high' performance) across two 'QOF years': 2004–2005 and 2006–2007, with one practice selected from each QOF category. In total 33 practice staff and 11 PCT staff were interviewed. Interviews were recorded and fully transcribed. The coding framework for PCT and practice interviews was refined during an inter-coder reliability process and data were then collated thematically and analysed for patterns or trends using key variables such as practice size.

General practice and public health: the context

Traditionally general practice has been dominated by an individualistic and medicalised system of primary medical care which emphasises treatment over prevention, with GPs more comfortable managing illness rather than promoting health – UK GPs are comparatively less involved in health promotion than their counterparts in other European countries.^{11–13} Successive governments in the UK have sought to promote a stronger, more proactive public health role for GPs. This is supported by the Royal College of General Practitioners (RCGP) which places such activities at the core of the general practice curriculum; but it is not without critics.^{14,15}

The lack of clear definitions of 'ill-health prevention' and 'health promotion' represents a key challenge. These encompass a wide range of activities including holistic strategies encompassing behaviour change, health education, community development, empowerment, prevention and protection,^{6,16} and in general practice activities also include screening and clinical interventions aimed at the prevention of ill health and recurrence of episodes of ill health or to ameliorate morbidity and mortality in those persons who already experience ill health. Public health approaches therefore combine behavioural interventions (such as lifestyle advice) and clinical interventions. These may be delivered by any member of the wider primary healthcare

team. Thus, both the substantive nature of public health practice and the context within which activities are undertaken are complex.

In the last 20 to 25 years there have been numerous policy initiatives aimed at increasing primary care involvement in public health.¹⁷ The introduction in 1990 of target payments (for cervical screening, immunisation and health promotion clinics) did increase in GP involvement in preventive medicine.¹⁸ The Labour government sought to strengthen this relationship between primary care and public health by developing the primary care workforce and introducing public health targets both before, and as a response to, the Wanless Report which emphasised the importance of the primary care public health role.¹⁹ The introduction of the new General Medical Services (GMS) contract in 2004 provided new mechanisms for supporting public health activity through Locally Enhanced Service (LES) and the QOF elements of the contract. These were expected to encourage a more population-based approach, but GPs have continued to aim their prevention work at patients at high risk rather than taking a population approach.²⁰ QOF has had a limited impact on prevention, but it did help to stimulate some aspects of public health activity such as ill-health prevention clinics.¹⁰ However, in 2009 only ten of the 146 QOF indicators were related to primary prevention with the risk that primary preventive activities are seen as less important.^{10,21} Some PCTs developed LESs for a range of preventive activities including smoking, alcohol, risk management (e.g. diabetes and cardiovascular disease), immunisation programmes and sexual health services.²² However, use of LESs has led to substantial variation across PCTs, and many services incentivised through LESs are also part of existing incentive programmes – including the QOF.

Current government policy is to further revise the QOF to place a stronger emphasis on primary prevention and in future local authorities will play a greater role in supporting local public health action. At the present time, however, it is not clear how LESs will be commissioned in England, or what the relationship will be between the new Health and Wellbeing Boards and commissioning groups. NICE also has a more prominent role in both developing new evidence for public health and supporting developments in the QOF.⁷

The King's Fund Review: prevention activities in general practice

This section briefly presents some of the key themes that emerged from the review in relation to changing

workforce and issues of competence, quality of practice and effectiveness. Further details are summarised in the King's Fund report.⁹ While there is an expectation that GPs should have a range of public health skills the evidence suggests that GPs often do not feel they have the appropriate skills for health promotion and that the lack of skill may also affect their attitude to giving advice.²³ Many GPs are concerned that giving lifestyle advice may be detrimental to the doctor–patient relationship,¹⁰ are unconvinced that their efforts to counsel patients on lifestyle issues are effective in changing behaviours and are concerned about striking the right balance between ‘protecting’ people’s sensibilities and telling them hard facts about personal behaviours that are ultimately shortening their lives.²³

While there has been a particular focus on GPs, it is clear that primary care approaches to public health involve all workers in the practice, as well as the wider primary healthcare team. There has been an increasing involvement of practice nurses in patient care – particularly for routine screening and review activities, although the majority of consultations are still with the GP. In recent years a key driver for this shift has been the requirements of the QOF.²⁴ The introduction of the QOF has opened up some new opportunities and tensions in the role and position of practice nurses, although in some ways these are a continuation of pre-QOF trends (increasing employment of healthcare assistants, delegation of clinical work from GPs to nursing staff). However, QOF has led to changes in practice for nurses with an emphasis on systematised models of care through the use of disease registers, computerised working methods and greater use of clinical templates in their prevention and public health activities.¹⁰

‘A lot of our clinics are nurse led, we have actually increased the establishment of our nursing times ... we also have a specific nurse-led clinic, so we have them for coronary heart disease (CHD), diabetes, asthma, linked diabetic and CHD clinics and we’re currently working on getting a COPD clinic up and running as well.’ (Practice Manager, Midlands)

However, it is not just the QOF that effects delivery of public health activity. Issues of competence and training are also key.

‘What do the doctors do!? The doctors send (patients) out to me to get all these things done! That’s what the doctors do. So my work really has quadrupled really, I think ... I certainly need another nurse, definitely.’ (Practice Nurse, North West)

More attention needs to be paid to skill mix in general practice. Health visitors, nurses, pharmacists, midwives and others have important roles in educating and informing the public. For example, in relation to obesity, research findings stress the role of the wider practice team.²⁵ What the exact mix of skills should be

and what impact this will have on provision of prevention and promotion services is, however, not known.

Attitudes may be critical in delivering effective practice. For example, a GP's attitude is an important determining factor in vaccine acceptance, for if the GP is unsure, often the parent remains unsure. Attitudes are also important in relation to addressing issues such as alcohol consumption and obesity and it is likely that having a more positive approach to public health plays an important part not only in increasing activity among primary care practitioners but also in success.²³ In addition, while practitioners often do not feel qualified or experienced in preventive work a survey of GPs undertaken for the King's Fund Quality Review found that GPs tended to rate the quality of their own health promotion and ill-health prevention activities as being of better quality than general practice as a whole.⁸ Other factors that prevent GPs from carrying out preventive tasks include lack of time, competing priorities, workforce shortages, lack of support systems, remuneration issues and the length of patient consultation times. More attention to appropriate skill mix would be one way of addressing some of these issues.

The organisation and structure of general practice and arrangements more generally in primary care are important. Variation in individual practices and the way PCTs have supported local practices affects the level of public health activity. Both internal structure and size and local population and organisational contexts appear to impact on the ability to provide and ensure the quality of preventive activities.

'I think they (GPs) could do a hell of a lot more than they currently do ... but I think part of that is related to the sort of structure of general practice here ... a third of our practices are single handed and as I say they have got very high population need, so you know they have got people knocking on their doors all the time.' (London PCT, Director of Primary Care Commissioning)

Longer consultation times are associated with lower levels of prescribing and more lifestyle advice and preventive activities.²⁶ However, it has been estimated that 'providing all the recommended high quality preventive care tasks for patients would add approximately 7.4 hours to the day'.²⁷ Given this more attention could be paid to examining ways to support public health activities in different ways. One approach may be through localities:

'we have got a strategy of primary care networks, divided up in localities and there will be a range of services provided for that network of GPs either in a physical location or a virtual location which will hopefully include a range of prevention type stuff you know that the patient comes in and can pop down the corridor and you can see somebody about advice on x' (London PCT, Director of Public Health)

Locality approaches are not new and are currently being developed in Scotland and Wales. The development of local commissioning consortia in England may provide opportunities for closer linking of practices and provide a locale for developing public health support.

While there are a number of difficulties, there is good evidence that in some areas of health promotion practice GP interventions are not only very effective but also very cost-effective. For example, brief interventions for smoking cessation have been repeatedly shown to be both clinically and cost-effective regardless of intensity.²⁸ Many practices have taken up smoking cessation as a key health promotion activity:

'We are very proactive with smoking cessation clinics, all of our nurses are smoking cessation advisors.' (GP, North West England)

However, public health interventions are not necessarily a way of saving money as found in a review of 1500 interventions, where only approximately 20% lowered costs and the remainder added more costs than they saved.²⁹ In some other areas of practice the evidence is less clear. For example, general practice has been identified as an ideal setting for delivering secondary prevention for cardiovascular disease. However, the evidence indicates that provision is not as effective as it could be and while the provision of secondary prevention can be improved by using specific disease management programmes the optimal mix of their components remains uncertain.

The QOF has provided a stimulus to develop health promotion in many general practices – particularly secondary prevention activities.¹⁰ However, the effectiveness of QOF to address public health is limited by the size and structure of incentives. Payments to identify patients with tobacco use disorders and the provision of cessation advice were related to an increase in documentation of tobacco use but not to the increased provision of cessation advice – illustrating the need to relate incentives carefully to a combination of process and outcome measures.³⁰ The Marmot Review on health inequalities recommended that 'Consideration should be given to including more primary preventive activities in the QOF' but that 'the QOF should not be viewed as the only vehicle for promoting primary prevention within general practice'.³¹ The lack of evidence on prevention and interventions that work in general practice has tended to skew targets towards those that involve recording, prescribing and advising for a relatively narrow range of chronic diseases such as diabetes and CHD, resulting in treatment and secondary prevention being favoured over primary prevention, although practitioners reported a wide diversity of practice:

'If you come into the surgery we've always got some new poster, either travel vaccines in the summer or flu jabs in the winter. We try to promote things to patients. We have a practice newsletter with at least one clinical message which might be "this is when our stopping smoking clinics are, have you thought about coming to one?" or "now is the time to book your flu jab!" or whatever.' (GP, North West England)

While in contrast:

'We have started it because now obviously with the QOF setting and we thought it is better to have a preventative measure rather than seeing the patient when they have fully developed the diabetes so prevention is better than cure so that's why we have set up these clinics to help the people to understand because there is a lot of illiteracy and ignorance about their diseases.' (GP, London)

The QOF provides an opportunity for public health and general practice to work together and there is practical information public health can provide to help incentivise GPs to address public health. In addition, practice data may prove a rich source of epidemiological information relevant to public health. However, there are significant gaps in the evidence base for primary prevention interventions in primary medical care which affect what ill-health prevention general practice is able to carry out.

What does this study add to our understanding of quality general practice?

Surprisingly, there remains a lack of knowledge about what activities are being undertaken – despite the implementation over the past 20 years of incentives for health improvement. For example, little is known as to how nicotine replacement therapy (NRT) and bupropion are used in general practice and whether guidelines are being followed.^{21,32} In advocating a health-promoting general practice model, Watson has argued that there is a need for better evidence to demonstrate 'health benefits for local communities ... and also a need to identify potential practical and organisational difficulties' (p. 182).³³ While there is enormous potential for general practice to take a much more proactive role in ill-health prevention and public health, GPs need to work with their wider teams, in partnership with their communities, and improve their awareness of the range of services offered locally. Working in partnership and integrating ill-health prevention into their current work will help to make public health policies more sustainable, but the findings of the review suggest that attention will need to be paid to the organisation and skill mix of general practice to achieve this.

The review found that while there is good evidence of effectiveness in some areas of activity it also needs to be recognised that general practice plays an important prevention role for conditions in mental health, eye care, oral health, mobility and possibly auditory problems. There is some limited literature in these areas (especially mental health and eye care) but further work is needed to identify effective preventive interventions in primary care. Further research is also needed to identify the appropriate balance between universal, opportunistic and targeted health promotion interventions. For example, in relation to vision impairment, evidence to date suggests that such universal approaches bring limited benefit and current screening tests not currently included in universal programmes, such as those for glaucoma and intraocular pressure testing, may provide an important targeted, preventive screening intervention for vision impairment.^{34,35} The converse is true for auditory screening where a universal programme – especially for over-75s – would lead to substantial benefits although it would place additional strains on NHS hearing services.³⁶ Similar debates exist in relation to targeted, opportunistic and universal screening for diabetes and cardiovascular disease and are clearly relevant given the introduction of the new NHS health checks.^{37,38} A key point, however, is that multiple risk factor interventions in primary prevention comprising counselling, education and drug treatments are more likely to be effective in high-risk groups than in the general population.³⁹

Conclusion

While policy directives and professional guidelines articulate the view that primary care is a major and effective contributor to individual and community health and population needs, in practice many professionals confine their public health activity to a strictly clinical agenda, a practice reinforced by some policy initiatives such as the QOF. While GPs and other primary care staff have many opportunities to be proactive in promoting good health and preventing ill health they are more likely to report that they are more comfortable managing illness than promoting health.

The drive to develop a more public health approach to general practice is also occurring at a time of significant organisational change in some areas of the country. In particular, in England the government has proposed the major restructuring of public health services and we do not yet know how this will affect GP and public health relationships. The development of clinically led commissioning consortia, the creation of Public Health England, and new local authority public

health roles provide new challenges for public health and ill-health prevention. Local authorities, through their Health and Wellbeing Boards, will be key local public health agencies. In the past links between general practice and local authorities have been poor but in future such relationships will be critical in developing local public health initiatives. Commissioning groups will have population responsibilities but the evidence from previous primary care-led commissioning approaches suggests that this not sufficient to drive population-based public health action. Research on Practice-based Commissioning (PbC) found that GPs focused more on preventing 'unnecessary' hospital admissions than on primary prevention.⁴⁰ In England, government proposals will fragment commissioning responsibilities for public health, whereas the findings from the King's Fund review suggest that good quality health promotion and prevention activities need consistent and co-ordinated support with clear assignment of responsibilities for primary and secondary prevention.⁴¹ Whether partnership and network approaches, such as those being developed in Wales, can achieve this is also open to question.

The review concluded that a wide range of good prevention work is being undertaken but that there is room for both improving the quality of prevention activity and broadening its extent – particularly in primary prevention. The lack of evidence related to interventions to be carried out by primary care practitioners also remains a significant challenge in meeting the quality agenda in terms of public health and ill-health prevention activities in general practice. The review highlighted three important areas that require broader consideration if GPs are to be supported in contributing to improved public health. A stronger public health role from GPs will require a change in their practice at a time when there are other major reforms being undertaken within the National Health Service (NHS), not least the focus on developing clinically led consortia in England. In Scotland and Wales the development of local or community partnerships may serve to increase the public health focus but there is no certainty that such local partnerships will automatically improve general practice relationships with local authorities and community organisations. In addition, existing research on QOF suggests that it will be necessary not just to add additional criteria for prevention but to think carefully about what measurements are used. Finally there is a real need to support the use of best evidence to design and implement public health interventions in general practice.

These are significant challenges to ensure that good quality prevention and health promotion services are delivered within general practice. In addition, continued variation of practice and limited use of financial incentives are likely to remain obstacles to

developing a clearer role for general practice in public health.

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REFERENCES

- 1 World Health Organization. *Alma Ata Declaration*. Geneva: WHO, 1978.
- 2 World Health Organization. *The World Health Report 2008. Primary health care: now more than ever*. Geneva: WHO, 2008.
- 3 Toon P. *What is Good General Practice? Occasional Paper 65*. London: Royal College of General Practitioners, 1994.
- 4 Tudor-Hart J. *A New Kind of Doctor*. London: Merlin Press, 1988.
- 5 Wirrmann EJ and Carlson C. Public health leadership in primary care practice in England: everybody's business? *Critical Public Health* 2005;15:205–17.
- 6 Tannahill A. Health promotion: the Tannahill model revisited. *Public Health* 2009;123:396–9.
- 7 Department of Health. *Healthy Lives, Healthy People: our strategy for public health in England*. Cm 7895. London: The Stationery Office, 2010.
- 8 Goodwin N, Ross S and Smith A. *The Quality of Care in General Practice: capturing opinions from the front line*. London: The King's Fund, 2011.
- 9 Boyce T, Peckham S, Hann A and Trenholm S. *A Proactive Approach. Health promotion and ill-health prevention*. London: The King's Fund, 2010.
- 10 Dixon A, Khachatryan A, Wallace A, Peckham S, Boyce T and Gillam S. *The Quality and Outcomes Framework (QOF): does it reduce health inequalities?* Final report. NIHR SDO, 2010.
- 11 Lawlor DA, Keen S and Neal RD. Can general practitioners influence a nation's health through a population approach to the provision of lifestyle advice? *British Journal of General Practice* 2000;50:455–9.
- 12 Turton P, Peckham S and Taylor P. Integrating primary care and public health. In: Lindsay J and Craig P (eds) *Nursing for Public Health: population-based care*. Edinburgh: Churchill Livingstone, 2000, pp. 195–218.
- 13 Grielen SJ, Boerma WGW and Groenewegen PP. Unity or diversity? Task profiles of general practitioners in central and Eastern Europe. *European Journal of Public Health* 2000;10:249–54.
- 14 Royal College of General Practitioners. *Healthy People: promoting health and preventing disease*. London: RCGP, 2007.
- 15 Fitzpatrick M. *The Tyranny of Health: doctors and the regulation of lifestyle*. London: Routledge, 2001.
- 16 Scriven A. Promoting health: perspectives, policies, principles, practice. In: Scriven A (ed) *Health Promoting Practice: the contribution of nurses and allied health*

- professionals. Basingstoke: Palgrave Macmillan, 2005, pp. 1–16.
- 17 Peckham S and Exworthy M. *Primary Care: policy, organisation and management*. Basingstoke: Palgrave Macmillan, 2003.
 - 18 Langham S, Gillam S and Thorogood M. The carrot, the stick and the general practitioner: how have changes in financial incentives affected health promotion activity in general practice? *British Journal of General Practice* 1995; 45:665–8.
 - 19 Wanless D. *Securing Good Health for the Whole Population*. London: HM Treasury, 2004.
 - 20 Peckham S and Wallace A. Pay for performance schemes in primary care: what have we learnt? *Quality in Primary Care* 2010;18:111–16.
 - 21 Wilson A, Hippisley-Cox J, Coupland C, Coleman T, Britton J and Barrett S. Smoking cessation treatment in primary care: prospective cohort study. *Tobacco Control* 2005;14:242–6.
 - 22 Marks L, Cave S, Wallace A *et al*. Incentivizing preventive services in primary care: perspectives on Local Enhanced Services. *Journal of Public Health* 2011; doi:10.1093.
 - 23 Laws R, Kirby S, Powell Davies G *et al*. 'Should I and can I?': a mixed methods study of clinician beliefs and attitudes in the management of lifestyle risk factors in primary health care. *BMC Health Services Research* 2008; 8:44.
 - 24 McDonald R, Campbell S and Lester H. Practice nurses and the effects of the new general practitioner contract in the English National Health Service: the extension of a professional project? *Social Science and Medicine* 2009; 68:1206–12.
 - 25 Jackson C, Coe A, Cheater FM and Wroe S. Specialist health visitor-led weight management intervention in primary care: exploratory evaluation. *Australian Journal of Advanced Nursing* 2007;58:23–34.
 - 26 Wilson A and Childs S. The relationship between consultation length, process and outcomes in general practice: a systematic review. *British Journal of General Practice* 2002;52:1012–20.
 - 27 Yarnall KS, Pollak KI, Ostbye T, Krause KM and Michener JL. Primary care: is there enough time for prevention? *American Journal of Public Health* 2003;93: 635–41.
 - 28 Pieterse ME, Seydel ER, DeVries H, Mudde AN and Kok GJ. Effectiveness of a minimal contact smoking cessation program for Dutch general practitioners: a randomized controlled trial. *Preventive Medicine* 2001;32:182–90.
 - 29 Russell LB. Preventing chronic disease: an important investment, but don't count on cost savings. *Health Affairs* 2009;28:42–5.
 - 30 Petersen LA, Woodard LD, Urech T, Daw C and Sookanan S. Does pay-for-performance improve the quality of health care? *Annals of Internal Medicine* 2006;145:265–72.
 - 31 Whitehead M, Doran T, Exworthy M *et al*. *Delivery Systems and Mechanisms for Reducing Inequalities in both Social Determinants and Health Outcomes*. Marmot Review Task Group 7, 2009.
 - 32 Wilson A, Sinfield P, Rodgers S, Hammersley V and Coleman T. Drugs to support smoking cessation in UK general practice: are evidence based guidelines being followed? *Quality and Safety in Health Care* 2006;15: 284–8.
 - 33 Watson M. Going for gold: the health promoting general practice. *Quality in Primary Care* 2008;16:177–85.
 - 34 Cioffi GA, Mansberger S, Spry P, Johnson C and Van Buskirk EM. Frequency doubling perimetry and the detection of eye disease in the community. *Transactions of the American Ophthalmological Society* 2000;98:195–9.
 - 35 Smeeth L, Fletcher AE, Hanciles S, Evans J and Wormald R. Screening older people for impaired vision in primary care: cluster randomized trial. *BMJ* 2003;327:1027.
 - 36 Smeeth L, Fletcher AE, Siu-Woon Ng E *et al*. Reduced hearing, ownership, and use of hearing aids in elderly people in the UK. The MRC Trial of the Assessment and Management of Older People in the Community: a cross-sectional survey. *The Lancet* 2002;359:1466–70.
 - 37 Goyder E, Wild S, Fischbacher C, Carlisle J and Peters J. Evaluating the impact of a national pilot screening programme for type 2 diabetes in deprived areas of England. *Family Practice* 2008;25:370–5.
 - 38 Robson J, Boomla K, Hart B and Feder G. Estimating cardiovascular risk for primary prevention: outstanding questions for primary care. *BMJ* 2000;320:702–4.
 - 39 Ebrahim S and Smith GD. Systematic review of randomised controlled trials of multiple risk factor interventions for preventing coronary heart disease. *BMJ* 1997;314:1666–74.
 - 40 Thorlby R and Curry N. *Practice-based Commissioning*. London: The King's Fund, 2007.
 - 41 Smith J and Thorlby R. *Giving GPs Budgets for Commissioning: what needs to be done?* London: The Nuffield Trust, 2010.

PEER REVIEW

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CONFLICTS OF INTEREST

None.

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