

## Discussion paper

# A review of the public health impact of the Quality and Outcomes Framework

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### ABSTRACT

There are clear policy objectives in England to encourage primary care and general practice to address health inequalities. In this paper we explore the potential impact of the Quality and Outcomes Framework (QOF) on health inequalities and review the available evidence including analysis of the area based differences in performance between practices in Spearhead and non-Spearhead areas.

Overall, the evidence suggests that differences in performance, as measured by the QOF, between practices in deprived and non-deprived areas are narrowing. Although QOF achievement improved in all practices there is weak evidence as to the impact of the QOF on health. The evidence is equivocal as to whether improvements in clinical care and the narrowing gap in performance are

influenced by the incentives created by the QOF or whether this translates into reduced health inequalities.

Even though the QOF is only part of the range of incentives which affects practices, it is vital that indicators are aligned to the objective of reducing health inequalities. Additional research is needed to understand whether the QOF ensures that those who are the most difficult to reach and those whose need of care is greatest are getting access to high quality primary care and whether in turn it will succeed in reducing health inequalities.

**Keywords:** England, general practitioners, inequalities, primary health care, quality indicators, socio-economic factors

### How this fits in with quality in primary care

#### What do we know?

There are small and declining absolute differences in performance on the QOF and the differences between the least and most deprived practices are gradually narrowing. The evidence is equivocal on whether these improvements are influenced by the incentives created by the QOF and there is limited evidence of the direct impact of the QOF on health.

#### What does this paper add?

This paper suggests that the QOF may be having a positive impact on reducing area based health inequalities albeit a small one, and that area-based initiatives have not yet had an observable impact on deprived practices. The selection and weighting of QOF indicators in future needs to be better aligned to the objective of reducing health inequalities.

## Introduction

General practice, and primary care more broadly, has traditionally played a major role in public health. The model of general practice in the UK has traditionally

served its enrolled population and community, providing both primary and secondary prevention. Particularly in more deprived communities, it has often

played a key role more broadly in promoting health and tackling the wider social determinants of health in an effort to reduce health inequalities.<sup>1</sup>

Since the introduction of the new General Medical Services (GMS) contract in April 2004 general practitioners in the UK have faced a range of financial incentives targeted at specific activities as set out in the QOF. While a number of the indicators in the QOF have targeted activities that contribute to health the main focus, at least in the first few years, has been on organisational aspects of practice. While it was not an explicit policy objective of the QOF from the beginning, there has been growing interest in the impact of the QOF on public health, specifically in objectives to reduce health inequalities.<sup>2</sup> In this paper we seek to examine the likely impact of the QOF on public health and health inequalities and the extent to which this is supported by current evidence. We review the evidence from published research as well as drawing on the emerging findings of a research project in which the authors are involved (SDO Project – 08/1716/207 *Impact of QOF on general practitioner (GP) practice, public health outcomes and health inequalities in England*).

## Background

In 2001, the Labour government set a series of ambitious targets to reduce health inequalities in England by 2010, including targets to close the gap in life expectancy at birth and mortality from the major killers. While significant progress has been made in improving life expectancy in absolute terms across all social groups, there has been a target to reduce by at least 10% the gap in life expectancy between the one-fifth of areas with the worst health and deprivation indicators (so-called Spearhead areas) and the population as a whole.<sup>3</sup> There are 62 primary care trusts (PCTs) in England which are designated Spearhead PCTs (reduced from 88 following National Health Service (NHS) reconfiguration in 2006), for which addressing the causes of premature mortality have been a priority. Despite significant improvements in life expectancy of the population in Spearhead PCTs, progress has been slower than in non-Spearhead areas; consequently the gap in life expectancy is actually widening. Latest data show that for males the absolute gap in life expectancy between England and the group of Spearhead PCTs in 2006 to 2008 was 2.1 years (compared to 1.9 in 1995 to 1997, the baseline year for the purposes of the target) and for females 1.7 years compared to 1.4 years at baseline.<sup>3</sup> Thirty-seven of the 70 Spearhead local authority areas are off-track to narrow the relative gap in life expectancy with the England average by 10%.

The government has sought to reduce inequalities by tackling the wider determinants, initially through a cross-departmental programme of activities.<sup>4</sup> In 2008 the government established a Strategic Review of Health Inequalities led by Sir Michael Marmot to look at the joint approach needed to tackle health inequalities post-2010. The Department of Health has also recognised the important contribution of health care and the NHS to tackling health inequalities. The Health Inequalities Intervention Tool was launched in 2007 to help Spearhead areas identify key drivers of health inequalities and interventions that would reduce them. This focused heavily on the impact of smoking cessation and antihypertensive and statin prescribing. More recently the Department of Health has estimated that cardiovascular disease (mainly coronary heart disease), cancer and respiratory disease account for two-thirds of the gap and that the main interventions that can contribute to a reduction in the gap include: smoking cessation, control of blood pressure, cholesterol and high blood glucose in patients with diabetes and anti-coagulant therapy in patients with atrial fibrillation.<sup>3</sup> The successful strategies identified by the National Support Team for Health Inequalities also suggest an important role for primary care in reducing health inequalities. These include a proactive approach to identifying unmet need in primary care and ensuring that the quality and quantity of primary care in disadvantaged areas is sufficient to meet local needs.

There are clear policy objectives that primary care and general practice can and should make a contribution to the reduction in inequalities in life expectancy. It is now also more explicit that this should be an identified goal of the QOF, although many of the measures in the QOF target older adults. In the remainder of the paper we consider the potential impact of the QOF on health inequalities and explore in theoretical terms what impact we might expect, before going on to review what evidence we have to date of its impact.

## Potential for impact on inequalities

A number of assumptions need to hold if general practice, and specifically the QOF, is to have a beneficial impact on reducing health inequalities. First, QOF indicators must provide incentives for GPs and practices to undertake activities which have a direct impact on people's health. Second, practices must be equally able to respond to the incentives and not face differential barriers in their ability to monitor and report activities (for example practices with less investment in facilities, information technology or practice

staff). Third, these activities must be more prevalent and/or increase more quickly in practices which serve deprived populations or (for the purposes of the target) practices in Spearhead areas (regardless of the particular characteristics of the practice population). Fourth, these activities (which are targeted with incentives) must not crowd out other activities which are more beneficial to population health; in particular this must not occur more frequently in practices which served deprived populations, or practices in Spearhead areas. Fifth, practices must have incentives to case find, particularly in areas of known high prevalence, and to minimise the number of exceptional cases reported.

## Evidence relating to the effect of QOF on inequalities

### Socio-economic inequalities

Early analysis of the QOF found that variation in performance among GP practices was small and declining.<sup>5</sup> A number of studies have specifically looked at the extent to which the variation in performance differs significantly according to deprivation.

Ashworth *et al* (2007) analysed the first two years of QOF data, comparing mean total QOF scores between practices in the least and the most deprived quintiles.<sup>6</sup> Small differences were observed: 64.5 points difference in 2004 to 2005 and 30.4 points difference in 2005 to 2006. Doran *et al* (2008) reported differences in QOF performance between the least and the most deprived practices for a range of clinical indicators, but noted the gap had reduced from 4% to 0.88% between the years 2004 to 2005 and 2006 to 2007.<sup>7</sup> Other studies looking at specific indicators and conditions measured within the QOF have shown similar results, i.e. a narrowing in the gap between the least and the most deprived areas.<sup>8</sup>

Research has also sought to examine the extent to which deprivation explains variation in QOF achievement. Overall, there appears to be a weak negative correlation between QOF achievement and deprivation (most deprived practices are associated with lower achievement on the QOF), although the strength and statistical significance of associations varies depending on the indicators assessed and practice factors considered, such as list size and caseload.

In a descriptive study of general practices within one English PCT, a weak negative (not statistically significant) correlation was found between overall QOF scores and deprivation scores.<sup>9</sup> Wang *et al* (2006) found that size of practice was an influence on the association between deprivation and performance, with smaller practices performing less well in relation

to organisational indicators but performing equally well for clinical ones.<sup>10</sup>

Ashworth and Armstrong (2006) examined the relationship between QOF achievement, social deprivation and practice characteristics, using the first year of QOF data for England.<sup>11</sup> In a regression model, type of practice (i.e. whether they were training practices or group practices) and social deprivation explained only around 14.6% of the variation in QOF scores. Another study of general practices in England suggested that area deprivation may not be as important a factor as practice performance in the previous year in predicting QOF achievement.<sup>7</sup>

National studies using data from England and Scotland have examined the associations between quality in care for cardiovascular disease, as measured by QOF achievement, and general practice caseload, practice size and area based deprivation.<sup>12</sup> They assessed practice achievement against 26 QOF indicators relating to cardiovascular disease, including indicators in the clinical domains of coronary heart disease, left ventricular dysfunction and stroke. Statistically significant associations were found only for indicators requiring referral for further investigation ( $P < 0.01$ ).

Evidence suggests that differences in exception reporting are not significantly ( $P \geq 0.05$ ) associated with deprivation<sup>13</sup> and that differences between practice prevalence (as measured by disease registers within the QOF) and population prevalence (as measured by population surveys) appear to be narrowing. However, there remains some concern that practices in deprived areas face a disincentive to actively case find compared with practices in affluent areas with lower prevalence.<sup>14</sup> In response to such concerns the government is committed to ensure that QOF payments are fully adjusted to reflect relative disease prevalence.<sup>15</sup>

### Impact on health

As noted earlier QOF includes a range of indicators, only some of which are clinical and therefore likely to have a direct impact on health. Fleetcroft and Cookson (2006) identified a subset of indicators which measure practice achievement on aspects of activity which could potentially contribute to health gain (38 out of a total of 81 clinical indicators).<sup>16</sup> Further work to inform the selection of new QOF indicators undertaken by researchers at York University and the University of East Anglia (UEA) has sought to calculate lives saved and the cost effectiveness of the QOF using evidence from published controlled trials for each of the clinical indicators.<sup>17</sup> They estimated that the potential lives saved per 100 000 population per year had increased from 415.77 (400.32–444.99) in the 2003 contract to 451.5 (423.98–480.72) in the 2006 contract across all clinical indicators and domains.

The domains of coronary heart disease and diabetes had the most potential lives saved, 160.9 and 107.1 respectively, with other domains having the potential to save less than 50 lives per 100 000 and smoking cessation just 10.9 lives per 100 000.<sup>17</sup>

Other studies have linked QOF data with clinical data in order to assess the impact on health. Studies that have linked QOF data with hospital admission figures suggest that while higher clinical QOF scores are generally associated with lower hospital admission rates, the strength and significance of associations varied geographically and by clinical condition assessed. Deprivation was shown to be more strongly correlated with admission rates than the QOF.<sup>18,19</sup> Discrepancies between adherence to clinical guidelines and QOF achievement for particular conditions have also been observed.<sup>20,21</sup>

In general the evidence is equivocal on whether improvements in clinical care and the narrowing gap in performance are influenced by the incentives created by QOF. Time series analysis of selected clinical indicators suggests that improvements may have predated the introduction of the QOF in April 2004, although the rate of improvement has been substantial since that time.<sup>22</sup> A systematic review of the literature indicated a modest improvement in diabetes care since the introduction of the QOF.<sup>23</sup> The quality of chronic disease management (coronary heart disease, diabetes and hypertension in terms of blood pressure and cholesterol targets) in England was broadly equitable between socio-economic groups before the introduction of the QOF, and remained so after.<sup>24</sup> In a study of achievement of metabolic targets following the introduction of the QOF, Guillford *et al* (2007) concluded that while financial incentives may contribute to the improvement of services and clinical outcomes, there still remains a deprivation gap in achievement of targets (around 3% lower achievement in the most deprived areas).<sup>25</sup> For those conditions covered by the QOF there is also evidence of excessive or inappropriate prescriptions or referrals.<sup>26–28</sup>

## Area-based inequalities

It has been estimated that 60% of the difference in mortality between deprived and affluent areas is due to conditions which are addressed in the QOF.<sup>14</sup> Analysis by the authors (Dixon, Khachatryan and Gilmour 'Does general practice reduce health inequalities? Analysis of Quality and Outcomes Framework data'. Unpublished paper) has sought to examine area-based variations and changes in practice performance on those QOF indicators that evidence suggests contribute to health gain or improvements in public health. We explored the difference in performance between practices in Spearhead and non-Spearhead areas and the

association between the socio-economic status of the practice population and its performance, while controlling for practice characteristics known to affect performance as well as other socio-economic characteristics.

Non-Spearhead practices (slightly) outperformed Spearhead practices on these clinical indicators in both years. However, the improvements in Spearhead practices have been greater so the gap in performance has narrowed. No difference in performance was observed among the most deprived practices between those in Spearhead and non-Spearhead areas.

The narrowing in performance between practices in Spearhead and non-Spearhead PCTs may have indirectly contributed to a reduction in area-based health inequalities but the differences are small. The lack of difference between the most deprived practices in Spearhead and non-Spearhead PCTs suggests that area-based initiatives to tackle inequalities have not yet had an observable impact on deprived practices. We found significant associations between QOF achievement and some practice level characteristics, such as number of GPs, GP education (in the UK), caseload and GMS contract status. However, the weak explanatory power of the model suggests other factors that are unaccounted for may play a role in explaining the variation in performance.

## Conclusion

Overall the published evidence suggests that differences in performance between practices in deprived and non-deprived areas, as measured by the QOF, are narrowing. However, there is weak evidence to demonstrate the impact of the QOF on health. It is therefore difficult from the evidence to be sure whether the improvements in performance represent a real change in clinical activity and a resultant commensurate improvement in health. It is equally plausible that the differences simply reflect differences in the organisational capacity of the practices and their ability to monitor and report activities. Given the weak explanatory power of the current models, it appears there are other non-observed factors which explain differences in performance as measured by the QOF. Although it is encouraging that the gap in performance between deprived and non-deprived practices, and between Spearhead and non-Spearhead areas, has narrowed, it is not yet clear that this has translated or will translate into reduced health inequalities.

Any reduction in health inequalities as a result of the QOF to date has been a positive side effect rather than an explicit objective. A recent Health Select Committee report on health inequalities recognised

the role that the QOF can play and recommended that 'tackling health inequalities should be an explicit objective during annual QOF negotiations and that this objective should have measurable characteristics which can be evaluated over time'.<sup>14</sup> Following a recent national consultation on the QOF,<sup>2</sup> NICE has been tasked with developing an independent and transparent process for reviewing new QOF indicators which places particular emphasis on the cost effectiveness of these. It also recognised the need for a greater focus on health inequalities within the QOF. It is not yet clear how this will be achieved in practice.

Even though the QOF forms only part of the range of incentives which affects practices, it is vital that the indicators selected and the weighting of points are aligned to the objective of reducing health inequalities. Firstly, a greater proportion of QOF indicators needs to be linked directly to outcomes: for example, quit rates for smoking or reduced emergency admissions for ambulatory care sensitive conditions. Secondly, thresholds within the QOF need to be set so that there are sufficient incentives for proactive case finding, particularly in deprived areas where prevalence is higher. Currently the QOF only requires a certain proportion of the target population to be reached in order for payment to be made, and exception reporting is allowed. Finally, more work is needed to understand whether other incentives, both financial and non-financial, for GPs and others working in primary care are needed to ensure that those who are the most difficult to reach and those whose need for care is greatest get access to high quality primary care. Primary care has an important role to play in reducing health inequalities; the challenge is how to ensure it plays its part in helping to turn the tide of inequalities.

## ACKNOWLEDGEMENTS

This report is independent research commissioned by the National Institute for Health Research (NIHR) Service Delivery and Organisation (SDO) programme. The views expressed in this publication are those of the authors and not necessarily those of the NHS, the National Institute for Health Research or the Department of Health.

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#### PEER REVIEW

Commissioned; not externally peer reviewed.

#### CONFLICTS OF INTEREST

None.

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Received 15 January 2010

Accepted 13 February 2010