Major Developments in Results-Based Financing (RBF) in OECD Countries: Country Summaries and Mapping of RBF Programs

United Kingdom: Quality and Outcomes Framework (QOF)

Cheryl Cashin
Consultant, World Bank

March 29, 2011
Acknowledgments

The author is grateful to Michael Borowitz (OECD Health Division), Stephen Campbell (University of Manchester), Ruth McDonald (University of Nottingham), Anthony Measham (World Bank Health, Population and Nutrition Unit), Petra Vergeer (World Bank Health, Population and Nutrition Unit), and reviewers at the U.K. Department of Health for helpful comments and clarifications on earlier drafts of the case study. Any errors that remain are the responsibility of the author.
Introduction

Since it was established in 1948 the United Kingdom’s single-payer National Health Service (NHS) has effectively provided universal coverage with high-quality care and cost containment. The NHS model is widely considered to be an international best practice in primary care-centered health services delivery, and the focus on primary care has contributed to the cost containment and efficiency of the system.

By 1997 when the Labour government came to power, however, the cost containment efforts of the NHS appeared to be overly successful. The U.K.’s total expenditure on health was only 6.6 percent of its Gross Domestic Product (GDP), as compared with 13.4 percent in the United States at that time. Per capita total health spending was only $1,813 in the U.K., compared with $2,387 in France, $2,580 in Canada, $2,780 in Germany, and $4,540 in the United States. As a consequence, U.K. health care infrastructure was becoming outdated, there were not enough health professionals, and waiting times for routine surgeries were unacceptably long (Stevens, 2004). Primary health care was particularly under-resourced.

In its 2000 NHS Plan for Reform and Investment, the U.K. government made a historic commitment to investing in the NHS (Government of the U.K., 2000). Over the next ten years, spending on the NHS was increased by 43 percent in real terms, and total health spending increased to 8.7 percent of GDP by 2008, close to the OECD average of 9.0 percent (OECD, 2010). This infusion of resources into the NHS was accompanied by measures to increase accountability and set standards for providers. “National service frameworks” were developed to specify standards for key conditions such as heart disease and diabetes. A health technology assessment agency, the National Institute for Clinical Excellence (NICE), was established in 1999 to issue binding recommendations on services to be funded by local NHS authorities.

Noting that the NHS “currently lacks the incentives many private sector organizations have to improve performance,” the 2000 NHS Plan also called for a significant extension of quality-based contracts for GPs (Government of the U.K., 2000). The Plan called for changes throughout the NHS that would move from the existing incentives for improved performance that were too narrowly focused on efficiency and “squeezing more treatment from the same resources” to incentives that support quality, patient responsiveness and partnership with local authorities.

Performance targets, some of which were tied to financial incentives, became a key feature of the approach to reforming the NHS. The 2000 NHS plan called for a National Health Performance Fund, which would be held and distributed regionally, to allow for each Health Authority to reward progress against annually agreed objectives. The publication in 2001 of the first NHS Performance Ratings for NHS Trusts providing acute hospital services and the NHS Performance Indicators 2001/02 for Primary Care Organisations represented further steps in performance measurement and accountability (U.K. Department of Health). GPs already had some experience with financial incentives from the limited use of incentive programs that were initiated in 1990 (Middleton & Baker, 2003).

Against this backdrop, in 2004 a new General Medical Services (GMS) contract between Primary Care Trusts (PCTs) and General Practitioner (GP) practices (Figure 1) was negotiated with the General
Practitioners Committee of the British Medical Association. The new contract made a number of changes, including ending responsibility to provide services outside of operating hours, as well as a voluntary P4P program based on the Quality and Outcomes Framework (QOF). The initial program included 146 targets in 4 domains (clinical, organizational, patient experience, and additional services), which are revised periodically. The cost of QOF, around £600 million in the first year, and around £1 billion thereafter, formed part of the planned increased investment in primary medical care services over the first three years of the new contract.

Figure 1. Structure of the Primary Care System Under the English National Health Service

Health Policy Context

What were the issues that the program was designed to address?

Prior to the 2004 revision of the contract, GPs were facing an increasing workload, as they were required to manage chronic conditions from secondary care and make their services available 24 hours a day, seven days a week. There was growing concern about the low status and pay of GPs, which was leading to low morale and problems with recruitment and retention (McDonald R., 2009).

Nearly all GP practices in the U.K. are private entities contracted by Primary Care Trusts under the NHS. GP practices are paid by capitation for basic services. The capitation payment is supplemented by a Minimum Practice Income Guarantee for any practice that would have lost income under the new...
payment formula that was introduced with the new contract. GP practices now can opt out of providing additional services and out-of-hours care in exchange for a reduction in their capitation payments. The way GP practices were paid previously was considered to be partially responsible for the problems in primary care observed prior to the 2000 reforms, particularly low morale. The 2000 NHS Plan stated:

“The way family doctors are rewarded today remains largely unchanged from 1948. GP fees and allowances are related to the number of patients registered with them and insufficiently to the services provided and the quality. The GP remuneration system has failed to reward those who take on additional work to make services more responsive and accessible to patients and to relieve pressures on hospitals. The system has not succeeded in getting the right level of primary care services into the poorest areas which need them most.”

(Government of the U.K., 2000)

The QOF pay-for-performance program was implemented to correct these failings of the current capitated payment system and reward more activity and better quality of care. The program was consistent with the approach outlined in the 2000 NHS strategy of infusing the NHS with additional resources, but also tying those resources to greater accountability and more rigorous performance standards. Given the deeper problems in the NHS and the primary care sector as a whole, the QOF pay-for-performance program had objectives that extended beyond improving performance and quality of care. The overall aims of the QOF P4P program were to:

- increase productivity
- redesign services around patients
- improve the skill mix in primary care
- create the culture and governance structure to improve quality of care
- extend the range of services available, and
- improve recruitment, retention and morale (McDonald R., 2010; U.K. National Audit Office, 2008)

Stakeholder Involvement

The QOF P4P program is implemented solely by the NHS. PCTs manage the contracts under the supervision of the Strategic Health Authority, the local representation of the NHS. PCTs assess performance and calculate scores for the bonus payments.

In 2009, the NICE took over a new role in advising on future indicators for the QOF. A crucial part of the new process is the creation, by NICE, of an independent Primary Care Quality and Outcomes Framework Indicator Advisory Committee, which is reviewing existing indicators and will recommend new ones in a participatory way (Rawlins & Moore, 2009). QOF Negotiations between the NHS Employers and the General Practitioners Committee will decide which indicators are eventually adopted into the 2011/12 QOF (NICE, 2010).
Technical Design

How does the program work?

Performance Domains and Indicators

The 2009/10 QOF includes 134 indicators in four domains, with targets that are uniform across GP practices. Each indicator has a maximum point value. Practices accumulate quality points according to their performance on the indicators, up to a maximum of 1,000 points. Achievement of points for many of the indicators is triggered at lower and upper target thresholds of attainment (percent of eligible patients reached) for each performance indicator. Target thresholds are set below 100 percent of patients to allow for practical difficulties attaining 100 percent of patients listed on the disease register (Mason, Walker, Claxton, Cookson, Fenwick, & Sculpher, 2008). For other indicators payment is received when an action is confirmed, for example production of a relevant disease register. The contract is re-negotiated annually, and QOF indicators and targets are updated as agreed between the negotiating parties.

The domains covered by QOF indicators include:

- **clinical care**: the domain consists of 86 indicators across 20 mostly chronic disease clinical areas (e.g. coronary heart disease, heart failure, hypertension). Several indicators are related to whether chronic diseases are well controlled (e.g. % of patients with coronary heart disease with their blood pressure under control)
- **organizational**: the domain consists of 36 indicators across five organizational areas – records and information; information for patients; education and training; practice management and medicines management.
- **patient experience**: the domain consists of 3 indicators that relate to length of consultations and access to GPs.
- **additional services**: the domain consists of 9 indicators across four service areas which include cervical screening, child health surveillance, maternity services, contraceptive services (U.K National Health Service)

Examples of indicators in each domain with their point value are presented in Table 1. The points are distributed to weight indicators more heavily that have a higher estimated workload, many of which are closer to outcomes. For example, overall recording of patients with coronary heart disease is worth 4 points, while the percentage of patients with specific diagnostic information recorded is worth 7 points, and the percentage of patients with measured blood pressure below an acceptable threshold is worth 17 points. Patient experience indicators have high point values (over 30 points), while organizational indicators tend to have point values below 10 (U.K. NHS, 2009).
Table 1. Examples of Indicators in the Four Performance Domains of the 2009/10 U.K. QOF

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Care</strong></td>
<td></td>
</tr>
<tr>
<td><em>example—secondary prevention of coronary heart disease</em></td>
<td>The practice can produce a register of patients with coronary heart disease (4 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with newly diagnosed angina who are referred for exercise testing and/or specialist assessment (7 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with coronary heart disease whose notes have a record of blood pressure in the previous 15 months (7 points)</td>
</tr>
<tr>
<td></td>
<td>CHD 6. The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the previous 15 months) is 150/90 or less (17 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with coronary heart disease whose notes have a record of total cholesterol in the previous 15 months (7 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with coronary heart disease whose last measured total cholesterol (measured in the previous 15 months) is 5 mmol/l or less (17 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with coronary heart disease who are currently treated with a beta blocker (unless a contraindication or side-effects are recorded) (7 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with a history of myocardial infarction (diagnosed after 1 April 2003) who are currently treated with an ACE inhibitor or angiotensin II antagonist (7 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients with coronary heart disease who have a record of influenza immunization in the preceding 1 September to 31 March (7 points)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organizational</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The blood pressure of patients aged 45 and over is 10 recorded in the preceding 5 years for at least 65% of patients (10 points)</td>
</tr>
<tr>
<td></td>
<td>The practice supports smokers in stopping smoking by 2 a strategy which includes providing literature and offering appropriate therapy (2 points)</td>
</tr>
<tr>
<td></td>
<td>There is a record of all practice-employed clinical staff having attended training/updating in basic life support skills in the preceding 18 months (4 points)</td>
</tr>
<tr>
<td></td>
<td>The practice offers a range of appointment times to patients, which as a minimum should include morning and afternoon appointments five mornings and four afternoons per week, except where agreed with the PCO (3 points)</td>
</tr>
<tr>
<td></td>
<td>There is a system for checking the expiry dates of emergency drugs on at least an annual basis (2 points)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Patient Experience</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The length of routine booked appointments with the doctors in the practice is not less than 10 minutes (If the practice routinely sees extras during booked surgeries, then the average booked consultation length should allow for the average number of extras seen in a surgery session. If the extras are seen at the end, then it is not necessary to make this adjustment). For practices with only an open surgery system, the average face to face time spent by the GP with the patient is at least 8 minutes. Practices that routinely operate a mixed economy of booked and open surgeries should report on both criteria (33 points)</td>
</tr>
<tr>
<td></td>
<td>The percentage of patients who, in the appropriate national survey, indicate that they were able to book an appointment with a GP more than 2 days ahead (35 points)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Services</strong></td>
<td></td>
</tr>
<tr>
<td><em>example—cervical screening</em></td>
<td>The percentage of patients aged from 25 to 64 (Scotland from 21 to 60) whose notes record that a cervical smear has been performed in the last five years (11 points)</td>
</tr>
<tr>
<td></td>
<td>The practice has a system for informing all women of the results of cervical smears (2 points)</td>
</tr>
<tr>
<td></td>
<td>The practice has a policy for auditing its cervical screening service, and performs an audit of inadequate cervical smears in relation to individual smear-takers at</td>
</tr>
</tbody>
</table>
least every 2 years (2 points)

The practice has a protocol that is in line with national guidance and practice for the management of cervical screening, which includes staff training, management of patient call/recall, exception reporting and the regular monitoring of inadequate smear rates (7 points)

The overall distribution of points across domains (and sub-domains) is shown in Figure 1. The points (which all carry equal monetary value) are heavily distributed toward clinical indicators, with 65 percent of all possible points in this domain.

**Figure 1. Distribution of Points Across Performance Domains in the U.K. QOF**


**Incentive Payments**

Incentive payments are made to GP practices on an annual basis. Practices are reimbursed a flat rate based on the points they achieve (£127 per point in 2010/11). The reward is capped at a maximum of 1,000 points (and the corresponding total bonus amount). Payments are adjusted for practice size and disease prevalence relative to national average values (Mason, Walker, Claxton, Cookson, Fenwick, & Sculpher, 2008), but the program has been criticized for not adequately compensating the extra work required to achieve quality targets in deprived areas (Hutchinson, 2008).

The QOF does allow practices to “exception-report” (exclude) specific patients from data collected to calculate achievement scores. Exceptions are intended to avoid penalizing practices for reaching out to more complicated patients who could potentially reduce their indicator scores, and to reduce inappropriate testing and treatment. Patient exception reporting applies to those indicators in the
clinical domain of the QOF where level of achievement is determined by the percentage of patients receiving the designated level of care. Exception reporting also applies to one cervical screening indicator in the additional services domain. Patients can be exception-reported from individual indicators if, for example, they do not attend appointments or where the recommended treatment is judged as inappropriate by the GP (such as medication cannot be prescribed due to side-effects). The average exception rate is approximately 5 percent of patients (The NHS Information Centre, Prescribing Support Unit, 2009).

Data Sources and Flows

General practices record data for the indicators in the Quality Management Analysis System (QMAS), a national system developed by NHS Connecting for Health specifically to support the QOF. Providers use electronic medical records and record patient-level data directly during the consultation, which is fed into the information sent to QMAS (McDonald R., 2009). Data are extracted from the QMAS to calculate individual practices’ QOF achievement and reward payments. Other supporting information is submitted by the GP practices to the Primary Care Trusts (PCTs) as needed. Data relating to most of the organizational indicators cannot be automatically extracted. All practices must enter organization data manually using QMAS web-forms on the QMAS website.

There is no patient-specific data in QMAS, because this is not required to support the QOF. For example, QMAS captures aggregate information for each practice on patients with coronary heart disease and on patients with diabetes, but it is not possible to identify or analyze information about individual patients (The NHS Information Centre, Prescribing Support Unit, 2009). The scores are calculated automatically by specialized software (Checkland, 2004). PCTs are required to carry out pre-payment verification checks on all practices and formally auditing a 5% sample of practices (U.K. National Audit Office, 2008).

Reach of the Program

Which providers participate and how many people are covered?

The QOF is a national program and, as it is implemented by a single purchaser, the only incentive program available to GPs. Although it is a voluntary program, nearly all GP practices in the U.K. participate. In 2009 the program covered 8,229 GP practices and 99.7 percent of registered patients (The NHS Information Centre, Prescribing Support Unit, 2009).

The reach of the QOF is also significant as a source of financing for GP practices. The average additional income from the QOF per GP practice was £74,300 in 2004-05 and £126,000 in 2005-06. The size of the reward is considered to be large by international standards. In fact, no other country experimenting with quality incentives is tying as large a proportion of income to quality of care (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007). GP partners benefited most from the new income, with individual incomes rising by 58% in the first three years from £72,011 in 2002-03 to £113,614 in 2005-06. Incomes of salaried GPs and nurses have not increased significantly (U.K. National Audit Office, 2008).
**Improvement Process**

*How is the program leveraged to achieve improvements in service delivery and outcomes?*

Unlike most other P4P programs, the QOF attempts to establish a traceable pathway between the incentives in the QOF, provider performance for specific processes of care, and better outcomes. For example, indicators related to coronary heart disease cover primary prevention (two indicators), recording of patients who have been diagnosed (one indicator), diagnosis and initial management (one indicator), ongoing management (six process indicators), and clinical outcomes (two indicators).

Although it is assumed that better clinical outcomes (such as controlled blood pressure) translate into better health outcomes (reduced emergency services, and hospital admissions, and mortality), this has not been supported empirically (Downing, Rudge, Cheng, Tu, Keen, & Gilthorp, 2007). It also has been argued that the interventions that receive higher point values are not those interventions that bring the greatest health gain (Fleetcroft & Cookson, 2006).

GP practices have made internal changes to orient their services more clearly around the targets set in the QOF. New staff structures and the more prominent role of IT seem to be the main vehicles for this change. The NHS and Primary Care Trusts do not provide any guidance on how bonus payments are used or distributed among the staff of GP practices (U.K. National Audit Office, 2008). Some of the additional funding is being reinvested by GP practices to improve patient care, although it is not possible to quantify how much of practices’ overall reinvestment in patient services is attributable to their increased QOF income. A portion of the additional funding is also being used by the GP practices to employ more staff to specifically focus on some of the QOF targets, such as increased employment of nurses for chronic disease management, data entry clerks to manage additional data collection processes, and “health care assistants” to carry out health promotion (Roland, 2006). Most practices set up “QOF teams” to ensure the systems are in place to collect the necessary data, conduct internal audits to ensure targets are being met, and setting up call and recall systems for patients.

The upgrading of computer systems and increased role of IT in GP practices has been supported by the QOF, which has been used to a large extent in the quality improvement process within the practices. In 2004 alone £30 million additional capital funding was made available to Primary Care Trusts to support the upgrading of clinical data systems and to provide systems for non-computerized practices. (U.K. National Health Service, 2004). The process of recording and using data to manage patient care has had benefits beyond the clinical areas rewarded by the QOF. One study found that rates of recording increased for all risk factors (i.e. including those not incentivised by QOF), with a ‘spillover’ effect of 11 percent increased recording rate for other, unincentivised factors in targeted patients (Sutton). There also has been an increase in the use of computerized templates to guide clinicians and to assist in collecting data during consultations (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007).

The GP practices get some direct external support for their improvement processes through the annual QOF verification visit by the PCT team. In addition to verifying the practice’s records, the visit is used to discuss the practice’s future plans within the QOF, including the following year’s goals. This part of the
visit can also include discussion of the learning, support and development needs of the practice to achieve higher quality (National Health Service, 2004).

Finally, the public reporting of GP practice performance within the QOF is used as an additional lever to drive performance improvement. The NHS Information Centre for health and social care (The NHS IC) maintains an online database to allow public access to the performance of GP practices against QOF indicators (U.K National Health Service).

Results of the Program

Has the program had an impact on performance, and have there been any unintended consequences?

Since the QOF began in 2004, the GP practices have consistently achieved high scores relative to performance targets, achieving nearly 97 percent of possible points in 2007/08, although this has fallen off slightly since then. The high level of achievement of targets represents what appear to be only modest measurable improvements in quality, however, most notably for some long term conditions such as asthma and diabetes. (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007). There is no evidence of an effect on health outcomes. A recent study assessed the impact of the incentives and targets on quality of care and health outcomes for 470,000 British patients with hypertension and found that they had no impact on rates of heart attacks, kidney failure, stroke or death (Serumaga, et al., 2011).

Aside from the few published studies that analyze the effect of a subset of indicators, there is no comprehensive time series (pre- and post- measures) or control group evaluation available for the QOF, so it has been difficult to determine the extent to which QOF has rewarded GPs for what they were already doing, what they would have done anyway, what they would have done on the basis of transparent feedback alone, and what they did in response to financial incentives. (Hutchinson, 2008). The changes that have been observed since the P4P program began in 2004 are further confounded by the overall increase in funding for primary care and other quality improvement measures (such as new standards of care) that accompanied the incentive scheme.

Program Monitoring and Evaluation

The NHS monitors and publishes trends in the QOF indicators at different levels (practice, PCT, Strategic Health Authority, and national) and publishes an annual analysis of indicator performance. According to the most recent annual report for 2009/10, practices in England achieved an average of 936.9 points, 93.7 percent of the 1,000 points available. The average achievement in 2008/09 was 95.4 percent of available points. The reduction in the average level of achievement is attributed to changes to the QOF in 2009/10, especially the change to the Patient Experience domain (U.K. National Health Service, 2010). The maximum score of 1,000 points was achieved by 80 practices (1.0%), and 1,208 practices (14.5%) achieved less than 90 percent of the available 1,000 points.

A 2008 study by the National Audit Office (NAO) assessed the performance of the QOF against the expected benefits listed in the business case for the new GP contract, including the QOF. The NAO study
found that progress so far had been modest overall. “Good progress” was found only for participation of GP practices in the QOF program and the effect on recruitment and retention of GPs. “No progress” was found for the objectives of increasing NHS productivity and redesigning services around patients. “Some progress” was found for the remaining areas, including rewarding high quality care (U.K. National Audit Office, 2008).

**Performance Related to Specific Indicators**

The achievement rate across performance domains is presented in Figure 2. The highest rate of achievement is in the organizational domain (96.3 percent of total possible points), while the lowest rate of achievement was in the patient experience domain (71.5 percent), which has been consistent since the QOF began in 2004 (U.K National Health Service).

It is not clear whether the high rates of performance achievement for the QOF translates into improved overall patient care and health outcomes. Some data suggest the introduction of the QOF has shown moderate improvements in outcomes for patient care in some long term conditions such as asthma and diabetes. Although the quality of care in the categories of asthma, coronary heart disease, and type 2 diabetes was improving before the introduction of the 2004 contract, research results suggest that the introduction of pay for performance was associated with a modest acceleration in improvement for two of these three conditions: diabetes and asthma. (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007)

**Figure 2. Percent of Total Points Achieved by GP Practices Across QOF Performance Domains**

<table>
<thead>
<tr>
<th>Performance Domain</th>
<th>% of Total Points Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>96.3%</td>
</tr>
<tr>
<td>Clinical</td>
<td>95.9%</td>
</tr>
<tr>
<td>Additional Services</td>
<td>95.3%</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>71.5%</td>
</tr>
</tbody>
</table>

**Equity**

Although not an explicit objective of the QOF P4P program, there may be some positive impacts on equity in health care. QOF performance is slightly lower in deprived areas (U.K. National Audit Office,
2008), but there is evidence of some ‘catch up’ (Doran & al., 2008). The difference in mean QOF score in least and most deprived quintiles fell from 64.5 points (04/05) to 30.4 (05/06) (Ashworth & al., 2007).

**Costs and Savings**

The QOF program is expensive, about £1 billion per year, and has in the past contributed to higher than expected increases in GPs’ personal take home pay. Budget over-runs were a particular problem in the initial years when achievement rates were significantly higher than expected. The QOF was not piloted before it was introduced and there were no baseline estimates for the indicators, so the potential performance and budget requirements were under-estimated. Expenditures have remained at around £1 billion per year, and budget over-runs have steadily declined: £1.1 billion in 2005/06 (£168 million over budget); £1.04 billion in 2006/07 (£61 million over budget) (U.K. National Audit Office, 2008).

**Provider Response**

There are mixed conclusions about how GPs have perceived the QOF based on several small surveys and qualitative studies. One small qualitative study found that most physicians had a generally positive view of the QOF. The GPs regarded the incentive payment as a financial reward in return for extra work. They also recognized the value of the incentive and believed that the quality targets had improved patient care by focusing attention on necessary clinical activities that might have been being neglected (Campbell, MacDonald, & Lester, 2008). On the other hand, the physicians interviewed for that study also noted the emergence of potentially competing “agendas” during office visits if patient concerns do not relate to activities that are tied to the incentive.

Some candid responses in the qualitative study, and data reported by the NAO show that in fact GPs may be compensated disproportionately more than the extra work required by the QOF, and much of that extra work is being passed on to nurses and other staff. The NAO study found that GPs are working, on average, almost seven hours less per week and their pay has significantly increased, suggesting individual GP productivity has reduced. On the other hand, the total number of consultations in GP practices has increased, and the average length of a GP consultation has increased. The main reason for this change is that the total number, and overall proportion, of consultations carried out by practice nurses has increased (U.K. National Audit Office, 2008).

There is some evidence that GP practices may be diverting resources away from activities that are not rewarded under the QOF. The NAO study found that 75 percent of GPs believed that they spend more time on areas which attract QOF points and significantly less time on areas which were less likely to be rewarded under QOF (U.K. National Audit Office, 2008). Furthermore, although there is no evidence of widespread gaming of the QOF, there have been cases of classifying patients with borderline clinical measures or laboratory values as having a condition covered by the QOF (Mangin & Troop, 2007), and inappropriate exclusion of patients for whom GPs have missed (or are likely to miss) the QOF targets (U.K. National Audit Office, 2008) (Doran, et al., 2006)

**Overall Conclusions and Lessons Learned**

*Has the program had enough of an impact on performance improvement to justify its cost?*
Overall, the aims of the U.K. QOF pay-for-performance program are being met in terms of improvements in disease-specific processes of patient care and physician income, as well as improved data availability and use. Giving financial rewards to GPs for better performance is seen as a natural evolution of the contracting system with GPs in the NHS. Furthermore, the QOF P4P program is not being implemented in isolation, but rather as part of a comprehensive strategy to improve provider performance and quality throughout the NHS. The costs are high, but a large investment in primary care was planned in the 2000 NHS Plan, and the QOF serves to link this investment to more rigorous performance standards and greater accountability.

The investment in infrastructure to generate and use better data has been an important underpinning and outgrowth of the scheme. In fact, one of the most widely acknowledged positive spillover effects of the QOF P4P program is a general improvement in available data, which can be used to improve quality overall. (Galvin, 2006). The increased use of computerized templates to guide clinicians and to assist in collecting data during consultations also could have more general positive impacts on overall quality of care (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007).

The QOF P4P program has taken root, and if there is widespread opposition or discontent on the part of providers, it has not been voiced in an organized way. The perceived validity of most of the indicators, which are based on accepted clinical guidelines, and general professional commitment to evidence-based practice have contributed to the acceptance of the scheme (McDonald R., 2009; Wilson, Roland, & Ham, 2006). The involvement of NICE in the latest round of indicator refinement may further strengthen the clinical validity of the indicators. In addition, the ground had already been prepared for a significant pay-for-performance component to be added to the GP contract. The QOF was layered on a series of quality initiatives beginning in the 1990s that were associated with substantial improvements in quality of care during the period leading up to the QOF (Campbell, Roland, Middleton, & Reeves, 2005), and GPs already had some experience with financial incentives from the limited use of incentive programs that were initiated in 1990 (Campbell, Reeves, Kontopantelis, Middleton, Sibbald, & Roland, 2007).

The major concerns about the QOF include:

1. **The high cost of the program and large share of physician income tied to the incentives.** The absence of a pilot program and adequate forecasting led to budget over-runs in the initial phase of the QOF. A large budget was set aside for the QOF, and even so the lack of a pilot or financial risk forecasting led to over-runs. The QOF over-expenditure may be crowding out expenditure on other quality initiatives (U.K. National Audit Office, 2008), and the cost of this trade-off has not been assessed. Furthermore, the program represents a large share of physician income, so the incentives that are created have the potential not only to drive performance improvement, but also to distort provider behavior and practice management.

2. **The enormous scale of the program, both in absolute expenditure and relative share of GP income is not linked to improved health outcomes.** There is still no evidence that the high expenditure on QOF can be linked to improvements in health outcomes. The high expenditure
on the program makes it critical to be sure that the performance improvement is not achieved at the expense of other more valuable initiatives, services, or non-measurable aspects of patient care.

**Conclusion:** A rigorous evaluation of the QOF that can provide a satisfactory assessment of whether the QOF overall provides value for money has not been done so far. The studies that have been completed have failed to show more than modest effects on quality and patient outcomes. In general, there is the opinion that the NHS has paid more than necessary to achieve high performance against the targets. One of the benefits of the QOF, however, has been the transparent processes that have been put in place to constantly improve the program, and specifically the indicators. There is an entire infrastructure in place to provide tools for PCTs and providers to make better use of the QOF. These processes and tools may allow the QOF to continue to evolve to better exploit the potential of the resources, information and incentives in the program to improve patient care.
References


