



NIHR POLICY RESEARCH UNIT IN HEALTH AND SOCIAL CARE SYSTEMS AND COMMISSIONING

‘Pay for Quality Improvement’ schemes:

Financially Incentivising Quality Improvement Activity in Primary
Care

Literature Review

May 2023

Research Team

Dr Donna Bramwell (University of Manchester)
Professor Kath Checkland (University of Manchester)
Professor Lindsay Forbes (University of Kent)
Dr Sarah Partridge (University of Kent)
Professor Stephen Peckham (University of Kent)
Dr Sharon Spooner (University of Manchester)

This report represents the findings from independent research commissioned by the Department of Health and Social Care and carried out by the Policy Research Unit in Health and Social Care Systems and Commissioning (PRUComm). PRUComm is funded by the National Institute for Health Research (NIHR) Policy Research Programme (Ref: PR-PRU-1217-20801). The views expressed are those of the authors and not necessarily those of the Policy Research Programme, NIHR or the Department of Health and Social Care.

Executive summary

Financially incentivising quality improvement (QI) activity is a novel approach that was introduced into the English general practice Quality and Outcomes Framework (QOF) in 2019. It was not fully implemented until 2022/3 because QOF income was protected during the COVID-19 pandemic. The key novelty is that practices receive financial reward for carrying out quality improvement activities, rather than for delivering specific processes of care or clinical outcomes.

In practice, quality improvement in the QOF means that practices are financially incentivised for carrying out Plan-Do-Study-Act cycles according to guidance on topics set by NHS England. There is no requirement for general practices to demonstrate that any improvement activity led to a change in clinical practice or outcome to receive the reward.

We reviewed the international published literature on processes and outcomes of financial incentivisation of QI activity in primary care. We identified five interventions that had been evaluated. The evaluations found

- very limited evidence that financially incentivising QI improves patient care
- modest evidence that financial incentivisation of QI is valued by practitioners: it is widely taken up, but so is QI that is not financially incentivised
- very limited evidence that it is a better investment than other options or approaches for improving care

Evaluation of the Australian Primary Care Collaborative Program (2004-2011), the intervention implemented for the longest and in the largest number of practices, showed promising engagement from primary care and some evidence of improvement in clinical measures.

The evidence that QI activity that is not financially incentivised improves patient care, professional outcomes, and organisation and system function is much larger and more reliable but shows mixed results. This reflects the challenges of evaluating this kind of intervention: identifying appropriate outcome measures of behaviour and culture change at a variety of levels (patient, practitioner, organisation and system); sustaining intervention for long enough to evaluate them; and generalising results from one study to another context.

We noted that the development of QI programmes, whether or not financially incentivised, had often not followed best practice for the development of complex interventions. In all the studies reviewed, reporting of the components of the interventions was limited, meaning that scaling and reproducing interventions is challenging.

The review led us to examine the literature on enablers of effective QI. These included upfront resourcing, professional engagement, local flexibility, leadership, shared team purpose, training and patient and public involvement.

We recommend that quality improvement activity in primary care is designed and evaluated in line with published complex interventions guidance with an articulated theory of change and outcome measures. If the aim is to improve patient care, we suggest that appropriate overall resourcing and consideration of non-financial incentives may be more appropriate than financial incentivisation that is narrowly-targeted on either clinical activities and outcomes or specific improvement activities. We recommend that QI interventions focus on developing informed leadership; shared team purpose and skills; and allow topic and scope flexibility to ensure local relevance and ownership. Evaluation of QI activity must encompass multiple levels of change needed, at patient, practitioner, organisation and system levels, and have realistic expectations of the duration of intervention need to achieve change.

Introduction

Background

Quality improvement (QI) activity in English general practice has been financially incentivised since 2019 as part the Quality and Outcomes Framework (QOF), the pay-for-performance scheme introduced in 2004.¹ Before 2019, QOF rewarded recording of specific clinical activities (e.g. vaccinations, tests or referrals) and clinical outcomes (e.g. blood pressure). During the years leading up to 2019, QOF provided around 8% of practice income.² Offering financial reward for performing activities aiming to improve the quality of care, regardless of whether there is evidence of changed practice or outcome as a result, is a novel approach. It is conceptually different from the conventional pay-for-performance model in which “(1) performance of providers is monitored in relation to pre-specified quality indicators and (2) a monetary transfer is made conditional on the (achievement or improvement of) measured quality of care”.³

Incentivising QI activity rather than clinical outcomes or activities in the QOF came about in response to recommendations in the 2018 review highlighting the limited evidence that QOF improved the quality of care overall (rather than specific elements of care that were incentivised) and the growing evidence of its unintended effects.⁴ The review recommended that the scheme should encourage more holistic, person-centered care and ongoing improvement rather than one-off attainment of unidimensional, biomedical outcomes. The review also suggested promoting professional judgement in delivering person-centered care and supporting practices to work together to reduce demand on secondary services. It has been argued that QOF did not sufficiently incentivise (and may have even disincentivised) high quality whole-person care of patients with complex or multiple conditions, where professional judgement, patient partnership in decision-making, continuity and access are important elements of quality of care.⁵ Measuring single activities or biomedical outcomes is more straightforward than defining and measuring good practice or outcomes relevant to people with complex or multiple conditions.

What is quality improvement activity?

QI has been broadly defined as a systematic approach to improving quality of care comprising a set of principles and methods.⁶ While the approach been widely adopted by health care organisations,⁷ there is no universally accepted definition of what the term means in practice. Quality improvement activities may include using specific tools such as audit and feedback,⁸ the ‘Plan-Do-Study-Act’ cycle (a structured approach to identify and analyse areas for improvement, plan activities to address the problems, measure their effects

and reflect on the findings to generate change, iteratively),^{9, 10} educational meetings and outreach,^{11,12} clinical champions,¹³ development of and adherence to processes for patient review,¹⁴ and root cause analysis of adverse events.¹⁵ While these practical tools are useful, the need for organisational and system commitment and support for quality improvement has been highlighted as critical to success, whatever model is used.^{16,17,18,19,20} One example of a system-wide approach is the Quality Improvement Collaborative, which brings together groups of practitioners from different organisations to share experiences about making changes to promote quality, with coaching and support to carry out quality improvement cycles.²¹

While QI is generally thought to be a positive activity in health care, the evidence that it does actually improve quality of care is mixed and inconclusive.^{8-15,19,21,22} Interventions that have been shown to be most consistently effective (although often modestly) are those that are relatively small scale and measure outcomes that focus only on the narrow target of the specific QI activity. The weak evidence for the effectiveness of QI interventions at improving health care quality most likely reflects the wide scope and difficulties of conceptualising and measuring quality of health care; this is particularly challenging in general practice. Evaluations of QI activities rarely examine the effects on overall quality of care and all its dimensions e.g., effects on untargeted activities, outcomes for patients, staff morale and retention and organisational and system effectiveness or sustainability. Another difficulty is that QI interventions are heterogeneously applied, probably because of the need for contextual flexibility, which reduces the power to find positive effects.^{9,10}

At the same time, few must doubt that improving quality in primary care is important and that quality improvement activities are likely to be a valid way of doing that. What is challenging is how to implement quality improvement activities and show that improvement in quality has occurred.²³

What is high quality general practice?

Quality of health care is often conceptualised using the three domains set out in the Darzi report of 2008: effectiveness, safety and patient experience.²⁴ While this marked a move forward from the traditional approach of simply focusing on numbers of patients receiving care as a measure of performance, operationalising the framework into dimensions of care that can be measured in general practice is challenging. One of the key issues is that primary care does not have a clearly defined endpoint, unlike most secondary care events. Rather it is a complex, dynamic process with many interlinked strands delivered over a lifetime.²⁵ What 'high quality' means is also dependent on the context, and will vary according to the perspectives of providers, commissioners, the public and patients.²⁶ In addition, measurement and recording of quality measures will have opportunity cost.

The US academic Bodenheimer set out building blocks of high performing primary care.²⁷ These include:

- Starfield's four pillars of primary care: first contact, continuity, comprehensiveness and coordination^{27,28}
- the role of the practice rather than the individual practitioner: strong leadership, team-based care, 'empanelment' (registration with a care team), practice-level monitoring of needs and performance
- the patient experience and partnership with the patient: prompt access; a range of options for delivering care; shared decision-making; support for self-management.

Measuring performance on many of these elements is challenging. This is especially the case for patient experience and partnership. There are number of patient experience measures currently in use.²⁹ Prominent in the UK is the GP patient experience survey.³⁰ This is an annual national survey of a large sample of people registered with UK GPs, asking for patients' views on a range of topics including ease of getting a timely appointment, confidence and trust in health professionals and perceptions of being involved in decisions. How well this measures the quality of shared decision making, patient partnership, access and continuity of care is not clear; these are complex constructs that are difficult to operationalise.³¹⁻³³ Satisfaction scales have traditionally been used as measures of quality, but achieving satisfied patients may threaten safety and effectiveness: there is evidence that high patient satisfaction is associated with increased prescribing, increased costs and higher mortality.^{25,34,35}

In summary, to date there is no universally accepted single conceptualisation of what constitutes high quality general practice or a valid and comprehensive set of metrics for measuring it that is independent of context or perspective.

Operationalisation of QI for the QOF

Operationalisation of QI in English general practice has been led by the Royal College of General Practitioners.³⁶ The guidance sets out the elements of QI as follows:

- continuous organisational and system commitment to improving patient outcomes
- a set of enablers, including culture of reflection, teamwork, learning and leadership
- implementation of the QI cycle, in particular the Plan-Do-Study-Act cycle.

In 2017, most general practices in the UK reported that they carried out QI activities,³⁷ although the extent to which these followed the model set out above is not clear. The finding is not unsurprising: GP appraisals, which are needed for revalidation by the General Medical Council, require evidence of QI activity, although

some of this activity may be relatively straightforward audits of care without all the elements of QI as set out by the Royal College of General Practitioners.

For the purposes of financially incentivising QI in the QOF, NHS England has, each year since 2019, set out guidance for practices³⁸ based on the Royal College of General Practitioners model.³⁶ The guidance has focused on only the third of the three elements listed above – Plan-Do-Study-Act cycles – not on organisational QI commitment and enablers. Each year, the guidance has comprised detailed instructions for Plan-Do-Study-Act cycles in two specific topic areas (see Box 1). Practices were originally required to report completing cycles in both topic areas to get full remuneration, although, because of the COVID-19 pandemic, requirement to do so was suspended from 2019/20 to 2021/2. The modules required practices to

- identify areas for improvement (within each topic area)
- identify QI activities and set improvement goals
- implement the resulting QI plan
- participate in at least two primary care network QI peer review meetings

Up to 74 QOF points may be earned each year for QI from a potential total of 635 points from the entire QOF scheme. Each QI module earns 37 QOF points: 27 for reporting that the QI activity had taken place and 10 for reporting that peer review meetings had taken place. No further evidence of the content of the activities was required. One QOF point is worth about £200 to a practice, so the maximum overall payment achievable for an average practice is in the region of £130,000 for QOF and £15,000 per year for QI, equivalent to the cost of employing a practice nurse for about 1.5 days a week. On average, in 2021, the payment to each practice from the NHS was around £1.5 million per year (with large variations for number of registered patients and other adjustments), meaning that incentivized QI provides about 1% of practice income on average.

Box 1. Topics covered by the QI modules in the QOF

Year	Topics	Incentivisation
2019/20	Prescribing Safety End of Life Care ¹	Incentivisation suspended in early 2020 – QI income guaranteed
2020/21	Early Cancer Diagnosis Learning Disability ^{39,40 41}	Incentivisation suspended – QI income guaranteed
2021/22	Early Cancer Diagnosis Learning Disability	Incentivisation suspended – QI income guaranteed ⁴²
2022/23	Prescription Drug Dependency Optimising Access to General Practice ⁴³	Incentivisation suspended and income guaranteed in some parts of England in late 2022 (https://www.gponline.com/devon-gps-declare-first-ever-black-alert-agree-groundbreaking-income-protection-plan/article/1808418)

Context of this report

The Policy Research Unit in Health and Social Care Systems and Commissioning was asked to carry out a responsive research project to evaluate QI in the QOF. Our starting point was the intentions for evaluation of QI in the QOF set out in the five year framework for general practice contract reform in 2019⁴⁴:

- Is it improving patient care?
- Is it valued by practitioners?
- Is it a smart investment, given other opportunities?
- Should QI investment continue to be channelled through QOF, or would a different approach be better?

We carried out preliminary qualitative research with primary care professionals in 2019/20.⁴⁵ Our findings suggested that practices have received the introduction of financial incentivisation of QI favourably but considered that greater practice involvement in choice of topic could make it more effective and highlighted the potential for unintended effects on quality in other areas.

Our research was stalled by the COVID-19 pandemic, which also led to the suspension of requirements to achieve all targets linked to financial incentivisation of QOF, as described above, meaning that the intervention to be evaluated was not implemented. We are currently (winter 2022/3) carrying out further primary research with primary care professionals and members of the public to gain greater insight into the answers to the questions raised in the Five Year Framework.

Aims of this review

This literature review aims to inform policy development on incentivised QI activities in England alongside our primary research. The objectives were to synthesise the existing evidence of the effects of financially incentivised QI activities in general medical practice on targeted activities, other activities, quality of care overall and outcomes for practitioners and practices, and to highlight other evidence that NHS England could consider when developing policy.

Methods

We carried out a narrative review of the literature, with the overall aim of synthesising current thinking and evidence to inform policy development.

Inclusion and exclusion criteria

Study population

We included studies conducted in organisations delivering primary general medical care in middle and high income countries where primary care delivery was based on registered populations and was paid for mainly through a capitation-based payment or state insurance, rather than fee-for-service. The purpose of this was to ensure incentivisation contexts as similar as possible to that in England.

Interventions

We included studies of financial incentivisation schemes that involved primary care practitioners or organisations receiving financial reward for carrying out QI activities. We included studies of QI activities of any kind, including specific tools e.g., audit and feedback, 'Plan-Do-Study-Act' cycles, root cause analysis of adverse events, but also wider organisational commitment and culture change.

We excluded studies of effectiveness of pay for performance interventions alone – i.e., that financially incentivised attainment of clinical outcomes or reporting of clinical activities rather than QI activities (e.g., QOF and other similar pay for performance schemes).

We excluded studies in which QI activities were a component of a broad range of other organisational interventions such that the effect of the QI activities could not be distinguished from the effects of others.

Comparators

We included studies whether or not there was a comparator group, which could be

- Historical - in the same setting (i.e., before and after studies examining implementation of incentivised QI schemes where none previously were in place)
- Concurrent – other areas where there is no incentive savings scheme is in place, or where other incentivisation schemes are in place

Outcomes

We included studies that examined any of these outcomes:

- Implementation of QI
- Changes in performance of clinical activities or outcomes targeted by the QI activity
- Changes in performance of clinical activities or outcomes not targeted by the QI activity
- Patient perspectives/experience of QI
- Professional perspectives including effects of QI on partner or staff retention, morale, workload, freeing up of clinical time
- System or organisational culture, effectiveness, or sustainability in relation to QI
- Effect of QI activities on overall health service costs and costs incurred in primary care

Study design

We included empirical studies, meaning that we excluded opinion pieces and commentaries. Otherwise, we imposed no restrictions.

Search strategy

We carried out bibliographic searches between 3rd March 2022 and 26th May 2022. We searched for articles published in English from the year 2000 using CINAHL, Web of Science, Embase, PubMed using search terms combining ('general practice' OR 'primary care') AND ('quality improvement') AND (incent\$ OR reward\$ OR financ\$ OR motivat\$) in the title or abstract.

We also asked colleagues working in academic general practice to supplement our searches from their knowledge other interventions and reports.

One reviewer selected articles based on title and abstract, and this was checked by a second reviewer. We then obtained full text of the selected articles. We also searched for relevant reports cited in selected articles.

One reviewer read and prepared a summary of contextual and content details including: population, setting, intervention characteristics including duration, outcomes, study design and study results from full text articles and discussed these with the second reviewer to decide on whether they met the inclusion criteria. A third reviewer made the final decision where there was disagreement. We did not formally assess quality, nor did we exclude any articles based on low quality (this was because we found very few relevant studies that met the inclusion criteria).

Results

Description of studies

We found 65 articles that, based upon the title and abstract, appeared to contain relevant data. We excluded 25 articles because, while the reports were about incentivisation in health care, they either

- did not include the primary care setting (n=1)⁴⁶
- examined incentivisation of interventions other than QI (n=20)^{3,47-65}
- examined QI embedded within a range of other initiatives (n=3)⁶⁶⁻⁶⁸
- did not examine outcomes separately for interventions in primary and secondary care (n=1).⁶⁹

We excluded 25 further articles because they were reports of studies of QI that did not appear to be financially incentivised, and a further seven because they were not empirical, that is, they were narrative reviews or commentary pieces.⁷⁰⁻⁷⁶ The eight remaining articles described the effects of five QI interventions.⁷⁷⁻⁸⁴ In addition, we found policy documentation online about a novel intervention in Australia, the Practice Incentive Program QI, but no published evaluations of it.⁸⁵ Table 1 briefly describes the interventions and the payment mechanisms, although the data available were limited. We noted that the reporting of the content of these interventions was not as rigorous as we would expect from reporting of complex clinical interventions.⁸⁶

Results of evaluations

Five of the interventions summarized in Table 1 have been evaluated.

The Somerset Practice Quality Scheme

Articles about this scheme reported that 55 of the 75 practices in the county of Somerset opted to take part in the scheme. Early qualitative evaluation suggested some evidence of organisational change, including stronger links with other practices, increased multidisciplinary team working and reallocation of resources.⁸⁰ Later evaluation showed that over half the participating practices reported clinical and administrative time savings.⁸¹

A before and after study comparing outcomes with a small number of volunteer control practices implementing QOF as usual over the same time period showed no difference in change in patient or practitioner experience or hospital emergency admission rates, and no sustained deterioration in QOF indicator achievement (which continued to be reported, while not incentivised).⁸¹ The control group was

Table 1: Incentivised QI interventions

First author, date of publication	Name, country, intervention period	Brief description of intervention	Payment mechanism
Close, 2019 ⁸¹ Lloyd, 2015 ⁸⁰	Somerset Practice Quality Scheme, England 2015-17	<ul style="list-style-type: none"> • Opt out of QOF • Specific interventions locally agreed by general practices: included Health Coaches, peripatetic multidisciplinary team for frail people, social prescribing, self-management support. • Focus on person-centred care for patients with multimorbidity • Practices had to show 'participation in a Quality Improvement Network' • Training and service design support provided by Clinical Commissioning Group 	Same payment to practices as would have been received through based on QOF achievement in 2012/3
Fernholm, 2019 ⁸³	Stockholm project, Sweden 2016-2017	<ul style="list-style-type: none"> • 4 hour course in QI offered although not compulsory to receive payment • Reporting of improvement projects to healthcare administration system • Feedback to practices on their activities 	0.5 Euro per patient per year to practices that provided reports of QI activities
Knight, 2012 ⁷⁸ Knight, 2012 ⁷⁷ Brown, 2014 ⁷⁹	Primary Care Collaboratives Programme, Australia 2004-2011	<ul style="list-style-type: none"> • Quality Improvement Collaborative methods²¹ • Collaborative programme managers • Learning workshops • Protected time for clinicians to plan QI • Feedback to practices from programme managers • Focus on chronic disease management 	Funding for programme managers, protected clinical time for planning and learning, additional financial incentives for practices, but not clear how administered
Gabel, 2019 ⁸⁴	Quality Improvement Framework, Staffordshire, UK, 2009-2015	<ul style="list-style-type: none"> • Incentivisation in addition to QOF • Focus on patients with long term conditions • TiDieR framework published • Rewards based on a mix of clinical and QI indicators • Intervention included feedback on achievement of locally agreed standards, an educational programme (supported by bursaries), learning events, practice visits from clinical leaders 	Up to £6 per registered patient based on level of achievement based on assessment by a panel of stakeholders including patients.
Smith, 2019 ⁸²	North West England Scheme, England 2016-2018	<ul style="list-style-type: none"> • Incentivisation in addition to QOF • Focus on atrial fibrillation and hypertension diagnosis and management • Participation in 3-monthly quality improvement workshops • Clinical interventions for patients with atrial fibrillation and hypertension 	Payment on capitation basis for patients identified and managed according to protocol
Royal Australian College of General Practitioners, 2020 ⁸⁵	Practice Incentive Program QI 2019-	<ul style="list-style-type: none"> • Work with local Primary Health Network to participate in 'continuous quality improvement' activities • Submission of achievement data on specified indicators, but no targets set to be reached to receive payment 	~AUS\$5 per patient per year to practices Not clear whether Primary Health Networks receive funding for their participation

small and may not have been representative and the implementation period was short. Thus, we cannot be sure that the intervention would not have demonstrated improvement with a larger control group or over the longer term. The outcome measures were meaningful in the sense that the researchers attempted to capture organisational, professional and patient outcomes above and beyond simple clinical measures.

The Staffordshire Quality Improvement Framework

The evaluation took place in Stoke on Trent and involved all 55 practices in the city over a period of 7 years. The published evaluation was a longitudinal differences-in-differences analysis of mortality, which found evidence of an additional effect of the Quality Improvement Framework on reducing mortality from cardiovascular disease including stroke.⁸⁴ No system, organisational or professional outcomes were reported.

The North West England Scheme

The scheme, implemented in East Lancashire, has been evaluated in a quantitative before and after evaluation comparing outcomes with other practices in North West England.⁸² The outcome measures were QOF indicators related to diagnosis and management of hypertension and atrial fibrillation. Participating practices increased their rates of diagnosed hypertension compared with control practices but there were no other differences in indicator achievement. Fifty eight practices took part in the scheme and the control group comprised about 1000 practices. The outcome measures were limited in scope, with no attempt to capture organisational, professional or patient outcomes.

The Australian Primary Care Collaboratives Program

This program was widely taken up in Australian general practices, with over 1000 practices taking part, each practice on average submitting over 20 Plan-Do-Study-Act reports (on topics of the practice's choice over a 5-year period, suggesting significant engagement.⁷⁷ There was no formal attempt otherwise to assess organisational or professional change. Certain clinical measures showed improvement over the period (e.g., cholesterol levels in people with cardiovascular disease and glycosylated haemoglobin levels in people with diabetes), although there were no control groups in the evaluations.

The Stockholm Project

Out of all the practices who were invited to take part, 166 (80%) submitted quality improvement reports in the first year of implementation and 164 in the second year, representing a very large increase from the year before implementation. There was no formal attempt otherwise to assess organisational or professional

change. The study was uncontrolled so, although the increase was very large, it is not possible to be sure that it is attributable to the intervention.

Summary of evaluation findings

In the studies described here, significant system support and flexibility was incorporated into each QI intervention, often with protected time for to implement QI activities including for design, reflection, report review and feedback. There is some evidence that incentivised quality improvement activity independent of clinical indicator achievement is accepted by general practice. However, most interventions that have been evaluated have assessed outcomes with a limited scope and have not fully addressed patient, professional, organisational or system level measures of functioning, or have been too small or short-lived to allow a rigorous assessment of impact.

Discussion

Summary

Evaluations of incentivised quality improvement activities show that take-up by practices is high. All the schemes evaluated have included a degree of professional flexibility and system support. There is very limited evidence that incentivised quality improvement schemes can improve system or organisation function, professional or patient experience, or clinical outcomes. This is because the interventions have not been evaluated using designs that allow this kind of assessment.

Limitations of this review

Identifying research about incentivised QI interventions was challenging in this review because the term 'quality improvement' is used widely and often loosely in health service literature narrative. Incentives are commonly paid to general practice for participation in 'pay for performance' programmes, that is for achieving specific clinical outcomes or performing specific clinical activities, rather than participating in QI activities; it was often difficult when reading reports of evaluations to understand the nature of the interventions and clearly distinguish between 'pay for performance' and 'pay for QI'. It is therefore possible that we have missed reports of incentivised QI interventions where these were not described as such.

Issues emerging from the review

What are the challenges of evaluating QI interventions (whether or not financially incentivised)?

We found very limited evidence that financially incentivising QI activity is effective. This is perhaps not surprising, given that previous research has found mixed evidence that QI interventions in primary care or elsewhere (where they are not financially incentivised) work to improve quality – for patients, primary care organisations, or health systems – although this is likely to be at least partly because of the difficulties of evaluating QI.^{8-15,19,21,22} These difficulties are:

- Lack of valid and practicable measures of quality of primary care: to demonstrate improvement in quality of primary care, valid outcome measures of quality are required; these need to cover the many different dimensions of quality and need to be primary care-specific.⁸⁷
- Wide scope of outcomes are needed: evaluations need to examine not simply quality of individual interactions between patient and primary health care professional but also the opportunity costs of improving quality in one area of clinical practice versus another and of measurement and reporting, unintended consequences for individual patients, the practice (and its health professionals) and the system within which it operates.
- Variation in context: what works in one practice context many not work in another – results of a promising QI intervention in one area may not be applicable to the context in another.⁸⁸ Realist methods have rarely been used.⁸⁹
- The need to intervene over a long period of time: understanding whether QI works needs long term intervention as it is about stimulating and embedding behaviour and culture change, which cannot be achieved quickly.⁹⁰ The beneficial effects for patients, in particular, may not be seen for decades.

How have QI interventions been designed and how are they described in the literature?

QI interventions are complex interventions, yet most do not appear to have been developed according to standard complex intervention development guidance involving wide engagement and construction of a robust theory of change and logic model.⁹¹⁻⁹³ We also noted that patient and public involvement was rarely reported in the development of incentivised QI interventions. Rarely are their components reported with the rigour expected of complex clinical interventions, whether or not they are financially incentivised.⁹⁴ Not having a manual for implementation makes it difficult to replicate studies or scale interventions.⁹⁴

To what extent does financial incentivisation influence behaviour in primary care?

The international evidence that financial incentivisation through ‘pay for performance’ interventions such as QOF improves health and primary health care quality is limited,^{5,95} although in the short term after implementation, the QOF did appear to improve some elements of performance in primary care, although it may be argued simply that measuring and recording of these improved.^{51,96} This may be at least partly because financial incentives are not the only way of motivating behaviour change among health care professionals. Many reports have suggested that intrinsic motivators (revalidation, reputation, commitment to patient care, professional self-esteem) are more important drivers of behaviour to improve quality of care.^{47,63,72,76,97-100}

There is evidence from a recent study in the UK that most general practices will carry out QI activities even when not financially incentivised.¹⁰¹ This may be because of the intrinsic motivators, and also because general practitioners need to demonstrate involvement in QI activity during appraisals leading to revalidation by the General Medical Council (<https://www.gpappraisals.uk/quality-improvement-activity.html>). Another review found that financial incentivisation in primary care was most likely to be successful when it was clearly aligned with professional values.¹⁰²

What are the key enablers of QI?

Resource

QI needs upfront resource, including protected time for practitioners to be involved in identifying and designing QI initiatives, implementing them, analysing the results and reflecting on change in practice.^{97,101} QI also requires resourced support from the wider system to support reflection and feedback activities. External facilitation may also be needed to help deal with conflict.¹⁰³

Professional engagement, ownership and flexibility

Involving local clinicians in designing the QI programme, or at least choosing which elements to implement, may be more likely to engender behaviour change than nationally imposed topics.^{70,76} A realist systematic review of the influence of context on QI initiatives found that empowerment, ownership and engagement were key mechanisms of effective QI.⁸⁸ In addition, it found that ‘misalignment of QI programme goals to local conditions/priorities’ was a key challenge to successful implementation. Practice circumstances vary and what may seem an important area for QI in one practice may not be seen by local practitioners as such in another.

Leadership, teamwork and sense of community and shared purpose

The realist systematic review identified enthusiastic and motivating leadership as a key context for successful QI,⁸⁸ as did a survey of UK primary care in 2017.¹⁰¹ By its very nature, QI activity in primary care is a team-based activity. Ensuring a sense of shared purpose, sense of community and understanding of the issue (not just the clinical issues but what QI culture means) is also considered important for achieving effective implementation.¹⁰³

Training

QI activities require training (the clinical time for which also needs to be resourced).¹⁰¹ It has been argued that social and political training are required, in relation to culture change, leadership development, reflection and dealing with resistance and conflict as well as technical training in the tools of quality improvement.¹⁰³

Patient and public engagement

Experienced QI practitioners in primary care have noted that patient and public involvement in the design of QI has been useful in deciding on appropriate topics and improvement goals.⁹⁷

Recommendations

- Ensure that QI in general practice is resourced (rather than incentivised) to support general practices to engage in QI activities leading to meaningful impact for patients, professionals, organisations and systems.
- Promote organisational commitment and culture change in general practice for QI rather than focusing on clinical outcomes
- Use the complex intervention approach to design and evaluate QI interventions (including pay for QI interventions) in general practice, considering theory of change and logic model to steer these
- Evaluate effects on patients, primary care professionals, primary care organisations and health systems over the long term for sustainability, including assessing culture change.
- Involve public, patients and practitioners in design and evaluation of QI interventions in general practice.
- Promote local flexibility about topics and scope in design of QI interventions in general practice.

Acknowledgments

Anna Peckham for help with literature searching.

References

1. NHS England, British Medical Association. 2019/20 General Medical Services (GMS) contract Quality and Outcomes Framework (QOF). Guidance for GMS contract 2019/20 in England. <https://www.england.nhs.uk/wp-content/uploads/2019/03/1920-gms-contract-qof-guidance-v1.pdf>: NHS England, April 2019.
2. Moberly T, Stahl-Timmins W. QOF now accounts for less than 10% of GP practice income. *BMJ* 2019; 11489.
3. Eckhardt H, Smith P, Quentin W. Pay for Quality: using financial incentives to improve quality of care. In: Reinhard Busse NK, Dimitra Panteli, Wilm Quentin, ed. Improving healthcare quality in Europe: Characteristics, effectiveness and implementation of different strategies. <https://apps.who.int/iris/handle/10665/327356>: OECD, European Observatory on Health Systems and Policies,; 2019: 357.
4. NHS England. Report of the Review of the Quality and Outcomes Framework in England. <https://www.england.nhs.uk/wp-content/uploads/2018/07/quality-outcome-framework-report-of-the-review.pdf>: NHS England; July 2018.
5. Forbes LJJ, Marchand C, Doran T, Peckham S. The role of the Quality and Outcomes Framework in the care of long-term conditions: A systematic review. *British Journal of General Practice* 2017; **67**(664): e775-e84.
6. The Health Foundation. Quality improvement made simple. London: The Health Foundation, 2013.
7. Dixon-Woods M, Martin GP. Does quality improvement improve quality? *Future Hospital Journal* 2016; **3**(3): 191-4.
8. Ivers N, Jamtvedt G, Flottorp S, et al. Audit and feedback: effects on professional practice and healthcare outcomes. *Cochrane Database Syst Rev* 2012; (6): Cd000259.
9. Taylor MJ, McNicholas C, Nicolay C, Darzi A, Bell D, Reed JE. Systematic review of the application of the plan–do–study–act method to improve quality in healthcare. *BMJ Quality & Safety* 2014; **23**(4): 290-8.
10. Knudsen SV, Laursen HVB, Johnsen SP, Bartels PD, Ehlers LH, Mainz J. Can quality improvement improve the quality of care? A systematic review of reported effects and methodological rigor in plan-do-study-act projects. *BMC Health Services Research* 2019; **19**(1).
11. Forsetlund L, O'Brien MA, Forsén L, et al. Continuing education meetings and workshops: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2021; (9).
12. O'Brien MA, Rogers S, Jamtvedt G, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2007.

13. Mieh EJ, Rattray NA, Flanagan ME, Damschroder L, Schmid AA, Damush TM. Inside help: An integrative review of champions in healthcare-related implementation. *SAGE Open Medicine* 2018; **6**: 205031211877326.
14. Irwin R, Stokes T, Marshall T. Practice-level quality improvement interventions in primary care: a review of systematic reviews. *Primary Health Care Research & Development* 2015; **16**(6): 556-77.
15. Card AJ, Ward J, Clarkson PJ. Successful risk assessment may not always lead to successful risk control: A systematic literature review of risk control after root cause analysis. *J Healthc Risk Manag* 2012; **31**(3): 6-12.
16. Shea CM, Turner K, Albritton J, Reiter KL. Contextual factors that influence quality improvement implementation in primary care: The role of organizations, teams, and individuals. *Health Care Manage Rev* 2018; **43**(3): 261-9.
17. Ploeg J, Wong ST, Hassani K, et al. Contextual factors influencing the implementation of innovations in community-based primary health care: the experience of 12 Canadian research teams. *Primary Health Care Research & Development* 2019; **20**: 1-13.
18. Dixon J. Improving the quality of care in health systems: towards better strategies. *Israel Journal of Health Policy Research* 2021; **10**(1).
19. Grimshaw J, McAuley LM, Bero LA, et al. Systematic reviews of the effectiveness of quality improvement strategies and programmes. *Quality and Safety in Health Care* 2003; **12**(4): 298.
20. Ferlie EB, Shortell SM. Improving the Quality of Health Care in the United Kingdom and the United States: A Framework for Change. *The Milbank quarterly* 2001; **79**(2): 281-315.
21. Wells S, Tamir O, Gray J, Naidoo D, Bekhit M, Goldmann D. Are quality improvement collaboratives effective? A systematic review. *BMJ Quality & Safety* 2018; **27**(3): 226-40.
22. Arditi C, Rège-Walther M, Durieux P, Burnand B. Computer-generated reminders delivered on paper to healthcare professionals: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2017; **2017**(7).
23. Dixon-Woods M. How to improve healthcare improvement—an essay by Mary Dixon-Woods. *BMJ* 2019: I5514.
24. Department of Health. High quality care for all: NHS Next Stage Review final report (The Darzi report). London: Department of Health, 2008.
25. Young RA, Roberts RG, Holden RJ. The Challenges of Measuring, Improving, and Reporting Quality in Primary Care. *The Annals of Family Medicine* 2017; **15**(2): 175-82.
26. de Silva DB, J. Improving quality in general practice; evidence scan. <https://www.health.org.uk/publications/improving-quality-in-general-practice>: The Health Foundation, 2014.
27. Bodenheimer T, Ghorob A, Willard-Grace R, Grumbach K. The 10 Building Blocks of High-Performing Primary Care. *The Annals of Family Medicine* 2014; **12**(2): 166-71.
28. Bodenheimer T, Pham HH. Primary Care: Current Problems And Proposed Solutions. *Health Affairs* 2010; **29**(5): 799-805.
29. Da Silva D. Measuring patient experience. London: The Health Foundation, 2013.

30. Campbell J, Smith P, Nissen S, Bower P, Elliott M, Roland M. The GP Patient Survey for use in primary care in the National Health Service in the UK – development and psychometric characteristics. *BMC Family Practice* 2009; **10**(1): 57.
31. NHS Shared Decision Making Programme. Measuring Shared Decision Making. Leeds: NHS, 2012.
32. Campbell JL, Salisbury C. Research into practice: accessing primary care. *Br J Gen Pract* 2015; **65**(641): e864-8.
33. Hull SA, Williams C, Schofield P, Boomla K, Ashworth M. Measuring continuity of care in general practice: a comparison of two methods using routinely collected data. *British Journal of General Practice* 2022; **72**: e773-9.
34. Fenton JJ, Jerant AF, Bertakis KD, Franks P. The cost of satisfaction: a national study of patient satisfaction, health care utilization, expenditures, and mortality. *Archives of internal medicine* 2012; **172**(5): 405-11.
35. Kupfer JM, Bond EU. Patient satisfaction and patient-centered care: necessary but not equal. *JAMA* 2012; **308**(2): 139-40.
36. Royal College of General Practitioners. Quality improvement for General Practice A guide for GPs and the whole practice team. London: Royal College of General Practitioners, 2015.
37. Gosling J, Mays N, Erens B, Reid D. Quality improvement in general practice: what do GPs and practice managers think. *London Health Foundation* 2019.
38. NHS England. An Introduction to Quality Improvement in General Practice. Leeds: NHS England, 2019.
39. NHS England and British Medical Association. 2020/21 General Medical Services (GMS) contract Quality and Outcomes Framework (QOF). London: NHS England; 2020.
40. Primary Care Strategy and NHS Contracts Group. QOF Quality Improvement domain 2020/21 – Early diagnosis of cancer. London: NHS England and NHS Improvement, 2020.
41. Primary Care Strategy and NHS Contracts Group. QOF Quality Improvement domain 2020/21 – Supporting people with learning disabilities London: NHS England and NHS Improvement, 2020.
42. NHS England and British Medical Association. Supporting General Practice in 2021/22 2021. (accessed 8th Feb 2021).
43. NHS England and NHS Improvement. Quality and Outcomes Framework guidance for 2022/23. <https://www.england.nhs.uk/publication/update-on-quality-outcomes-framework-changes-for-2022-23/>: NHS England, 2022.
44. NHS England, British Medical Association. Investment and evolution: A five-year framework for GP contract reform to implement The NHS Long Term Plan. Leeds: NHS England, 2019.
45. Bramwell D, Hotham S, Peckham S, Checkland K, Forbes L. Evaluation of the introduction of QOF quality improvement modules in English general practice: early findings from a rapid, qualitative exploration of implementation. *BMJ Open Quality* 2022; **11**(3): e001960.
46. Cooke V, Arling G, Lewis T, Abrahamson KA, Mueller C, Edstrom L. Minnesota's Nursing Facility Performance-Based Incentive Payment Program: An Innovative Model for Promoting Care Quality. *The Gerontologist* 2010; **50**(4): 556-63.
47. Ahmed K, Hashim S, Khankhara M, et al. What drives general practitioners in the UK to improve the quality of care? A systematic literature review. *BMJ Open Quality* 2021; **10**(1): e001127.

48. Allen T, Mason T, Whittaker W. Impacts of pay for performance on the quality of primary care. *Risk management and healthcare policy* 2014; **7**: 113-20.
49. Begum R, Smith Ryan M, Winther CH, et al. Small practices' experience with EHR, quality measurement, and incentives. *The American journal of managed care* 2013; **19**(10 Spec No): eSP12-eSP8.
50. Campbell SM, McDonald R, Lester H. The experience of pay for performance in English family practice: a qualitative study. *Annals of family medicine* 2008; **6**(3): 228-34.
51. Doran T, Fullwood C, Kontopantelis E, Reeves D. Effect of financial incentives on inequalities in the delivery of primary clinical care in England: analysis of clinical activity indicators for the quality and outcomes framework. *Lancet (London, England)* 2008; **372**(9640): 728-36.
52. Flodgren G, Eccles MP, Shepperd S, Scott A, Parmelli E, Beyer FR. An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes. *Cochrane Database Syst Rev* 2011; **2011**(7): Cd009255.
53. Gavagan TF, Du H, Saver BG, et al. Effect of financial incentives on improvement in medical quality indicators for primary care. *Journal of the American Board of Family Medicine: JABFM* 2010; **23**(5): 622-31.
54. Gill P, Foskett-Tharby R, Hex N. Pay-for-performance and primary care physicians: lessons from the U.K Quality and Outcomes Framework for local incentive schemes. *Journal of the Royal Society of Medicine* 2015; **108**(3): 80-2.
55. Gillam S. Financial incentive schemes in primary care. *Journal of Healthcare Leadership* 2015; **7**: 75.
56. Greene J, Hibbard JH, Overton V. A case study of a team-based, quality-focused compensation model for primary care providers. *Medical Care Research & Review* 2014; **71**(3): 207-23.
57. Khedmati Morasae E, Rose TC, Gabbay M, et al. Evaluating the Effectiveness of a Local Primary Care Incentive Scheme: A Difference-in-Differences Study. *Medical Care Research and Review*; **0**(0): 10775587211035280.
58. Kolozsvári LR, Orozco-Beltran D, Rurik I. Do family physicians need more payment for working better? Financial incentives in primary care. *Atención Primaria* 2014; **46**(5): 261-6.
59. Kumar G, Quigley J, Singh M, Keeping S, Pitman R, Carroll S. Do local enhanced services in primary care improve outcomes? Results from a literature review. *Quality in primary care* 2014; **22**(3): 157-69.
60. Langdown C, Peckham S. The use of financial incentives to help improve health outcomes: is the quality and outcomes framework fit for purpose? A systematic review. *Journal of Public Health* 2014; **36**(2): 251-8.
61. Mehrotra A, Pearson SD, Coltin KL, et al. The response of physician groups to P4P incentives. *Am J Manag Care* 2007; **13**(5): 249-55.
62. Minchin M, Roland M, Richardson J, Rowark S, Guthrie B. Quality of Care in the United Kingdom after Removal of Financial Incentives. *New England Journal of Medicine* 2018; **379**(10): 948-57.
63. Oliver A. Incentivising improvements in health care delivery. *Health Economics, Policy and Law* 2015; **10**(3): 327-43.
64. Ryan AM, McCullough CM, Shih SC, Wang JJ, Ryan MS, Casalino LP. The intended and unintended consequences of quality improvement interventions for small practices in a community-based electronic health record implementation project. *Medical Care* 2014; **52**(9): 826-32.
65. Town R, Kane R, Johnson P, Butler M. Economic incentives and physicians' delivery of preventive care: a systematic review. *American journal of preventive medicine* 2005; **28**(2): 234-40.

66. Lemak CH, Cohen GR, Erb N. Engaging primary care physicians in quality improvement: lessons from a payer-provider partnership. *Journal of Healthcare Management* 2013; **58**(6): 429-43.
67. Cross DA, Nong P, Harris-Lemak C, Cohen GR, Linden A, Adler-Milstein J. Practice strategies to improve primary care for chronic disease patients under a pay-for-value program. *Healthc (Amst)* 2019; **7**(1): 30-7.
68. Basu S, Phillips RS, Song Z, Landon BE, Bitton A. Effects of New Funding Models for Patient-Centered Medical Homes on Primary Care Practice Finances and Services: Results of a Microsimulation Model. *The Annals of Family Medicine* 2016; **14**(5): 404-14.
69. Andersson A-C, Idvall E, Perseius K-I, Elg M. Sustainable outcomes of an improvement programme: do financial incentives matter? *Total Quality Management & Business Excellence* 2013; **24**(7-8): 959-69.
70. Roland M, Dudley RA. How Financial and Reputational Incentives Can Be Used to Improve Medical Care. *Health Services Research* 2015; **50**(S2): 2090-115.
71. McShane M, Mitchell E. Person centred coordinated care: where does the QOF point us? *BMJ* 2015; **350**: h2540.
72. Lagarde M, Huicho L, Papanicolas I. Motivating provision of high quality care: it is not all about the money. *BMJ* 2019; **366**: l5210.
73. Gubb JD. Commentary: unintended consequences: what of quality outside the QOF? *The British journal of general practice : the journal of the Royal College of General Practitioners* 2009; **59**(562): e173-e4.
74. Foskett-Tharby R, Hex N, Chuter A, Gill P. Challenges of incentivising patient centred care. *BMJ* 2017: j4532.
75. Cohen RI, Jaffrey F, Reitzner JB, Baumann MH. Quality Improvement and Pay for Performance: Barriers to and Strategies for Success. *Chest* 2013; **143**(6): 1542-7.
76. Berenson RA, Rice T. Beyond measurement and reward: methods of motivating quality improvement and accountability. *Health services research* 2015; **50**: 2155-86.
77. Knight AW, Caesar C, Ford D, Coughlin A, Frick C. Improving primary care in Australia through the Australian Primary Care Collaboratives Program: a quality improvement report. *BMJ Quality & Safety* 2012; **21**(11): 948-55.
78. Knight AW, Ford D, Audehm R, Colagiuri S, Best J. The Australian Primary Care Collaboratives Program: improving diabetes care. *BMJ Quality & Safety* 2012; **21**(11): 956-63.
79. Brown V, Fuller J, Ford D, Dunbar J. The enablers and barriers for the uptake, use and spread of primary health care Collaboratives in Australia; 2014.
80. Lloyd H. An evaluation of the Somerset Practice Quality Scheme (SPQS). https://www.researchgate.net/publication/291971869_AN_EVALUATION_OF_THE_SOMERSET_PRACTICE_QUALITY_SCHEME_SPQS: NIHR CLAHRC South West Peninsula, 2015.
81. Close J, Fosh B, Wheat H, et al. Longitudinal evaluation of a countywide alternative to the Quality and Outcomes Framework in UK General Practice aimed at improving Person Centred Coordinated Care. *BMJ Open* 2019; **9**(7): e029721.
82. Smith T, Fell C, Otete H, Chauhan U. GP incentives to design hypertension and atrial fibrillation local quality-improvement schemes: a controlled before-after study in UK primary care. *The British journal of general practice : the journal of the Royal College of General Practitioners* 2019; **69**(687): e689-e96.

83. Fernholm R, Arvidsson E, Wettermark B. Financial incentives linked to quality improvement projects in Swedish primary care: a model for improving quality of care. *BMJ Open Quality* 2019; **8**(2): e000402.
84. Gabel F, Chambers R, Cox T, Listl S, Maskrey N. An evaluation of a multifaceted, local Quality Improvement Framework for long-term conditions in UK primary care. *Fam Pract* 2019; **36**(5): 607-13.
85. Royal Australian College of General Practitioners. Practice Incentives Program Quality Improvement Incentive (PIP QI) fact sheet. <https://www.racgp.org.au/FSDEDEV/media/documents/Running%20a%20practice/Security/PIP-QI-factsheet.pdf>: Royal Australian College of General Practitioners, 2020.
86. Hoffmann TC, Glasziou PP, Boutron I, et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ* 2014; **348**: g1687.
87. Raleigh VS, Foot, C.,. Getting the measure of quality. Opportunities and challenges. London: The King's Fund, 2010.
88. Coles E, Anderson J, Maxwell M, et al. The influence of contextual factors on healthcare quality improvement initiatives: a realist review. *Systematic Reviews* 2020; **9**(1): 94.
89. Shearn K, Allmark P, Piercy H, Hirst J. Building Realist Program Theory for Large Complex and Messy Interventions. *International Journal of Qualitative Methods* 2017; **16**(1): 160940691774179.
90. Ling T, Soper, B., Buxton, M., Hanney, S., Oortwijn, W., Scoggins, A., Steel, N. Involving primary care clinicians in quality improvement An independent evaluation of the Health Foundation's Engaging with Quality in Primary Care programme Final report . : Rand/Health Foundation, 2012.
91. de Silva MJ, Lee L. Using Theory of Change in the development, implementation and evaluation of complex health interventions. London: London School of Hygiene and Tropical Medicine, 2014.
92. Skivington K, Matthews L, Craig P, Simpson S, Moore L. Developing and evaluating complex interventions: updating Medical Research Council guidance to take account of new methodological and theoretical approaches. *The Lancet* 2018; **392**: S2.
93. Skivington K, Matthews L, Simpson SA, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ* 2021: n2061.
94. Dixon-Woods M. Harveian Oration 2018: Improving quality and safety in healthcare. *Clinical Medicine* 2019; **19**(1): 47-56.
95. Scott A, Sivey P, Ait Ouakrim D, et al. The effect of financial incentives on the quality of health care provided by primary care physicians. *Cochrane Database of Systematic Reviews* 2011; (9): CD008451.
96. Roland M, Guthrie B. Quality and Outcomes Framework: what have we learnt? *BMJ* 2016; **354**: i4060
97. Kiran T, Ramji N, Derocher MB, Girdhari R, Davie S, Lam-Antoniades M. Ten tips for advancing a culture of improvement in primary care. *BMJ Quality & Safety* 2019; **28**(7): 582.
98. Trankle SA, Metusela C, Reath J. Undertaking general practice quality improvement to improve cancer screening - a thematic analysis of provider experiences. *BMC Fam Pract* 2021; **22**(1): 230.
99. Wolfson D, Bernabeo E, Leas B, Sofaer S, Pawlson G, Pillittere D. Quality improvement in small office settings: an examination of successful practices. *BMC Family Practice* 2009; **10**(1): 14.
100. Khullar D, Wolfson D, Casalino LP. Professionalism, Performance, and the Future of Physician Incentives. *JAMA* 2018; **320**(23): 2419-20.

101. Gosling J, Mays N, Erens B, Reid D, Exley J. Quality improvement in general practice: what do GPs and practice managers think? Results from a nationally representative survey of UK GPs and practice managers. *BMJ open quality* 2021; **10**(2): e001309.
102. Khan N, Rudoler D, McDiarmid M, Peckham S. A pay for performance scheme in primary care: Meta-synthesis of qualitative studies on the provider experiences of the quality and outcomes framework in the UK. *BMC Family Practice* 2020; **21**(1).
103. Aveling EL, Martin G, Armstrong N, Banerjee J, Dixon-Woods M. Quality improvement through clinical communities: eight lessons for practice. *Journal of Health Organization and Management* 2012; **26**(2): 158-74.