

# BMJ Open Quality Financial incentives linked to quality improvement projects in Swedish primary care: a model for improving quality of care

Rita Fernholm,<sup>1,2</sup> Eva Arvidsson,<sup>3,4</sup> Björn Wettermark<sup>1,5</sup>

**To cite:** 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**:e000402. doi:10.1136/bmjopen-2018-000402

Received 7 April 2018  
Revised 18 April 2019  
Accepted 22 April 2019



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<sup>1</sup>Stockholm Region, Public Healthcare Services Committee, Stockholm, Sweden

<sup>2</sup>Division of Family Medicine and Primary Care, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Huddinge, Sweden

<sup>3</sup>Research and Development unit for Primary Care, Futurum, Jönköping, Sweden

<sup>4</sup>Jönköping Academy for Improvements of Health and Welfare, School of Health and Welfare, Jönköping University, Jönköping, Sweden

<sup>5</sup>Centre for Pharmacoepidemiology, Department of Medicine, Karolinska Institute, Stockholm, Sweden

## Correspondence to

Dr Rita Fernholm;  
rita.fernholm@gmail.com

## ABSTRACT

**Background** Quality improvement (QI) is necessary in all healthcare, but quality of healthcare is hard to measure. To use financial incentives to improve care is difficult and may even be harmful. However, conducting QI projects is a well-established way to increase quality in healthcare.

**Problem** In 2015, there were few QI projects conducted in primary care in the Stockholm Region, Sweden. There was no structured support or way to share the QI projects with other general practitioner (GP) practices. To use financial incentives could increase the number of projects performed and could possibly improve the quality of care. The aim was to increase the number of GP practices performing QI projects in the Stockholm Region through financial incentives.

**Method** To study QI projects performed during 2016 and 2017 in the Region Stockholm. This was compared with 2015 in Stockholm and with the Region Jönköping in Sweden during 2016 and 2017.

**Interventions** First, the healthcare administration started to reimburse GP practices for conducting and reporting QI projects in 2016. Second, a 4-hour course in QI was offered. Third, feedback on plans for QI projects was given. The year after the projects were performed, they were published online to stimulate sharing and inspiration between the GP practices.

**Results** For 2016, there were 166 (80%) of the GP practices that presented a QI project and in 2017, 164 (79%) did so. The number of projects in Stockholm increased almost by 100 per years compared with 2015.

**Conclusion** QI work has increased in Stockholm since 2016, probably because of the financial incentives from the Stockholm Region.

## INTRODUCTION

### Problem

Quality of healthcare is hard to measure. There are many factors to take into consideration besides traditional measures, such as knowledge, clinical skills and person-centred care.<sup>1</sup> However, despite the measuring problems, it is clear that quality improvement (QI) is necessary in all healthcare, including primary care/family medicine. Systematic approaches to perform QI projects has shown to have an effect.<sup>2</sup> However, in many general

practitioner (GP) practices, the knowledge about methods for QI is low. Additionally, the working environment is stressful that limits the time for QI work. Another obstacle has been difficulties to obtain data for measurements. With electronic patient records (EPR) in all primary care in Sweden, this problem is partly solved. In 2015, there were few QI projects conducted in the Stockholm Region, less than 75 projects in an area of 207 GP practices. There was no structure to share the QI projects with other GP practices.

### Available knowledge

Audit and feedback (A&F), that is, collecting data on clinical performance and report back with the purpose to stimulate QI, can be effective for improving quality in healthcare.<sup>3,4</sup> However, A&F together with financial incentives in different pay-for-performance schemes (P4P) is highly debated. Questions about if P4P has any positive effects at all, as well as about possible negative effects, are raised.<sup>5-7</sup> Studies suggest that positive results are mainly achieved by better documentation of the performance parameters, not better outcomes for patients.<sup>8,9</sup> A review article from 2017 concludes that the patient outcome of P4P are unclear.<sup>10</sup> GPs throughout Europe oppose the use of quality indicators for P4P, and a recent position paper on this was endorsed by WONCA (World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians) Europe in 2018.<sup>11</sup>

Yet, P4P is used in many European countries, often in combination with other payment systems, such as capitation. Examples of countries using P4P are Israel, Sweden, Croatia, the Czech Republic, Estonia, Hungary, Italy, Latvia, Lithuania, the Netherlands, Spain, Canada, Australia, New Zealand and the USA.<sup>12</sup> Some European countries have extensive P4P schemes, for example, Belgium, France and the UK.

The measurements cover different aspects of quality in primary care, such as access, clinical performance, costs and equity.<sup>13</sup>

In the UK, a P4P scheme, the Quality and Outcomes Framework (QOF), was introduced in 2004.<sup>14</sup> QOF has been criticised for a number of reasons: displacement of non-rewarded goals, decreasing improvement when targets are reached and outcomes worse than before when goal-based remuneration is removed. Furthermore, replacement of the patient's own agenda with data gathering for the indicators, as well as reduced continuity after the QOF was introduced has been shown.<sup>15–18</sup> The QOF is now abandoned in Scotland.

In France, a voluntary P4P scheme for primary care physicians was introduced in 2009, the Contract for Improving Individual Practice. Only one-third of the GPs joined and the evaluations of the scheme raised questions about the ethical consequences.<sup>19 20</sup>

In the USA, data for the Healthcare Effectiveness Data and Information Set (HEDIS) has been collected since the beginning of the 1990s. The purpose was to find measures for comparison between healthcare systems, not measures for QI. However, the HEDIS is used for P4P. Criticism concerns data collection taking too much time, change of the focus for the consultation as in the UK<sup>21</sup> and also that the measures do not necessarily reflect 'good care' but leads to the risk of overdiagnosis and overtreatment.<sup>22</sup>

To use other payment systems, rather than P4P, to achieve high-quality primary care are suggested,<sup>23</sup> as are mixed payment systems.<sup>12</sup> The idea is to counterbalance some of the shortcomings of each payment method. Using financial incentives to improve care is difficult,<sup>24</sup> but funding connected to the performance of more complex QI project has, to the best of our knowledge, not been studied before. Conducting QI projects is a well-established way to increase quality in healthcare.<sup>2</sup> For A&F, the base of P4P systems, the goal usually can be scribed as 'increasing desired behaviour' rather than 'finding new efficient ways to improve healthcare', which is the deeper goal of QI.

### Rational

The GP practices in Stockholm have earlier adopted well to changing criteria for financial incentives. To conduct QI projects has not been a part of these incentives in Stockholm before 2016, but the model has been used in the Jönköping Region since 2010. In Jönköping, the GP practices have conducted and presented QI projects yearly, which has been a source of learning within the practices and between the different practices in the region.

### Specific aims

To increase the number of GP practices performing QI projects in the Stockholm Region through financial incentives.

## METHODS

### Context

A GP practice in Sweden usually consists of GPs, nurses, assisting nurses, psychologists, physiotherapists and secretaries. The GP practices are the primary contact for most patients through phone, visit or the internet. All primary care is publicly financed through taxes, public as well as private GP practices. Sweden consists of 21 semi-autonomous regions, all having slightly different reimbursement systems for primary care. Usually, the financing is based mainly on capitation, but details can change from year to year. The capitation usually depends on age, burden of diseases and social economic status of the patients. A few percentages of the financing are usually based on quality measures, such as, for example, blood pressure levels, low antibiotic prescribing or accessibility. Stockholm region has been an exception and in 2015, only 40% was based on capitation and 57% was based on the number of consultations/fee-for-service. An overview of primary care in western Europe is given by Gervas *et al.*<sup>25</sup> and about the Swedish healthcare system by Anell *et al.*<sup>26</sup>

**Stockholm** region has 2.3 million inhabitants. Stockholm had 207 GP practices in 2016 and 208 GP practices in 2017, one-third of them public and two-thirds of them run by different private caregivers (all publicly financed). The size of the practices differs from caring for approximately 600 to 34 000 inhabitants. **Jönköping** region is considerably smaller than Stockholm. Jönköping has 355 000 inhabitants, 46 GP practices (30 public and 14 private, all publicly financed) with between 2 000 and 15 000 inhabitants linked to each practice.

QI projects at GP practices are initiated for different reasons: from staff seeing a need to improve, staff feeling obliged to get the financing for a QI project and by residents as part of their specialist training.

### Interventions

There were three interventions in **Stockholm**. First, the healthcare administration started to reimburse GP practices for conducting and reporting QI projects in 2016. Area of improvement was chosen by the practice, based on interest and need. The sum was €0.5 per inhabitant registered with the practice, paid to all practices that carried out a QI project, and also presented it in written form. Second, a 4-hour course in QI was offered in 2016 for participants in the local projects (30 practices attended). Third, feedback on plans for QI projects was given from the health administration to those who requested it (28 practices in 2016 and 150 practices in 2017). The year after the projects were performed, they were published online to stimulate sharing and inspiration between the GP practices.

As a comparison, in **Jönköping**, the healthcare administration has paid GP practices €5 per registered inhabitant for carrying out yearly QI projects since 2010. The requirements include a written plan for the QI project, defined measurements, and a poster and oral presentation of the results of the QI project at an annual regional

conference. All GP practices are offered an external personal coach and the staff at the centres is offered a short course on QI methodology. The primary care unit for research and development in Region Jönköping also visits each GP practice annually with an A&F report on their results with the purpose to promote and inspire QI work since 2006. The goal since the start has been that all GP practices should 'pass' and be fully paid for their QI projects, so the focus for the health administration is support and coaching. Usually, all but one or two GP practices achieve the requirements for funding.

All projects are documented by the local improvement teams using the A3 method<sup>27</sup> and analysed by the health-care administration to see if they fulfilled the requirements for payment. Many of the GP practices perform more than one QI project each per year and quite a few projects last over more than a year. However, every practice reports only one or two of their projects, that is, those connected to the reimbursement. Each resident in family medicine has to perform, or take active part in, a QI project and these are not part of the projects for the reimbursement.

In 2016, each GP practice had to report two projects, one connected to lifestyle interventions or other forms of preventive care, one of their own choice. In 2017, they only had to report one. For both years, the projects should include collaboration with at least one other actor (other healthcare unit, municipality or another healthcare actor).

#### Study of the interventions

Number of QI projects in **Stockholm** during 2016 and 2017 were assessed, as well as their content. This was compared with the number of QI projects during 2015 when there were no financial incentives for conducting QI.

In **Jönköping**, the number of reported projects were noted as well as their content. Residents projects are mandatory and outside of the study. The content of the projects partly depends on the requirements for the reimbursement.

#### Measures and analysis

Besides the number of QI projects, the content in the reports from the practices was evaluated. The area of the project was noted, and the quality of the project was measured.

In **Stockholm**, the projects were evaluated for quality using a scale of 1–5, where evaluation 1 was used when there had been no intervention. That could, for example, be that the GP practices had made an inventory about how well they followed a guideline, or that they had interviewed some patients about the care given. Evaluation 2 was given when there had been an intervention but measures before or after were missing. Evaluation 3 was given when the project fulfilled basic criteria for an improvement project, that is, the presence of an intervention and measures before and after the intervention.

Evaluations 4 and 5 were used in projects with higher quality with an increasing level of collaborative work, person-centred care, results achieved and with a plan for further work. Evaluation 4 was used when one or two of these were included and 5 was used when three or four were included. The material from 2016 was compared with that from 2017. These 2 years were compared with 2015 with respect to the number of QI projects.

The systematic improvement projects in **Jönköping** were analysed in a 3-step scale. To receive full score, the projects had to include the following:

- ▶ In the second quarter each year: (i) Description of the improvement area and its relation to patients and their needs; (ii) Description of the overall goal and measurable subgoals, including a time for their fulfilments; (iii) Baseline measurements and (iv) Analysis of the current situation, ideas for improvement and prioritisation of ideas to be tested.
- ▶ In the fourth quarter each year: (i) Description of how the improvement work was carried out, including the collaboration with external actors and (ii) Results of measurements (changes in relation to baseline measurement and goals).

#### Ethical considerations

This study did not need approval by the Ethics Committee since it did not involve medical data or patient involvement. No medical charts were used and no contact with patients was made. The public was not involved. Data about the QI project are public and no individual practices can be identified in the study. An ethical aspect could be that hopefully some patients received better care thanks to the QI projects.

## RESULTS

The 2016 was the first year that the **Stockholm Region** systematically organised, measured and evaluated the QI projects. In 2015, there were 75 projects that were known of. For 2016, there were 166 (80%) of the 207 GP practices presented a QI project and in 2017, 164 (79%) did so. The total number of QI projects in **Stockholm** increased almost by 100 per years compared with 2015.

The subjects of the projects in **Stockholm** and **Jönköping** are displayed in [table 1](#).

In **Stockholm**, two-thirds, 68%, of the GP practices reported that they had improved their quality through their work (with EPR data to support their claims of improving chosen indicators).

There was no association between socioeconomic factors measured in CNI (Care Need Index,) of the area where the primary care GP practices was located and the quality of the projects.

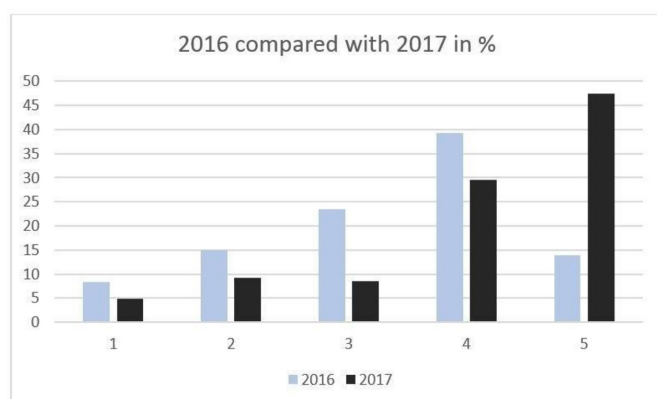
One-fourth, 27%, of the projects had elements of person-centred care but only one GP practice had a patient involved in the project planning group. Put simply, being person-centred is about focusing care on the needs of the person rather than the needs of the

**Table 1** Reported QI projects in Stockholm and Jönköping 2016

Stockholm QI projects			Jönköping QI projects		
Subject	(n) 2016	(n) 2017	Subject	(n) 2016	(n) 2017
Diabetes	44	36	Diabetes	6	3
Hypertension	14	12	Hypertension	7	1
Chronic obstructive pulmonary disease	14	52	Chronic obstructive pulmonary disease	6	
Congestive heart failure	28	4	Congestive heart failure		1
Mental health	7	8	Mental health	11	10
Medication	17	17	Lifestyle improvement, general	10	2
Prevention of stroke	15	11	Physical activity	3	2
Accessibility to care	3	5	Diet/overweight	5	
Patient safety issues	14	0	Alcohol	1	
Other	10	19	Smoking	1	
			Immigrant health	3	1
			Elderly patients	16	12
			Social isolation	2	
			Sick leaves/rehabilitation	4	5
			Frequent visitors	1	1
			Continuity	1	
			Effective organisation	4	5
			E-services	4	1
			Accessibility to physiotherapists	4	1
<b>Total</b>	<b>166</b>	<b>164</b>	<b>Total</b>	<b>89</b>	<b>45</b>

QI, quality improvement.

service. Examples from these projects were improved information material to patients, motivations interviewing technique and multidisciplinary support with education about the disease and what can be done for your own health. Furthermore, patients could borrow equipment to monitor blood pressure at home or they could choose to test their blood pressure in the waiting area accompanied by information about what to do with different kinds of results. There were also projects where patients could book an appointment directly to a psychologist instead of first having to see a GP for referral (in those practices, the



**Figure 1** Quality of the QI work in 2016 and 2017 (Stockholm). QI, quality improvement.

GP) and the psychologists had close cooperation about the patients to see if they still should see a GP).

A collaborative approach had been used in 70% of the projects, that is, using more than one health profession in the QI work.

The projects were evaluated on a scale of 5, see [figure 1](#), accordingly to the quality of their project with 5 representing the best. Details are described under measures and analysis. There was an evident increase in the quality of the works when comparing 2016 and 2017.

In **Jönköping**, one practice did not report any projects and one reported only one in 2016. In 2017, also, all but one reported projects. All reported project had full score.

A lot of the projects reflected the condition about preventive care. For example, the projects about the elderly, mental health and diabetes were about heather lifestyle for these patient groups. At least one-fourth of the projects also aimed to improve patients own control of their problems. Projects about organisation were, for example, planning for and with patients discharged from hospital using e-pads, increasing home visits, and continuity and cooperation with the municipality that organises home care for the elderly. Projects targeting a younger population was, for example, mental health and smoking cessation.

Over the years, there has been an increase in GP practices asking for help for extracting additional data (eg,

to identify patient groups, individual patients and data for follow-up of results) from the EPR as part of their QI work.

## DISCUSSION

### Summary

With relatively low financial incentives (compared with Jönköping Region), it was possible to increase the number of QI projects in the Stockholm Region. During 2016, there were 80%, and during 2017, there were 79% out of all GP practices to perform QI projects. That is, an increase of approximately 100 QI projects/year compared with 2015. The quality of the projects increased from 2016 to 2017 following more support in the form of more feedback.

### Interpretation

We found an evident increase in the number of QI projects in **Stockholm** after financial incentives were introduced. We also found an increase in quality in terms of following a structure for QI project in Stockholm. In **Jönköping**, the requirements for the projects has been harder each year, with no change in the funding, and yet almost all have passed every year. This indicates that GP practices perform QI projects of higher quality each year. Taylor *et al.* found in a systematic review that most QI included in the studies did not describe iterative cycles, small-scale change and/or iterative frequent measuring.<sup>28</sup> In our study, these criteria were not included in the assessment, neither in Stockholm nor in Jönköping, so if they should be considered as 'real PDSA (Plan-Do-Study-Act) projects' is an open question.

The **Jönköping** model has also been running longer and includes higher funding per patient. Also, coaching and physical meetings where GP practices share ideas with each other, which both have an effect,<sup>29 30</sup> are parts of the concept. Hence, it is, therefore, difficult to compare the outcome between Stockholm and Jönköping.

In a systematic review from 2008, Schoen states that even if QI project may accelerate improvement, the effects on patient outcomes are modest.<sup>31</sup> Likewise, the possible impact on patient outcome in our study is hard to measure. In **Stockholm**, some of the GP practices have reported improved quality measures. An example could be that more patients with diabetes get their yearly check-up or their eye exam. The effect of the project on the system is an increase in the interest about how to perform QI. There have been more GP practices that ask for education and support in their yearly QI project. The Stockholm Region has funded since 2016 and following these results the Region raised the funding to €0.75 per inhabitant for 2018 and 2019.

Also, in **Jönköping**, the effect on the health situation for the patients in the region, or any other outcome measures from the QI projects, has not been followed over the years. However, the GP practices own measurements show results of the QI projects, like in Stockholm.

Also, the requests for help with data reports to study base-lines and follow-up measurements has increased over the years.

In the first years, focus on assessing the projects was on method and structure (eg, following the PDSA cycle,<sup>32</sup> measurements, etc) rather than the actual effect of the projects. This affected the QI projects to focus on meeting the requirements for funding (structure and method) rather than results. Hence, evaluation of the projects has been redirected towards analysis, content and results. In 2016, the following criteria for reimbursement for the projects were added: 'The QI projects should be based on the needs of the patients and they should collaborate with at least one other actor (other healthcare unit, municipality or another healthcare actor)'. The years to follow will continue to be cycle in improving the models for stimulating QI work within primary healthcare.

### Strengths and limitations

The major strength of the project was the large region where it was tested (2.3 million inhabitants in the Stockholm Region).

It was a limitation that we do not have a good follow-up of the actual effects of QI projects either in Stockholm or in Jönköping. The patients' groups targeted by each GP practices are small and the projects are short. We study the QI work and assume it has good effects if methods are used properly for patients who need it.

We also cannot be sure to what extent the funding had an effect since other factors, such as support, coaching and education, could also have an impact on the number and quality of the QI projects.

To what extent this approach is generalisable is hard to know. It depends on the context and system's financial reimbursement of primary care. Earlier studies have stressed the importance of evaluation of QI efforts over time and Walshe *et al* states that it is also known that the effectiveness of QI initiatives is, to a great extent, influenced by the organisational context. Characteristics, such as leadership, direction, organisational culture, training, resources and practical support, have been shown to be important factors.<sup>33</sup> The balance between assessment (in relation to requirements for funding) and general support in an allowing atmosphere can be a delicate task.<sup>34</sup> However, there could be a similar effect in other regions in Sweden or in other countries.

Another limitation in the study is that we have little knowledge of the QI projects in the Stockholm Region before 2016. They were not shared between the GP practices. There might be existing more than the 75 projects mentioned.

Patients were not involved in planning and performing the QI projects, except for one GP practice, but this is an area that needs to be more focus on. GP practices probably need support to facilitate patient involvement.

If the healthcare administration in Stockholm had requested a project plan from all GP practices in advance already in 2016, it might have enhanced the quality of

the final projects since that would have allowed for additional support. In 2018 and 2019, it has been mandatory to send in a plan during the first part of the year, to allow for feedback.

## CONCLUSIONS

QI work has increased in Stockholm since 2016, probably because of the financial incentives from the Stockholm Region. It seems sustainable since the Region have continued to reimburse and for 2018 and 2019, the amount was raised. In Jönköping, the QI has been part of the funding for the GP practices since 2010 and there are no plans of ending it. Spreading is probably possible, in Sweden and beyond. The next step in Stockholm is expanding the knowledge of systematic QI work. During 2019, a 5-day course over a period of 8 months is given to support QI work in the region.

**Contributors** RF researched the data for Stockholm and EA researched the data for Jönköping. RF and EA drafted the manuscript. All the authors contributed to the discussion, review and editing of the manuscript. RF and BW contributed to the study design.

**Funding** The study is funded by the Stockholm Region.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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