

# Conditions and Barriers for Quality Improvement Work. A Qualitative Study of How Professionals and Health Centre Managers Experience Audit and Feedback Practices in Swedish Primary Care

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## Research article

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# Abstract

## Background

High quality primary care is expected to be the basis of many health care systems. Expectations on primary care are rising as societies age and the burden of chronic disease grows. To stimulate adherence to guidelines and quality improvement, audit and feedback to professionals is often used, but the effects vary. Even with carefully designed audit and feedback practices, barriers related to contextual conditions may prevent quality improvement efforts. The purpose of this study was to explore how professionals and health centre managers in Swedish primary care experience existing forms of audit and feedback, and conditions and barriers for quality improvement, and to explore views on the future use of clinical performance data for quality improvement.

## Methods

We used an explorative qualitative design. Focus groups were conducted with health centre managers, physicians and other health professionals at seven health centres. The interviews were audio recorded, transcribed and analysed using qualitative content analysis.

## Results

Four different types of audit and feedback that regularly occurred at the health centres were identified. The main part of the audit and feedback was “external”, from the regional purchasers and funders, and from the owners of the health centres. This audit and feedback focused on non-clinical measures such as revenues, utilisation of resources, and the volume of production. The participants in our study did not perceive that existing audit and feedback practices contributed to improved quality in general. This, along with lack of time for quality improvement, lack of autonomy and lack of quality improvement initiatives at the system (macro) level, were considered barriers to quality improvement at the health centres.

## Conclusions

Professionals and health centre managers did not experience audit and feedback practices and existing conditions in Swedish primary care as supportive of quality improvement work. From a professional perspective, audit and feedback with a focus on clinical measures, as well as autonomy for professionals, are necessary to create motivation and space for quality improvement work. Such initiatives also need to be supported by quality improvement efforts at the system (macro) level, which would favour transformation to a primary care based system.

# Background

Good quality primary care (PC) has been associated with a number of positive outcomes such as lower rates of avoidable mortality, improved equity in health, and lower health care costs (1–3). Against this background, most countries are trying to base their health care systems on PC. Contemporary PC

systems across OECD countries are expected to take the main responsibility for first-line care, chronic care, and coordination of care performed by others. Expectations on PC are rising as societies age and the burden of chronic disease grows (4). In many countries, PC is trying to adapt by transforming into multidisciplinary team work, in particular to improve care for patients with chronic diseases and multimorbidity (5, 6).

Despite the ambition to strengthen the role of PC, its share of health care resources is declining in the OECD (7, 8). The proportion of general practitioners (GPs) in relation to the total number of physicians across OECD countries dropped from 32 to 29 per percent between 2000 and 2016 (8). The WHO 2008 report “Primary health care: now more than ever”, concluded that “left to their own devices, health systems do not gravitate naturally towards the goals of health for all through primary health care” and “Health systems are developing in directions that contribute little to equity and social justice and fail to get the best health outcomes for their money.”(4)

To increase equity in health and access to care, a new PC model with publicly owned health centres employing a multidisciplinary workforce was introduced in Sweden in the late 1960s. Since then, Swedish PC has been the target of several reforms and changes, but the focus on a multidisciplinary workforce has remained unchanged. Increased patient choice and privatisation of providers was initiated by regional and national governments in 2007–2010 (9, 10). The idea was that if (owners of) HCs competed with each other for health professionals and patients, the competition would make them perform better, which in turn would increase the quality and efficiency of PC.(11). The outcome of these reforms is debated and the results from studies are inconclusive (12, 13). Overall, however, studies indicate that reforms have had little impact on the capacity and quality of PC (14). Swedish PC still has a low proportion of GPs (about 16%) in comparison with other high-income countries (15, 16). Additional attempts to strengthen PC have focused on payment systems, including the introduction of pay for performance (P4P). Similar to the introduction of choice and privatisation, the effects on the quality of care following the introduction of P4P have been modest (17–19), in line with evidence from studies of P4P in other settings (20–22). Moreover, studies in other countries have shown that financial incentives linked to quality measures can cause unintended effects, such as reduced doctor-patient continuity and reduced attention to activities and patients' concerns not linked to financial incentives (23, 24). Additional studies report criticism from employees due to ethical conflicts and the perceived change of the nature of the consultations (25–27).

Criticism from GPs and other employees when it comes to “new public management” in general and extensive use of financial incentives in particular has contributed to an emerging shift in the governance of Swedish PC services (28, 29). So-called trust-based management (“tillitsbaserad styrning”) with a greater emphasis on professional autonomy and less reliance on financial incentives has been suggested as an alternative to financial incentives (28). In trust-based management, improved dialogue between payers and providers is emphasised, as is the responsibility of health centres (HC) for continuous quality improvement (QI) (29), .

A common method to support and develop motivation for QI across care providers is audit and feedback (A&F). Brehaut defines A&F as “a summary of clinical performance (audit) over a specific period of time, and the provision of that summary (feedback) to individual practitioners, teams, or healthcare organisations” (30). A prerequisite for A&F is access to good data. Historically, data about clinical performance in PC has been limited in comparison with specialised care. “Primary Care Quality” is a new national initiative in Swedish PC, developed by PC professionals, that may enable a stronger focus on QI through improved access to data obtained directly from the electronic medical records (EMRs) at the HCs. “Primary Care Quality” consists of 150 + quality indicators that reflect a wide range of PC activities, including acute and chronic conditions, rehabilitation, support of patients’ lifestyle habits, multimorbidity and continuity. The purpose is to support QI through analysis, reflection and learning based on follow-up and comparison of data.

Currently, the “Primary Care Quality” system has been introduced at about 80% of Swedish HCs, but far from all of them have started to use the system (31, 32). Although “Primary Care Quality” has potential, several barriers exist that may prevent data from being used for QI. A first barrier to QI is access to data or knowledge about current quality. However, this information must also influence the intentions (willingness) to change the way of working among professionals and HC managers. Providing A&F is one way to influence the information – intent gap, but effects vary (33). A previous Cochrane Review found that the impact depends on the source of A&F (a higher impact with a respected colleague or supervisor), the frequency (a higher impact with repetitive A&F using new data), the improvement strategies (a higher impact with goal setting and action planning), the baseline performance (a higher impact if performance is low), and aim (a higher impact if the aim is to decrease undesirable behaviour rather than increase desirable behaviour) (34). Additionally, a multi-modal form of feedback (combination of verbal and written/visualised form) has a positive impact on the effectiveness of A&F (34, 35). Moreover, Colquhoun et.al. identified the importance of factors such as to whom the feedback is delivered (individual care provider, group), the type of information (process or outcome, individual or group level), and why the feedback takes place (the theoretical rationale or purpose of the feedback) (36, 37).

Even with carefully designed A&F practices, barriers related to contextual conditions may prevent QI efforts. Thus, knowledge about contextual conditions and barriers at HC level is fundamental for A&F to be able to support QI based on clinical performance data. Without such knowledge, improvements in A&F may facilitate good intentions but fail to accomplish real change. The purpose of this study was to explore how professionals and HC managers in Swedish PC experience existing forms of A&F and present conditions and barriers for QI. We also explore views concerning the future use of clinical performance data for QI.

## Method

### Study design

The study design has an explorative and qualitative approach using focus group interviews with HC managers, physicians, and other health professionals at participating health centres for data collection. The focus group method was selected because the dynamics and interaction between participants facilitate exploration of experiences, reasoning and opinions (38, 39). Qualitative content analysis was used to analyse transcripts of the interviews (40, 41).

## Setting

HCs are contracted by one of the 21 semi-autonomous regions responsible for the financing and organisation of health care in Sweden. Citizens can register with any contracted HC in their region, with minimal possibilities for health centres to refuse registration (42). About 60 percent of Swedish HCs are public but the public/private mix varies between regions and depends on population density. Payment systems for HCs also vary across regions but are mainly based on risk-adjusted capitation (based on burden of disease, e.g. using diagnoses, in combination with socioeconomic factors) (43) with small fee-for-service and P4P components. The funding covers direct expenses for employees' salaries and facilities but also indirect expenses for prescribed medications, laboratory tests and diagnostic procedures (e.g. x-rays, CT scans and ultrasound). Financial charges apply if registered patients seek PC at other PC facilities. Patient fees are moderate, about 20 € for an adult GP visit in 2020 and free for children. HCs usually register 5 000 to 15 000 persons and employ GPs who work in collaboration with practice nurses, psychologists, physiotherapists, occupational therapists and administrators. If the HC manager is not a GP, a medical officer (GP) is responsible for different aspects of care quality.

## Participants

A written invitation with information about the study was sent out to HCs in two medium sized regions where 29% of HCs were private. We invited HCs with different types of ownership and size, located in both rural and urban areas, and in geographic areas of varying socioeconomic status. We asked for participants with different occupational backgrounds and experience, including HC managers. One private and six public HCs agreed to participate. Four of the participating HCs had more than 10 000 persons registered. One of the HCs was located in a larger community (> 100 000 inhabitants) one in a small community (< 10 000 inhabitants) and the rest were located in midsized communities (10 000-100 000 inhabitants). The socioeconomic index for the participating HCs was slightly lower than for the HCs in the regions in general. At two of the HCs, the focus groups with the HC management were held separately. At the other five HCs the managers were included in mixed focus groups. The focus group sessions were held in the HCs' facility. The number of participants in the groups varied between two and 18. In total, 17 men and 35 women participated, including all types of professions: GPs, GP trainees, district nurses, assistant nurses, physiotherapists, occupational therapists, and psychologists. The participants' working experience ranged from 0 to 40 years.

## Data collection and analysis

Two of the authors (EA and SD) jointly conducted the focus groups, one acting as moderator, one as assistant. Both had previous experience of leading focus groups. Before the discussion started, the

moderator informed the participants about the study, that participation was voluntary and that information would be treated anonymously. The participants gave both verbal and written consent to participate.

We used a semi-structured interview guide with open questions, developed for the study. The topics were what good quality is, how it can be measured, present access to performance data, use of the data, present QI projects, problems and wishes for the future, appendix 1.

During the focus groups the participants were encouraged to give examples from their own practice.

Each focus group discussion lasted about one hour, was audio recorded, and transcribed verbatim for subsequent analysis. The transcripts of the interviews were analysed using qualitative content analysis with an inductive approach (40, 41). Initially EA and SD separately read the text several times to get a sense of the whole content. Meaning units relevant to the aim were then identified. In the next step the meaning units were condensed and labelled with a code. Subsequently codes with similar content were grouped into subcategories which were combined into categories (44–46).

After the individual coding and categorisation, two of the authors (EA and SD) compared their results, and when differences were found the results were discussed until consensus was reached. In a last step the themes were identified and discussed in the whole research group (EA, SD and AA).

## Results

We identified seven themes that described views related to the existing systems for A&F and QI at the HCs: 1. Multiple forms of A&F with different purposes and designs, 2. Focus on revenues, costs and efficiency measures from regional managers and owners, 3. More limited attention to clinical quality, 4. Motivation from comparison and transparency, 5. More structured approaches needed for complex change, 6. Focus on avoiding quality degradation rather than quality improvement, and 7. Perceived barriers for QI. The last theme consisted of three categories: 7a. Criticism of measures – and hopes for better ones, 7b. Lack of time, and 7c. Responsible but not in control. A presentation of the content of each theme and selected informative quotes follow below.

### 1. Multiple forms of audit and feedback with different purposes and designs

Participating HCs were exposed to multiple forms of A&F. We identified four different types of stakeholders with different stated purposes and varying designs in terms of their A&F: 1) the regional managers in their role as purchasers and funders, 2) the owners of the HCs, 3) the regional pharmaceutical committees and the Swedish strategic programme against antibiotic resistance (Strama) groups, and 4) the PC research and development (R&D) unit (in one of the two regions).

Except for general dialogue and information exchange they all had different aims, used different measurements and had different targets, see Table 1.

Table 1  
 Characteristics of different stakeholders' A&F

<b>Stakeholder and role</b>	<b><i>Regional managers (Purchasers and funding agents)</i></b>	<b><i>Owners of the HCs (public or private)</i></b>	<b><i>The regional pharmaceutical committees and Strama groups</i></b>	<b><i>The primary care R&amp;D unit</i></b>
<b>Aim</b>	Control compliance to contractual obligations	Monitor revenues, expenditures and general performance	Monitor prescriptions at the HCs and stimulate QI	Facilitate learning and innovation through local improvement activities
<b>Frequency</b>	Annually	Often monthly	Annually	Annually
<b>Form</b>	Often face-to-face, sometimes by video link, but sometimes sending out data reports only	Sometimes face-to-face meetings, but usually sending out data reports only	Often face-to-face meetings or video meetings, but sometimes sending out data reports only	Audit reports in combination with face-to-face meetings
<b>Participants from HC</b>	Usually limited to HC managers and key staff selected by the HC manager	HC managers (who distribute information to the staff)	HC managers and key staff at the HCs	HC managers and key staff at the HCs
<b>Measures and targets</b>	Facilities, staffing, opening hours and collaboration agreements with a focus on non-clinical measures.  Quality of care measures often linked to financial P4P incentives.	Expenditures, utilisation of services (e.g. diagnostic procedures) and other non-clinical measures. Process measures linked to financial incentives (e.g. number of visits and waiting times).	Mainly clinical measures linked to treatment guidelines, evidence-based national targets and regional recommendations on drug use, including restrictive use of antibiotics.	A combination of mainly clinical measures compiled by the R&D unit, reflecting quality of care for different patient groups. Discussion and reflection rather than goals.

Stakeholder and role	<i>Regional managers (Purchasers and funding agents)</i>	<i>Owners of the HCs (public or private)</i>	<i>The regional pharmaceutical committees and Strama groups</i>	<i>The primary care R&amp;D unit</i>
<b>Quotations</b>	<i>We have contractual follow-up by the regional purchasers. Actually, I sent it in last weekend. Previously, they sent us feedback and asked us to comment on it. It can be different types of data. It can be clinical data, but it can also be about accessibility or staffing. Anything is possible. It can be for example [treatment with] anticoagulants. [And then they ask us to] tell them what we think about our results. Last time it was about patient safety. (HC B, manager)</i>	<i>Some feedback about finances, how we are doing on prescriptions, diagnostic procedures and laboratory tests. Then we also get feedback on how we are doing on medication reviews of patients taking more than 10 drugs, how many we have done, and the cost of drugs for diabetes, asthma, and COPD and what else is it ...? (HC A, manager)</i>	<i>There has been a lot of feedback on [how we prescribe] antibiotics. Strama have been very much out visiting ... to check that we follow the guidelines. (HC C, Medical officer)</i>	<i>We have had a follow-up every year from the R&amp;D unit and it has been valuable (VC E, manager)</i>  <i>We do not have the energy or tools to set aside time to find out how many patients have heart failure or atrial fibrillation and [how many of them have] this treatment in that dose.... (HC G, manager)</i>

## 2. Focus on revenues, expenditures and production volume from owners and regional purchasers

The participants talked about "clinical quality" i.e. the quality of different procedures such as diagnostics, treatment and rehabilitation of patient groups with different diseases or needs, and distinguished this from data and measures regarding revenues, costs, utilisation of services, access to care and patient satisfaction. Both the regional purchasers, and in particular the owners, regularly delivered data to the HCs linked to revenues, production volume and utilisation measures, e.g. registration of diagnoses (influencing revenues), number of visits, and expenditures related to diagnostic procedures and drug prescriptions.

*The owners provide us with statistics every month and these are a mixture of different types of statistics. But these are not clinical [measures], it is more about consumption of various... of care, laboratory tests, x-ray, right? (HC C, manager)*

One HC manager said that the owners clarified their mission for the HCs through the financial goals.

The demands of balanced financial results across HCs from owners were perceived as a driving force to use data, but this demand was rarely described as a positive driver.

*We monitor the numbers of laboratory tests, x-rays and other diagnostic procedures, and pathology every month and report it to the staff. Recently we felt that we had to find a different way to report it, so for a period so we have calculated each doctor's production costs the amount of Swedish Krona. But now we feel, and they also feel, that this is not right. Everybody has a different number of visits. (HC E, manager)*

Several participants, both HC managers and staff, felt that the payment system in its current form forced them to do tasks that did not add value for patients, in order to gain sufficient funding for HC activities that *did* create value for patients in the following step. Examples of such tasks connected to funding were home visits to patients who did not need them, carrying out QI projects in areas or ways that were not considered necessary, and several administrative tasks.

*It has become a bit strange in this control system we have that controls our financial situation and what we do. We can do some things just to get funding to be able to use the money for our patients in the next step, for example registration of diagnoses for the ACG system. We do put resources into it to be able to get better quality for our patients, but it is a detour, so to speak. It can be quite frustrating sometimes! (HC A, manager)*

Many HC managers found it their informal duty to act as a "filter" between employees and regular reports from regional purchasers and in owners. They studied the data, assessed the results and then brought up some of them with the employees

*All the figures are sent to us and when we see that something is happening, then we act. We can't just report everything every month to everyone, but we follow a lot. (HC E, manager)*

### **3. More limited attention to clinical quality**

Clinical quality, i.e. measures that reflected the actual care of patients and diseases, was followed up only to a small extent by regional purchasers and owners, with the exception of a few measures linked to P4P, e.g. use of antibiotics. In contrast, the R&D unit, the pharmaceutical committee and Strama brought data on clinical quality when they visited the HCs. The visualisation of clinical results, and comparison with others, together with a dialogue around current measurements were perceived as valuable and inspirational for QI. The participants particularly appreciated visits by senior colleagues with experience from work at health centres.

*Then he showed how the different colleagues worked and it led to a very creative discussion between us colleagues.*

**(HC F, Employee))**

Nurses at many HCs followed quality on diabetes care through the National Diabetes register (NDR) which they found useful but sometimes time-consuming, since they had to register in both the EMRs and the quality register.

The HCs had to retrieve additional data on clinical quality from the EMRs themselves. For example, at one HC, data on heart failure was previously studied by a GP trainee, and the HC kept following this from time to time but not regularly. Some HC managers presented plans on initiating regular follow-ups on more topics. A few said that they looked forward to using the EMR-generated "Primary Care Quality" system to monitor clinical quality.

## 4. Motivation from comparison and transparency

Working with measurements and data was described as a meaningful task, particularly by HC managers at some HCs.

*We can get data out of the EMRs and then think and calculate, but I am the one who does it. Everything takes time and I think... I think it's fun to do it too. Create Excel charts and tables and comparisons, but it takes time, all of that. (HC H, medical officer)*

A common method of using data for QI was to simply visualise it and compare with other HCs, especially for clinical data and data on utilisation of laboratory tests and diagnostic procedures.

*As soon as you raise a problem area, it suddenly just gets better. You do not have to make any changes, just raise the subject and something happens in the group and then the data becomes better. We have seen it so many times. (HC E, manager)*

For prescriptions of antibiotics and other drugs, the same method was used but with data and comparisons for each individual doctor. First, the results were discussed in a group. Then, each GP was handed a list of their patients with the expectation that each GP should "act and change their habits" accordingly.

*We focus on some topic, discuss, think about how we can improve and then we receive some statistics that are individual. And then we handle the statistics on an individual level. That's how we work. (HC D, Employee)*

The participants described both positive and negative feelings concerning sharing data that identified them as individual team members, and about comparing this personal data with each other openly. Doctors were used to discussing differences of opinion, e.g. concerning the use of laboratory tests or drug prescriptions. They explained that they did not criticise or judge each other. Instead, there was an understanding of "necessary variation" linked to patient needs. However, some nurses said that they were not comfortable with this method.

*So we measured it and then we asked if "you [the nurses] are prepared to, every day before you go home, record for yourself how many calls you have made and write it on the board. You don't even need to write*

*your name.” No, they weren't prepared for that. (HC G, manager)*

A similar method was also used for more complex problems that required collaboration and team work. In these cases, the individual feedback could be one step in the process of QI. For example, one HC tried to address the issue of frequent visitors. In this case it was decided that one GP would interview selected patients to better understand the causes of frequent visits. This information was later used by giving each GP a list of their own frequent visitors to try to improve the quality of care for their patients. Data from the National Diabetes Register (47) was used in a similar way.

*In NDR, for example, we usually report twice a year at workplace meetings so that everyone can see the results. And where the goals are not fulfilled, the reports end up at each doctor's desk for action, or active thinking. Sometimes there can be good reasons for why goals are not reached or why the doctor has chosen not to achieve them. It is not just presenting data but expecting reflection and preferably action. (HC E, manager)*

## **5. More structured approaches needed for complex change**

For major improvement projects, requiring organisational changes, the participants described a more structured approach, i.e. using more or less formal Plan-Do-Study-Act (PDSA) cycles.

Some participants described how working according to the traditional PDSA method included forming an improvement team, setting goals, analysing problems, extracting data, analysing data, and considering possible changes. Subsequently the teams tested changes, measured again, evaluated outcomes and finally they proceeded to “run another lap”.

*If I show a figure where someone prescribes a lot of a particular drug it will drop pretty automatically. What is difficult to get action on is if we have to change something bigger. For example, when we want the asthma nurse (instead of the doctor) to take all asthma patients who have no other disease. Then maybe more time is needed for her and we have to plan. It requires more structure and organisational changes. Then it can be more difficult to get action. There might not be enough time for that either. (HC H, medical officer)*

The HC could also use a simplified version of the PDSA method.

*In our QI projects here at the HC, we are much more direct. We sit down, but sometimes maybe only for 15 minutes and then somebody gets up, grabs a pen and goes to the flip board. Let's ask 10 patients who are leaving, can you make sure that the forms will be in place? We will meet again in two weeks. Then we're done with analysing and move on. We don't really have the time to follow all that methodology and I don't really know what is best, but we have made a choice. (HC G, manager)*

Some participants also described how coaching and project management from an external party could facilitate the QI process. However, coaching needed to be according to the conditions of the HCs and should focus on results rather than the method.

## 6. Focus on avoiding quality degradation rather than improvement

Many QI projects across participating HCs were described as trying to “adapt to reality” and as avoiding quality degradation rather than accomplishing quality improvements. One explanatory factor referred to was a lack of resources including a shortage of GPs and other health professionals. The staff searched for opportunities to increase efficiency by balancing needs in different groups. For patients with chronic diseases, the improvement projects were about prioritising those with greater needs, e.g. by improving continuity of care and extending teamwork around patients. Improvements to drug treatment in chronic care were common, partly because they were connected to P4P funding. For patients with non-severe acute diseases, like minor infections and smaller injuries, participants described QI projects on improving telephone accessibility and implementing new digital technologies, such as digital triage systems, in order to ration the utilisation of GPs.

At all HCs, the staff also tried to increase capacity by involving all professions in direct patient work. This included making all professions a possible “first-line contact”, e.g. by enabling patients to go directly to physiotherapists, psychologists or psychosocial teams without a GP referral. HCs also arranged for nurses to take over the diagnostics and treatment of some patients from the GPs, e.g. those with minor infections. Similarly, all professions were involved in the treatment and follow-up of patients with chronic disease.

At several HCs, data was extracted to track any adverse effects for other patient groups than those targeted in improvement projects. For example, one HC planned to follow up what happened to patients whose care was rationed. The HC had been criticised by regional purchasers for making patients with acute minor problems wait, and they thought that “proving” that 1–2 weeks waiting did not cause harm might lead to acceptance of their policy and prioritisation.

*It is possible to produce statistics and reports on which patients had to wait more than a week. We plan to do this to see if there is something we have missed there. If there was actually someone who should have come earlier or if waiting doesn't matter. If waiting doesn't cause harm we don't think it matters much [that patients with acute minor problems wait]. Was there someone who had to wait two weeks before they got their appointment and if so, was this OK? Was it completely OK or was it in any sense harmful that they had to wait so long? If it wasn't harmful or the patient might even have been well before they came in and there were no other consequences of waiting, then it might be good to be able to show this. (HC H, Medical officer)*

At another HC the idea was to monitor clinical quality using “Primary Care Quality” to ensure that clinical quality did not deteriorate due to shortage of staff after an improvement project was carried out. The HC was about to lose half of their GPs the following year, and a new working method was introduced in which nurses rather than GPs saw patients to a greater extent than before.

## 7. Barriers to QI

## 7a. Criticism of measures – and hopes for better ones

The participants were critical about the dominance of A&F based on measures reflecting revenues, expenditures and the volume of care.

*The data that we usually receive on physiotherapy concerns accessibility, which has been followed traditionally. Not much else. [...] How many visits did the physiotherapist have? There is no evaluation on quality or treatment. There's nothing like that really. That's what we're missing. (HC E, Employee)*

Also measures of accessibility such as the number of patients who got an appointment within three or five days, a measure the regional purchasers found important, were often described as “pointless”.

*A pointless measure is offering everyone an appointment within five days. Who came up with that? After all, it is totally insane since we have tax-financed health care and laws on priority setting. The law says that we should prioritise those with the greatest need for care... I think this type of measurement creates so much frustration in primary care when there are much more important measures (HC G, manager)*

The participants' main wish was for more measures reflecting clinical quality, including patient outcomes. They wanted additional measures representing the patients' perspective on care, and measures that reflected quality in PC from a broader perspective.

*They (regional purchasers) asked us how many complaints we had had. Not how many medical incidents or mistakes. [We] thought about that ... What are complaints? So, well.... (HC B, manager)*

Many participants also said that “real quality” could not be measured. Hence, they had to accept “proxies” that could give a hint about quality even if this was not the whole truth.

*Some things you can put into numbers. Other things are assessed more using soft data. It may not be as easy to measure. ... It might be possible to measure, but you cannot compare numbers like one, two, three, four as for hard data. It's more subjective. (HC E, manager)*

## 7b. Responsible but not in control

Funding of HCs had to cover both direct and indirect expenditures related to salaries, prescribed medication, laboratory analyses, and diagnostic procedures. Sometimes QI could increase expenditures for the HC. For example, one HC had worked on optimising drug treatment for diabetes, which resulted in better blood pressure and blood sugar levels for their patients, but also more expensive medicines, which in turn led to higher costs for HCs who had to pay for prescribed drugs.

*It is a high price financially, but maybe in 10 years the patients will gain something, we don't know. (HC G, manager)*

Total expenditure at the HCs, which the HC managers were held accountable for, was partly out of the managers' direct control. For registered patients, HCs had to pay for visits and drug prescriptions for their

patients arranged by other PC providers.

*[We had] very bad metrics for a certain drug. A doctor in town prescribed all of it. But it was registered on, and paid for, by us, because the patients were registered with us, but did not come to us. (HC F, Employee)*

A main problem, brought up by many participants, was the large and growing pressure for more PC services, described as a “mission impossible”. This included trying to adapt to the demands and needs of all current patients while at the same time constantly being assigned new tasks, like requests for prompt follow-ups of patients discharged from the hospital, or taking over responsibility for patient groups that used to be taken care of by hospital-based specialists, usually without extra funding.

*Then it is also true that the assignment we have been given, we didn't define it ourselves, but we got an assignment that was determined by some third party. And then the resources that we get to fulfil this assignment, we might not get them. But the assignment doesn't change but stays the same anyway. We take care of 13,000 patients. Whether we have staff or not we are supposed to fulfil the assignment. It is like saying that a ship needs 35 crew members with different skills, and then there is only half of the crew, but the ship should sail anyway, the crew should do all these jobs. Somewhere this equation doesn't add up. (HC F, Employee)*

The HCs reported that they could not refuse tasks or registration of new patients, even if there was a shortage of GPs and other health professionals.

Unrealistic requirements from the regional purchasers and owners related to access to care for minor problems was also seen as a big problem. Several participants experienced a conflict between what they thought was good quality and these requirements.

*The main goal of politicians is that accessibility should be so damned good. So if it is 25 persons who need to see a doctor one day, yes, then it should be 25. What is it then that we have to cut down on? Well, the clinical quality, the quality of communication (HC F, Employee)*

A solution considered necessary in order to create good quality at the HCs by both professionals and HC managers was prioritising and rationing, i.e. to remove tasks to balance with the available resources. But this was not possible for single HCs and had to include changes in contracts for all HCs in the region.

For several complex problems, QI focusing on individual HCs was deemed insufficient. To initiate change and improvements, other health care providers needed to be involved as well. This meant that QI needed to be initiated and governed from the meso level, and had to include both hospital and primary care. One example referred to by participants was patients with mental health problems. Here the HCs wanted to work on improvement together with psychiatric care providers.

Similarly, some participants suggested that systematic QI should also be conducted at the national level. One example given was to create improved conditions for good continuity in PC by strengthening the overall capacity and number of GPs. Solutions to the current shortage of GPs were largely perceived to be

found at the macro level. Thus, improvements at the HC level were not perceived to be enough, but systematic improvements on the macro level were required.

*The management in different regions does not have the ability to make sure that the doctors want to work in primary care and to make a correct analysis of what the reason is [for lack of GPs], so they could find the cause and then remedy it. They are not willing to do that (HC F, Employee)*

### **7c. Lack of time**

Most of the participants described a desire to improve daily work at the HC, but it was difficult to find time for QI projects since they had to fill their days with patient appointments. The lack of time also made it difficult to obtain and assess data. Many HC managers said that they simply had no time to do it themselves. The HC administrators who could have helped them were also often occupied with other tasks such as meeting regional requirements that the doctor's dictated notes should be typed up within 48 hours, or the HC would lose some of its funding.

Participants at HCs that had performed a few QI projects pointed out that it was difficult to follow and improve quality in several fields at the same time, or to work as systematically as they wanted. Many emphasised that they did not just need time for the QI projects themselves, but also time to think about what they needed to improve.

*We must have enough health professionals. Because we are too few and work is too stressful, we can't think of quality and QI projects. I think that doctors should have some time for reflection as well because it is also a part of our job to think about what we do and how we are doing it. When we are this few, maybe we need it even more. (HC C, medical officer)*

The current situation was perceived to cause frustration but was also described as a distinct motivator behind QI. QI projects could try to find ways to improve overbooked schedules for GPs or to reduce expectations on GPs to prescribe medication or order tests without seeing the patients.

## **Discussion**

Access to data for QI is a problem in many countries but in Sweden a majority of GPs report that they regularly receive some feedback (48). Our study identified four different and parallel forms of A&F in Swedish PC. Most of the data used in A&F interventions by regional purchasers and owners of HCs concerned non-clinical measures related to revenues, expenditures, utilisation of resources and the volume of production. The measures used by these two stakeholders were often linked to financial incentives and contractual obligations. The focus on non-clinical measures and financial incentives contributed to HCs meeting financial goals and contracts determined by regional purchasers and owners. However, the participants in our study did not perceive that these A&F practices contributed to improved quality in general. The participants described how they needed to adapt to financial incentives to be able to raise revenues in order maintain staff levels so they could do the things they themselves found

valuable for patient benefits. They also needed to keep up with the rest of the HCs in the region, e.g. when it came to registration of diagnoses and other activities related to funding, or else they would not be able to maintain their current staff level. This also meant that the HCs' financial position was an important condition for QI. HCs that did not have a good financial position felt forced to focus on improvements that had an impact on revenues or expenditures. The role of the HC managers was important. They acted as a filter and prioritised between different demands and problems raised by regional purchasers and owners.

In contrast to A&F from regional purchasers and owners, A&F based on clinical data by the regional Pharmaceutical committee/Strama group and the regional R&D unit was often described as meaningful and motivational by participating professionals. This is in line with previous studies suggesting that A&F is more likely to be accepted if professionals trust data, agree with benchmarks and/or consider clinical topics being audited important (33, 49, 50). At the same time, this A&F focusing on comparison with others and with evidence-based targets was perceived as much more constrained and limited compared to A&F from purchasers and owners.

The actual change, supported by A&F and based on clinical data, often focused on simple changes on the individual level, e.g. more restricted prescriptions of antibiotics by GPs. HC managers were usually less active and directly involved in this type of QI, but left it to the professionals. More complex changes based on clinical data, involving team efforts and a more active role for HC managers, were less common.

Several contextual conditions and barriers for QI work based on clinical data can be identified from our study. An important condition and barrier was that regional purchasers and owners dominated the A&F given to the HCs, and favoured non-clinical data. A&F in Swedish PC started as a voluntary internal process, where GPs assessed their own work with the purpose of sharing experiences and initiating improvement work. More recently, parallel forms of A&F have developed, focusing on external inspections by persons representing funders and owners, persons not personally involved in the work of the health centre. This A&F is more regulatory and involves sanctions (51, 52) and relies on external incentives rather than professionals' internal motivation. As suggested by our study, A&F focusing on revenues, expenditures and efficiency measures may suppress A&F based on clinical data, with a possible negative influence on professionals' interest in A&F activities in general. Improvement projects that health professionals experience as "their own" have a greater chance of succeeding. A possible explanation for this is that autonomy together with having a professional ideal of pursuing mastery, and a clear and meaningful social purpose creates motivation in itself (53, 54). To find a new balance between internal and external A&F, where the external does not dominate the internal, can be described as an essential condition for QI and use of clinical data.

When asked about the future, the participants wanted easily accessible clinical data highlighting the content and results of care, preferably in the form of recurring reports and including patient perspectives. Facilitating access to relevant clinical data for PC has been described as a necessary first step in the

process of QI (55). The evidence-based quality indicators in Primary Care Quality are easily integrated into the daily work at HCs and can be an important contribution towards this end in Swedish PC (55). Improved access to clinical data also needs to be translated into information, e.g. graphical presentations of comparisons with peers and against evidence-based targets, to increase motivation and engagement (55, 56). Our participants, and in particular GPs, confirmed that comparisons of data between HCs stimulated QI. GPs were used to discussing their individual results openly with each other and felt that they could do so non-judgmentally. The nurses, on the other hand, who did not have much experience, were less comfortable with comparison of results. According to previous studies, the motivation to improve is likely to increase if A&F is delivered by a trustful source and someone professionals look up to (53). A dialogue, with self-reflection on results, is suggested to make it easier to include some of the complexity, and the non-measurable values in PC, in the evaluation of quality (54). This method of "collegial dialogues" had a long history in one of the studied regions and was perceived as valuable by the participants in our study. The Swedish Strama groups have a similar model of colleagues visiting HCs, that has proven to be successful (57).

More complex changes are likely to need more formal support, e.g. using Plan-Do-Study-Act (PDSA) cycles (58). Studies show that the PDSA model is rarely used as intended in practice (57). In fact, a recent study from the UK reported that only 20% of GPs and 33% of practice managers knew about the PDSA model (59, 60). Financial incentives for using PDSA in QI in Swedish PC have been tested (61) but the impact on the care provided is yet to be studied. Facilitating more complex QI through a coach who supports the team working on improvement is also common (62). However, the participants in our study addressed the need to adapt the methods of QI to their own needs and capabilities, and to highlight the results rather than the method. This is in line with other studies, pointing out the risk of having too much focus on tools for QI when it is "the improvement habit" along with knowledge and skills in providing care that truly matters (63).

To close the gap between intention and actual behavioural change, improving capability and motivation across professionals and HC managers is not enough. Professionals and HC managers also need supporting conditions and a belief that change is feasible (33). In practice, professionals and managers at HCs are occupied with delivering services and taking care of acute problems. They often have little time to analyse or think about data that reflects past events, or how to change current practices in an innovative way. Our participants highlighted that the greatest benefit of a QI coach, besides "putting pressure" on the participants, was that they were helped with practical things such as compiling data. This indicates that the main problem is not ignorance of QI methods but a lack of time. In particular, time constraints may be an important barrier for complex changes requiring collective efforts at the team level. Professionals and HC managers also need to respond to other constraints and demands, e.g. a shortage of staff. All these conditions were present among the studied HCs. The main reason stated for not doing more QI was lack of time. The participants expressed a need not only for time to implement QI projects but also time to reflect on what needed improvement. This is another important barrier for QI.

Complex change requires an adaptive approach, accepting unpredictability, and self-organisation including time for reflection (53, 54). The authors of a Health Foundation report state that “Improvement teams that try to cram the planning of a complex intervention involving multiple processes and people into a few brief impromptu meetings held between clinical commitments will struggle to make an impact.” (60). Using data to implement well thought out QI projects that actually lead to improved outcomes for patients takes time (64–66). Previous experiences of lack of resources (time and staff) during attempts to perform QI projects can cause change fatigue rather than motivation (67). In fact, focusing on QI and cost reduction, without considering work conditions for staff, may have a negative impact on results (68)

This necessary conditions for QI, and in particular complex change, are in sharp contrast to existing conditions in Swedish PC. According to a survey by the Health Foundation, 95% of responding GPs in both Sweden and the UK found their work stressful, and more than half of them found it very or extremely stressful (69) In the UK, 80% of responding GPs found it a major challenge to find time to plan and design improvement projects. In Sweden, where about half of all HCs have vacancies, there is no reason to believe that the situation is different (70). These conditions also explain our finding that many QI projects across the studied HCs were about avoiding quality deterioration rather than improvement.

Participants often referred to having a responsibility without being fully in control. This points to the importance of working with QI on a broader system level that includes other health care providers, especially when a more transformational change supporting a PC-based health system is expected. A previous IHI paper highlights systems thinking and the need to collaborate across provider boundaries (71). To make this possible it is essential that leaders at the macro level have system knowledge, but also essential to strengthen leader’s possibilities and competencies for leading change (72).

## Limitations

Our study has several limitations. A first important limitation is that participation in focus groups was voluntary. It is possible that participating HCs had a greater interest in QI compared to HCs that did not participate. Non-participating HCs may also have had more time constraints. If anything, this suggests that the conditions and barriers reported in the study regarding lack of time may be underestimated. We invited HCs of different locations, sizes and ownership, but only one private HC participated. It is possible that having more private HCs with different ownerships could have provided additional and valuable information. In some of our groups the number of participants was too high or low to create the best conditions for a dynamic and interactive dialogue between participants. However, the participants knew each other, which made the atmosphere relaxed and gave everybody an opportunity to talk, even in the big group. A general limitation is that our results are qualitative and originate from the Swedish context. The results are not directly transferable to other settings, although PC systems in many other countries face similar problems and challenges as in Sweden.

## Conclusion

We found four different types of A&F at the health centres. The main part of the A&F was “external”, from the regional purchasers and funders and the owners of the HCs, and was dominated by non-clinical measures and financial incentives. This was perceived as a barrier to QI by health professionals. Other important barriers were lack of time and autonomy. QI was sometimes described as avoiding quality degradation rather than improving quality, which was explained by resource constraints and pressing requirements. From a professional perspective, audit and feedback with a focus on clinical measures as well as autonomy for professionals is necessary to create motivation and space for quality improvement work. Such initiatives need to be supported by quality improvement efforts at the system (macro) level, which would favour transformation to a primary care based system.

## **Abbreviations**

A&F: Audit and feedback; EMR: Electronic medical records; GP: General practitioner; HC: health (care) centre; NDR: National Diabetes register; P4P: Pay for performance; PDSA: Plan-Do-Study-Act PC: Primary care; QI: quality improvement; R&D: research and development; Strama: the Swedish strategic programme against antibiotic resistance

## **Declarations**

## **Ethics approval and consent to participate**

This study was approved by the Linköping regional ethics board (registry number 2017/422-31) Interviewees were asked to read and sign a consent form before joining the focus group. Anonymity regarding the identity of the participants was maintained throughout the study.

## **Consent for publication**

Not applicable

## **Availability of data and materials**

The datasets analysed during the current study are available from the corresponding author on reasonable request.

## **Competing interests**

The authors declare that they have no competing interests.

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## Authors' contributions

EA and SD designed the study, held the focus groups and performed the initial analysis. All three authors performed the final analysis. and all contributed to writing the manuscript. All authors have read and approved the final manuscript.

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