

Quality improvement in health care: how to do it

ABSTRACT

This article outlines the steps to success in quality improvement and explains how quality improvement can help you, your patients and your institution. Although many tactics can be used to drive quality improvement, some tactics deliver results that are short term and unsustainable and that fail to embed a culture of quality improvement within organizations. Consensus is emerging that a bottom-up approach may be better – where the intrinsic motivations of clinical staff are harnessed to drive quality improvement. This is an ideal opportunity for clinical staff at all levels to join in. The steps involved in quality improvement include choosing a topic, choosing tools to measure the problem, using plan, do, study, act cycles to drive improvement, and then writing up and sharing the project. Quality improvement projects can achieve multiple outcomes including improved patient experience and saved costs.

PDSA (plan do study act) cycles and driver diagrams. Performance assessment frameworks and innovation networks. Financial incentives and commissioning for quality. There are a lot of quality initiative buzzwords out there but the range of them can seem intimidating to the newcomer. The language of quality improvement can also seem opaque to beginners in the field. As a clinician you might ask yourself what it is all about and whether and how you should get involved. The short answer is that you can and should get involved, and that you do not need a degree in improvement science to do it. This article outlines the steps to success in quality improvement and explains how quality improvement can help you, your patients and your institution.

There are a variety of ways to drive quality improvement in health care and a number of these have been tried in the NHS. These include the provision of incentives to drive quality, the use of hierarchies to ensure a top-down approach to quality improvement, the

use of training, or even the use of penalties to punish institutions that fail to achieve quality standards (Walsh et al, 2007; Vidyarthi and Baron, 2011).

Although these tactics to drive quality improvement can achieve results, most of these results end up being short term and unsustainable and fail to embed a culture of quality improvement within organizations. Consensus is emerging that a bottom-up approach may be better – where the intrinsic motivations of clinical staff are harnessed to drive quality improvement (Ham, 2014). This is an ideal opportunity for clinical staff at all levels to join in.

First step: choose a topic

The first question that most people have is: ‘What should I do a quality improvement project on?’ While it might be tempting to seize on the most immediate thing that comes to mind, it is worth taking some time to think this through. The best quality improvement projects are ones that achieve multiple outcomes – perhaps better access to care, improved patient safety and saved costs. This might seem ambitious but it is achievable.

It is worth talking to fellow team members (ideally interdisciplinary team members) to find out what quality improvement projects would be important to them. It is also worth considering asking patients and involving them in the process (Mulley et al, 2012). Ultimately, the purpose of quality improvement is to deliver improved care for

patients so it makes sense to involve them from the start. It is also worth talking to senior clinical leaders at the institution and to ensure that quality improvement projects are aligned with institutional needs. For example, if a hospital has a problem with falls or delayed discharges, then these should be the subjects for quality improvement initiatives. This will result in more worthwhile outcomes and will also ensure that the project will receive recognition among senior clinical managers.

Once you have decided on a topic, it is worth spending time thinking through the nature of the problems that might need to be improved. It will be worth thinking what is causing the problem that needs to improve, what interventions might help and what interventions have been tried in the past – on this specific problem and on other equivalent problems in other contexts. This may require a literature search and some initial reading before starting off.

Second step: choose tools

The next step will be deciding what tools to use to measure the problem and to continue to measure it over time to see the effect of any intervention. Tools that measure processes or outcomes may be used – depending on the problem and the context. It is best to use a tool that has been used before and that has been evaluated for its reliability and validity. Sometimes multiple measurements of multiple processes or outcomes will be necessary.

Then it will be time to decide on the intervention or interventions that will be used to improve quality. These may be educational, clinical or management interventions or a combination of these.

Third step: use PDSA

Next it will be time to start. Rather than take a measurement, make an intervention and then wait for months to see if there is any change, it is better to work in much shorter and faster cycles – so-called PDSA cycles. PDSA stands for plan, do, study, act

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– the idea is to plan an intervention that will bring about change, carry it out, check to see if there have been any effects and then adjust the intervention if need be to drive further change. Once the first PDSA cycle is carried out, it is time to start on the second one and move on from there. Sometimes multiple PDSA cycles will be needed. This should not be seen as a sign of failure but rather an opportunity to build continuous on-course correction and improvement into the process.

It is important to assess the impact of the various interventions as you go and also to ensure that the observed outcomes are actually caused by the intervention. It is a good idea to keep a run chart to see how things progress over time and to make this simple and visible – so that all team members can see it. A run chart enables you to plot the outcome against time (*Figure 1*) – which might show, for example, that the number of pressure ulcers has fallen over time as the result of a quality improvement project. Much of the data that emerges will be quantitative; however, it may also be worthwhile gathering qualitative data to help understand how and why things go wrong or start to improve.

Formal approval from a research ethics committee is not usually required for a quality improvement project as quality improvement is not research. However, quality improvement should still be carried out to high ethical standards, including

ensuring it is independent of external funders and declaring any competing interests.

Fourth step: write up your project

The next step is to write up the quality improvement project and share the results with colleagues in the department and across the institution. It is also worthwhile getting the report published. When writing up the project it is best to do this according to SQUIRE (2015) guidelines. SQUIRE guidelines ‘provide a framework for reporting new knowledge about how to improve healthcare.’ They are the equivalent of CONSORT criteria for randomized controlled trials.

Writing up the project is a good discipline but it can also lead to other benefits such as the sharing, dissemination and reproduction of good ideas. All too often quality improvement projects are carried out in a hospital and never shared outside the institution. Other institutions then start from scratch rather than building on the achievements of others. Another vital component is to ensure that the new improved processes become embedded within the institution, so it is worth considering how new changes can become part of regular and normal interdisciplinary work flows so that it will be impossible to slowly revert to old ways of doing things without anyone noticing.

Quality improvement is designed to overcome problems experienced by other

approaches in the past – for example audit. One problem with audit is that all too often an audit is not followed up with a plan for action. In addition, audit cycles are frequently not completed so no one knows whether the intervention has had any effects.

If you are a beginner to quality improvement, then there are many sources of support available including resources on the Institute of Healthcare Improvement website (www.ihl.org/education/ihopenschool/Pages/default.aspx), on the Royal College of Physicians website (www.rcplondon.ac.uk/projects/learning-make-difference-ltmd) and on the BMJ Quality website (www.rcplondon.ac.uk/projects/learning-make-difference-ltmd).

It is important to ensure that your clinical or educational supervisor is involved and engaged with the project. Some quality improvement projects require widespread change to succeed and you might need senior colleagues to ensure that cross-departmental and interdisciplinary changes actually happen.

If these are the basics of quality improvement, then what can make your quality improvement project stand out at a local, national or even international level? The simple answer is that the more outcomes that it achieves which are important to a range of different stakeholders, the more likely it will stand out. These outcomes might include patient experience, access or cost. Of all these outcomes cost savings are perhaps the most challenging to achieve, although significant cost savings are possible (Øvretveit, 2009; Institute of Medicine, 2013). One caveat is that the intervention itself needs to be costed and the project must demonstrate higher savings than the cost of the intervention.

Practical examples of how quality improvement projects can deliver change and save costs are outlined in *Figure 2*.

Conclusions

Quality is likely to be a watchword in the NHS over the next decade. If it is to achieve its potential then all staff will need to get involved to deliver benefit for patients and institutions. **BJHM**

Figure 1 is reproduced from Pratap et al (2012). Conflict of interest: Dr K Walsh and Dr R Helm work for BMJ which runs a forum in quality improvement and also online quality improvement programmes; Dr OA Aboshady: none.

Figure 1. An example run chart. PDSA = plan-do-study-act.

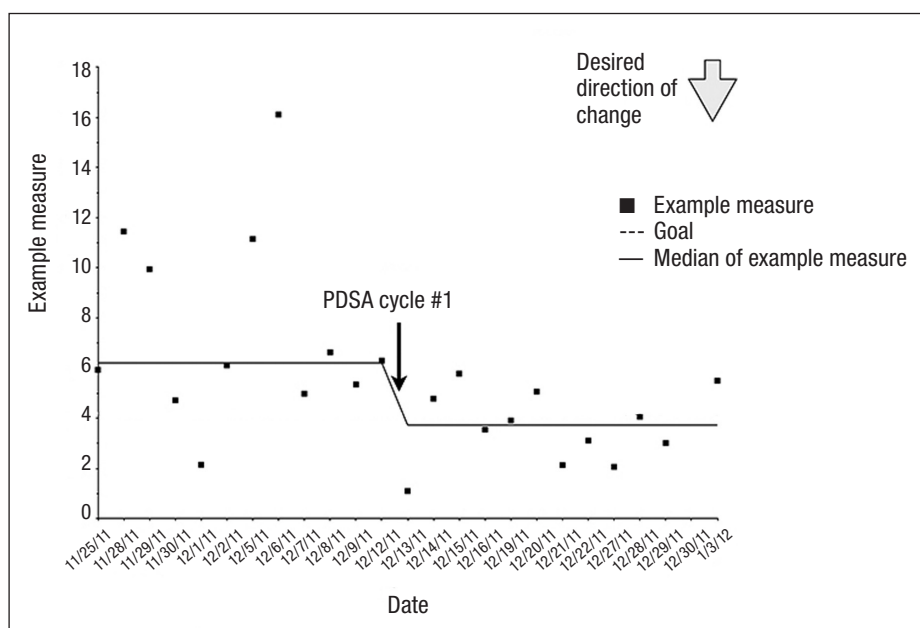


Figure 2. Cost savings from various quality improvement projects.

Length of stay
In a quality improvement project Shabbir et al (2015) instituted simple ward-based initiatives to reduce unnecessary in-hospital patient stay. This resulted in a reduction in length of stay for those patients requiring a social care package from 46 days to 16 days. This was achieved in a 28-bed general acute ward, affecting an average of 10 patients per month. At a cost of £225 per day this delivered a notional saving of £6750 for each patient or £67 500 per month for this ward alone.

By introducing a multidisciplinary patient pathway and clerking pro-forma for patients admitted with hip fractures, Chamberlain and Pugh (2015) delivered a 2.5-day reduction in length of stay. At £303 per day, the savings delivered by the programme equated to a notional saving of over £90 000 if applied to all 120 admissions in a year.

Pressure ulcer prevention
In a simple quality improvement project, Cullen Gill (2015) reduced the incidence of hospital-acquired pressure ulcers in intensive care by using recognized and evidence-based methods. The outcome was not costed, but every pressure ulcer prevented means significant savings for the NHS. According to the National Institute for Health and Care Excellence (2014) 'the daily costs of treating a pressure ulcer are estimated to range from £43 to £374. For ulcers without complications the daily cost ranges from £43 to £57.'

Handover
In another study Walton and Munro (2015) set up a new, multidisciplinary, team-based handover meeting, which improved the quality of handover and significantly reduced the length of the handover meetings. This would save resources by freeing up the time of key staff who are involved in handover.

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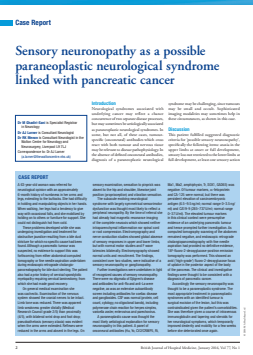
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Quality improvement projects



BJHM is encouraging the publication and dissemination of findings from quality improvement projects undertaken in a hospital setting.

These should follow the Squire guidelines (http://squire-statement.org/assets/pdfs/SQUIRE_guidelines_table.pdf). The article should be no longer than 1800 words with up to two figures or tables and a maximum of 10 references. There should be no more than 4 authors and a statement of contribution for each author should accompany the submission. All submissions should also include ethics form A confirming exemption from ethics submission – this form should be obtained locally from the authors' local research and development or audit office.

Full details for submission are available from the BJHM website at www.magonlinelibrary.com/pb/assets/raw/qip_auth.pdf

