Implementing and Sustaining Changes

Ontario
Health Quality Ontario

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OVERVIEW

It is estimated that fewer than 40 percent of health care improvement initiatives successfully transition from adoption to sustained implementation that is spread to more than one area of an organization.[1] Although implementing, sustaining, and spreading improvement is difficult, continued success in Quality Improvement (QI) requires "deliberate and intentional" implementation management throughout your initiative.

It's important to make sustainability a priority from the very beginning of any initiative. The sustainability of an initiative is not something that can be easily addressed after it is finished. Although sustainability and spread may seem to be the natural results of a successful improvement effort, they should be actively considered from the beginning of your improvement efforts.

This primer will focus on strategies for the successful implementation of your improvements and address concepts for ensuring their sustainability.

IMPLEMENTING SUSTAINABLE CHANGE

After Quality Improvement (QI) teams have made it through the first four phases of Health Quality Ontario's QI Framework, they are ready to begin the implementation phase of their improvement efforts.
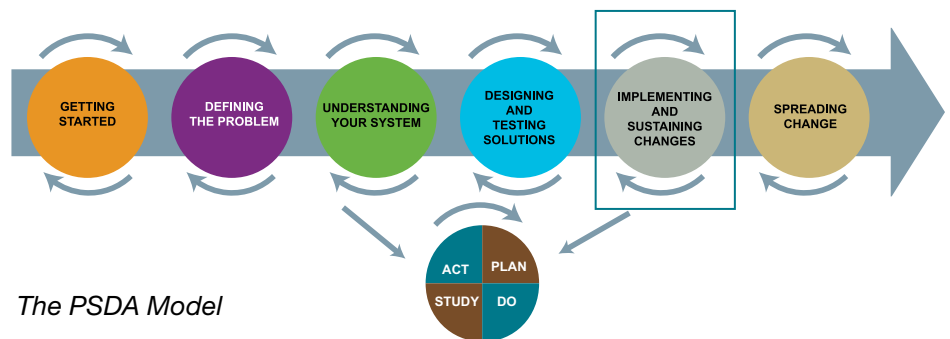
The PSDA Model

At this point in the QI journey, the team has tested their improvement ideas through small tests of change (Plan-Do-Study-Act Cycles or PDSAs) and are confident that the changes are an improvement – as demonstrated through an analysis of their data. During the implementation phase, changes are formally applied to everyday practice in the unit or department where the improvement effort is taking place. The lessons learned by teams during their small tests of change are essential to the continued success of these improvements during the implementation phase.

Important Definitions

*Sustainability: means holding onto improvements made and evolving as required.*

Spread: means that the learning which takes place in any part of the organization is actively shared and acted upon by other/all parts of the organization

To effectively implement change and have the change "stick" or be sustained over the long term, the following concepts should be employed. These concepts will be explained further below.

- Engagement of others
- Communication
- Formalize and standardize the changes
- Training
- Measurement
- Sustainability plans

Engage Others

Front-line staff members play an important role in each phase of an improvement initiative. The continual support and a regular evaluation of the needs of those working within the changed processes are necessary for any improvement to be successful.

Those individuals affected by the change are simultaneously the most critical resource, support, barrier and risk factor when managing change. The uncertainties of change can evoke strong emotions in those that are affected. People may feel frustration, anger, despair, acceptance, enthusiasm and elation over the course of the improvement initiative, as their work processes change. How people feel will be dependent on whether they accept the change willingly or reluctantly, the level of consultation that occurs, the effect of the change on their work, and the support provided by organizational and team leadership. Understanding why people feel differently about an improvement initiative may help the team leader ensure that change is introduced in a manner that anticipates, acknowledges and responds to the concerns of everyone affected.

When planning an implementation strategy, the QI team and the organizational leaders should consider the fact that staff may:

- Not be aware of the reasons change is necessary
- Feel that there are other, more important issues to be dealt with
- Not agree with the proposed change, or feel that there is a better way to achieve the outcome
- Disagree over how the change should be implemented
- Feel there is criticism about the way they do things implied in the change process
- Feel that they have done this before and nothing changed
- Feel that there will be extra work for them as a result of the changes

Changing the way people think about change is an important aspect of any improvement initiative. Change should not be daunting to your coworkers.

Rather, it is about having the tools, techniques and confidence to work with colleagues to try something different. It is about understanding the possibilities of thinking differently and aiming to make practical improvements for patients and staff. If staff are engaged early and supported throughout the development of the improvement, they are likely to become champions of that improvement and embed its processes in their jobs.

Research and experience demonstrate that support from organizational leadership is essential to successful quality improvement efforts. Clinical and administrative leaders who work directly on, or indirectly support, the improvement project must ensure that all barriers to success are removed and project priorities are clearly identified and communicated. Communicate implementation plans with organizational leadership before rolling out changes to ensure that they are able to support the implementation plans wholeheartedly.

In addition to formal leaders, the QI team should consider who needs to be on board for changes to happen. Engage those that ultimately influence whether or not something happens – whether these individuals are in management positions or not.

Communication
Communication is critical to implementing and sustaining change. Good communication in the change management process allows us to:

- Share norms and values
- Develop trust and commitment to the project
- Share knowledge
- Generate emotional connections

Communications should take place regularly and should reach all who are affected by the proposed change - staff, consumers, as well as internal and external stakeholders (please see Health Quality Ontario's *Voice of the Customer* primer for more details).

Different organizations communicate in different ways. Some rely on meetings. Some rely on written reports and some are comfortable using the web or email. Be sure to use a communication mechanism that suits the person or group the QI team is trying to reach.

Try new communication strategies over the course of the implementation process. To assist the QI team in planning when to communicate, what to communicate, and who to communicate to, the following points should be considered:

1. The audience
2. The objectives
3. The message
4. The means of delivering the message

QI teams need to continuously share their improvements and demonstrate how the change has positively impacted the patient/client. The change will be more successful, and people will be more committed to the change, if they truly believe it will improve things.

It is important to highlight the "what's in it for me," for everyone affected by the changes being made. Engaging staff and demonstrating how improvements are achieved are important to ensuring support for future changes.

Effective, early, and frequent communication will give those affected by the change some ownership of the project and a vested interest in its success. To learn more about effective communication, please refer to Health Quality Ontario's Communication Planning Tool.

Formalize and Standardize Change
Once a change or new process has been implemented, it must be monitored to ensure it is performing as expected. It also helps to completely eliminate old methods of doing things where possible (e.g., destroying old forms or erasing old software). Please see Appendix 2 for more information on this process, which is known as "error proofing." Behaviours that support new processes should be encouraged and reinforced to make the change the 'norm' in your work culture. To make changes "stick," information about the new processes should be built into the orientation of new employees, into job descriptions, and into policies.

Visual management is a form of standardizing work using a set of cues that make operation standards visible and easy to follow. Please refer to Appendix 1 for more information on visual management.

Failure to link the goals of an improvement project to the overall strategy or vision of an organization can negatively affect its sustainability. Without demonstrating how the change is related to the overall goals of the organization, it can be difficult to change the culture or convey an understanding of why resources are being expended on the change initiative. An improvement is much more likely to be sustained if it is integrated into the culture and core processes of an organization/practice. Moreover, it is important that changes are flexible and are able to respond to shifts in the environment.

Standardizing new processes is one of the most effective methods for implementing and sustaining changes. Improvements to a process, due to the fact that they are rooted in best practices, should become the "standard work."

> *An example of standardizing change and using Visual management:*
>
> *When introducing a new booking system, a hospital developed an area for patients when they wanted to make a booking. In order to ensure patients could find their way to this area, they developed bright, attractive signage, which was visible at each entrance to the hospital (i.e., visual management, error proofing).*

Creating "standard work" involves systematically defining and standardizing the: sequence, timing, supplies, people, space, and equipment that are used in the completion of a particular task.[2] To create standard work processes, two methods are utilized: visual management and error proofing. To read more about visual management and error proofing, please see the appendices.

Training

Training in a new process often occurs while changes are being implemented. All too often training is too brief and too infrequent. Training should be an ongoing process that provides direct support to those affected by the changes being made. Effective training sessions not only inform participants about how to complete a process, they are also opportunities for gauging the comfort level of those being trained on the new skills and knowledge they are learning. Project teams often underestimate the amount of training required to learn a new process.

Here are some suggestions to ensure training sessions are effective:

- Empower those being trained so they may identify other skills and processes they may require training in.
- Identify a small number of staff who can be trained to be trainers themselves. These individuals should hold different roles within the organization, for example, the team secretary, specialist nurse, or physiotherapist
- All staff should understand how to work within a changed process, and expectations regarding compliance should be established during the introduction of the new process
- Wall charts, posters, cue cards, or 'bookmarks' that can be carried around are effective visual management tools that serve to reinforce the change
- Training should be evaluated regularly to make sure that it is useful and relevant

When training sessions are informative and effective, staff will grow confident in working with new processes. They will also be able to assist in the education and training of others. They will be able to improve, maintain or re-establish the changed process, even if there are factors that threaten to disrupt it.

Measurement

Measurement is crucial at every stage of change implementation. For details on measurement and examples of measurement tools, please refer to Health Quality Ontario's Measurement for Quality Improvement primer.

During the testing phase of a change, measurements are gathered via PDSA cycles to ensure that the process that is being developed is having the intended effect. During the implementation phase, frequently monitoring indicators/measures will allow the QI team to evaluate the effectiveness of the change and its effect on different environments and situations.

Establishing a baseline for measuring and communicating the improvements can be an exciting and motivational process for teams. Measurement helps the team identify priorities. Providing feedback on the progress achieved (or not achieved) allows the QI team, as well as the affected staff, to celebrate their success or take action to resolve any issues.

Measures should be shared with staff in various ways, including staff meetings and formal reports. Graphs that depict data gathered over time are effective for conveying success stories. Displaying these graphs in areas where the staff tends to gather (for example, the break/coffee room) is an excellent way of sharing measurements and demonstrating progress. Being able to see how well teams are doing with improved processes often incents further improvement.

Sustainability Plans

Sustainability is achieved when the new ways of working and the resulting improved outcomes become the norm. Not only have the processes and outcomes changed, but the thinking and attitudes behind them are fundamentally altered. In other words, the change has been integrated into the day-to-day, rather than something 'added on.' Sustainability means holding the gains and evolving as required, without reverting to the old ways of doing things.

Teams can become frustrated if they experience the "improvement evaporation effect,"[3] or a lack of sustainability. The improvement evaporation effect occurs when the team has gone to great lengths to achieve improvement in a process, only to find that they are not able to retain or sustain the improvements that they had made.

An example of improvement evaporation effect: A discharge planning document is introduced and it successfully improves the discharge process. An audit after a year however finds out that the discharge planning document is no longer in use.

Typically, the completion of an improvement effort is celebrated, but little is done to celebrate the maintenance of that improvement. Make definite plans in advance to celebrate continued success and to reflect on the team's progress. Set a new aim or goal and try to improve even more. Celebrate and communicate periodically the fact that the indicator has stayed at the improved level. For example, post a sign in the break room stating: "Celebrating six months of keeping readmission rates below 10%." Perhaps count the number of days without an incident.

Consider applying to conferences or poster presentations to celebrate your work with the community. Make your efforts a continuous improvement process, without allowing it to settle into simple maintenance mode. Find ways to renew the passion for improvement and creativity that was part of the early days of the project.

In addition to carefully planning the implementation of a change, the QI team may wish to utilize a diagnostic tool that was created by the United Kingdom's National Health Service (Please see "Additional Resources" below). The Sustainability Model can assist QI teams to "identify strengths and weaknesses in [their] implementation plan and predict the likelihood of sustainability for [their] improvement initiative."[4]

The Sustainability Model addresses the ten factors relating to process, staff and organizational issues that play a role in sustaining change in a health care organization. The Sustainability Model was developed in consultation with: front line teams, improvement experts, senior administrative and clinical leaders and subject area experts from academia and other industries.

The NHS website states that: "The development of the Model is based on the premise that the changes individuals and teams wish to make fulfill the fundamental principle of improving the patient experience of health services. Another important impact that can be gained by using the Model is the effective achievement of change which creates a platform for continual improvement. By holding the gains, resources - including financial and most importantly human resources - are effectively employed rather than being wasted because processes that were improved have reverted to the old way or old level of performance."[5]

ADDITIONAL RESOURCES

There are many additional resources that can help your team effectively plan, implement and sustain improvement initiatives. Some examples are:

Institute for Healthcare Improvement. (2011). *How to Guide: Deploy Rapid Response Teams*. Retrieved May 2013 from www.ihi.org/knowledge/Pages/Tools/HowtoGuideDeployRapidResponseTeams.aspx

McGrath, K.M., Bennett, D.M., et al. (2008). Implementing and sustaining transformational change in health care: lessons learnt about clinical process redesign. *Med J*; 188 (6): 32.

Maher, L., Gustafson, D., & Evans, A., (2010). NHS Institute for Innovation & Improvement. *Sustainability Model & Guide.* Retrieved May, 2013 from www.qihub.scot.nhs.uk/media/162236/sustainability_model.pdf

APPENDIX 1: VISUAL MANAGEMENT

Visual management is a set of techniques that make operation standards visible so that people can easily follow them. These techniques expose waste so that it can be prevented and eliminated. Visual management provides information readily, thereby reducing "information deficits."

An example of visual management is visual control. Visual controls include colour coding, floor markings, signage, indicator cards and labels. Care must be taken that visual controls or indicators are standardized in the organization to avoid confusion. Combined with standard work, it becomes a tool where **all see, all know and all act** with a common purpose.

Visual Management allows you to:

- See the work in progress
- Recognize work-flow stoppers
- Adhere to standard work
- Assess inventory levels
- Identify defects
- See deviations from the standard
- Enable interventions

A good example of effective visual management is ensuring that medications that look alike or sound alike are kept in separate, specially designated bins. This simple step makes the different medications immediately recognizable and will serve to reduce errors.

APPENDIX 2: ERROR PROOFING

Error proofing can be defined as the creation of devices or methods that either prevent defects or inexpensively and automatically inspect the outcomes of a process to determine if the quality is acceptable.[6]

Error proofing eliminates the need for a judgment call in situations in which mistakes are likely to occur. In other words, it should make it harder, if not impossible, to make mistakes in those situations. If an error does occur, error proofing should make that error easily recognizable.

There are different levels of error proofing. You should seek the highest level (i.e., the lowest number) of error proofing that is consistent with your goals and objectives.

Level 1: Eliminate the error
- Prevent the error from happening in the first place. For example, using medical gas line regulators that will not allow you to fit an adaptor into the wrong gas line

Level 2: Detect the error
- Automatically detect the error as soon as it happens, fix it automatically, or stop the process. For example, certain pharmacies employ software that immediately highlights drug interactions and will automatically raise a question box

Level 3: Detect the Defect
- Detect the defect through self-checks or successive checks
- Stop the operation until the defect is fixed.

Process improvement tools that are used in error proofing include: checklists, visual aids, models, warning notices, "buddy inspection," training, sampling and statistical process controls.

However, error proofing is *not* a technology. Rather, it is a mindset that requires creativity from those who design or manage processes and equipment.

Principles of Error Proofing
The six principles of error proofing that can be applied to health care are:

1. **Elimination:** The analysis of a process (breaking it down to its distinct steps or operations) and the removal of any steps susceptible to human error.[7]
2. **Replacement:** Replacing one operation with a more reliable machine / method / automation. Operations which have dependencies should be

linked together so one step cannot be completed without first completing the previous step. This is known as a "forcing function."

3. **Facilitation:** The process of making operations easier to complete correctly. Facilitation includes levels of simplifying, differentiating, and adjusting as appropriate.
   - *Simplifying* is decreasing the number of alternatives or variations of equipment in a repeated process
   - *Differentiation* creates a clear distinction between similar actions or items
   - *Adjusting* is a method of changing some aspect of the process to eliminate potential errors. Establishing clear patterns will reduce variables. Informing people of changes is also a form of adjustment and will reduce error.[8]

Minimization Principles (once errors have already been made):

4. **Detection:** The process of catching anomalies/deviations and correcting them as soon as they have been recognized. Anomalies can occur in what is done, what fails to be done, or when all actions were correct but the outcome is not what was expected. When error proofing a process, one needs a means of observing and detecting anomalies which can then be corrected quickly to avoid an adverse outcome. Late detection means a greater negative impact and the need for greater corrective action. When creating steps for detection, it is best to insert multiple checkpoints to catch the error as close to the source as possible.

5. **Mitigation:** Mitigation accepts and even embraces the fact that errors will occur. Its intent is to reduce the impact of inevitable errors on outcomes. Mitigation's effectiveness can be seen when potential areas for failure are identified and a "safe" failure is created at those points. These are obvious failures that are low in cost and easy to correct or replace. In health care, detection works at the point of error to identify and correct them, ideally before they reach the patient. Mitigation functions to reduce the impact of an error.

6. **Patient/Client Involvement:** Involving patients/clients and families in their care ensures that there are additional sets of eyes on processes. Perhaps more importantly, these are sets of eyes which are particularly interested in a positive outcome. Setting the expectations of patients and families for what should happen, and encouraging them to ask questions at any point in a treatment plan, enables them to act as their own advocates over the course of their care. For more information on this concept, please review Health Quality Ontario's *Voice of the Customer* primer.

1   Counte, M.A., Meurer, S. (2001). Issues in the assessment of continuous quality improvement implementation in health care organizations. *Int J Qual Health Care* 13 (3), pp. 197 - 207

2   Schattenkirk, D. (2013). Special Series Growing Lean #7: Defining 'Standard Work.' *Greenhouse Canada.* Retrieved May 2013 from www.greenhousecanada.com/content/view/3088/38/

3   National Health Service (2010). Improvement Leaders' Guide: Sustainability and its Relationship with Spread and Adoption. *NHS: Institute for Innovation and Improvement.* Retrieved May 2013 from www.institute.nhs.uk/index.php?option=com_joomcart&Itemid=194&main_page=document_product_info&cPath=65&products_id=300

4   National Health Service (2010). Sustainability Guide. *NHS Institute for Innovation & Improvement.* Retrieved on April 18, 2012 from www.institute.nhs.uk/sustainability_model/introduction/find_out_more_about_the_model.html

5   Ibid.

6   Graban, M. (2011). *Lean Hospital: Improving Quality, Patient Safety and Employee Engagement.* London: Productivity Press, p. 137

7   Tague, N. (2004). *The Quality Toolbox.* Milwaukee: ASQ Quality Press, pp. 351–356