QUALITY IMPROVEMENT PRIMERS

Implementing and Sustaining Changes

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Ontario Health

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Overview

According to the *Guide to the Science of Quality Improvement*, quality improvement (QI) is "a proven, effective way to improve care for patients, residents, and clients – and to improve practice for staff." However, deliberate and intentional plans for implementation and sustainability are needed for QI efforts to be successful.

This primer provides strategies for implementing and sustaining quality improvement efforts. It also describes how to apply implementation science to strengthen implementation efforts and enhance the sustainability of changes made. It is aligned with Ontario Health's Integrated Quality Framework, which guides the work of Ontario Health to support the delivery of high-quality health care across the province. A key strategic objective of the framework is to drive and foster system improvement, which requires a consistent approach to implementing and sustaining change.

Implementing Sustainable Change

Quality improvement is a 3-step process that can be applied to any initiative: planning for change; implementing change; and sustaining change (Figure 1).

Figure 1: Quality Improvement Steps

After a QI team has finished planning for a change, they are ready to begin implementing their improvement idea. During planning, the team has begun to understand the problem (or quality gap) they are trying to solve and has come up with ideas to address it. The team may have begun to look at existing evidence and quality standards that similar teams have used successfully to drive improvement. They may even have begun to try out small tests of change through plan-do-study-act (PDSA) cycles. Through the process of planning for change, the team have come closer to deciding what they want to change and have begun to think about applying that change to everyday practice.

How can the team strengthen their confidence that the change idea they are considering is a best practice and will result not only in improvement but in sustainable improvement? This is where implementation science comes into play. Generally speaking, implementation science seeks to develop and rigorously evaluate fixed implementation strategies to address implementation gaps across multiple sites. In this respect, the goal of implementation science is to develop generalizable knowledge. Where quality improvement begins by looking at different processes in an organization

and attempting to improve and optimize current practices, implementation science (arising from evidence-based programs and practices) emphasizes the use of evidence and theory to guide the process.4 QI methods, including PDSA cycles, can then complement implementation science by providing means of testing changes.

Implementation science in health care involves 3 goals:

- To generate **reliable strategies** for improving health-related processes and outcomes and to facilitate the widespread adoption of these strategies
- To produce **insights and generalizable knowledge** regarding implementation processes, barriers, facilitators, and strategies
- To **develop, test, and refine** implementation theories, hypotheses, methods, and measures

It is also important to make sustainability a priority from the very beginning of any change initiative. The sustainability of an initiative is not something that can be easily addressed after it is finished. Although sustainability may seem to be the natural end result of a successful improvement effort, it must be actively considered from the beginning of any improvement effort.

Important Definitions

Sustainability: Holding on to improvements made and evolving as required.

Quality improvement in health care: A systematic approach to making changes that lead to better patient outcomes and stronger health system performance. This approach involves the application of QI science, which provides a robust structure, tools, and processes to assess and accelerate efforts for the testing, implementation, and sustainability of QI practices.

Science of improvement: "An applied science that emphasize[s] rapid cycle testing in the field, and spread in order to generate learning about what changes, in which contexts, produce improvements."[1] The science of improvement draws upon multidisciplinary knowledge and a combination of system theories, improvement methods, and tools.

Implementation science: "The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services."[2] "Implementation science is about researching how we get evidence into practice."[3]

Implementing Change

Assessing Readiness

Implementation readiness – or how prepared, willing, capable, and motivated individuals and organizations are to participate in making a change – depends on a number of factors[7]:

- **General capacity** to implement an intervention
- **Intervention-specific capacity**, which includes training, resources, and policies to help smooth the implementation of an intervention
- **Psychological and behavioural readiness** in individuals, teams, and organizations; stakeholders should be primed, motivated, and capable of executing change
- **Leadership** can create readiness by giving clear direction on the change; leaders can also acknowledge stakeholders' concerns and involve them in the decision-making process
- **Access to resources** needed for implementation

Assessing and understanding readiness helps teams identify *enablers* (things that will help) and *barriers* (things that may hinder) and informs implementation planning. Assessing readiness is an ongoing process. The team should consider challenges and ways of addressing them as they arise.

Equity Considerations

How are we measuring readiness? For example, have we considered:

- What does it mean for a setting to be ready to implement a change? What have we decided readiness means for this initiative, and who has decided this?
- What happens to settings that we consider "unready" for change? Have we considered the equity impacts of deciding not to implement change in these settings?
- Have we considered whether the initiative is applicable to the intended audience?

Engaging Others

Front-line staff members play an important role in every phase of an improvement initiative. The continual support and regular evaluation of the needs of those working within the changed processes are necessary for any improvement to be successful. It is also essential to keep the voice of the customers – the patients – in mind.

When managing change, the people affected by the change are the most critical resource and support, as well as the most critical barrier and risk factor. The uncertainties of change can elicit strong emotions in those who are affected. People may feel a range of emotions – ranging from frustration, anger, and despair to acceptance, enthusiasm, and elation – as their work processes change over the course of the improvement initiative. How people feel depends 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 the 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 organizational leaders should consider that both staff members and patients may:

- Be unaware of the reasons why a change is necessary
- Feel that there are other, more important issues to be dealt with
- Disagree with the proposed change or feel that there is a better way to achieve the desired outcome
- Disagree about how the change should be implemented
- Feel that the change process implies a criticism about the way they currently do things
- Feel that they have done this before, and nothing changed
- Feel that the change will mean extra work for them

Changing how people think about change – change management – is an important aspect of any improvement initiative. For a change to be successful, implementing it should not be daunting for the people involved and affected. Successful change is about having the tools, techniques, and confidence to support one other in trying something different. It is about understanding the possibilities of thinking differently and aiming to make practical improvements for patients and staff. If both groups are engaged early and supported throughout the process, they are more likely to become champions of the improvement, and staff are more likely to embed the change processes in their work.

Research and experience demonstrate that support from organizational leadership is essential to successful QI efforts. Clinical and administrative leaders who work directly on or indirectly support an improvement project must ensure that all barriers to success are removed and that project priorities are clearly identified and communicated. The QI team should communicate implementation plans to organizational leadership before rolling out changes, to ensure that leaders are willing and able to support the plan.

In addition to engaging formal leaders, the QI team should consider who else needs to provide support for a change to be successful. The team should engage all those who have influence over whether a change can be made, whether they are in management positions or not.

Equity Considerations

In our implementation plan, how are we considering the different needs of different people? For example, have we proactively planned for adaptations to the WHAT and the HOW of the initiative (see page 13) to ensure the best fit for all relevant contexts and that multiple perspectives (particularly of those who will be affected by the change) are heard and involved? This may include making logistical or cultural adaptations to make the process and outcomes more equitable.

Communication

Communication is critical to implementing and sustaining change. Effective communication during change management allows QI team members and those who will be affected by a change to:

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

Communication should take place regularly and should reach everyone affected by the proposed change: staff, patients, and internal and external stakeholders.

> Different organizations communicate in different ways. Some rely on meetings, some rely on written reports, and some are most comfortable online. Be sure to use communication mechanisms that suit those 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 with, the following points should be considered:

- The audience
- The objectives
- The message
- The means of delivering the message

QI teams must continually share their improvements and demonstrate how a change has positively affected patients or clients. A change is more likely to be successful – and people are more likely to commit to a change – if those involved truly believe it will improve things.

It is important to highlight the value of a change – the "what's in it for me?" – for everyone who will be affected. Engaging staff and demonstrating how an improvement will be achieved are important to ensuring support for future changes.

Effective, early, and frequent communication will give those affected by a change some ownership of the project and a vested interest in its success.

Equity Considerations

- How can we promote communication and collaboration among stakeholders to operationalize the initiative?
- Have we asked the people who will be affected by the change what their barriers and facilitators are, or are we making assumptions on their behalf? If we are asking them, are we using equitable

methods to engage them; that is, are we considering accessibility, readability, accommodations, and "meeting people where they are"?

- Are we being inclusive in terms of who is involved in analysis in order to draw suitable and equitable conclusions about the determinants of the change?

Training

Training in a new process is needed while changes are being implemented. However, training is often too brief and too infrequent. Training should be ongoing and should provide direct support to those affected by the changes being made. Effective training sessions not only show participants how to complete a process but also provide opportunities to gauge the comfort level of those being trained. Project teams often underestimate the amount of training required to learn a new process.

To ensure training sessions are effective:

- Empower those being trained so they may identify other skills and processes they may need training in
- Identify a small number of staff members who can be trained to be trainers themselves. These people should hold different roles in the organization: for example, the team secretary, specialist nurse, or physiotherapist
- All staff should understand how to work within a changed process, and expectations about 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 reestablish the changed process, even if there are factors that threaten to disrupt it.

Equity Considerations

Have we thought about how we can incorporate equity-focused training, support, toolkit development, and workforce development into our initiative?

Measurement

Measurement is crucial at every stage of implementation. For details on measurement and examples of measurement tools, please refer to *Measurement for Quality Improvement*.[9]

During the testing phase of an implementation effort, measurements are gathered via PDSA cycles to ensure that the new process is having the intended effect. During the implementation phase,

frequently monitoring indicators or measures allows 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 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 affected staff, to celebrate their success or take action to resolve issues.

Measures should be shared with staff in various ways, including via staff meetings and formal reports. Graphs that depict data gathered over time are effective for conveying success stories. Displaying these graphs in areas where staff tend to gather (e.g., the break room or 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 provides incentive for further improvement.

Equity Considerations

Is our change having an unintended or negative impact in another area or on an unintended target audience?

Sustaining Change

Formalizing and Standardizing the Change

Once a change has been implemented, it must be monitored to ensure it is performing as expected. Where possible, it also helps to completely eliminate old methods of doing things (e.g., destroying old forms or erasing old software). Behaviours that support new processes should be encouraged and reinforced to make the change the norm in your work culture. To make the change sustainable, information about new processes should be built into the orientation of new employees, job descriptions, and policies.

Visual management is a form of standardizing work using a set of cues that make operation standards visible and easy to follow.

Standardizing Change Using Visual Management: Example

When introducing a new booking system, a hospital developed an area for patients to make bookings. To ensure patients could find their way to this area, the hospital developed bright, attractive signage that was visible at each entrance. This is an example of both visual management and error-proofing.

Failure to link the goal(s) 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 organizational culture or justify why resources are being expended on the initiative. An improvement is much more likely to be sustained if it is integrated into the culture and core processes of an organization or practice – and if changes are flexible and able to respond to shifts in the environment.

Standardizing new processes is one of the most effective methods for implementing and sustaining change. Because they are rooted in best practices, process improvements should become the "standard work." Creating standard work involves systematically defining and standardizing the sequence, timing, supplies, people, space, and equipment used in the completion of a task.[8]

Equity Considerations

- Who is involved in selecting the change, and how will they be involved?
- When selecting our strategy for implementing the change, have we asked ourselves:
    - How and why is each strategy we are considering supposed to work and for whom?
    - What are the potential sources of inequity in the strategies we are considering?
    - How can the strategies we are considering be adapted to be more equitable?
    - What are the potential outcomes of the strategies we are considering?

Planning for Sustainability

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 being something additional. *Sustainability* means holding the gains and evolving as required, without reverting to the old way of doing things.

Teams can become frustrated if they experience a lack of sustainability, or the "improvement evaporation effect."[10,11] This effect occurs when a team has gone to great lengths to achieve improvements in a process, only to find that they are unable to retain or sustain those improvements.

The Improvement Evaporation Effect: Example

A discharge planning document is introduced, and it successfully improves the discharge process. However, an audit after a year shows 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 reflect on the team's progress. Set a new aim or goal and try to improve even more. Celebrate and communicate periodically when the indicator has stayed at the improved level. For example, post a sign in the break room stating, "Celebrating 6 months of keeping readmission rates below 10%," or count and display the number of days without an incident.

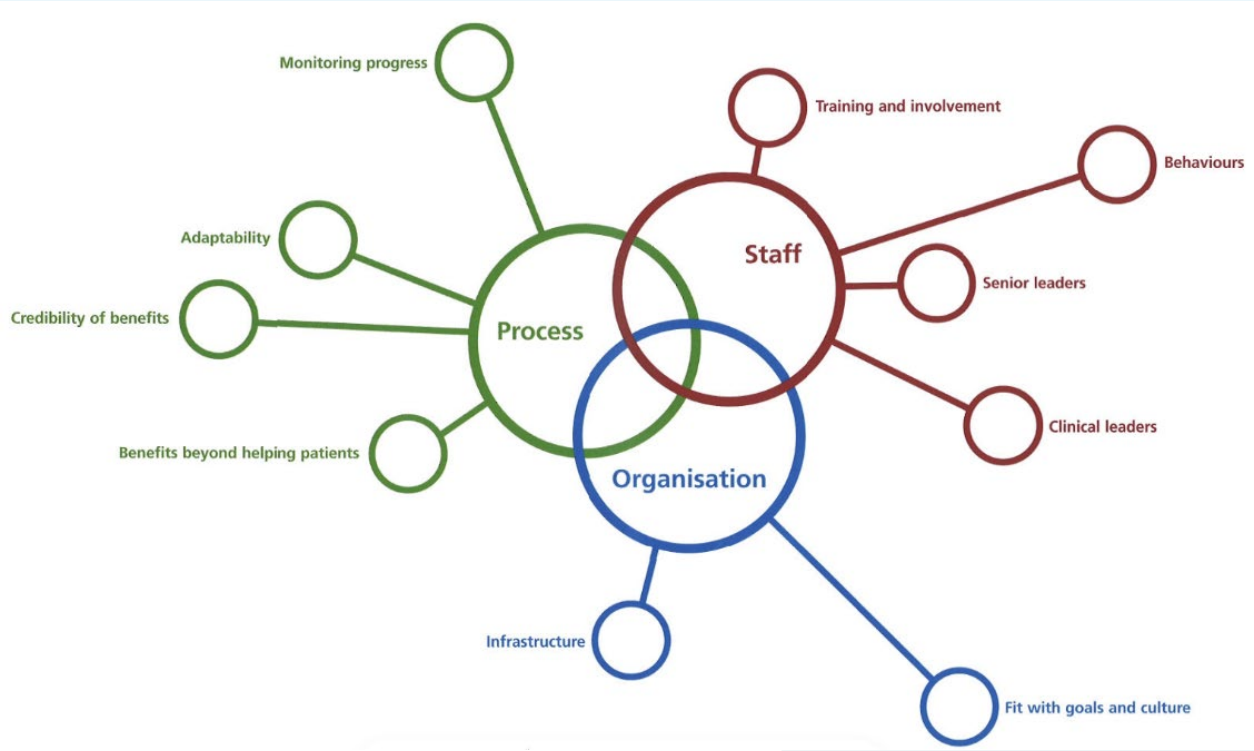
Consider making conference or poster presentations to celebrate and share your work. Make your effort a process of continuous improvement without allowing it to settle into simple maintenance mode. Find ways to renew the passion for improvement and creativity that were present in the early days of the project.

Sustainability Models

A number of models can be used when the implementation team is ready to look at sustainability. The sustainability model of the United Kingdom's National Health Service (NHS; Figure 2 and Additional Resources, below) can help QI teams "identify strengths and weaknesses in [their] implementation plan and predict the likelihood of sustainability for [their] improvement initiative."[12]

The NHS sustainability model addresses 10 factors relating to 3 concepts: process, staff, and organizational issues that play a role in sustaining change in a health care organization.[12] The model was developed in consultation with front-line teams, improvement experts, senior administrative and clinical leaders, and subject-area experts from academia and other sectors.

Figure 2: NHS Sustainability Model



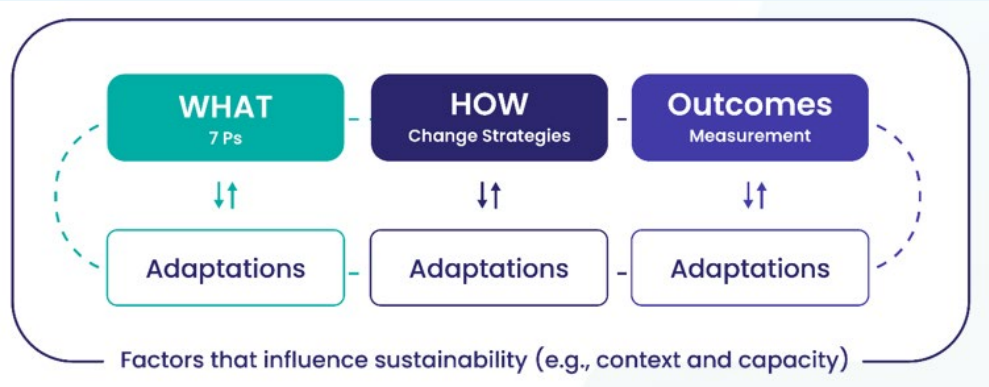
Source: National Health Service. Sustainability guide [Internet]. Coventry (UK): NHS Institute for Innovation and Improvement; 2010 [cited 2012 Apr 18]. Available from: https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/NHS-Sustainability-Guide-2010.pdf

The NHS *Sustainability Guide* states, "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."[12]

A more recent model from the Center for Implementation, also emphasizes that sustainability is a critical consideration when implementing any new program or innovation: "To sustain changes over time, it's essential to consider the 5 components of sustainability, including the WHAT, the HOWs or change strategies, sustaining outcomes, adaptations to each of those, and contextual factors that impact our ability to sustain changes" (Figure 3).[13]

This model consists of 3 key sustainability concepts: sustainability of the WHAT, sustainability of the HOW, and sustainability of the implementation outcomes.

Figure 3: Sustainability Components



Source: Moore, JE. Sustainability: what is it? Why is it important? How are readiness, context, and sustainability related? [Internet]. Toronto (ON): Center for Implementation; 2023 [cited 2024 Mar]. Available from: https://thecenterforimplementation.com/toolbox/5-components-of-sustainability

- "Sustainability of the WHAT" refers to whether people are continuing to do the thing you want them to do differently. This may be a program, practice, procedure, policy, product, pill, or principle; this idea is referred to as the "7 Ps."
- "Sustainability of the HOW" refers to whether people are continuing to use the change strategies that support people to do the WHAT.
- "Sustainability of implementation outcomes" refers to whether people are continuing to see the benefits that were initially seen during implementation.

It is also important for the team to think about whether adaptations need to be made to the WHAT, the HOWs, or the implementation outcomes and whether any other factors might influence the organization's ability to sustain the change: "By considering sustainability early and often, you can ensure that the changes you make are long-lasting and continue to deliver benefits over time."[13]

Because the health system is dynamic, once changes have been implemented and sustained, teams may need to make further changes because of a shifting environment. Many contextual factors, such as funding, can also affect sustainability. Teams may need to take what they have learned and go back to the first phase – identifying the WHAT – and plan for more changes. By doing so, and by considering sustainability early and often, you can ensure that the changes you make are long-lasting and continue to deliver benefits over time.

Additional Resources

Many resources are available to help your team effectively plan, implement, and sustain improvement initiatives. Some examples are:

- Baumann AA, Cabassa LJ. Reframing implementation science to address inequities in healthcare delivery. BMC Health Serv Res. 2020;20(1):190. Available from: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-4975-3
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- A Black Health Plan for Ontario (Ontario Health)
- Equity Guiding Questions (Center for Implementation)
- Equity, Inclusion, Diversity and Anti-Racism Framework (Ontario Health)
- Implementation Science at a Glance (US Department of Health and Human Services)
- Quality, Service Improvement and Redesign (QSIR) Tools (Advancing Quality Alliance, UK National Health Service)

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11) National Health Service. Improvement leaders' guide: sustainability and its relationship with spread and adoption – general improvement skills [Internet]. Coventry (UK): NHS Institute for Innovation and Improvement; 2007 [cited 2024 Mar]. Available from: https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/ILG-1.7-Sustainability-and-its-Relationship-with-Spread-and-Adoption.pdf

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13) Moore, JE. Sustainability: what is it? Why is it important? How are readiness, context, and sustainability related? [Internet]. Toronto (ON): Center for Implementation; 2023 [cited 2024 Mar]. Available from: https://thecenterforimplementation.com/toolbox/5-components-of-sustainability

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