Quality improvement is about understanding what we do and testing ways to do it better.

Foundations of Quality Improvement

Before launching a quality improvement (QI) project, it is worth ensuring there is a common understanding on what QI is. There are various definitions, but there are common components of QI:

Systematic

It is more than the introduction of a new change.

Guided by data

It is more than implementing changes and assuming things get better.

Emphasizes immediate action

It is about testing new ways to do things and making changes right away.

Five fundamental principles of improvement

1

Know why you need to improve and specifically what you need to improve.

2

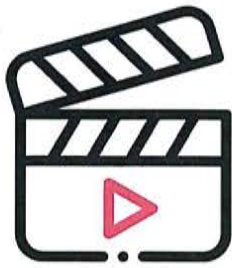Have a way to tell if the change is making an improvement (data).

3

Develop an effective change that you believe will result in an improvement.

4

Test changes multiple times, adapting, adopting or abandoning based on their efficacy. Do not just jump to implementing the idea!

5

Know when and how to make the changes an ongoing part of your system (sustainability).

Action

As a team, watch the following video:

Quality Improvement in Health Care – Mike Evans

(https://youtu.be/jq52ZjMzqyl) and consider the following questions:

- What benefits do you think quality improvement methods might bring to your sector/organization?

- What might some of the challenges be?

- Can you think of any opportunities for improvement in your area?

- How might you get started?
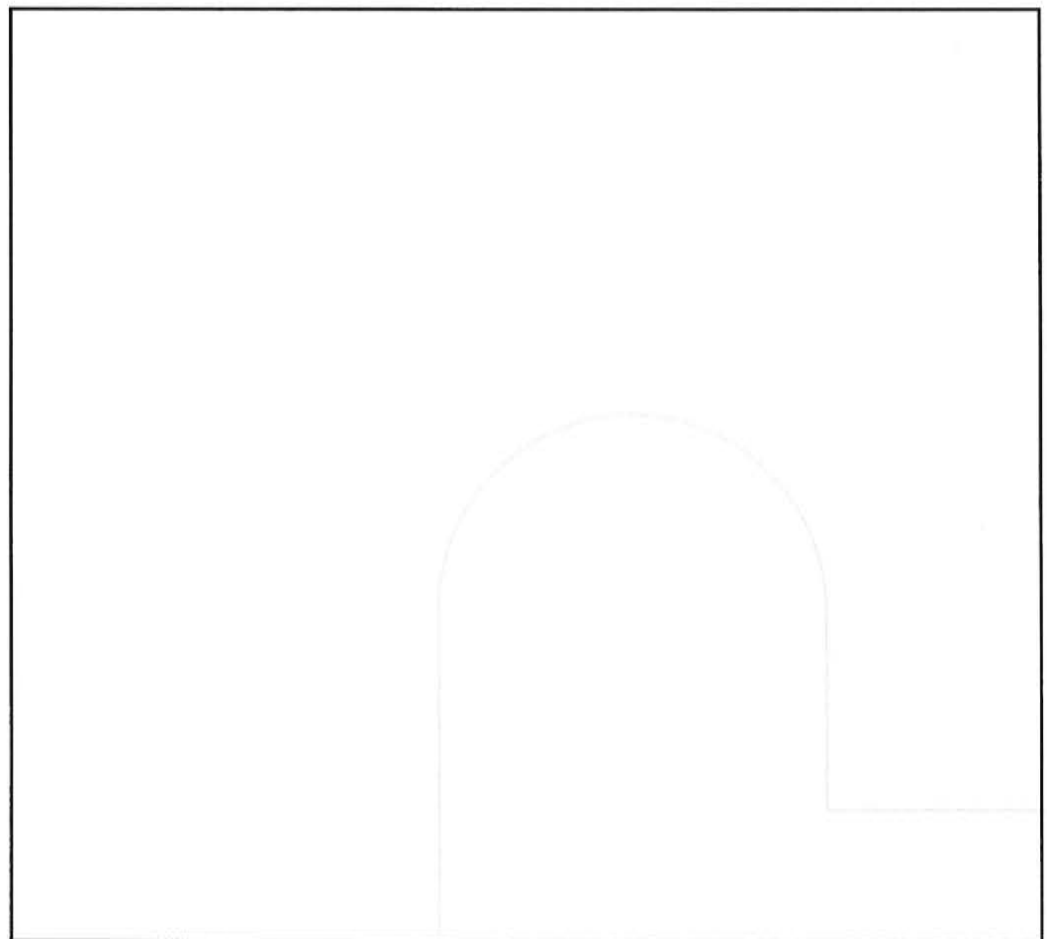
The concepts of improvement and change are closely linked. Changes that result in improvement:

- Alter how the work or activities are done

- Produce visible, positive differences compared to how things were

- Have lasting impact.

Establish a multi-disciplinary team

Do not try and go it alone! Improvement project teams should be built strategically and include people with different skill sets, knowledge areas and perspectives. Assembling a good team for an improvement project promotes success and sustainability.

When you are forming your team, remember that inclusivity is key: include people with different skill sets, knowledge areas and perspectives. Involving a diverse group of people increases the quality of decisions, processes or tools, and helps people become champions of the changes they have helped to create. You will want to consider content experts, patient partners, QI consultants and those whose work might be affected by the changes you will make. We find five to eight people the ideal number for an active QI team.

Here are some great resources on patient engagement as you build your team.

You will also need to engage a Senior Leader or Sponsor for the work. QI projects with leadership engaged at the start tend to be more successful and sustainable in the long run.

Develop a teamwork agreement

The Teamwork Agreement is a step-by-step guide to form an explicit agreement that lays the ground rules for team members. Once a team is formed, it is essential for the team to agree on their roles and responsibilities and define how they will work together over the coming months. Some examples of "group norms" are listed below. You can use or adapt these and work with your team to create your own.

- Active participation – everyone has a voice and will contribute ideas;
- Everybody teaches, everybody learns; and
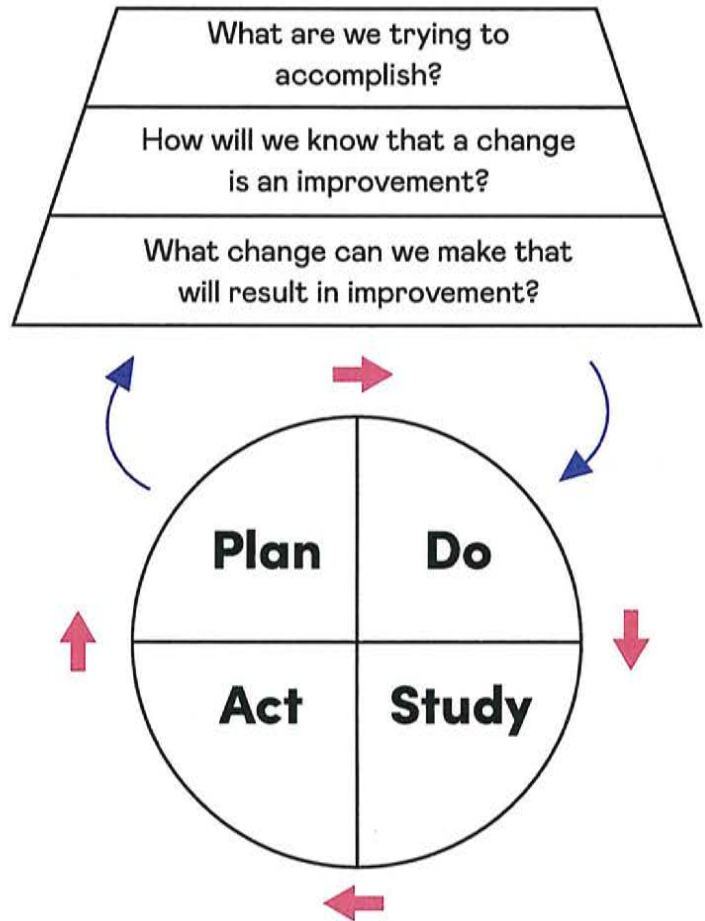- Roles and plans will evolve over time.

Apply the process for improvement

There are different frameworks such as the Model for Improvement or Lean, but most QI methods will have the following core components:

- They have the same purpose: improvement of processes and outcomes.

- They test changes using small-scale tests to learn about changes and how they can work in a specific context.

- Data is collected and analyzed along the way to understand the problem and understand progress.

- Projects are not done by only one person or one department, they use a team approach.

The Model for Improvement* is a structured approach and it helps you learn how to improve through repeated testing.

Model for improvement

| What are we trying to accomplish? |
| How will we know that a change is an improvement? |
| What change can we make that will result in improvement? |

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        Plan  |  Do
        ------+------
        Act   |  Study
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*Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.

Begin testing and implementing changes

> **There is no power for change greater than a community discovering what it cares about.**
> **– Margaret J. Wheatley**

The Plan – Do – Study – Act (PDSA) cycle provides a simple, structured approach to develop, test, learn, adapt, and improve. Going through each section before the test helps keep the tests small and ensures no steps are missed. New ideas can be tested, preferably on a small scale and under multiple conditions, before they are implemented department or system-wide and changes made permanent. PDSA cycles are an effective way to test our theories and assumptions. PDSA cycles are a method for identifying whether a practice change or a tool will work in all conditions or require modifications. They are also an important way to adapt a proven innovation to meet the unique needs of your setting. While something worked well elsewhere, it is still important to start small and adapt the intervention (if necessary) into the new context. This also helps with staff engagement of the change. For more information and support completing a PDSA, please find a PDSA worksheet template on .

Changes can be tested by planning the details of the test including predictions and theories (PLAN), determine what you want to learn and how you can learn it (DO), test and measure to find out if your prediction was right (STUDY), compare your prediction to the actual result, and (ACT), decide what to do next.

Be careful not to get hung up on planning, just try something – it may fail and you can learn from that for your next PDSA cycle. That is why we start small and with low risk!

Example

Team A believed a timely systematic medication review was key to reviewing inappropriate prescribing of antipsychotics for people without a diagnosis of psychosis. They ran a PDSA cycle to test running a weekly meeting to review all new admissions to the home. After the first meeting the team reconvened and determined that batching and reviewing the resident medication reviews was too onerous for the team and delayed the start of deprescribing work for those admitted early in the week. After multiple small-scale tests, they eventually systematized a change where antipsychotic use is now being evaluated upon direct admission through the medication review process and residents are identified as eligible for deprescribing of antipsychotics immediately following admission.

Changes should only be implemented when the team is confident the change is an improvement, as evidenced in the team's measures and data.

After a few different cycles, you may have decided that a test worked and you are ready to implement it. Or you might decide to completely abandon this idea and so test a different idea.

There are many ways to design useful small-scale PDSA Cycles, such as:

- Simulating the change (role play within your team).

- Having others review the change for feasibility (resident reviewing a brochure, clinician reviewing a decision support tool).

- Conducting the test over a short period of time: instead of saying "We need two weeks to run the test" ask, "What could we do by next Tuesday?"

- Using the 1:1:1 rule: Conduct the test in one location with one clinician and one resident. Scale down each test into manageable cycles and then expand conditions as knowledge about the change builds. For example, try a change during the day shift first.

- Recruiting a small group of volunteers. Use the improvement team as the initial sample or identify "early adopters" - those who like change and will try anything. Delay consensus or engagement until later stages.

- Breaking the change into smaller pieces.

- Using temporary support systems for testing, such as manual or temporary forms.

Compile your measures

One of the major foundations of improvement work is the idea that data collection is done over time. The purpose of data in improvement is to know your current performance and how close you are getting to your aim. Collecting data over time shows if what we are trying to improve is getting better. It also shows if the tests you are running are having the expected impact, and if it is not, the data gives the signal that you should adapt or abandon the test and revise it or try a new change idea.

This section identifies potential outcome, process and balancing measures that will guide your improvement team's efforts during the testing and implementation process.

The following is an example from HEC's Appropriate Use of Antipsychotics Collaborative

Setting Aim 1: How many residents are you aiming to reduce or discontinue antipsychotic medications between Oct 2020 and Aug 2021? Provide the number of residents out of the total number of residents in the implementation site at the time.

Setting Aim 2: How many residents do you plan to conduct medication reviews for, with a focus on identifying candidacy for reducing or discontinuing antipsychotic medications, between Oct 2020 and Aug 2021? Provide the number of residents out of the total number of residents in the implementation site at the time.

Outcome Measures	Process Measures	Balancing Measures
Tells us if what we are ultimately trying to improve is really getting better.	Tells us if we are consistently doing the things we said we were going to do that we believe will push forward our ultimate aim (outcome measure).	Helps us monitor possible unintended consequences or problems. These measures tell us if we have impacted any other part of the system positively or negatively through the changes we are making.
• Number of prescriptions for inappropriate antipsychotic medication • Doses of antipsychotic medications • Negative expressions/ behaviours (e.g., agitation)	• Number of staff who receive education and training in supportive care strategies • Number of medication reviews • Number of huddles/ interdisciplinary team meetings • Number of behaviour assessment tools completed (e.g., the BSO- DOS)	• Number of prescriptions for other psychotropic medications (include antidepressants, anxiolytics and hypnotics) • (All) Physical restraints (e.g., trunk restraints, chair prevents rising) • Number of Falls

When you are selecting your measures, always try to select those that are naturally occurring within your system — is there something you are reporting to the Ministry of Health that you can look at on a weekly/monthly basis for this project?

As a guideline, try to include between three and eight measures per project, including at least one outcome measure and two to three process measures. But remember, you will be able to see changes in your process measure before you see them in your outcome measures. It takes time to move the "big dots."

Your team should consider baseline measurement early to be able to demonstrate the impact of your change projects. Consider measurements today that you are hoping will be influenced in a few weeks or months with the implementation of your changes.

Knowing where you are starting from will make it easier to determine where and when you are seeing improvement as changes are being tested. Data will help you know how close you are to achieving your aim, learn what is and is not working, visualize the impact of your changes and share your progress with others.

Here are some tips:

- Collect data as close to real time as possible and display important variables over time.

- Continue collecting data throughout your interventions and changes.

- Review data frequently with your team to learn about and adjust your change projects as required. The data should be the foundation of every QI team meeting.

- Track resident outcomes and consider gathering feedback from staff who are making changes to their workflow and practices.

Tip!

Learn more about using data and measurement approaches in improvement by completing the **Measuring and Using Data in the Engaging People in Improving Quality (EPIQ) module.**

Below is an example of a single LTC Home's QI intervention started in January. All residents eligible for the program had to be on antipsychotics, making the baseline 100%. You see in this graph that through their QI project, this team was able to slowly reduce their percentage of target residents on antipsychotics without a diagnosis of psychosis.

Percent of target residents on antipsychotics without a diagnosis of psychosis
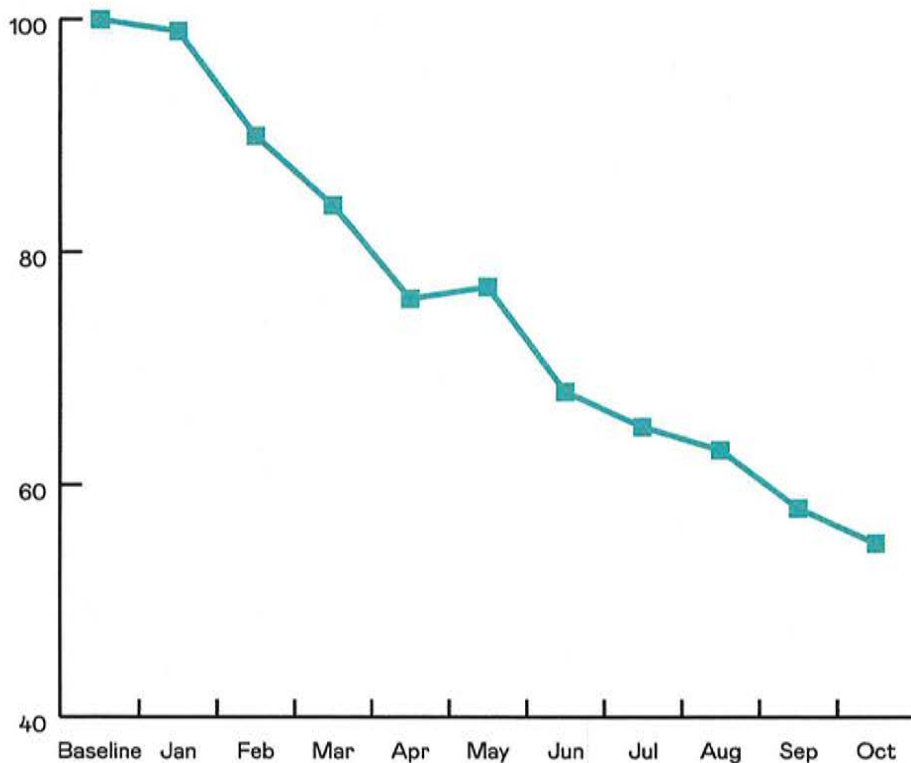
Legend: ■ % of target residents on antipsychotics without a diagnosis of psychosis

Baseline	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
100%	99%	90%	84%	76%	77%	68%	65%	63%	58%	55%

From ideas to Implementation

Coming up with ideas that are different to how you usually work can be challenging. Even if the changes came from another organization or a best practice document, it does not necessarily mean they will work well within your organization or unit (at least not without modification).

Typically, it takes more than one idea for change to make a difference. Ideas for change come from various sources, but always involve input from the organizational leaders, staff and patients, family and care partners. Improvement often involves doing things differently and thinking of creative solutions to old challenges. Thankfully, there are some specific methods that can help generate new ideas for changes to test.

Adapting Best Practices

Often in healthcare, ideas are provided to us in the form of best practices. Best practices come from research literature, top performing organizations or established models/guidelines. The team still needs to identify and test how to adapt those best practices in their own setting. Benchmarking is learning from top performers. By connecting with other teams, organizations or industries (even outside of healthcare) that are having success in what you want to achieve, you can compare how things work and get ideas for things to test to improve in your area. An example would be the Reimagining Care for Older Adults report published early in the COVID-19 pandemic, which established promising practices homes could focus on to prepare for potential future outbreaks.

Process Mapping

Process mapping can help identify opportunities for improvement. Maps highlight certain things such as:

- Delays, overlap, and steps that do not make sense;

- Bottlenecks and steps that might be in the wrong order;

- Examples of steps that could be done by a different person.

Process mapping also allows people to see different perspectives of how things work and can help you anticipate how changes may affect other parts of the system.

Creativity of the Team

There may be other ideas for change that are not as obvious. Often the people involved in the work have ideas, including residents, families and care partners. However, there are some tools such as Liberating Structures to help people think outside the box and generate creative ideas for change. Some of these activities can help prioritize the ideas for change to determine which ideas might be the best ones to try out first.

Once changes are identified:

- Test ideas using PDSA cycles before they are implemented;

- Collect your data over time and communicate the results;

- Build knowledge sequentially and include a wide range of conditions. Tests become bigger as we become more confident the change is causing an improvement.

Reflection

Think about a change you have been involved with that has not worked or has not been sustained. Share a brief overview of the change and some potential reasons why it was not successful.

Plan for sustainability

It is never too early to start thinking about sustainability. This is an inherent component of a well-designed change. As you decide on what changes to make and how to go about testing changes, it is also important to consider if and how these changes will last over time. The changes we make to a process should be things we can maintain or continue to do even after the project has completed. A good change is a sustainable change, and a lack of sustainment is often due to challenges with the original idea.

In order to identify strengths and potential challenges associated with a proposed change and promote sustainability of improvement, complete the following Planning for Sustainability Worksheet as a team.

First on your own and then in small groups, consider each of the questions on the worksheet in relation to the change(s) you have proposed to achieve improvement. Note any concerns and discuss what steps you can take to address those concerns and ensure your changes are sustained over time.

- Did you learn anything new about the changes you proposed?

- Did you identify any gaps or limitations based on the questions in the worksheet?

- What steps can you take to ensure the changes you have proposed are sustained?

There are several factors known to play a role when it comes to sustainability. Considering these factors can be a useful exercise at any time during your improvement project, from initial planning to implementation.

Reflection

Improvement is a long and continuous learning journey. These are some tools and tips to help you as you walk the path to improving care. While this is not exhaustive, we hope that it is supportive. Check the BC Patient Safety & Quality Council website and the Healthcare Excellence Canada website for additional resource and tools, as well as additional examples.

PDSA Worksheet

Testing Ideas for Change

Plan, Do, Study, Act (PDSA) cycles turn ideas into action and learning. By planning a test of change, trying the plan, observing the results, and acting on what you learn, you will progressively move towards your aim.

Team name:

Date of test: **Cycle number:**

Objective for this PDSA cycle: **What question do we want to answer this cycle?**

Plan

Plan for change or test: (Who, what, when, where)

Plan for collection of data: (Who, what, when, where)

Predictions: (What do we expect to happen?)

Do

Carry out the change or test; Was there any difference from what was planned?

Study

Complete analysis of data collected; summarize what was learned

Do the results agree with the predictions? What new questions or issues arose? What are our updated theories?

Under what conditions could the results be different?

Act

What action are we going to take as a result of this cycle (Adopt, Adapt or Abandon)? Are we ready to implement?

Objectives of the next cycle(s):

Planning for Sustainability Worksheet

			QUESTIONS TO CONSIDER
Process	Factors related to the change itself – what about the new process will prevent things from reverting to the old way?	Benefits beyond helping patients	In addition to helping patients, what are the other benefits? For example, does this change reduce waste, help things run more smoothly? Will staff notice a difference in their daily work?
		Credibility of benefits	Are benefits to patients, staff and the organization visible? Do staff believe in the benefits? Can staff clearly describe the full range of benefits? Is there evidence that this type of change has been beneficial elsewhere?
		Adaptability	Can the new process overcome internal issues, or will this disrupt the change? Does this change continue to meet ongoing needs effectively? Does the change rely on a specific individual or group of people, technology, or funding to keep it going? Can it keep going when these are removed?
		Monitoring progress	Does the change require special monitoring systems to identify and measure improvement? Is anything in place to continue to monitor progress? Is there a feedback system to reinforce benefits and guide further action? Are the results of the change communicated to patients, staff, and the wider community?
Staff	Factors related to people involved – are they supportive of the change and willing to continue on with the new way of doing things?	Training and involvement	Do staff play a part in designing, testing, and implementing the change? Have they used their ideas to inform the change from the beginning? Is there training available to build staff members' knowledge and skills to take this change forward?
		Behaviours	Do staff express their ideas regularly throughout the change process and is their input taken into account? Do staff think that the change is a better way of doing things? Are staff able to run PDSA cycles based on their ideas to learn if additional improvements should be recommended?
		Senior leaders	Are senior leaders trusted and respected? Are they involved in the initiative? Do they understand and promote it? Are they respected by their peers and can they influence others to get on board? Are they helping to break down barriers and provide support to ensure the change is successful?
		Clinical leaders	Are clinical leaders trusted, respected, and influential? Are they involved in the initiative? Do they understand and promote it? Are they respected by their peers and able to influence others? Are they helping to break down barriers and giving their time to help ensure the change is successful?
Organization	Factors related to the organization – are there resources and systems in place to maintain the change?	Alignment	Are the goals of the change clear and shared? Are they clearly contributing to organizational strategic aims? Is improvement important to the organization? Has the organization successfully sustained improvements in the past?
		Fit with culture	Are the staff fully trained and proficient in the new way of working? Are there enough facilities and equipment to support the new process? Are new requirements built in to job descriptions? Are their policies and procedures supporting the new way of working? Is there an effective communication system in place?

Adapted from: NHS Institute for Innovation and Improvement Sustainability Guide