This quality improvement guide was prepared by Toward Optimized Practice. We gratefully acknowledge the Institute for Healthcare Improvement, and the guide reviewers from Alberta's primary care sector, particularly the Calgary Foothills Primary Care Network Liaisons.
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Quality is a system property; if we want better results, we have to change the system. Berwick, 2003
Small changes within a primary care practice can have a big impact on the results for patients and satisfaction for primary care providers.

The foundational methods of quality improvement outlined here will guide primary care physicians, teams, and practice facilitators to collaborate successfully to improve service delivery.

**Facilitate Improvement**
Practice facilitation has been shown to improve uptake of clinical practice guidelines within primary care groups. Practice facilitation between an external facilitator and a primary care practice helps providers successfully implement quality improvements that work for them.

**Form a team**
The people who do the work need to change the work. Only by hearing from all roles within the practice can we start to understand and improve the system of care.

**Map your system from the patient’s perspective**
This will allow the team to analyze the real processes, seek information to help understand their current processes, and decide on the changes to be made.

**Use the Model for Improvement framework**
This guide describes the framework and the main tools that support its application, as well as links to further resources. Ultimately, the regular use of these tools serve to shift our culture from one of working “alone together,” to one of coming together to plan and design the processes of care that best meet the needs of the patients we serve.

Repeating this approach for each improvement project builds an engaged team, accelerates success and improves the care for our patients.
This guide is designed to introduce the tools and methodology of quality improvement science to primary care, and the Improvement Facilitators who support them in achieving their goals.

The concepts can be used to improve care for any topic; better access for appointments, more reliable screening and prevention of patients, or improving outcomes for patients with specific clinical conditions. It offers the structured process and sequences of steps that reduce the risk and disappointments of traditional change efforts.

The difference here is that changes are planned and implemented by the people who do the work, and who together map the current processes to understand the greatest opportunities for specific improvements to the daily work. Small changes are made first to promote learning and adaptation of the change prior to full implementation.

The quality improvement (QI) tools and methods of this guide are not a new layer of work, but rather they will allow the primary care team to re-capture time and effort that are being invested but are not yielding the desired results for patients individually, and for the practice as a whole.

Each improvement project must have defined beginning and end points. As successive projects are carried out, their transferable benefits can be leveraged to support future successes.

- Of the 10 themes for creating high performance health systems, five include:
  - quality and system improvement as a core strategy,
  - developing organizational capabilities and skills to support improvement
  - robust primary care teams at the centre of the delivery system
  - engaging patients in their care
  - information as a platform for guiding improvement

Baker and Denis, 2011
Improvement in the delivery of care and the experience of providers requires change, yet it is clear that not all change leads to improvement. The role of the improvement Facilitator is to guide the healthcare team to make targeted improvements until the changes are shown to achieve the desired objectives.

Improvement Facilitators work with the team to create a visual map of the care journey from the patient’s perspective. Issues and inconsistencies in the roles of the team members are then easier to see, and a more reliable care process can be put in place by the providers themselves.

An improvement facilitator will:

• Work with physicians and primary care teams to identify the issues and challenges that are priorities to address in the practice.

• Narrow the list of challenges to one priority topic, and help define the scope that can be successfully tackled as a single small improvement project.

• Promote the identification of the key roles that contribute to the process steps within the chosen topic, and engage them in structured brainstorming, process mapping, using tools to better understand the system, and testing and implementing the changes that matter.

Improvement Facilitators draw on the methods and tools in response to the primary care team’s readiness to move through the stages of the improvement project. They engage leadership and bring forward the insights from those who do the work so that changes are effective, successful, and sustained.

“Some is not a number, soon is not a time.”
Dr. Don Berwick, Institute for Healthcare Improvement
Primary care teams consistently work to improve the care they provide to their patients. However, without a structured approach, too often the improvement efforts result in frustration. The Model for Improvement is a simple but powerful framework for any quality improvement project.

The Model for Improvement addressed the three fundamental questions every project should answer. The three questions are:

1. What are we trying to accomplish?
2. How will we know a change is an improvement?
3. What changes can we make that could lead to an improvement?

The approach for implementing change through the Model for Improvement is called Rapid Cycle Improvements using Plan Do Study Act (PDSA) cycles. It builds learning into our activities by asking teams to predict the results of each test, and then observe and measure the actual results. Teams test their ideas for improvement in small but frequent cycles of change.

Aim Statement Script:
The NAME OF CLINIC team will improve TOPIC by NUMBER % (recommend 25-50% change from baseline) by DATE (3-6 months away)
4.1 Aim; What are we trying to accomplish?

QI projects should have clear aim statements; what are we going to do for patients and by when are we going to achieve it?

A good aim statement:
- captures the benefit to the patient and motivates staff
- sets a date for completion to set a pace for the work
- defines the number or percentage for improvement for a clear target, allowing the team to see the current gap

4.2 Measures; How will we know that a change is an improvement?

Improvement measures are gathered for the team and by the team to support decision making and monitor progress. The most common measures are outcome and process measures. The outcome measure captures the aspect of the improvement that will matter to patients.

Process measures answer the question ‘what am I going to do differently?’ They track the activity which has been shown to achieve the outcome, and shows the team if, or how often, this activity is actually being done.

- **Outcome Examples**
  - patient satisfaction rates
  - engagement in self-management activities or action plans
  - access to care and timeliness of appointments
  - adoption of healthy behaviours
  - quality of life scores
  - clinical measures within defined thresholds

- **Process Examples**
  - asking patients about risk factors
  - referring patients to multi-disciplinary team or to programs
  - promoting prevention
  - following and documenting guideline based care
4.3 Change; What changes can we make that will result in improvement?

Improvement teams generate ideas for changes from many sources. These ideas often come from:
- guidelines
- experience
- observations of internal issues, or using tools to analyze the current system for issues and opportunities
- hearing about successes achieved elsewhere

There are general change concepts that have been shown to be useful when planning the activities for improvement. Implementing strategies from more than one change concept can be more successful.

The following common change concepts can be used to support improvements across many topic priorities. Table A below offers a short list of change concepts and improvement ideas that describe the specific changes that can be made in a primary care setting.

Table A: General change concepts and specific ideas for primary care

<table>
<thead>
<tr>
<th>Change Concept</th>
<th>Ideas for Improvement</th>
</tr>
</thead>
</table>
| Engage Patients and Families    | • Complete Action Plans  
|                                 | • Provide Self-Management information  
|                                 | • Set shared goals; motivational interviewing |
| Improve Efficiency              | • Remove wasted steps in a process that do not add value  
|                                 | • Manage time by reducing delays during a process  
|                                 | • Optimize inventory by reducing and controlling it at all levels (i.e. location of forms, equipment)  |
| Improve Reliability             | • Assign the task to the right person  
|                                 | • Reminders and alerts for specific steps  
|                                 | • Visual cues that keep items in the right place |
| Manage Work Flow                | • Balance supply and demand for service  
|                                 | • Eliminate unnecessary visits  
|                                 | • Implement group visit program |
Quality improvement tools help teams understand the actual trends and patterns of their work. Because each team member only sees one part of the process, they gain a new understanding when they can see the whole process together.

Four tools will be outlined here, and each one serves a different function. Templates and tips for each of the tools are provided.

1. Process maps
2. Defect check sheets
3. Cause effect diagrams
4. Ask 5 whys

### 5.1 Understand what happens across a process

Process mapping creates a more complete view of the steps involved along a process. It allows a team to name and discuss each of the steps, and recognize the connections across the work. Through the creation of the process map, the team can identify areas of inconsistency, delays, redundancy, or waste. From this discussion, they can more easily identify and prioritize problems that need to be fixed.
5.2 Most frequent causes of problems

Defect check sheets track the frequency of errors as they occur, thereby allowing the team to identify the most frequent causes and prioritize their change strategy accordingly.

Once the causes are tracked, they can be graphed to show the degree to which each cause contributes to a problem. By creating this graph and showing the causes in order of frequency, it is possible to also see how many causes of problems would need to be fixed in order to improve by 80%. If we see that 20% of the causes lead to 80% of the problem, this is referred to as a Pareto Effect.

Using this tool saves time for an improvement team. Too often we invest energy in causes that have minimal impact on the problem, and miss the larger opportunity.

<table>
<thead>
<tr>
<th>Defect Cause</th>
<th>Count (checkmarks)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: ___
5.3 Ideas from team members

Cause-effect diagrams are created using a structured brainstorming process, and as with all brainstorming activities, all ideas are listed without judgement or filtering. They are used to capture the insights and ideas of everyone involved in a particular problem. They are structured along 5 topics, referred to as the 5 Ps (Providers, Patients, Procedures, Place and Policy) and these categories help trigger us to consider multiple causes. The categories most often used in primary care include thinking of problems caused by:

- Providers and staff
- Patients and families
- Procedures and processes
- Places (or equipment)
- Policies

When teams are just beginning to do improvement projects, the Cause Effect diagram activity supports an environment of trust that values the contributions of each team member.

Most problems within a practice can be traced back to a process problem, as opposed to a people problem.

Willis, 2005
5.4 Underlying cause of one significant problem

Recurring problems are expensive and frustrating. Using the 5 Whys allows us to explore the deeper issue that is leading to the problem, and not latch onto the cause we can see most clearly at first.

Describe a problem that is a significant frustration or issue to the group:

- Problem Statement: ____________________________________________
- Why does this problem occur? Answer is “A” ___________________
- Why does “A” occur? Answer is “B” _____________________________
- Why does “B” occur? Answer is “C” _____________________________
- Why does “C” occur? Answer is “D” _____________________________
- Why does “D” occur? Answer is “E” _____________________________
6.1 Measures for QI

Measures are collected by the improvement team to guide the changes being tested. When the team looks at the data, they should be able to quickly see if they are making progress, then discuss it and learn, and make rapid adjustments.

Reviewing the measures creates the pace for change, and keeps motivation high. If process measures are not reviewed at least weekly, there is a risk of missing valuable improvement opportunities.

The Model for Improvement outlined earlier leads us to collect two types of measures:
- Process measures tell us if provider behaviour has changed in the way we intend
- Outcome measures tell us if the provider change in behaviour is having the intended impact for the patient

Some teams will choose to add a third measure, called a balancing measure, to the information they review. This captures potential undesirable consequences of the project. For example:
- Ensuring that staff satisfaction or patient satisfaction don’t go down as a result of the project
- Ensuring system costs of care don’t go up
- Checking that access to care for another part of the system is not reduced or compromised as a result of our project success
- Checking that when we focus on efficiency, quality of care remains high

A measurement plan defines who will gather what information from where, and how often.

(See next page for example)
### Title:
QI Project Aim:

#### Timeframe for project:

<table>
<thead>
<tr>
<th>WHAT ARE YOUR MEASUREMENTS?</th>
<th>DATA SOURCE</th>
<th>FREQUENCY</th>
<th>PERSON RESPONSIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome; (captures something of value to patients)</td>
<td>Often captured via reports, can be captured manually</td>
<td>Tracked weekly or monthly</td>
<td></td>
</tr>
<tr>
<td>Process 1 (captures new provider behaviours)</td>
<td>Often captured manually, during PDSA's.</td>
<td>Tracked daily or weekly</td>
<td></td>
</tr>
<tr>
<td>Process 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balancing; (captures potential secondary impacts)</td>
<td>Often captured via reports or surveys</td>
<td>Tracked monthly or quarterly</td>
<td></td>
</tr>
</tbody>
</table>

- How do your outcome and process measures link to priorities of the Primary Care Network, or other health organization?

- Will you measure causes of poor quality or process defects?  
  - Yes [ ] No [ ]
  - If so, describe.

- Will you collect baseline data?  
  - Yes [ ] No [ ]
  - If yes, during what time period?
Run charts take the measures we’ve been gathering and show them over time.

To create a run chart:
- plot equal time periods on the horizontal axis
- plot the values of what is being measured on the vertical axis
- show the values collected at each regular period of time, and connect these points with a line.

The run chart line shows the performance and lets the team see if there is a real trend towards improvement, or if in fact there is just variation in our system. There are two rules that we use to identify improvement with run charts:

**Rule 1. Five consecutive points increasing or decreasing**

**Rule 2. Six consecutive points on either side of the median. The median is the line on the graph with an equal number of data points above it and below it.**
6.2 PDSA cycles for QI change

Using the Model for Improvement questions, the team listed the changes that they believe will achieve the aim of the project. Once those changes are known, we shift to the Rapid Cycle Improvement approach of the model; the Plan Do Study Act cycles (PDSA).

PDSA cycles differ from traditional change plans. They are a method for us to learn to improve the changes being developed, tested, and ultimately implemented.

Plan
What is the purpose of the PDSA cycle?
What change idea is the team trying?
What will be the indicators of success?
How will data be collected?
How many staff/patients will be involved in the PDSA cycle?
What is the time frame?
What do we expect will happen?

Do
Conduct the test and document any problems or unintended consequences

Study
Analyze the data
Compare the results with your expectations
Summarize and reflect on what was learned

Act
Refine the change, based on lessons learned
• Adopt it – test with a slightly larger group
• Adapt it – make some changes and retest with small group
• Abandon it – move to another idea

Plan for next PDSA

<table>
<thead>
<tr>
<th>What question do we want to answer on this PDSA cycle?</th>
<th>Is this cycle used to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ Develop a change idea, or</td>
</tr>
<tr>
<td></td>
<td>☐ Test a change idea, or</td>
</tr>
<tr>
<td></td>
<td>☐ Implement a change idea</td>
</tr>
</tbody>
</table>

Plan
Plan to answer the question 'who will do what when and where?'

Plan for collection of data; who, what, when, where.

Prediction of results of this cycle:

Do
Carry out the PDSA cycle, collect data, and begin analysis.

Study
Compare data to predictions:

Summarize what was learned:

Act
Do we want to
☐ Adopt this change, or
☐ Abandon this change.

Plan for the next cycle:

Adapted from Institute for Healthcare Improvement
Communication will make or break any change effort.

Different communication tools are required for different audiences; in particular the team that is engaged in the improvement project, the broader clinic team will be more supportive of change when they are kept informed, and the leadership or decision-makers who authorize initiatives.

First, Improvement Team Communication
The team doing the work, or testing the changes, need daily dialogue to support their continuous improvement work. A useful tool for this is a huddle. Huddles can be used daily for general office efficiency, and during improvement projects they are recommended for improvement team communications during tests of change.

Huddle How To:
A. Get physician and key participant buy-in, and encourage participants to attend.
B. Set a time before appointments start, and choose a central location.
C. Keep it to less than 7 minutes, and plan on standing in order to keep it short and focused.
D. Decide on huddle leader and agenda, and test out topics and participants until the right set is found.

Second, practice groups need to be kept informed
In order to build a culture of trust and build a common direction, it is important to communicate with those who work, even part-time, with the primary care team. The broader practice group, including the multi-disciplinary teams, may be affected in the future, and want to be kept informed while the improvement team is testing and implementing changes. A great tool for this is the Improvement Board that lists the aim, measures being used, current system performance, and a run chart that demonstrated results. For a template with tips on how to create an improvement board, see Appendix A.

Sample Agenda for Team Huddles
- anticipate patients on the schedule who may require particular attention or more time, what will be done to support them?
- are test results or reports ready in patient charts?
- check for provider and staff schedules; Any competing demands that day? Phone calls or other appointments?

Stewart and Johnson, 2007
This board is best placed where it can be seen by all team members.

Without a visible sponsor, someone with the authority to say “this is important”, the change will seem optional.
Silversin, 2003

Third, leaders and managers need information for decision-making. The leadership group is accountable for the ultimate impacts on the organization, they may need to authorize a project before it goes forward, and want clear documentation of the planned project work. QI Project Charters combine the Model for Improvement with Project Management methods to support informed decision-making, particularly for improvement projects that are expected to require significant staff time for participation.

For smaller projects of short duration, the Model for Improvement Worksheet and other QI tools may offer the right level of structured guidance.
# 8. Ten steps to improvement

## 10 Step Sequence  
### Step 1: Know Your Patients
  - When you read the panel report, what was as expected?
  - What was a surprise, or brought out questions?

### Step 2: Identify potential areas for improvement
- Explore issues and opportunities by discussing the following:
  - What are things about your practice that are strengths you want to keep?
  - What are some frustrations you have on a regular basis that imply there is a gap that you would like to address?
  - Name three priorities you have for working on improving the processes within your practice.

### Step 3: Selecting Topic
- Discuss options for improvement focus and choose one that is a good candidate to address with a 60 day improvement project. Consider three things; the impact, ease of implementation, and alignment with broader priorities.
- Scope out one topic to shape the discussion. Look for numbers that show the gap and can motivate improvement.

### Step 4: Set target
- Introduce goal of working together to improve this topic area; a 60 day project by the clinic and for the clinic. Draft an aim statement that sets a stretch goal.

## Tools & Resources
- HQCA Panel Report
- TOP Panel Guide
- Dialogue; What Is In It for Me?
- Baseline data
- Aim statement
- Outcome measure
<table>
<thead>
<tr>
<th>Step 5: Work together to understand current system using QI tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings with Physician and team who represent the work within the topic area chosen.</td>
</tr>
<tr>
<td>Clearly identify beginning and end, and facilitate the process mapping of the work that occurs.</td>
</tr>
<tr>
<td>What do we know about best practice for this area?</td>
</tr>
<tr>
<td>Review and discuss evidence of best practice in relation to current process map. Discuss group ideas of how process could be improved ... create Future State Flow Map.</td>
</tr>
<tr>
<td>Identify the processes that are targeted for improvement (connects to process measures.)</td>
</tr>
<tr>
<td>Identify potential area(s) for test of change.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6: Measure</th>
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</thead>
<tbody>
<tr>
<td>Plan your measures, gather them and review them weekly throughout your 60 day QI project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 7: Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan/implement tests of change.</td>
</tr>
<tr>
<td>Regular consultations for test of Change with small to increasing PDSA cycles are built into the days of the small group that are testing then implementing changes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 8: Communicate</th>
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<tbody>
<tr>
<td>Ensure regular team communication within the improvement team. Be transparent with the whole clinic by showing your plans and progress.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 9: Process improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue cycle of above tools until process measures have improved and outcome measures are improving.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 10: Celebrate!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim is achieved! Highlight learning and accomplishments, and how to ensure the improvement is now part of the new normal.</td>
</tr>
<tr>
<td>Physician completes Pearls, Linking Learning to Practice, or Practice Audits and Quality Assurance for Mainpro C credits Allied providers submit credits to their professional bodies, as appropriate.</td>
</tr>
</tbody>
</table>

- Process Map of Current State (and then Future State)
- 5 Whys, Defect check sheets, Cause-effect diagrams
- Evidence/CPGs
- Process Measures
- Change Ideas
- PDSA cycles
- Improvement Board
- Huddles
- Run Charts
- Professional Credits
Primary care practices engaged in quality improvement strategies have multiple resources available to them.

9.1 **Toward Optimized Practice**

[www.topalbertadoctors.org](http://www.topalbertadoctors.org): Information on Clinical Practice Guidelines (CPGs), provincial quality improvement initiatives and other primary care resources.

9.2 **Alberta AIM**

[www.albertaaim.ca](http://www.albertaaim.ca): A program to improve for continuity, panel distribution within a practice, access, efficiency, team based care and more.

9.3 **Health Quality Council of Alberta**

[http://www.hqca.ca](http://www.hqca.ca): Information and reports about Alberta’s health system performance.

9.4 **College of Family Physicians of Canada**

[www.cfpc.ca](http://www.cfpc.ca): Information about the Medical Home, Mainpro C Credits available for quality improvement activities, and more.

9.5 **Institute for Healthcare Improvement**

[www.ihi.org](http://www.ihi.org): Resources to support healthcare improvement efforts, workshops, conferences, and more.
• Model for Improvement Worksheet  24
• Process Mapping  25
• Defect Check Sheet  26
• Cause and Effect Diagram  29
• Asking the 5 Whys  31
• Rapid Cycle Improvements with Plan, Do, Study, Act  32
• Measurement Plan  34
• Improvement Board  35
• QI Project Charter  36
Topic Chosen for Improvement: ______________________________________

Once the topic is known, assemble a team representing each function that is involved in that topic (the people who do the work need to change the work.) This is the project improvement team, and together they answer to the following three questions. Once the three questions are answered, the team implements rapid cycle improvements through the use of Plan Do Study Act (PDSA). (See PDSA Worksheet)

1. The answer to this first question is the Aim Statement, and is best worded as something of value to the patient, and specific and measurable so that there is a clear focus and pace; The NAME will improve TOPIC by ___%, from baseline to ___, by DATE.

2. The answer to the second question defines how performance will be measured:

3. The answer to the third question identifies the changes that will be made and draws on the change concepts that improve quality; patient engagement, eliminating activities that are considered waste, assigning new roles to team members to achieve guideline based care, and more.
Tips: Follow these steps and draw the picture of the process you want to improve.

First, name the process you want to improve, and decide on the first step and last step of your process, place them within circles on either end of your page. All steps should be within a closed process between the start and stop.

Seek group input to identify the steps in the process and put them in sequential order (post-it notes allow the group to make changes easily for the first draft.) Identify the usual steps to capture the process as it occurs most of the time (later the group can identify the steps that are less reliable or need to be improved. Or, if there isn’t a usual process, use the cloud symbol to indicate ‘unclear step’.

Use a diamond to identify a step that involves a key decision point. Decision points should be worded as a question. Each decision point should have two exit points, one ‘yes’ and one ‘no’.

Sometimes, there is a time delay that exists between two steps, and this delay can be shown using a bullet symbol.

Once a process map has been drafted, it can be put up so others can comment or add information that will be used to plan improvements.

Use the map to identify key areas you want to improve, and perhaps go into further detail in that part of the process. You may also wish to identify where there is relevant documents which you can show using the documentation symbol.

Teams may choose to create a current process map, and then after exploring the improvement options then they create a future state process map to show everyone the planned changes.
Tips: The Defect Check sheet is set up to track the frequency of the different causes that contribute to a problem.

First, set up the form. Name the problem of interest and list it on the sheet, and list the expected defects or causes that contribute to the problem and list them in the first column. Decide on the person to be the data recorder, and the period of time the data will be captured.

The tracking should be done to reduce the chance of double counting, so it is preferable to assign one person to be the data recorder, as appropriate.

Second, during the time set for tracking, the data recorder will place a checkmark under the Count column each time a defect/cause is observed. If over time, the same cause is repeated, there will be several checkmarks in that cell.

Third, when the time period is over, then count the total number of checkmarks in each cell and write the number into the column marked Number of Checkmarks. At the bottom of that column, fill in the Total Defects. You can now calculate the percentage of checkmarks there are for each defect.

This may be enough information for the group to stop and review the information to decide on which defect they want to prioritize.
Use this data to produce Pareto Chart to discover common reasons for problem and focus on improvement opportunities.

<table>
<thead>
<tr>
<th>Defect Cause</th>
<th>Count (checkmarks)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Optional: Create a Pareto Diagram from Defect Check sheet data

Some groups will take this a step further and place Defect Check sheet results into a chart format, as seen in the Pareto Diagram below. To do this, name the defects along the bottom of the graph in the order of highest frequency to the left, and lowest frequency to the right. Show the frequency using a bar chart.

Create a line indicating the cumulative percentage of contribution (excel and . A classic Pareto effect will reveal that 20% of defects causes actually make up 80% of the problem; in the case of the graph below, of the 8 reasons that diagnostics were not done, the first two reasons listed account for just under 80% of the occurrences of this problem.

There are software programs that generate this graph, or it can be done using graph paper.
**Tips:**

1. To start the Cause Effect group process, draw the fishbone diagram as shown. Then have the group word the problem being explored in the form of a question; what causes this problem to happen? I.e., What causes appointments to start late? Place this question in box on the right (the head of the fish).

2. Ask the group to come up with the things they believe cause this problem. They can write them on a post-it note to be placed on the diagram, or a facilitator can write them onto diagram during verbal brainstorming. Because this is brainstorming, ideas are being gathered (perhaps clarified) at this stage, it is best not to discuss the merits or relative importance of the ideas.

3. See if any categories of causes are empty, or if any are have the majority of causes. If so, ask the group to think of causes that may be related to the less populated fishbone spines.

4. Once the ideas have been gathered, the group can identify the ideas that they want to explore further. This can be done using another tool such as the 5 Whys, a Defect Check Sheet, Process Mapping, or some other tool.

5. This Cause Effect Diagram can also be used as a place holder for the issues that the group will come back to and address in the future.
Cause & effect diagram

Effect

Person/ Patients

Policies

Provider/ Staff

Procedures

Place/ Equipment
The 5 Whys are used to help a group delve deeper into a problem and find the underlying cause, one that can be addressed. It is not a form of brainstorming because the group must agree at each why question on the predominant cause.

**Tips:**

- The people involved in the work know it best, and so the right participants with access to the right information, experience and expertise are key to the effective use of the 5 Why exercise.

- Teams often attribute lack of resources as the cause of problems or issues. The purpose of this exercise is to explore decisions and processes that the team can change, not to attribute cause to others.

- Look for the most relevant cause of the problem, this is not brainstorming but rather is identifying the root cause. The team may need to gather information between each ‘why’ question.

**Describe a problem that is a significant frustration or issue to the group:**

- Problem Statement: ____________________________________________

- Why does this problem occur? Answer is “A”____________________

- Why does “A” occur? Answer is “B” _____________________________

- Why does “B” occur? Answer is “C” _____________________________

- Why does “C” occur? Answer is “D” _____________________________

- Why does “D” occur? Answer is “E” _____________________________
• Organize your change ideas in to groups; some may be related to reminders systems, others related to patient engagement, etc

• Decide which ideas are most likely to have the most impact with the least effort ... start with these ideas first.

• To overcome our tendency to start implementing changes before they have been tested, a common way to approach PDSA cycles is to start by considering ‘what could we test next Tuesday with a PDSA?’

• Because PDSAs start very small, don’t require unanimous agreement for them. They are designed for learning, and so if some team members predict that the test won’t be effective, that is documented and reviewed along with any predictions of success.

• Teams may choose to test a change that they think will not be effective if that change requires the least effort ... it guides us to only invest as much energy into the change as we need to and not more. Remember, after every cycle you can decide to Adopt the change, Adapt the change, or Abandon the change!

PDSA Common errors:
• Making the test of change too large too quickly
• Not reviewing the PDSA with the team
• Not making a prediction ... we learn more by being surprised!
Plan, do, study, act

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Is this cycle used to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What question do we want to answer on this PDSA cycle?</td>
<td>□ Develop a change idea, or</td>
</tr>
<tr>
<td></td>
<td>□ Test a change idea, or</td>
</tr>
<tr>
<td></td>
<td>□ Implement a change idea</td>
</tr>
</tbody>
</table>

**Plan**

*Plan to answer the question ‘who will do what when and where?’*

*Plan for collection of data; who, what, when, where.*

**Prediction of results of this cycle:**

**Do**

*Carry out the PDSA cycle, collect data, and begin analysis.*

**Study**

*Compare data to predictions:*

*Summarize what was learned:*

**Act**

*Do we want to*

- □ Adopt this change, or
- □ Adapt this change, or
- □ Abandon this change.

**Plan for the next cycle:**

Adapted from Institute for Healthcare Improvement
### Measurement Plan

**Title:**
QI Project Aim:

#### Timeframe for project:

<table>
<thead>
<tr>
<th>WHAT ARE YOUR MEASUREMENTS?</th>
<th>DATA SOURCE</th>
<th>FREQUENCY</th>
<th>PERSON RESPONSIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome; (captures something of value to patients)</td>
<td>Often captured via reports, can be captured manually</td>
<td>Tracked weekly or monthly</td>
<td></td>
</tr>
<tr>
<td>Process 1 (captures new provider behaviours)</td>
<td>Often captured manually, during PDSA’s.</td>
<td>Tracked daily or weekly</td>
<td></td>
</tr>
<tr>
<td>Process 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balancing; (capatures potential secondary impacts)</td>
<td>Often captured via reports or surveys</td>
<td>Tracked monthly or quarterly</td>
<td></td>
</tr>
</tbody>
</table>

#### How do your outcome and process measures link to priorities of the Primary Care Network, or other health organization?

#### Will you measure causes of poor quality or process defects? Yes [ ] No [ ]
If so, describe.

#### Will you collect baseline data? Yes [ ] No [ ]
If yes, during what time period?
Tips:

• This board is intended for the team to communicate among their colleagues, and to build a culture that values improvement and sharing.

• It is usually built in powerpoint format and then either printed as 4-6 slides onto a poster or wall.

• It is good practice to start Improvement Boards as soon as an aim and measures have been set in order to build trust and common understanding across the clinic and PCN.

What are we trying to accomplish?

What have we learned about the way we currently do things?

Insert ‘cause & effect diagram’ OR ‘process map’ OR ‘pareto diagram’ OR ‘5 whys’

What changes are we making that will lead to an improvement?
### QI project Charter

<table>
<thead>
<tr>
<th>Project Title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Leader:</td>
</tr>
<tr>
<td>Team Member Names:</td>
</tr>
<tr>
<td>Patients Who Will Benefit:</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Problem/ Opportunity Statement:** (What’s wrong with quality?)

**Aim Statement:** (What are we trying to accomplish? Numerical target for improvement, over what time?)

**Measures:** (How will we know if we are improving?)

- Outcome Measures:
- Process Measures:
- Balancing Measures:
<table>
<thead>
<tr>
<th><strong>Change Ideas:</strong> (What can we try that will result in an improvement?)</th>
</tr>
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<tbody>
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<table>
<thead>
<tr>
<th><strong>Business Case</strong> (Are practice or health system costs reduced by addressing the problem?)</th>
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<table>
<thead>
<tr>
<th><strong>How does this fit with Primary Care organizational strategy or priorities?</strong></th>
</tr>
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<table>
<thead>
<tr>
<th><strong>Term of Project:</strong> (Start &amp; Stop Dates)</th>
<th><strong>Project Budget:</strong></th>
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<thead>
<tr>
<th><strong>Anticipated Milestones:</strong> (List from 3-7 milestones that will be recognizable, estimate dates)</th>
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<tr>
<th><strong>Estimated Time Required for Staff Participation:</strong></th>
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<td></td>
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</tbody>
</table>
**1.** Aggarwal, M., Hutchison, B. Towards a Primary Care Strategy for Canada, Canadian Foundation for Healthcare Improvement, December 2012.


**9.** Steward E., Johnson B. Huddles: Improve Office Efficiency in Mere Minutes, Family Practice Management, June, 2007

**10.** Willis, D. Making Every Minute Count; Tools to Improve Office Efficiency. Family Practice Management, April, 2005