



# Continuous Quality Improvement Fundamentals Guide

For General Practice

Edition 1

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# 1. Primary Health Network for Hunter, New England and Central Coast

Hunter New England Central Coast Limited is a not for profit organisation funded primarily by the Federal government to operate a Primary Health Network (PHN). PHNs are responsible for improving the health of their communities by working cooperatively with hospitals (both public and private), general practitioners, specialists, nurses and midwives, and allied health professionals.

The PHN for the Hunter, New England and Central Coast regions covers a diverse geographical area reaching from the Queensland border in the north to Gosford in the south, and west past Narrabri and Gunnedah.

HNECC Ltd respectfully acknowledges the traditional owners and custodians of the land in the region that it covers which include the traditional nations of the Awabakal, Biripi, Darkinjung, Geawegal, Kamiliroj, Wonnarua and Worimi people.

## Disclaimer

While the Australian Government Department of Health has contributed to the funding of this material, the information contained in it does not necessarily reflect the views of the Australian Government and is not advice that is provided, or information that is endorsed, by the Australian Government. The Australian Government is not responsible in negligence or otherwise for any injury, loss or damage however arising from the use of or reliance on the information provided herein.

This document has been produced in collaboration with the Improvement Foundation.

## 2. Glossary

AAPM	Australian Association of Practice Managers
ACRRM	Australian College of Rural and Remote Medicine
AHPRA	Australian Health Practitioner Regulation Agency
APCC	Australian Primary Care Collaborative
CAT4	Clinical Audit Tool Version 4
CPD	Continuing Professional Development
CPR	Cardiopulmonary Resuscitation
CQI	Continuous Quality Improvement
ED	Emergency Department
EOI	Expression of Interest
GP	General Practitioner
HNECC	Hunter New England Central Coast
IF	Improvement Foundation
IT	Information Technology
MBS	Medicare Benefits Schedule
MFI	Model for Improvement
NP	Nurse Practitioner
PATCAT	Practice Aggregation Tool for the Clinical Audit Tool
PCIO	Primary Care Improvement Officer
PDSA	Plan Do Study Act cycle or cycles
PIP	Practice Incentive Program
PHN	Primary Health Network
PLAN	Plan Learning and Need activity
QI	Quality Improvement
QPA	Quality Practice Accreditation
Qualitative	Measures that are descriptive or subjective (e.g. patient feedback)
Quantitative	Measures expressed in a numerical format (e.g. healthy weight)
RACGP	Royal Australian College of General Practitioners
SIP	Service Incentive Program
SMARTA GOAL	A goal that is Specific, Measureable, Achievable, Relevant, Time-based and Agreed

## 3. Introduction

### 3.1. Purpose

The Continuous Quality Improvement Fundamentals Guide (the Guide) is designed to help your organisation implement continuous quality improvement (CQI) and is specifically designed to help general practices.

The Primary Health Network for Hunter, New England and Central Coast (hereafter, the Primary Health Network) understands that general practices are typically very busy and operate within a complex health system. This Guide will help you implement CQI over time and is designed to ensure that your efforts are focussed and build capability within your organisation.

### 3.2. What are the key implementation steps?

There are a few critical elements required for the successful implementation of a CQI system. These include:

#### 3.2.1. Practice leadership commitment

Support from owners, executives and organisational leaders is critical to successful implementation. Implementing CQI will require changes to business systems and therefore without practice leadership commitment, it will be very hard to successfully implement CQI. The Primary Health Network acknowledges that general practices are in nearly all cases small businesses and that a positive business case needs to be made to ensure that change improvements are sustainable. This will be discussed further in this guide.

#### 3.2.2. Quality improvement strategic plan

Changes within your business should be planned for and therefore a quality improvement (QI) strategic plan is important.

The QI strategic plan does not need to be a complex document and can be easily developed using a template available on the PHN's website and the Primary Care Quality Improvement Community of Practice.

The QI strategic plan should articulate with other organisational planning documents, such as a strategic plan and/or business plans and ideally have a similar review timeframe. The QI strategic plan is not intended to replace other plans and should remain focused on how your organisation intends to improve over the period.

#### 3.2.3. Protected time

Protected time is a term used for time that selected staff will have that is available to them to help implement the QI strategic plan. The QI strategic plan should identify a small coordination team or person and it is generally this team or person that will need a small amount of time, approximately 2 hours every fortnight, to dedicate to coordinating the QI strategic plan and working with the team to test change using the Model for Improvement (including Plan, Do, Study, Act (PDSA) cycles).

### 3.2.4. PHN support

While it is possible to implement CQI without PHN support, the PHN has resources to help your team; additionally, working with a Primary Care Improvement Officer (PCIO) can make your journey easier.

**If you are serious about implementing CQI,  
you need some basics established to ensure success.**

### 3.3. Methodologies and approaches

The methodologies and approaches in this guide are supported by the following organisations:

- Institute of Healthcare Improvement (IHI)
- Royal Australian College of General Practitioners (RACGP)
- Improvement Foundation (IF).

The PHN recognises these organisations as leaders in QI and we recommend that you access any additional information you may need about these methodologies and approaches from their websites.





## 4. Continuous quality improvement

### 4.1. What is continuous quality improvement?


Continuous quality improvement (CQI) is a system of regularly reviewing and refining processes to improve them over time. As a result of an effective CQI system, you should improve:

- the quality of care your patients receive;
- their health outcomes, and
- your business efficiency.

A growing body of evidence demonstrates that CQI activities lead to positive change in general practices, particularly when implemented using a whole-of-team approach.

CQI in your general practice can address one or more of the following six domains, and in most cases more than one domain at once:

- Safety: avoiding or reducing harm to patients.
- Effectiveness: providing evidence-based care and only providing services that are likely to be of benefit.
- Patient-centricity: providing care that is responsive to each individual patient's preferences, needs and values.
- Timeliness: reducing waiting times for care and avoiding harmful delays.
- Efficiency: avoiding waste.
- Equity: providing care of the same quality regardless of personal characteristics such as gender, ethnicity, location or socio-economic status.



Continuous quality improvement makes the practice a better place to work and a stronger more viable business

### 4.2. Why undertake quality improvement?

CQI makes good business sense as an effective CQI system will increase productivity and quality, with benefits often seen in the following areas:

- patient experience: improving patients' access to care; the quality and safety of care; with subsequent improvement in health outcomes.
- care team wellbeing: improving staff satisfaction, morale, team-work, and workforce sustainability.
- population health: reducing the burden of disease and health inequalities across your region.
- business efficiency: improved business outcomes through increased efficiency and effectiveness.

Quality improvement activities are a growing requirement for accreditation and achieving professional development recognition required by a range of national member organisations, such as RACGP and the Australian College of Rural and Remote Medicine (ACRRM). For information on these requirements and how to access recognition points, please refer to your membership organisation's website.

## 5. Implementing CQI

Effective CQI systems involve the team; each business will need to determine the best approach for their team as they all vary. Your organisation may have a highly functioning team that are all ready to support CQI, or you may have a team that is largely disinterested in CQI and will be difficult to engage.

As CQI will certainly change business systems and impact on the way people work within the general practice, you will need to have some level of practice leadership commitment. Which means at least one of the practice leadership managers and/or owners is willing to support CQI. If you have more support, even better.

Once you have some level of executive or high-level commitment, you will need to establish a quality improvement strategic plan (if you do not already have one).

### 5.1. Quality improvement strategic plan

The quality improvement strategic plan can be a relatively simple document that clearly states what the organisation is trying to achieve, how you will measure and monitor your work, and what strategies you believe will help you achieve your goal. The quality improvement strategic plan should be achieved over time, a year or two is recommended and it should also align with other business plans (strategic plan, business plan, annual budgets). The quality improvement strategic plan will generally include:

#### 5.1.1. Understanding your population and performance

Using clinical information systems or software (e.g. Pen CS's CAT4 or Polar), briefly document your population profile, for example you should be able to present a picture of the organisation's current profile and performance to your team, such as:

- total number of 'active' patients
- total number of patients
- proportion of active patients with coded diagnosis of key chronic diseases
- x% of patients coded with diabetes who have had a HbA1c test in the past year
- y% of patients coded with diabetes who have had a GP Management Plan claimed in the past year
- z% of patients coded with chronic obstructive pulmonary disease who have had their diagnosis confirmed with spirometry.

The above are examples and there are many consistent quality indicators available in clinical information software to help you produce profile overview. This will provide a snapshot of your population to the broader team and give an indication of how your general practice is performing.

**If you need guidance, ask your PCIO for assistance.**

### 5.1.2. Agreement on a focus area

While quality improvement strategic plans can include multiple goal statements and numerous strategies, given the complexity of general practice and resources typically available, it is recommended that you start with one focus area. The focus area is typically stated as a disease topic or other health care topic. For example, chronic heart disease, cancer screening, diabetes, COPD, Aboriginal health, immunisation etc. To improve in any of these areas, you will need to achieve improvement in relevant processes and quite probably data quality. Therefore, it is best to choose a health-related topic and not a process or system. These will be the focus of your CQI work using the focus area as a place to start.

To determine the focus area, you should consider choosing an area that has stronger team support. Reasons for this support may include:

- The clinical area. You may have clinicians interested in this focus area and therefore are willing to be involved;
- Available resources. There may be a local improvement program that you can join that will provide additional support and resources. Or there may existing resources that you can access to assist you;
- Current performance. Review your current performance and consider whether there is room for improvement.

**The PHN has a range of toolkits that may help you determine a focus area and provide a resource to help your work. Join the PHN's Primary Care Quality Improvement Community of Practice for access to these toolkits.**

Once you have selected the focus area, you will need to determine a goal and measurement approach for this area.

### 5.1.3. QI strategic plan goal

Make your goal a 'SMARTA' goal (Specific, Measurable, Achievable, Relevant, Time-bound, Agreed).

In this example the team has chosen the following goal:

Over the next year, increase to 40% the proportion of active patients living with diabetes, whose most recent HbA1c measurement result recorded within the previous 12 months was categorised as less than or equal to 7%.

The team has used HbA1c control as an indication of health outcomes improvement for patients with diabetes. In this example, the organisation's current performance was 27%; therefore, a 40% target in the goal sets a reasonable stretch target without being unrealistic.

#### 5.1.4. Measurement

There are many established quality indicators across a range of improvement topics available in clinical information systems and other software such as PEN CS's CAT4. Using existing measurements makes it easier for you and contributes to maintaining a consistent approach.

The measures you choose will vary depending on the focus area. However, they should include a couple of process measures and at least one outcome measure. These are further discussed in Item 8.3.

Example 1: If diabetes is your focus area, you could use:

- HbA1c under control (outcome measure). E.g. The proportion of active patients living with diabetes, whose most recent HbA1c measurement result recorded within the previous 12 months was categorised as less than or equal to 7%.
- HbA1c measurement (process measure). E.g. The proportion of active patients with diabetes who have had two HbA1c measurement results recorded within the previous 12 months.
- GP Management Plans (process measure). E.g. The proportion of active patients with diabetes who have had a GP Management Plan claimed within the past 12 months, or a GP Management Plan review within the past 6 months.

Through your early improvement work, you would expect to see positive trends in the process indicators. The outcome measure in this example is likely to take 6 to 9 months to start showing improvement as it is harder to achieve, but it can be improved over time with thorough improvement-in-care processes.

Example 2: If immunisation is your focus area you could use:

- Proportion of patients aged 65 and over who are recorded as being immunised against influenza within the past 15 months (process measure).
- Proportion of patients with diabetes who are recorded as being immunised against influenza within the past 15 months (process measure).
- Proportion of patients with COPD who are recorded as being immunised against influenza within the past 15 months (process measure).

Note that all three examples given here are aligned with some of the Practice Incentive Payment Quality Improvement (PIP QI) measures.

In this case the measures selected are all process measures as outcome measurement is likely to be downstream (hospital avoidance) and/or quite complex to measure. However, if you are improving these process measures, there is reasonable reason to believe that outcome improvement will follow.

Please refer to the section on measurement (page 31) for more information.

### 5.1.5. Ideas for improvement

Once you have your focus area and measurement determined, you can work with your team to identify ideas for improvement. These ideas can also be called strategies or tactics.

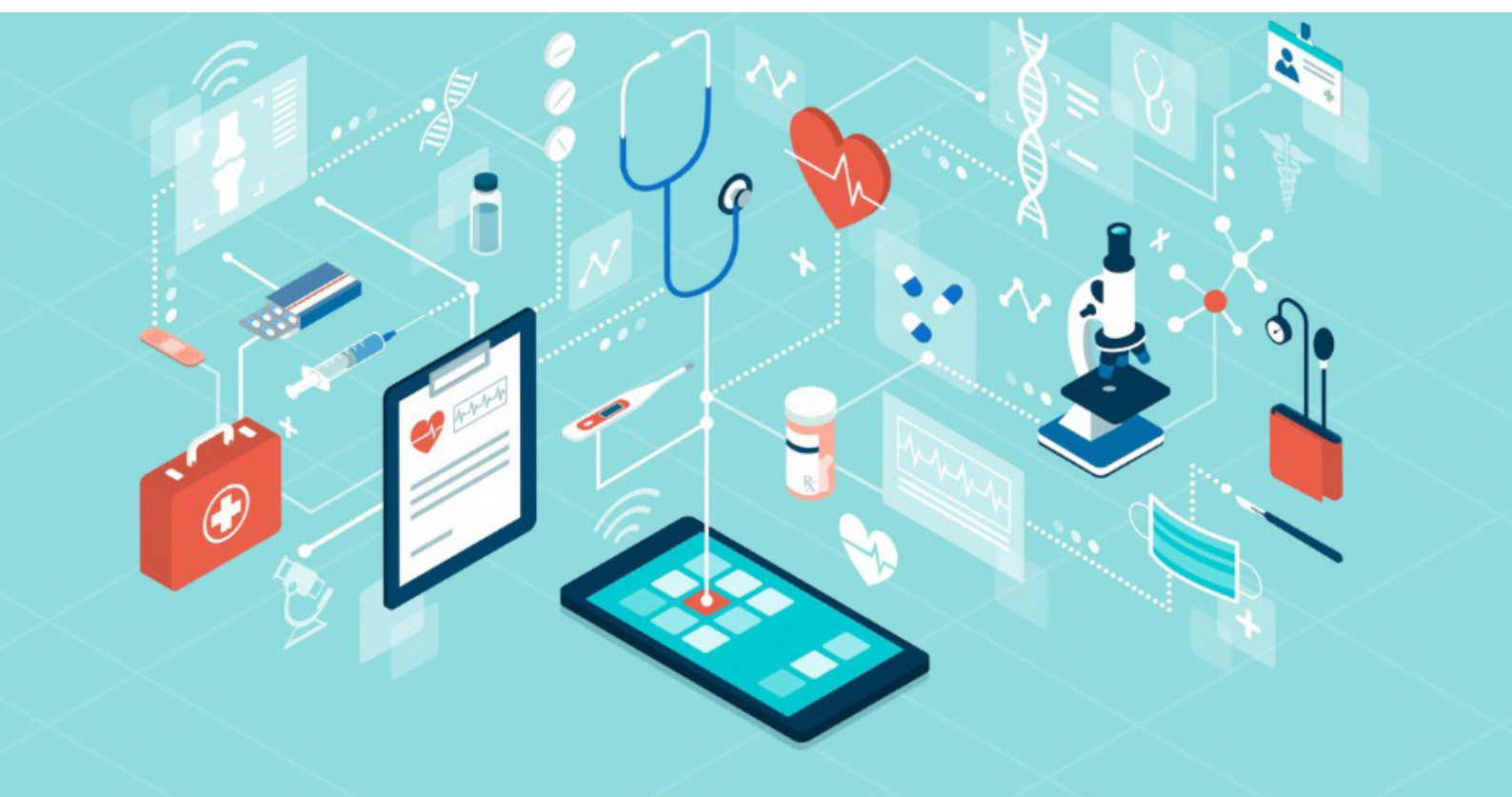
In the planning context, 'ideas for improvement' are ideas that you might be able to implement over the timeframe of the quality improvement strategic plan. When compared with ideas generated for a Model for Improvement (which will be discussed later), the 'ideas for improvement' are at a higher level focussed on the overall system you have in place and not one process.

In the quality improvement strategic plan, these ideas (or strategies or tactics) are listed and ideally have a completion date and a responsible person assigned. The responsible person is not intended to be the person that does all the work; rather, this is someone who can lead the work with assistance from others in the team.

### 5.1.6. The quality team

Like any plan, the quality improvement strategic plan needs to be managed over time and therefore it should identify a core team. In smaller teams, it may be one quality coordinator and in larger teams, a few people. Regardless of the team size, someone needs to be responsible for coordinating the plan and reporting regularly back to the team.

Ideally the quality improvement strategic plan will also set out protected time for the team. Without protected time, which may only be two hours a fortnight, progress is unlikely as you will be adding work to an already committed resource. Protected time also sends a message to the team that this is important work and deserves specific time to undertake coordination tasks. These coordination tasks include establishing a process to test change ideas using the Model for Improvement, monitoring improvement over time, and reporting back to the team.



## **5.2. Data quality**

As quality data and subsequent measurement are both essential quality improvement ingredients, attaining and maintaining data quality is essential.

In 2018, RACGP published 'Improving Health Record Quality in General Practice.' This publication identifies the following six data dimensions that make up high quality health records:

- Accurate
- Complete
- Consistent
- Easily read and understood
- Accessible
- Up to date

This comprehensive resource will help you determine how to best establish systems and processes to ensure that the data collected for a patient is suitable for that patient's context.

### **5.2.1. Data cleaning**

You can undertake data cleaning and there are tools within clinical software systems and also third-party tools to assist you.

Having clean data is fundamental to conducting effective continuous quality improvement. If you do not have an effective data quality process in place along with regular auditing and process improvement, then any data cleaning effort undertaken will be eroded over time due to a lack of process in maintaining data quality.

Once off data cleaning may be valuable for your focus area to ensure that you have an accurate data set to start with. By focussing on one area to clean data in the first instance you can monitor the maintenance of data quality. If your data quality process is effective, it will improve data quality for all health records over time.

### **5.2.2. Data quality processes**

Data quality processes refers to the range of activities that the general practice has in place and individual staff undertake daily to ensure that data within any health record is recorded and maintained over time as per the general practice's policy.

Achieving and maintaining high quality health records includes a range of activities, such as:

- ensuring everyone understands the importance of coding. Without accurate coding, software systems cannot operate at an optimal level and safety and quality can be compromised.
- developing processes and systems to undertake systematic, and continuous, data cleaning
- educating the practice team about the importance of high-quality health records and how to produce and maintain them.

- identifying a champion who leads by example.
- introducing a way to monitor data quality and reviewing this with the team at each team meeting. This may include some form of audit.
- providing protected time for the practice team to update patient records.
- regularly reviewing processes and systems that contribute to data quality to ensure that they are effective.

Attaining and maintaining data quality is an iterative process and needs to be managed over time.

### **5.3. QI models and methodologies**

There are several ways to support continuous quality improvement. Some of these methods and models include, but are not limited to, the following:

- Model for Improvement
- Business process redesign
- Lean
- Six Sigma
- Theory of Constraints

The PHN's preferred approach for our context and our region is for organisations to develop a QI strategic plan and use the Model for Improvement. This approach should also include the use of tools like clinical auditing and performance benchmarking. This guide supports continuous quality improvement within the parameters of the preferred approach.

### **5.4. You are now ready to start improving!**

By now, you should have a quality improvement strategic plan in place and someone to coordinate quality improvement activities.

Choosing where to start is important and you must start small. The following section will guide you through the Model for Improvement and how to test ideas in a small way using Plan, Do, Study, Act (PDSA) cycles.

#### **5.4.1. First steps**

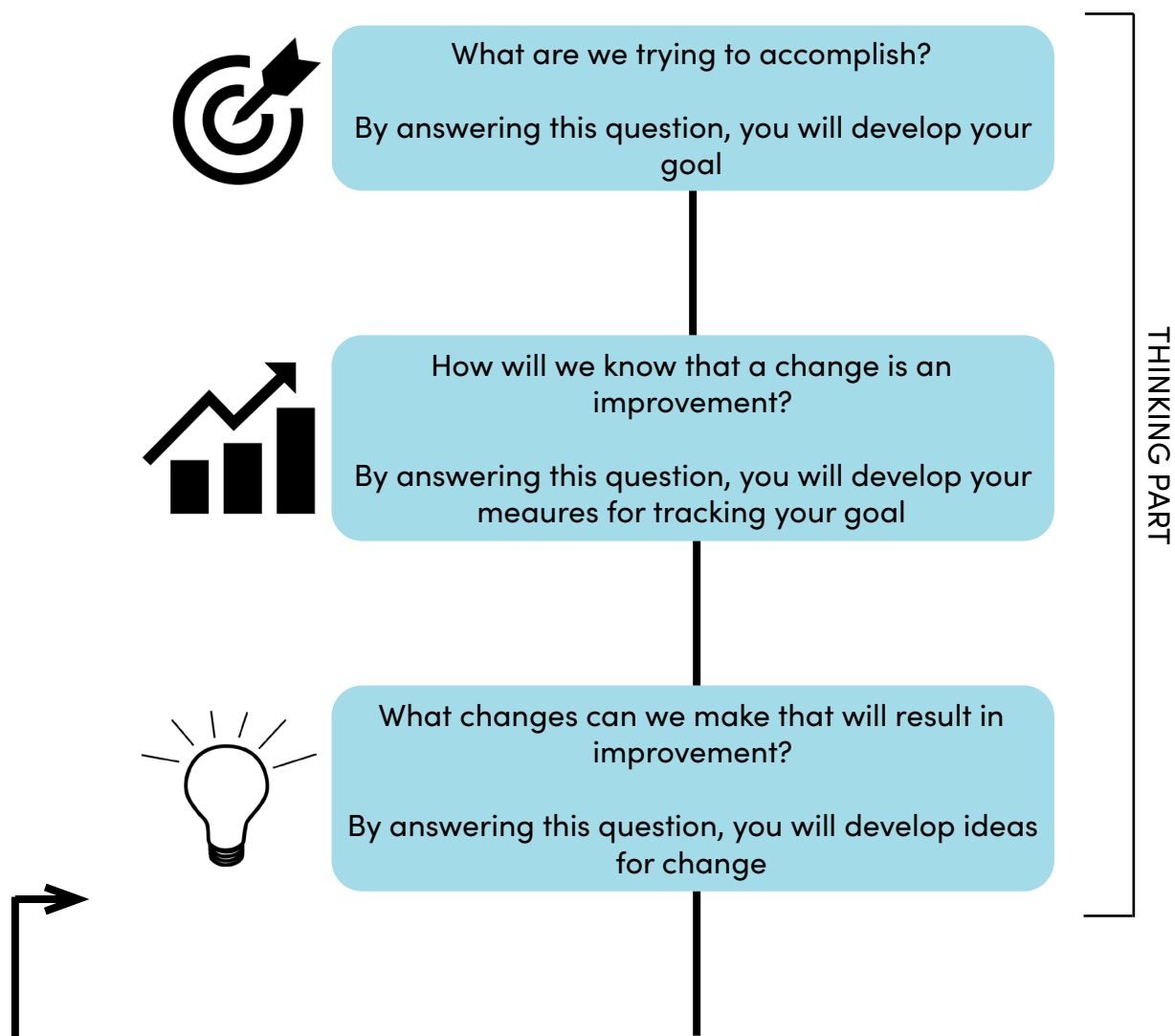
Choosing where to start can be hard but it is important to start small. In the following section, the Model for Improvement will be explained along with how to use this model to test small system change. After this section, some examples will be provided using the Model for Improvement and PDSA cycles.

## 6. The Model for Improvement

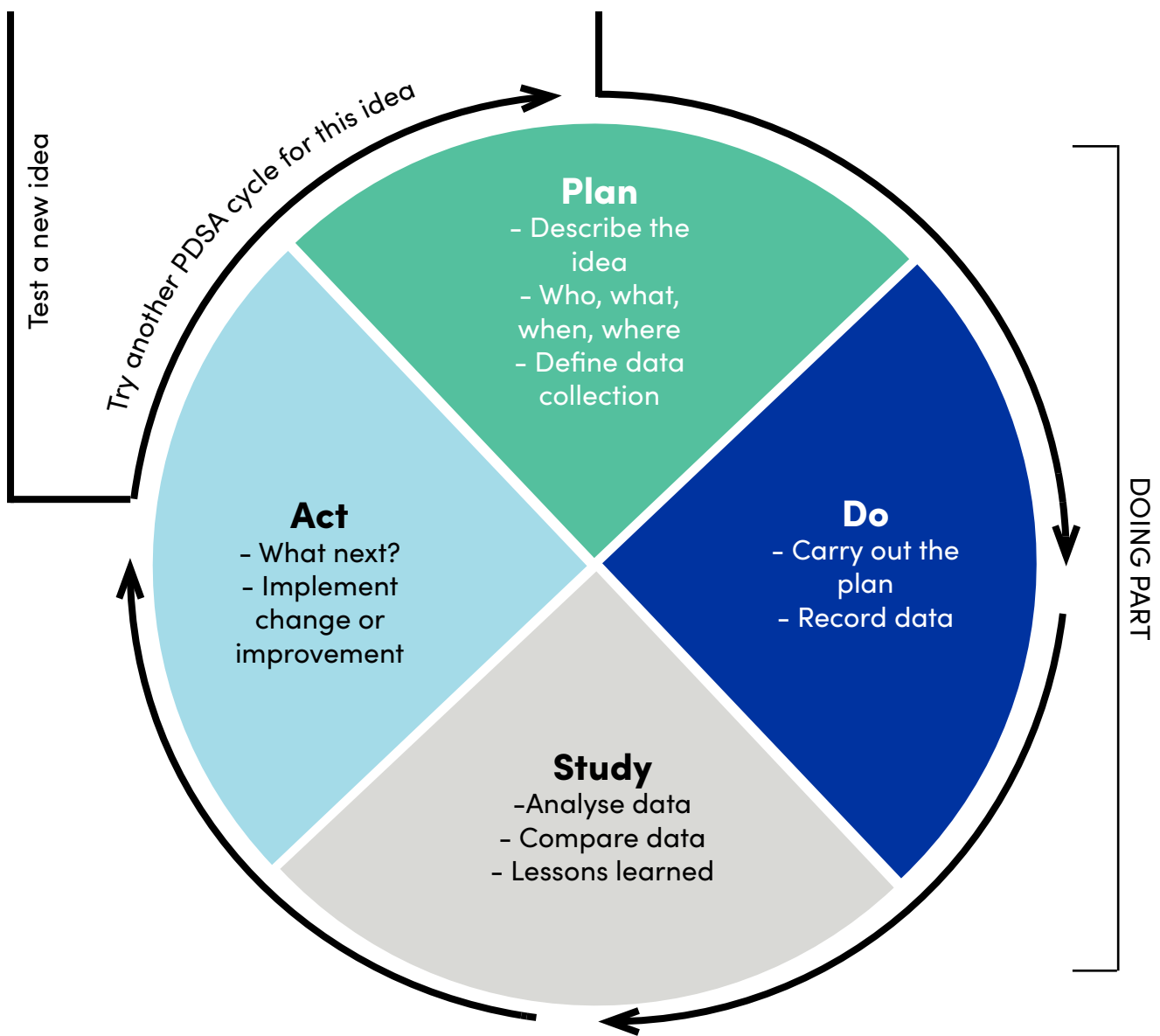
The Model for Improvement (MFI) is a proven approach for developing, testing and implementing changes in general practice, and is the approach recommended by many leading national and international organisations, including RACGP, ACRRM, Improvement Foundation, Institute for Healthcare Improvement and many government health departments.

Plan, Do, Study, Act (PDSA), and Plan, Do, Check, Act (PDCA) cycles were originally developed for manufacturing by Dr. W. Edwards Deming (PDSA) and then Walter Shewart (PDCA) and used widely in manufacturing.

The Model for Improvement was first published in 'The Improvement Guide: A Practical Approach to Enhancing Organisational Performance' (Langley GJ et al; 1992) and the model (including PDSAs) has been used widely in health care improvement programs ever since. The Model for Improvement is a two step process compromised of the thinking part (below) and the doing part (Page 16).







The MFI helps you to break down your change into manageable pieces, which are then tested to ensure that measurable improvements are made, and minimal effort is wasted.

Remember:

1. Although every improvement is a change, not every change is an improvement.
2. In the general practice context, you are working on a live health system. It is wise to test any change idea in a small way to make sure that it is an improvement before scaling up and implementing.

### 6.1. The benefits of using the Model for Improvement

- It is a simple way to plan, develop and implement change that anyone can apply.
- It reduces risk by testing small changes before wider implementation.
- By starting small, there is less resistance to change.
- You can achieve team unity on common goals.
- It encourages individual creativity and ideas from team members.

Implementations of the MFI have shown that it will work best when you:

- Define the problem.
- Understand the problem.
- Think small and test.
- Involve the team.
- Share successes and lessons learned.

## 6.2. The thinking part of the Model for Improvement (Step 1)

The 'thinking part' (page 15) asks you to answer these questions:

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

The aim of these questions is to help you develop a relevant goal, the measures and ideas that will form the basis of your test(s) to change the system(s) or process(es) currently in place.

**Note: The scope of a MFI is different to the quality improvement strategic plan. Therefore, while related, MFI goals and measurement may differ from those in the quality improvement strategic plan.**

An example of the difference is as follows:

QI Strategic Plan Goal	One MFI example
Over the next year, increase to 40% the proportion of active patients living with diabetes, whose most recent HbA1c measurement result recorded within the previous 12 months was categorised as less than or equal to 7%.	Over the next two months, increase to 60% the proportion of active patients living with diabetes who have had a HbA1c result recorded in the past year

The QI strategic plan goal sets the focus for QI activity over a longer period and the MFI goal is one of the stepping stones to achieving the QI strategic plans goal. Plan, Do, Study, Act (PDSA) cycles are used to test ideas generated by the MFI to ensure that the test is successful before scaling up or implementing.



### 6.3. The doing part of the Model for Improvement (Step 2)

During the 'doing part' (page 16), work through Plan, Do, Study, Act (PDSA) cycles that will:

- Help you test an idea.
- Help you assess whether you are achieving your goal.
- Enable you to confirm whether the change is an improvement.
- Allows the use of multiple PDSAs to achieve your goal and test at scale and then move to implementation.

Using PDSA cycles allows you to use simple measurement to monitor the effect of multiple changes over time. You begin with small changes, which, once proven, can quickly become larger or be implemented more widely. As you go through the successive cycles of change, you review the process and identify what you have learnt so far. And you can quickly and easily test a suggested improvement based on ideas, research, or changes that have worked elsewhere.

#### MFI Question 3: What changes can we make that will result in a improvement?

Answering this question will generate 'ideas' from the team that can be tested using PDSAs.

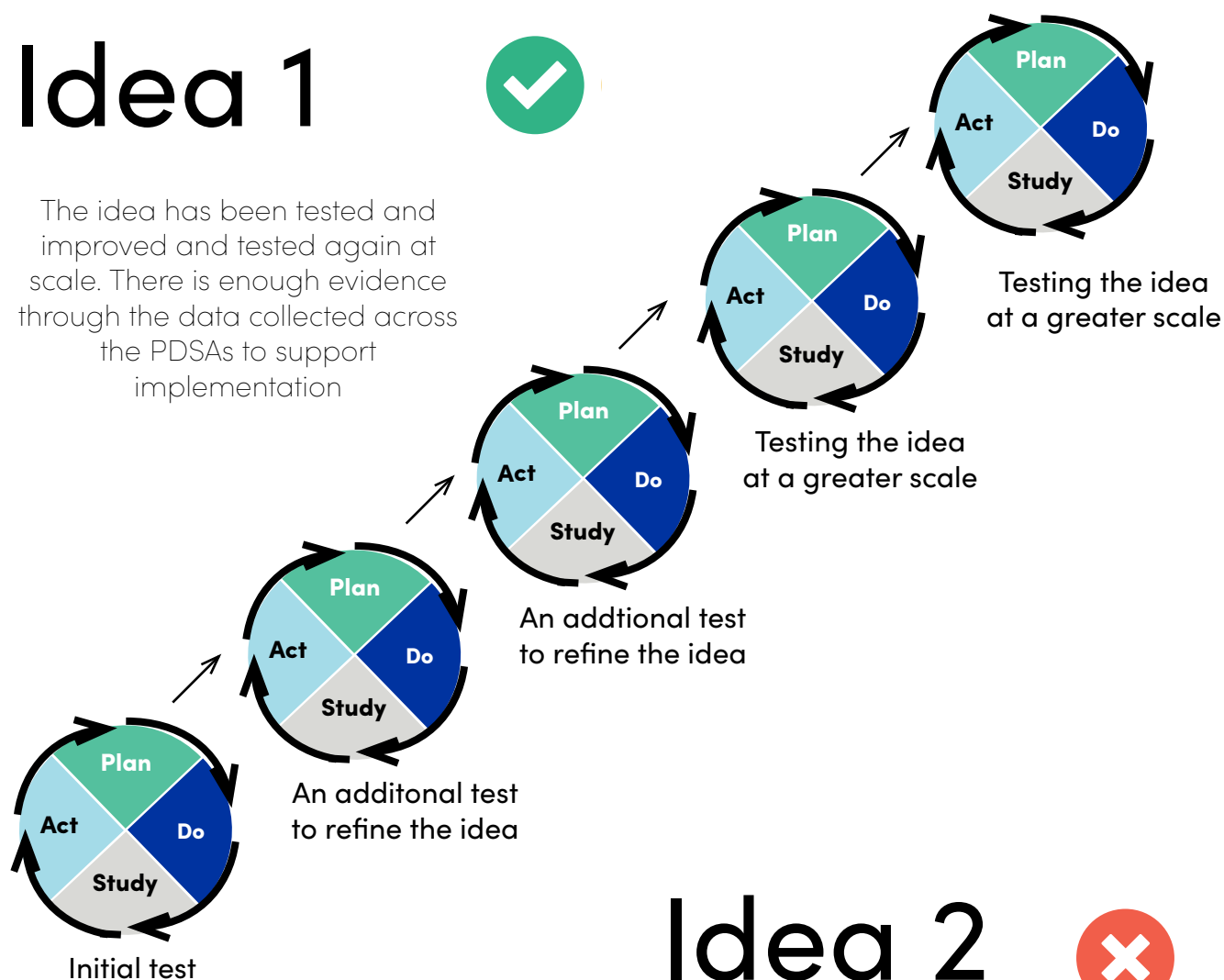
- Idea 1
- Idea 2
- Idea 3
- Idea 4

The following (on pages 19 & 20) are examples of how multiple PDSAs may be used to achieve a successful outcome for one MFI.

# Idea 1



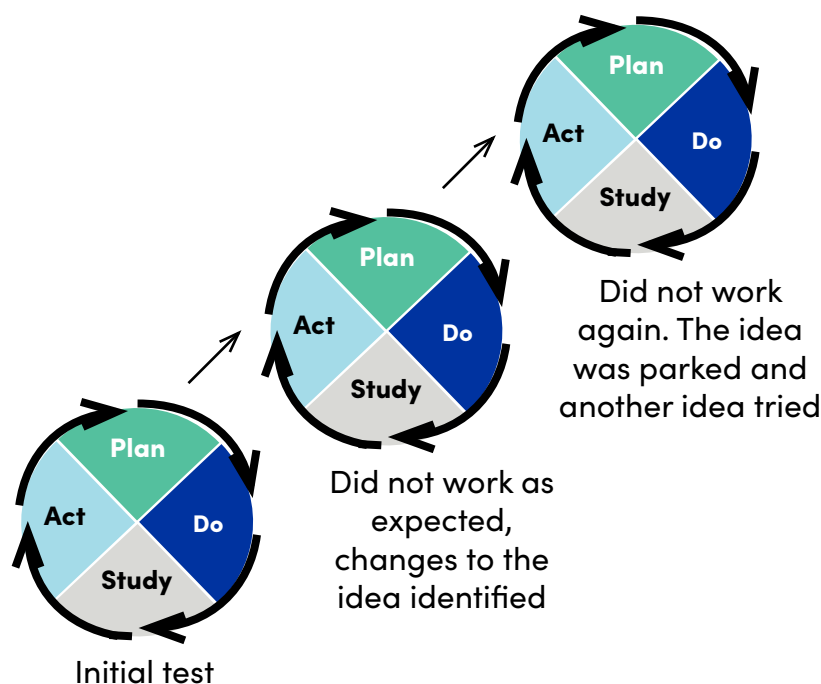
The idea has been tested and improved and tested again at scale. There is enough evidence through the data collected across the PDSAs to support implementation



# Idea 2



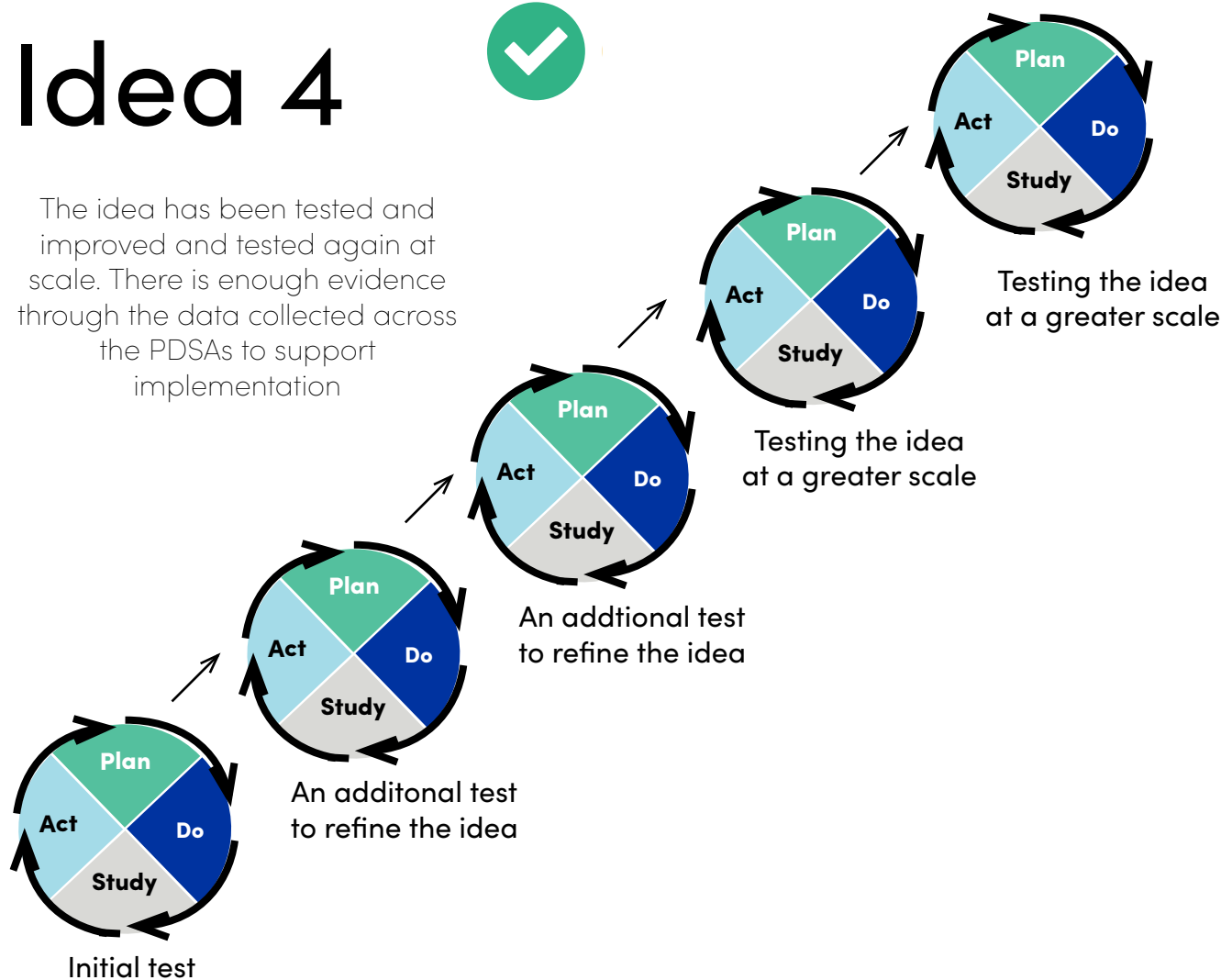
The idea was not showing signs of working so the team decided to park the idea and move to another idea.



# Idea 4



The idea has been tested and improved and tested again at scale. There is enough evidence through the data collected across the PDSAs to support implementation



- Ideas 1 and 4 contributed to achieving the MFI goal over a series of PDSA tests.
- Idea 2 was not successful and was abandoned after two PSDAs.
- Idea 3 did not have strong support from the team and given the success of ideas 1 and 4, idea 3 was not tested.

Multiple PDSAs are typically required for any one MFI. The MFI should generate at least a few ideas to achieve the MFI goal. Each idea should be tested using one of more PDSAs. Remember, PDSAs are small tests and may only involve testing with a few patients or one clinician to contain the test. Once the first PDSA is completed, it is likely that there will be improvements to the idea that need further testing. If the test worked well and no further improvements can be identified, then increasing the scale of the test would be the next step (increasing the number of patients or increasing the number of clinicians involved). The PDSA cycles will test whether the idea continues to work as expected at a larger scale.

## 7. The Model for Improvement – Example

The following example is provided as one way of starting small with diabetes as the focus area. As general practices vary greatly in the way they operate, you will need to think about how the following example may be applied to your general practice and your patient population.

Your quality improvement strategic plan should include several strategies or ideas for change that can be explored. As these are stated at a planning level, for example:

- recall patients for a HbA1c test;
- recall patients for a GP Management Plan;
- establish a diabetes mini clinic;
- ensure all diabetes patients have all of their annual cycle of care elements up to date;
- ensure all diabetes patients have an influenza vaccination.

This scenario works on the assumption that if a diabetes patient has a GP Management Plan in place with effective follow up, that the annual cycle of care elements would be largely achieved, including HbA1c tests. To test this, you need to work at a small-scale level and therefore your test would test systems to increase the proportion of patients with a GP Management Plan with follow up and test the effectiveness over a short time, say two months.

Under this scenario, Dr Sample is supportive of CQI and has an interest in diabetes. Using the clinical software system or CAT4 it will be easy to locate patients who would consider Dr Sample as their regular GP.

### 7.1. The thinking part

#### 7.1.1. What are you trying to achieve?

Make your goal a 'SMARTA' goal (Specific, Measurable, Achievable, Relevant, Time-bound, Agreed).

Over the next two months, increase to 80% the proportion of active diabetes patients who are regular patients of Dr Sample that have had a GP Management Plan claimed within the past year, or a GP Management Plan Review claimed in the past 6 months.

#### 7.1.2. How will you know that a change is an improvement?

Selecting measures that directly measure your goal will be important. In many MFIs, using a single measure that directly measures the goal is suitable. However, in this example, it would be wise to include a few measures:

1. The proportion of Dr Sample's regular patients coded with diabetes who have had a GP Management Plan claimed within the past year, or a GP Management Plan Review claimed in the past 6 months.
2. The proportion of Dr Sample's regular patients coded with diabetes who have had a HbA1c test in the past year.
3. The proportion of Dr Sample's regular patients coded with diabetes who have had an influenza vaccination in the past 15 months.

The first measure will monitor progress against achieving your goal. The second and third measures are selected to provide an indication that the GP Management Plan claim is also increasing the proportion of annual cycle of care elements, acknowledging that the influenza vaccination is not listed as an annual cycle of care component in some cases.

As a result of working with Dr Sample over the next couple of months you would expect to see improvement in all these measures.

As part of your first 'Plan' in the PDSA cycle, you will develop your list of patients and establish baseline data for these measures.

### **7.1.3. What changes can we make that will result in an improvement?**

Ideally you will have the support of a few people in the team or you can use a team meeting to help identify change ideas. It is important to engage the team as people often think about things in different ways and sometimes team members can identify creative ideas to solve problems. There are a range of creative tools and approaches you can try with your team to help harvest ideas for change and these are referred to on page 36 of this guide.

In this case we are identifying ideas that will help us increase the proportion of Dr Sample's regular diabetes patients who have had a GP Management Plan claimed within the past year, or a GP Management Plan Review claimed in the past 6 months.

The team consider the goal and list the following ideas:

- Recall all Dr Sample's patients who have not had a GP Management Plan claimed;
- Recall all Dr Sample's patients who have not had a GP Management Plan review claimed in the past 6 months;
- Use software prompts to remind GPs to undertake a GP Management Plan;
- Use CAT4 to identify all diabetes patients who had not had a HbA1c;
- Opportunistically identify Dr Sample's diabetes patients as they book appointments and ensure they have adequate time for a GP Management Plan;
- Recall Dr Sample's diabetes patients who have not had a HbA1c test in the past year and undertake the test and discuss/plan another appointment to complete a GP Management Plan.

There may be many ideas generated and you now need to establish your first 'Plan'. Remember, the Model for Improvement and PDSA cycles do not need to be used for every idea. Some ideas can be actioned and do not require a 'test' of the system. For example, holding a meeting to advise staff, or training of staff, or purchasing equipment are not process or system changes. While they may be necessary, and later may form part of a process or system change, the initial action does not need a PDSA. In the above example, using CAT4 to identify patients does not need a PDSA and can be included in the first Plan as an action.

## **7.2. The doing part (PDSA cycles)**

### **7.2.1. Plan**

Your plan needs to describe what exactly you will do. Include what, who, when, where,

predictions about what will occur and the data to be collected that will help determine if your test was successful or not. The data collected here may be different to the MFI measures, but should be related.

In this example, the plan decided by the QI co-ordinating team is:

<b>What:</b>	<p>Using CAT4, we will first identify all active patients that are coded with diabetes who have not had a GP Management Plan claimed in the last year OR a GP Management Plan Review claimed within the past 6 months, and list these by their regular GP.</p> <p>Working with Dr Sample, we will confirm those that are regular patients of Dr Sample. We will then recall 20 patients randomly selected from Dr Sample's list and ask them to contact the practice for an appointment. The list of the 20 patients will be provided to reception, where the receptionist will note any of the patients that call as a result of the SMS.</p> <p>In addition to attempting to recall patients for a GP Management Plan, Dr Sample will attempt to complete as much of the care elements as possible within the allocated time. A checklist will be prepared to help identify what has already been completed and what could be completed at the appointment.</p> <p>NOTE: The third paragraph above introduces another 'idea'. While it might be possible to undertake the two ideas at the same time, if you are just commencing your QI journey, it would be wise to separate these into two different tests.</p>
<b>Who:</b>	The practice manager will generate the list using CAT4 and then work with Dr Sample to review the list. Reception staff will also assist by noting any calls from people on the list. The practice manager will create the checklist based on the annual cycle of care and also include influenza vaccination.
<b>When:</b>	The test will be carried out over the next 10 days where the practice manager will create the list and review with Dr Sample on an allocated afternoon. Patients will be asked to respond within a week to the SMS message.
<b>Where:</b>	At the general practice.
<b>Data:</b>	<p>The data collected will include:</p> <ol style="list-style-type: none"> <li>1. The number of active diabetes patients identified without a GP Management Plan or review within the stated time frame by their regular GP.</li> <li>2. The number of patients where Dr Sample is confirmed as the regular GP on the list.</li> <li>3. The number of Dr Sample's patients (of the 20 selected for the test) that responded to the SMS recall within 10 days.</li> <li>4. The number of Dr Sample's patients that could make an appointment.</li> <li>5. Of those patients that could make an appointment, note how many GP Management Plans were claimed.</li> <li>6. Of those patients that made appointments, note how many annual cycles of care elements were completed.</li> </ol>



	<p>The above results can be used to generate a proportion which is more useful when looking at data. For example:</p> <p>a) The proportion of active diabetes patients who have not had a GP Management Plan or review claimed within the timeframe. You should already know the number of active patients coded with diabetes from your QI strategic plan.</p> <p>Therefore, divide point 1 above by the total number of patients. This will help you quantify the work that needs to be done across the whole practice.</p> <p>b) The proportion of patients on the list that are regular patients of Dr Sample (point 2 divided by point 1 above), and also other GPs at the practice. This may be interesting and will vary depending on individual GP workload and historical practice.</p> <p>c) The proportion of Dr Sample's patients that responded to the SMS (point 3 divided by 20).</p> <p>d) The proportion of patients where a GP Management Plan claim was made (point 5 divided by point 4 above).</p> <p>e) The proportion of care elements completed during the appointment (using the checklist, count the number completed and divide this by the number that required completion).</p> <p>As you can see, there is potentially a lot of data that can be generated from a small test. But it is relatively simple to manage if planned in advance.</p>
<b>Prediction:</b>	<p>We predict that Dr Sample will have about 30 patients that do not have a GP Management Plan or Review within the timeframe and of the 20 recalled, 16 will respond to the SMS and all make appointments with all completing a GP Management Plan.</p>



### 7.2.2. Do

In the 'Do' section, note anything that happened through the doing part that was an unintended consequence of the test or anything contextual worth noting. This information may help in determining future actions or ideas for change.

In this example the following was noted:

**The plan was implemented successfully; however, it did take the practice manager longer than first thought to generate the list of patients due to a knowledge gap in the use of CAT4. No one else at the general practice could use CAT4 so it may be advisable to have some training and train other staff in CAT4 use.**

### 7.2.3. Study

In the study section, the quality team, which included Dr Sample and the practice manager, met briefly to discuss the outcome. It was noted:

- There are 387 active patients coded with diabetes at the general practice;
- 239 active patients did not have a GP Management Plan or review (62%);
- 121 of the active patients coded with diabetes were regular patients of Dr Sample (31%). This was the highest of all GPs but not surprising given Dr Sample's interest in diabetes and the length of his tenure at the general practice;
- Of Dr Sample's regular patients on the list, 63 (52%) did not have a GP Management Plan or review in the timeframe. This was a little surprising as Dr Sample considered this should be better (30 predicted without a GPMP or review);
- Of the 20 selected for the test, 9 responded (45%);
- Of the 9 that responded, 5 could make appointments (55%) and the others could not work around Dr Sample's short-term availability;
- Of the 5 that made appointments, all completed a GP Management Plan and Dr Sample was able to complete several elements of care, but not all that were required. As a result, follow up appointments were required. An exact proportion was not calculated due to time, but less than half were completed.

The study raised several questions and identified opportunities for improvement, including more involvement of nursing staff to assist the GP to complete elements of care once the patient was at the general practice. This would require a greater degree of coordination but would be possible.

While there were several ideas for further testing identified, the QI coordination team chose to remain focussed on completing GP Management Plans for Dr Sample and wanted to better understand why only 9 of the 20 targeted patients responded. The team also discussed ensuring that the reception staff could make special arrangements to secure recalled patients an appointment with Dr Sample.

#### 7.2.4. Act

Based on the first test, the team chose to:

**Action 1 – A practice nurse will call the 11 patients that did not respond and seek to**  
1) understand why they did not respond to the SMS and,  
2) make an appointment to see Dr Sample over the next two weeks.

**Action 2 – Reception staff will call the 4 patients that could not make an appointment at the time of responding to the SMS and attempt to make an appointment over the next 2 weeks.**

### 7.3. Documenting MFIs and PDSAs

The QI Strategic Plan underpins all other CQI work. This document should communicate your 12-month to 2-year approach to CQI. Additionally, it's important to document your work, including MFIs and associated PDSAs. Simple documentation is all that is required and if you use a MFI template, which can be found on the PHN's website, you can record these chronologically in a folder or electronically. In addition to providing your team with evidence that ideas have been tested and build a case for change, you may need to submit evidence to your professional college for continuing professional development, for accreditation purposes, or other evidence of your improvement work.

### 7.4. MFI and PDSA Summary

This was the QI coordinating team's first PDSA and they kept the test quite small. While the plan was detailed and returned a lot of tactical data and results, much of this work does not need to be repeated through subsequent PDSAs. The list of patients can remain and be worked through with Dr Sample as they optimise the recall and care delivery processes.

Over the next two months, the QI co-ordinating team and other team members should be able to achieve the goal of increasing to 80% the proportion of active diabetes patients who are regular patients of Dr Sample that have had a GP Management Plan claimed within the past year, or a GP Management Plan review claimed in the past 6 months. The team should also be able to improve local processes in a way that can be scaled up to other GPs and practice wide.

Reporting these findings and progress to the broader team is important. The QI co-ordinating team will have facts to support the case for change and this is compelling for other team members. There is also a financial business case to be considered. Increasing the number of GP Management Plans and reviews claimed will provide an opportunity to increase revenue. Where the increase in claiming can be achieved more efficiently through better teamwork and improved processes, there is a net financial benefit to the practice.

Through the course of the QI strategic plan, there should be many MFIs completed and many more PDSAs. As the team slowly improves systems and processes related to the delivery of care to people living with diabetes, the team notes:

- Initially there is improvement achieved for Dr Sample's regular patients;
- These changes are scaled up to other GPs and then practice wide;
- Continued improvements to care delivery and co-ordination make measurable improvements to the HbA1c measurement and GP Management Plans (process measures);
- Over time, the HbA1c under control (outcome measure) starts to respond and the team note increased proportion of patients living with diabetes that have their HbA1c under control.

Experience from several sources has shown that continued, small and iterative improvements over time will achieve sustainable outcomes.



## 8. Measuring Improvement

Throughout your CQI journey, you need to monitor and evaluate your progress towards your overall goal, using the measures you decided on during the planning stage (your QI strategic plan). You also need to assess processes and evaluate the outcomes and impacts of change activities you undertake.

Measurement is a critical component of QI and proper use of QI measurement can:

- Motivate your team;
- Identify if a change is leading to an improvement;
- Help you to understand unintended consequences;
- Improve efficiency and reduce waste;
- Improve patient safety;
- Identify and spread innovation;
- Support sustainability by measuring over time;
- Provide a common frame of reference;
- Help understand patterns and trends;
- Identify performance gaps and safety issues;
- Support decision making and planning;
- Allow for benchmarking.

### 8.1. Benchmarking

Benchmarking is extremely helpful when assessing your organisation's performance in CQI. Benchmarking allows comparison with other like organisations which adds another dimension to analysing organisational results and performance. Benchmarking needs to be undertaken across several like organisations using consistent measurement. The PHN provides practices with a quarterly report which provides guidance. Where organisations are working on the same focus area, for example diabetes, specific benchmarking reports can be developed and provided to further assist your organisation in understanding and analysing improvement results and trends.

### 8.2. Measurement is for learning

Measurement in the QI context is NOT judgement-based and should not be used to manage individual performance. QI measurement is a learning-based approach and seeks to help answer questions like why, how and what. A learning-based approach will help engage your team and produce better outcomes.

### 8.3. Key measurement attributes

Measurement for QI needs to be:

- Reliable;
- Valid;
- Responsive to change over time.



Often measurement in the QI context is not perfect and differs from measurement used in research activities. QI measurement needs to measure accurately and reliably, but not necessarily precisely. Seek usefulness and not perfection.

#### **8.4. Measurement levels**

You will also measure your QI work at different levels, including:

- At the QI strategic plan level: High level measurement over a longer period.
- At the MFI level: It is possible that one measure directly measures the MFI goal, but it can be more than one. This is often measured only for the duration of the MFI.
- At the 'Plan' level of a PDSA: At this level, measurement is quite tactical and often very simple. Collect data relating to your test to demonstrate whether the idea being tested is successful. Measurement will often be over successive PDSAs and will help to build evidence that the proposed change will lead to an improvement and can be scaled up.

You can collect a variety of data in a variety of different ways and from a variety of sources, including:

- The practice's clinical audit tool e.g. CAT4;
- Manual measurement worksheets;
- Tally sheets;
- Clinical audit worksheets;
- Patient feedback;
- Staff surveys.

#### **8.5. Data and measurement**

Primary care clinical information systems can collect a significant amount of data in relation to a patient. At a general practice level, the data set can be quite large and provide a rich data source of information for QI activities.

'Data' generally means a raw or unorganised format. E.g. letters, numbers, symbols etc. For use in QI, data needs to be organised to produce relevant and accurate information and this is typically done using measures (also referred to as quality improvement indicators). In the examples used in this guide, data from the clinical information system has been used to produce the following measures:

- HbA1c under control (QI strategic plan level).
- GP Management Plan claimed (MFI level).
- Proportion of patients that responded to the recall (PDSA level).

There are a considerable number of quality indicators available in clinical information systems and third-party software like CAT4. Please consider use of these measures in the first instance as they are established and easy to produce.

## 8.6. Clinical audit tool

Your clinical audit tool (e.g. Pen CS's CAT4 tool, Polar etc.) allows you to:

- Take a snapshot of relevant data at a point in time (important for trend analysis).
- Analyse data in a range of ways.
- Investigate and identify population health issues that are specific to your practice.
- Produce quality indicators for use in improvement activities.
- Build registers of patients, set up and implement practice recall and reminder registers.
- Identify patients who are not meeting clinical targets.
- Identify potential sources of income via Medicare item numbers.

It is recommended that you take a monthly snapshot of your clinical information system data which will allow you to retrospectively examine your data and produce measures for a previous time period.

A clinical audit tool aims to give you the information you need to improve health outcomes for patients and business outcomes for your practice.

A license for Pen CS's CAT4 can be provided through the PHN subject to participation in data sharing agreements, and there are considerable support resources available via the PEN CS website.

**Your staff might need basic training on how to best use CAT4, especially if they have not used earlier versions. PEN CS have several resources on their website that may be helpful, including videos, training manuals and webinars.**

## 8.7. Measurement types

### 8.7.1. Baseline and progressive data

Measurement in QI almost always uses a trend or control chart style of presentation and therefore measurement over time is essential.

**Establishing your baseline should have been done at the point of finalising your QI strategic plan. E.g. at the beginning of the process.** Through this process you should have established an understanding of your population profile and decided on a focus area. At this time measurement is also determined and therefore a baseline can be established before any work has commenced.

Measurement (QI strategic plan level) typically occurs on a monthly basis so you can monitor your progress towards achieving your goal. Measurement at the MFI level also occurs over time but is a shorter time period; therefore, any MFI measurement has to be highly sensitive to change over time.

### 8.7.2. Process measures

Process measures measure process elements, like the recording of blood pressure. Process measures allow you to identify whether the changes to your system (or processes) that you are testing are producing the desired effect. Process measures are the usual choice for MFI measurement but also have a place in the QI strategic plan. Examples in this guide include:

- HbA1c recording (QI strategic plan level).
- HbA1c recording for patients that would regularly see a particular GP (MFI level).

### 8.7.3. Outcome measures

Outcome measures identify if the various system elements are producing the desired outcome. For example, improving care delivered for people living with diabetes should improve the proportion of patients living with diabetes who have HbA1c under control. They will help identify if the QI strategic plan's actual effect on patient outcomes has eventuated.

In the QI strategic plan example in this guide we have used HbA1c under control. The proportion of active patients living with diabetes, whose most recent HbA1c measurement result recorded within the previous 12 months was categorised as less than or equal to 7%.

This measure is not suitable for MFI measurement as it is not sensitive enough for the time period that an MFI is generally completed within.

### 8.7.4. Patient reported measures

Patient reported outcome measures (PROMs) – capture information about a patient's quality of life or condition-specific measures. E.g. measuring how diabetes is impacting their life. Responses are directly reported, without interpretation by a clinician or anyone else.

Patient reported experience measures (PREMs) – ask patients to describe, rather than simply evaluate, what happened during their encounters with health services.

### 8.7.5. Qualitative and quantitative measures

Qualitative data refers to descriptive information. For example, you could collect information from satisfaction scales, Likert scales, answers to questions on a survey form, 'self-reported wellness', minutes from meetings, willingness to maintain the 'change'. This type of data may help you to identify patterns and understand patients' level of satisfaction with the care they have received.

Example: Responses to the question: "What are the challenges that you face as a nurse when measuring HbA1c levels in patients each quarter?" will provide qualitative responses.

Quantitative data refers to definitive information that is expressed in numerical terms such as amount or range, such as the number of diabetic patients with HbA1c recorded, the range of temperatures recorded on a thermometer in a refrigerator that stores vaccines.



CAT4 provides data and measurement that is quantitative (E.g. actual numerical changes in a data element such as blood sugar or blood pressure).

For use in QI, quantitative data and measurement is used widely; however, in certain situations there is a place for qualitative data. When qualitative data is used in QI, there is generally a structured response framework provided, such as a choice of responses (as opposed to answering the question in free text) so that responses to the choices can be quantified across the survey instrument.

#### **8.7.6. Sampling measures**

If a QI activity targets a large population, using a small sample of that population is a simple and realistic way to measure its effectiveness.

Example: Sampling just 20 patients over two months to measure the effectiveness of a new recall system for testing HBA1c levels. This is often used in MFI measurement to prove that a change is an improvement before scaling up or implementing.



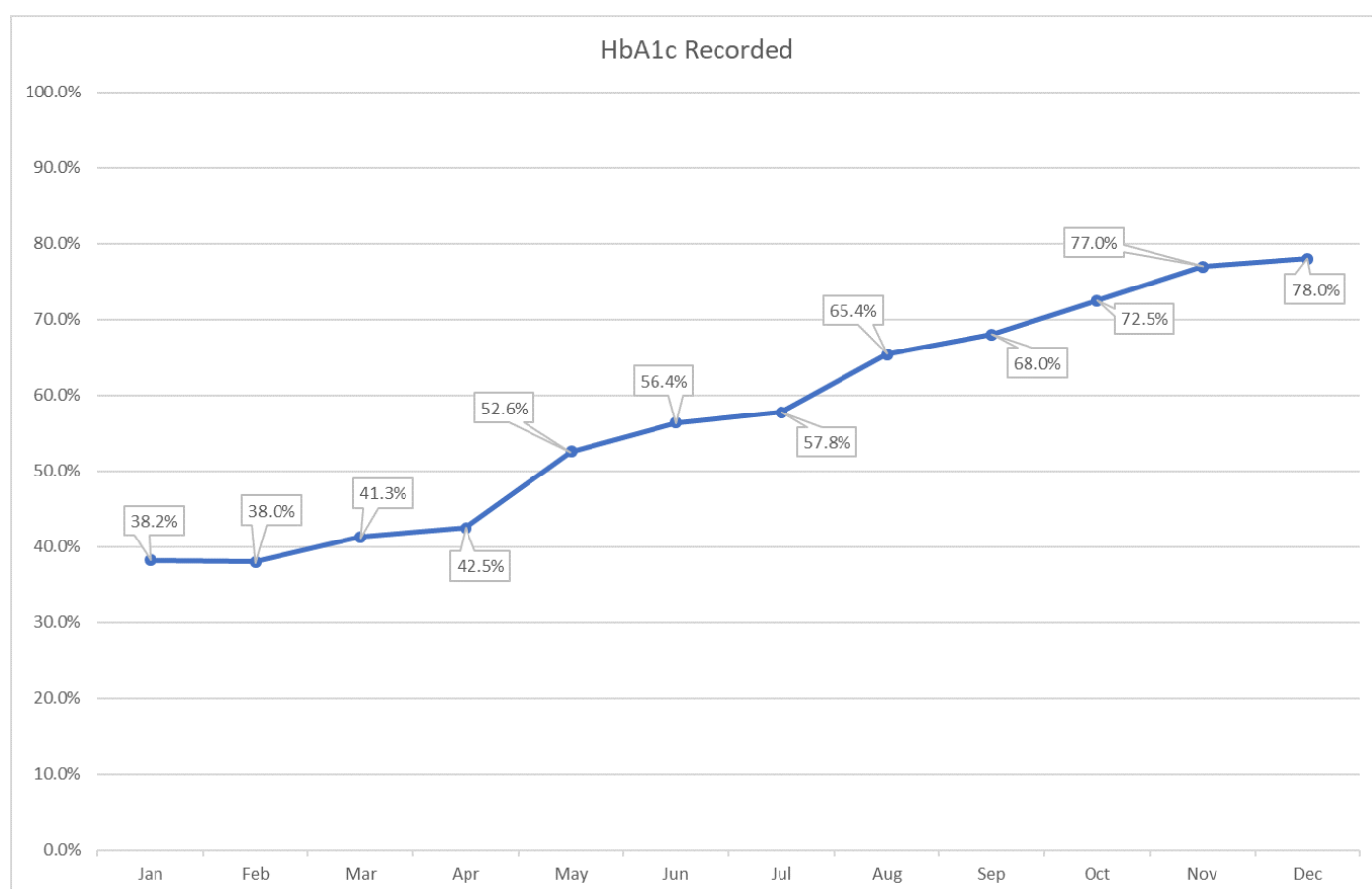
## 8.8. Measurement visualisation

Visually presenting the results of an improvement activity is an effective way of:

- Informing and engaging your team;
- Demonstrating outcomes;
- Providing evidence that changes have resulted in an improvement.

If you are participating in a QI activity with other organisations, visual benchmarking is a valuable way of understanding how you compare with others in the cohort. The PHN provides a dashboard to practices that includes regional benchmarking against practice performance in the 10 PIP QI measures. This is an example of measurement visualisation.

As mentioned earlier, QI activities are best displayed over time using trend or control charts like the one below.



Trend charts are easy to produce, easy to interpret and are generally the QI tool of choice. These can easily be created using Microsoft Excel by inputting the monthly results from your QI strategic plan measures. Equally, you can graph an MFI using multiple PDSA tests over time which is a good way to show that a change has produced an improvement.

Most clinical audit tools have the capability to produce information visually, so that people can quickly and easily understand the data.

When deciding which information to present, consider the following questions:

- What does the data say?
- What story are you trying to tell?
- How should it be summarised?
- Can it be used to motivate or influence?



## 9. Quality improvement toolkits and tools

### 9.1. QI toolkits

There are a range of QI toolkits and tools available to help you with your CQI journey. The PHN has developed a number of clinical toolkits which are available through the Primary Care Quality Improvement Community of Practice (see section 9.2).

The PHN's Primary Care Quality Improvement Community of Practice also hosts other QI improvement ideas, one-pager resources, links to other resources, relevant HealthPathways and Patient Info links, and other general information about quality improvement.

If you need assistance with implementing any of these toolkits, please contact your Primary Care Improvement Officer for assistance.

### 9.2. QI Community of Practice

What is a Community of Practice you ask?

*"A Community of Practice is a group of people who share a passion for something that they know how to do, and who interact regularly to learn how to do it better." – Etienne Wenger, 2002*

The Primary Care Quality Improvement Community of Practice (QI CoP) site is available to primary care providers, practice teams and practice staff within the Hunter, New England and Central Coast Primary Health Network region.

**Purpose of the CoP:** to share ideas and resources to support quality improvement activities. Note that the evidence suggests that a CoP is only successful if it is driven by its membership.

**Why bother?** This is a place where you can float ideas, discuss best practice approaches as well as learn about successful quality activities that have already been implemented. The PHN also hosts monthly CoP webinars on areas of interest for members.

**How to access:** please email the following details to [cdingelstad@hneccphn.com.au](mailto:cdingelstad@hneccphn.com.au) to request access to the site:

- your name;
- an individual email address;
- your primary care work location (or affiliation with a primary care organisation).

### 9.3. QI tools

It is important to engage your team and use different approaches to understand and solve problems or identify opportunities for improvement. QI tools, when used properly, allow team members the space to think about the problem differently. Innovation is created when new thoughts and ideas are contributed to a situation; innovation is enabled by proper use of QI tools.

**“We cannot solve our problems with the same level of thinking that created them.” – Albert Einstein**

To get the most out of your team, you need an environment where team members can express ideas openly and without criticism. Sometimes, what may seem to be a crazy and unrealistic idea may not be, or it can act as a catalyst and generate other ideas from the team that would otherwise not be discovered.

There are many QI tools available. They can be categorised into three broad classes of tools:

- Creative Tools;
- Problem Solving Tools;
- Decision Making Tools.

The quality improvement tools available on [PHN website](#) provide some examples of tools that have been widely used.

## **10. Summary**

For your QI activities to be successful, you need to plan and test ideas for change to make sure that they are an improvement, scale accordingly and implement.

In nearly all cases, your general practice must function as a business and therefore there needs to be a sensible business case for change before implementing any change. Hence testing changes at a small level using the Model for Improvement will provide valuable information to help make good business decisions before implementing change on a broader scale.

### **10.1. Key strategies for success**

- Make sure you have executive support;
- Engage your team;
- Get help when needed, contact your Primary Care Improvement Officer at the PHN;
- Develop a QI strategic plan that is accepted by the team. Start by focusing on one area of improvement over a year or 18 months;
- Identify and consider several ideas for improvement;
- Always use ‘SMARTA’ goals that are realistic;
- Consider the effect of the change on patient experience, population health, care team wellbeing, costs;
- Implement small changes first and work up to large changes, using the Model for Improvement and PDSA cycles;
- Measure what you do and monitor change over time.



## **10.2. Collect useful, accurate and varied data**

- Collect feedback from your patients and team members;
- Collect baseline data and progressive data;
- Keep stakeholders informed, involved and engaged;
- Involve your staff, keep them informed, and acknowledge their contributions and celebrate successes;
- Involve some of your patients in quality improvement activities;
- Display information visually (E.g. graphs, charts and tables).

## **10.3. Review your outcomes and learn from them**

- Monitor and assess the outcomes honestly, so you can improve your processes and achieve real improvement.
- Document your processes and outcomes, including how the process could be improved, so you can learn from them.





HNECC PHN acknowledges the traditional owners and custodians of the lands that we live and work on as the First People of this Country.

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