



CENTRAL QUEENSLAND, WIDE BAY,  
SUNSHINE COAST PHN

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# OSTEOPOROSIS TOOLKIT

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CENTRAL QUEENSLAND,  
WIDE BAY, SUNSHINE COAST

An Australian Government Initiative

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# QUALITY IMPROVEMENT FOR OSTEOPOROSIS

This toolkit is intended as a guide for how quality improvement can be used to improve outcomes and the experience of care for individuals diagnosed with osteoporosis. General practices and health services are complex environments; therefore, you should test any system changes that you are planning to make using the Model for Improvement, which includes Plan, Do, Study, Act (PDSA) cycles.

This toolkit does not set out to provide a clinical resource for the care of individuals diagnosed with osteoporosis. Such information can be found in guidelines produced by relevant clinical advisory organisations, as noted below.

## **Guidelines for Osteoporosis**

The RACGP, in conjunction with Osteoporosis Australia, has developed a guideline to assist clinicians with improving the care of people at risk of, or diagnosed with this disease[1]. The guideline includes information on the following:

- risk factor assessment, diagnosis and referral
- bone health maintenance and fracture prevention strategies
- pharmacologic approaches to prevention and treatment
- special issues, including bone loss associated with breast and prostate cancers and osteonecrosis of the jaw.

A two-page summary with a flowchart and key recommendations is also available online

The RACGP has also developed a resource for nurses employed in general practice to assist them with improving the care of people with osteoarthritis, osteoporosis, rheumatoid arthritis and idiopathic juvenile arthritis.

The NSW Agency for Clinical Innovation Musculoskeletal Network has developed a model of care to support the spread of successful models of care for people with, or at high risk of, osteoporosis in NSW.

## Planning for Improvement

Ideally, before embarking on your quality improvement journey, you will have engaged your team and there is agreement to focus on a particular area (e.g. osteoporosis) for a period of time. This is best documented in a Quality Improvement Plan.

A Quality Improvement Plan is a valuable document for guiding your quality improvement work and keeping your efforts focused. If you have not already developed a Quality Improvement Plan, refer to the 'Continuous Quality Improvement Fundamentals' module.

### Example Aims for Osteoporosis

Your Quality Improvement Plan should contain a clear aim or goal statement. Two examples are provided below, one for osteoporosis management and one for prevention. It is recommended that your plan contain one aim statement and not two as this is likely to make your improvement work more complex.

An example management aim for osteoporosis in a Quality Improvement Plan might be:

*'Within one year, increase to 70% the proportion of Active Patients\* aged 50 years or over with a coded diagnosis of osteoporosis, with a GP Management Plan (GPMP), or a GPMP review completed within the past 6 months.'*

An example prevention aim for osteoporosis in a Quality Improvement Plan might be:

*'Within one year, 60% of Active Patients\* aged 50 years or over, without a coded diagnosis of osteoporosis, will be assessed for osteoporosis risk.'*

\* 'Active Patient' definition: A patient who has attended the general practice or health service three or more times in the past two years.

These aims (or goals as they are sometimes referred to) are at a high level and ideally present a reasonable challenge for the team over a period of 12 or 18 months. The target set in the aim needs to reflect your organisation's population and your current performance. If you set the target too high or too low, the aim may not resonate with the team and you could lose engagement.

As primary care is a very busy and complex environment, it is recommended that your plan has one area of focus for the period. Although examples are provided above for the prevention of disease and management of osteoporosis, it is not recommended to attempt both together.



## **Example Measurement for these Aims**

### ***Assumptions***

- Active Patients 50 years or older and on the Osteoporosis register (have a coded diagnosis of osteoporosis) are eligible for a GPMP or a GPMP Review.
- There is an effective review process in place, or implemented, to identify where either a GPMP or a GPMP Review is required.
- When a GPMP or a GPMP Review are claimed, the elements of care detailed in the plan are being delivered.
- The GPMP specifically addresses osteoporosis, as well as and any other chronic diseases, with evidence-based care.

### ***Management Measurement***

#### GPMP and GPMP Reviews

- Description: The proportion of Active Patients aged 50 years or older with a coded diagnosis of osteoporosis, with a GPMP (MBS Item 721) or a GPMP Review (MBS Item 732) claimed within the past 6 months.
- Numerator = The number of Active Patients aged 50 years or older with a coded diagnosis of osteoporosis, with a GPMP (MBS Item 721) or a GPMP Review (MBS Item 732) claimed in the past 6 months.
- Denominator = The number of Active Patients aged 50 years or older with a coded diagnosis of osteoporosis.

This measure should respond to early process work and assuming that care delivered is consistent with the guidelines, patient outcomes should also improve.

You could also use other measures, such as fracture risk assessment and osteoporotic pharmacotherapy review.

### ***Prevention Measurement***

#### Osteoporosis risk assessments

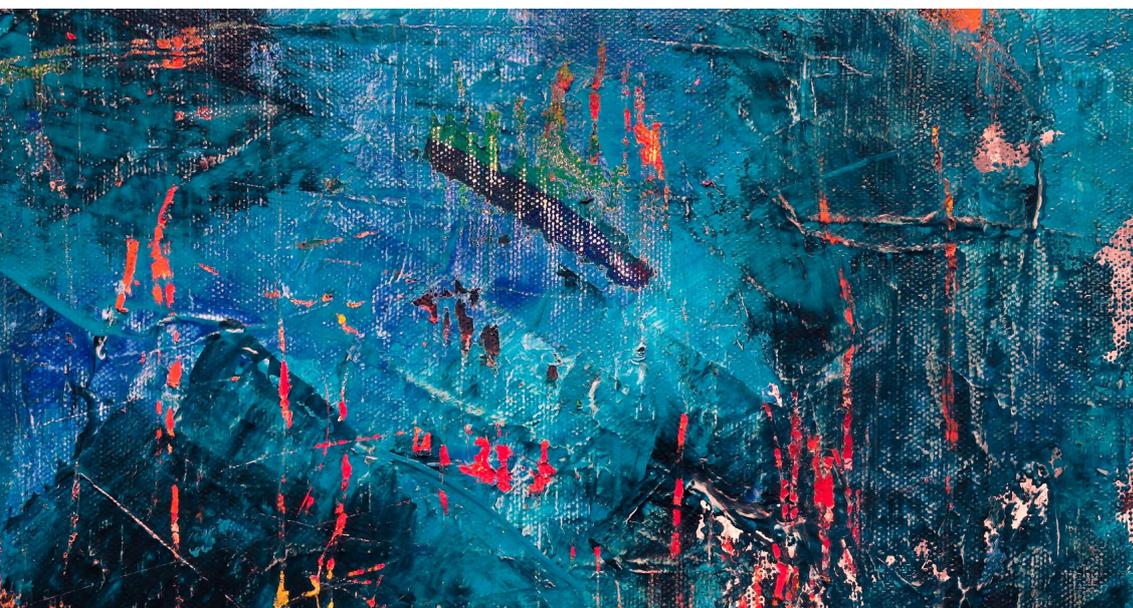
- Description: The proportion of Active Patients aged 50 years or older, without a coded diagnosis of osteoporosis, with an osteoporosis risk assessment conducted within the past 12 months.
- Numerator = The number of Active Patients aged 50 years or older, without a coded diagnosis of osteoporosis, with an osteoporosis risk assessment conducted within the past 12 months.
- Denominator = The number of Active Patients aged 50 years or older without a coded diagnosis of osteoporosis.

This measure may not be available in your clinical software, in which case a manual calculation may be required.

This measure is a direct measure of the example prevention aim and will allow monitoring of progress over time. However, this measure may not respond quickly as there may be a large number of eligible patients. Therefore, you could initially focus on a smaller segment of the practice population, for example:

- Active Patients aged 65 years or older, without a coded diagnosis of osteoporosis. This would reduce the number of people included in the initial focus and help identify improvements earlier. Once improvements are achieved, you can then extend the improved processes to the full age group, or
- Active Patients aged 50 years or older, without a coded diagnosis of osteoporosis, who have had a fracture over the past 5 years. This approach should reduce the number of people initially included and help focus on those that have a higher risk profile.

By tightening the definition, you will reduce the number of patients included and this will help focus your improvement work.



## Quality Improvement Plans

Your Quality Improvement Plan should already have established an understanding of your population and your organisation's performance. Following this, a decision to focus on improving the management/care of patients with osteoporosis, and establishing an aim and measures will provide a framework for you to monitor improvements over time and report progress to your team.

This document provides example activities. Although they are presented in a linear fashion, knowledge of your organisation's performance with regard to the management of osteoporosis should guide where you will start and the activities you choose to undertake.

The below activities are detailed in the following pages, with example Model for Improvement cycles to stimulate thinking:

1. Know your patient population
2. Complete GPMPs and Team Care Arrangements (TCAs) where appropriate, and eligible reviews
3. Identify at risk patients, incorporating fracture risk assessment into consultations for high risk individuals
4. Support patient self-management.

### **Making Changes to your Systems**

At this stage, you should have established an aim for your improvement work and decided how you will measure your progress over time. In this toolkit, we'll principally be focusing on management of osteoporosis as this is where most of the system change opportunity exists. Later in this toolkit we'll look at prevention using an idea relating to increasing the proportion of patients aged 50 and over who are assessed for fracture risk.

#### ***Know your Patient Population***

Before commencing your improvement work, you will need to fully understand your older patient population. While some of this work may have been done to guide your decision to focus on this topic area, a more detailed understanding of your organisation's population is now needed to help inform your early improvement activities.

Some of the questions that you may want to answer are:

- How many Active Patients aged 50 years or older have a coded diagnosis of osteoporosis and does this seem about right, taking into account the demographics in your catchment area?
- What proportion of Active Patients aged 50 years or older with a coded diagnosis of osteoporosis have not had a GPMP or GPMP Review claimed within the past 6 months?
- What proportion of Active patients aged 50 years or older are eligible under Medicare for a bone density test?



- What proportion of patients aged 50 years have had one or more fractures in the previous 5 years? Have they been assessed for osteoporosis?
- What proportion of patients aged 50 years, who do not have a coded diagnosis of osteoporosis, are currently prescribed an osteoporotic pharmacotherapy agent?

Once you have a good understanding of how your organisation is performing with regard to osteoporosis, you will be able to consider where to start your work.

### ***Data Quality and Clinically Coded Diagnosis***

Coding is critical to quality and safety, and your computer systems cannot perform at their best without it. While there is a place for contextual notes using free text, these notes should be in addition to appropriate coding.

By clinically coding diagnoses you can produce an electronic register, which allows you to more easily monitor pathology testing, vaccinations, care planning, and referrals to relevant specialists and/or allied health providers.

### ***Achieving and Maintaining Data Quality***

Data quality is more than just coding. It means that data, relevant to the patient's care needs, are accurate, complete and up-to-date.

A team approach is critical. Every person on your team has a responsibility to ensure that data quality is maintained. If each person is doing their part, your organisation will have a sustainable process in place resulting in the achievement and maintenance of quality data. In the absence of a sustainable process, data quality will not improve and if you undertake once off data cleansing, inevitably data quality will erode over time.

### ***Once off Data Cleansing***

There is a place for once off data cleaning, but this should be done after the team has developed an agreed approach to maintaining data quality. If not, your cleansing efforts will be eroded over time.

As you are focusing on osteoporosis, there are specific data cleansing exercises you can undertake in your clinical software, PenCS CAT4 and Cleansing CAT.

#### 1. Demographics

- Identify Active Patients with a coded diagnosis of osteoporosis
- Identify Active Patients aged 50 years and over that are coded with a diagnosis matching the osteoporosis definition

#### 2. Risk and diagnoses

- Identify Active Patients over the age of 50 who have had a minimal trauma fracture and are eligible for a Bone Mineral Density Test – this must be done via the clinical information system
- Identify Active Patients who are eligible for a Bone Mineral Test

- Identify Active Patients without a coded diagnosis of osteoporosis who have had one or more fractures in the previous 12 months

### 3. Medications

- Identify Active Patients who are on a medication for osteoporosis but do not have a coded diagnosis of osteoporosis

### 4. Management

- Identify Active Patients with a coded diagnosis of osteoporosis who have not had a GPMP
- Identify Active Patients with a coded diagnosis of osteoporosis who have not had a TCA
- Identify Active Patients with a coded diagnosis of osteoporosis who have had one or more fractures in the previous 12 months
- Identify Active Patients with a coded diagnosis of osteoporosis who have a My Health Record but do not have a Shared Health Summary
- Identify Active Patients aged 50 years and over with a coded diagnosis of osteoporosis who have had one or more fractures in the previous 12 months, and do not have a GPMP and a TCA
- Identify Active Patients aged 50 years and over with a coded diagnosis of osteoporosis who have had one or more fractures in the previous 12 months who are not currently prescribed an osteoporotic pharmacotherapy agent



## Where to Start your Improvement Activities

By this stage you should have in place:

- commitment from your team to be involved in quality improvement
- a Quality Improvement Plan with:
  - a clear aim
  - measurement to guide your work over the next year
  - high level strategies, ideas or tactics for change
- identified members of the quality team or at least a coordinator for the Quality Improvement Plan
- protected time to carry out essential coordination activities.

### System Changes vs Tasks

Some of your change ideas will be task-based in nature, whereas others will relate to system change.

#### **Tasks**

These are generally actions that can be undertaken, such as once off data cleansing activities, which are not really a change to your care process.

Changing the way clinicians routinely code correctly could be considered a system or process change because it changes the way people routinely work to deliver an improved outcome.

#### **System change**

System change (or process change) is where you will seek to change the way people (staff, patients, or suppliers) routinely behave. For example, the way your organisation/staff routinely ensures that all patients diagnosed with osteoporosis have a GPMP, GPMP Review(s) and where appropriate a TCA and TCA Review(s) undertaken within the recommended timeframes. In this example GPMPs/TCAs, or their reviews, are proactively planned for and undertaken as part of your practice management system.

Identifying which of the change ideas (as they come up) is a task and which is a system change will help you determine whether to use the Model for Improvement (to test a system change) or if it's a task, simply undertaking it at the appropriate time.

## ***Change Ideas***

When making changes to your systems, it is advised that you make small changes over time in a planned and coordinated way.

Your quality plan should include high level strategies, ideas or tactics for change. You can commence by selecting one of these change ideas and if it is stated at a high level, break the idea down into smaller working parts and then choose one of these.

The change ideas are not intended to be implemented at once, or necessarily in the listed order. It would be best to start on just one change idea that is most suited to your team and organisation.

The following are examples of high-level strategies, ideas or tactics for change that may have been documented in the quality plan:

- Ensure that all Active Patients aged 50 and over with a coded diagnosis of osteoporosis have a current GPMP.
- Where appropriate, ensure Active Patients aged 50 and over with a coded diagnosis of osteoporosis have a current TCA (may include an exercise physiologist and or falls prevention program).
- Ensure that Active Patients aged 50 and over are assessed for their risk of developing osteoporosis.
- Ensure that all Active Patients aged 50 and over with a coded diagnosis of osteoporosis are supported to self-manage their condition.
- Ensure that all Active Patients aged 50 and over have their record in the clinical system up-to-date, including emergency contacts.

The above list of ideas proposes quite a lot of work and would be extremely difficult to implement all at once. Therefore, it is recommended that you and your team commence work in one area and at a small level to introduce small iterative change.

Model for Improvement examples are provided to help you understand how to break change down into small incremental steps and ensure the change is an improvement before scaling or implementing.



## **Systematic and Proactive Care for Patients with Osteoporosis**

Managing care efficiently and consistently across a general practice or health service requires a planned, systematic and proactive approach. Delivering health care services to older patients can be a planned and systematic approach and not reactive.

Nurse clinics offer an alternative model of care delivery where the nurse is the primary provider of care for the patient. In the general practice or health service setting, nurse clinics support a team-based approach to care delivery, which involves GPs and other members of the practice team. Accountability and responsibility for patient care and professional practice remains with the nurse.

Nurse clinics can provide holistic and patient centred care by:

- developing ongoing relationships with patients, their carers and families
- spending the time needed to create individualised care plans with patient-determined goals, as well as coordinating requests for pathology and referrals to relevant specialists and/or allied health providers
- supporting patients with strategies to enhance self-management and undertaking risk assessments for co-morbid conditions and/or assessing patients' health literacy.

There is no one model for a nurse clinic. Several factors need to be considered, including:

- the size of the practice and available treatment rooms
- available resources including the number of practice nurses employed in the practice and their skill set(s)
- business planning, including sources of finance
- governance frameworks
- the ability of practice nurses to form collaborative working relationships with GPs and/or form micro teams with other staff in the practice, as well as health and social care providers in the community.

With the recent introduction of the Medical Practice Assistant role, there is a need to reconsider roles within the general practice to ensure that people's skills are used in the most appropriate and efficient manner

## Model for Improvement – GPMP and GPMP Reviews

An example goal for the QI Plan was: “Within one year, increase to 70% the proportion of Active Patients aged 50 years or over with a coded diagnosis of osteoporosis, with a GP Management Plan (GPMP), or a GPMP review completed within the past 6 months.”

This may seem ambitious, but it’s often how these statements are made. Using the Model for Improvement, you can break this aim down into smaller pieces and test changes to improve the system over time. Accordingly, the goal for your Model for Improvement is almost certainly going to be different to the high-level goal for your QI Plan. For example:

Over the next two months, increase to 50% the proportion of Active Patients aged 50 years or over, with a coded diagnosis of osteoporosis, who regularly see Dr Jones, who have had a GPMP or a GPMP Review claimed in the past six months.

You have now developed a clear goal at a smaller level and measurement that will directly measure your progress. The Model for Improvement now asks, ‘What changes can we make that will result in an improvement?’ Remember that ideas generated now need to be within the context of this goal.

### **Measures**

- The proportion of Active Patients aged 50 years or older who have a coded diagnosis of osteoporosis and are regular patients of Dr Jones, with a GP Management Plan (GPMP), or a GPMP review completed within the past 6 months (A divided by B below).
- A (Numerator): The number of Active Patients aged 50 years and older who have a coded diagnosis of osteoporosis and are regular patients of Dr Jones, with a GP Management Plan (GPMP), or a GPMP review completed within the past 6 months.
- B (Denominator): The number of Active Patients aged 50 years and older who have a coded diagnosis of osteoporosis and are regular patients of Dr Jones.

### **Ideas**

- Identify Active Patients aged 50 or older with a coded diagnosis of osteoporosis, who are regular patients of Dr Jones, and determine whether they have had a GPMP or a GPMP Review claimed in the past six months.
- Recall those patients who have not had a GPMP or a GPMP Review in the past six months.
- Work with Dr Jones and the practice nurse to streamline the recall and assessment processes. There may be many simple ideas to test using PDSAs here that will improve efficiency.
- Identify Active Patients aged 50 or older with a diagnosis of osteoporosis, who regularly see Dr Jones, who are booked to attend at the clinic over the next two weeks and seek to undertake a GPMP or GPMP Review for these patients.
- Provide reception with a list of Dr Jones’ patients that need a GPMP or a GPMP Review to pro-actively book them into an appointment if they call.



## ***PDSA Cycles***

So far, we have established the first part of the Model for Improvement (the goal, measurement and ideas for change).

The next step is to test one of the ideas using a PDSA cycle or cycles. You will need to consider your ideas and decide which one to start working on. The PDSA cycle will help you test changes to your systems and/or processes to identify which ideas are improving on the current result and will be sustainable over time.

Some of the ideas above may not be suitable for PDSA cycles, such as identifying older patients of Dr Jones and determining whether they had a GPMP/TCA review. This is a task that can be completed by someone and then checked with Dr Jones. This task will help identify:

1. all Active Patients aged over 50 with a coded diagnosis of osteoporosis who have not had a GPMP review in the past year, and
2. those patients identified in the search that are regular clients of Dr Jones. This activity is important but can be undertaken as a straightforward task.

When considering where to start, and using the examples above, you might begin by working with Dr Jones and the practice nurse to streamline the assessment process and then recalling 5 patients to test the new process and the recall system. Subsequent PDSAs can help refine the process and the recall system before scaling by including patients that are regular clients of other GPs.

It's important to keep PDSA cycles to small tests that can be completed over a very short period of time.

## **Patient Self-Management**

To provide comprehensive care, integrate self-management support into the care delivery system. Self-management support includes a range of initiatives for patients that are delivered via different modes, including consultations, action plans, brochures, online videos, TV, telephone, support groups or mobile phone apps.

Develop written action plans for osteoporosis in consultation with your patients. Consider the severity of the disease and the unique circumstances of each patient prior to commencing the plan. Supporting patients to undertake monitoring of their condition will help them to continually focus on their self-management and will likely reduce their risk of re-fracture.

Adherence with the action plan will require patients to be able to understand what they need to do when they become unwell. Check their health literacy, especially in older, frail and cognitively impaired patients.

Action plans should not replace comprehensive self-management plans that incorporate patient goals, ongoing education and regular reviews of the patient's health and wellbeing.

### **Model for Improvement Example – Osteoporosis Risk Assessment**

Goal: Over the next two months, increase to 20% proportion of Active Patients aged 50 years or older who do not have a coded diagnosis of osteoporosis and are regular patients of Dr Jones, who have been assessed for their osteoporotic risk within the past year.

#### **Measures**

- The proportion of Active Patients aged 50 years or older who do not have a coded diagnosis of osteoporosis and are regular patients of Dr Jones, who have been assessed for their osteoporotic risk within the past year (A divided by B below).
- A (Numerator): The number of Active Patients aged 50 years and older who do not have a coded diagnosis of osteoporosis and are regular patients of Dr Jones, who have been assessed for their osteoporotic risk within the past year.
- B (Denominator): The number of Active Patients aged 50 years and older who do not have a coded diagnosis of osteoporosis and are regular patients of Dr Jones.

#### **Ideas**

- Recall patients for specific appointments to undertake the risk assessments.
- Develop a tracking sheet to monitor the completion of the risk assessments and inform all clinical staff of this sheet.
- Source and utilise appropriate resources and templates (e.g. THE Fracture Risk Assessment Tool - FRAX ).
- Involve the whole team in developing plans and allocate roles and responsibilities.

## ***PDSA Cycles***

So far, we have established the first part of the Model for Improvement (the goal, measurement and ideas for change).

The next step is to test one of the ideas using a PDSA cycle or cycles. The logical first step is to use your clinical software to identify all Active Patients aged 50 years or over and then determine which of these patients are suitable for osteoporotic risk assessments. This may already have been done in your QI planning stage, but if not, needs to be completed.

While you can use the PDSA framework to undertake this activity, it could also be done as a task by a person with the appropriate skill. Once you have this list, you can calculate the current proportion of Active Patients aged 50 years or over who do not have a coded diagnosis of osteoporosis and have a completed risk assessment (in the example stated as 20%).

In this example, a starting point would be to test the recall of a small number of patients for the completion of a risk assessment. Starting with a small number will help you test your recall system and also the process you use to complete the action plans. Following the first PDSA, you can study the results and consider any barriers or issues identified. Subsequent PDSA cycles should seek to improve on the process and overcome any barriers and issues until you are comfortable that your process is efficient and sustainable.