



CENTRAL QUEENSLAND, WIDE BAY,
SUNSHINE COAST PHN

COPD - A QUALITY IMPROVEMENT TOOLKIT

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CENTRAL QUEENSLAND,
WIDE BAY, SUNSHINE COAST

An Australian Government Initiative

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QI FOR COPD

This toolkit is intended as a guide for how quality improvement can be used to improve outcomes for people living with COPD. General Practice is a complex environment and therefore you should test any system changes that you are planning to make using the Model for Improvement and Plan, Do, Study, Act (PDSA) cycles.

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

COPD GUIDELINES

The Lung Foundation, The Thoracic Society and the Royal Australian College of General Practitioners (RACGP) have produced the **COPD-X** Concise Guidelines for Primary Care with a summary of evidenced-based approaches to:

- identify patients with undiagnosed COPD
- prevent deterioration (e.g. smoking cessation and vaccinations)
- optimise function (e.g. pulmonary rehabilitation)
- develop a comprehensive care plan and co-ordination of care with
- other services
- manage exacerbations.

The Full COPD-X Guidelines are available online. These guidelines have been succinctly captured in **HealthPathways** point-of-care resources.

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 (i.e. COPD) 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 effort focused. If you have not already developed a Quality Improvement Plan, refer to the 'Continuous quality improvement fundamentals' module.

An example Aim for COPD

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

‘Within one year, 90% of Active patients with COPD will have a recorded spirometry result within the past year and a GP Management Plan claimed within the past year, or a GP Management Plan Review claimed within the past six months.’

Example measurement for this aim

Measure 1

The proportion of Active patients with COPD who have a recorded spirometry result within the past year and a GP Management Plan (GPMP) claimed within the past year or a GPMP Review claimed within the past six months.

Numerator = The number of Active patients with COPD who have a recorded spirometry result within the past year and GPMP claimed within the past year, or a GPMP Review claimed within the past six months.

Denominator = The number of Active patients with COPD.

Measure 2

The proportion of Active patients with COPD who have a recorded spirometry result within the past year.

Measure 3

The proportion of Active patients with COPD who have a GPMP claimed within the past year or a GPMP Review claimed within the past six months.

Measures 2 and 3 above will be more sensitive to change over time and therefore, responsive to improvement work using the Model for Improvement.

After you have identified your aim and measurement, your organisation can then undertake a number of activities to improve the outcomes you deliver for patients with COPD.

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

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

1. Know your patient population
2. Recall and review COPD patients with no recorded spirometry within the past year.
3. Ensure influenza and pneumococcal immunisation is provided.
4. Offer smoking cessation.
Complete GPMP and Team Care
5. Arrangement (TCA) and eligible reviews.
6. Support patient self-management

KNOW YOUR PATIENT POPULATION

Before commencing improvement work, you will need to fully understand your patient population. While some of this work should have been done and guided your decision to focus on COPD, 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 answered include:

- How many patients are coded with COPD (the register) and does this seem about right taking into account the local incidence of COPD?
- How many patients coded with COPD have not had their diagnosis confirmed with spirometry at all?
- How many patients coded with COPD have not had their diagnosis confirmed with spirometry within the past year?
- How many patients coded with COPD are not fully immunised?
- How many patients coded with COPD do not have a current pneumococcal vaccination?
- How many patients coded with COPD do not have a current influenza vaccination?
- How many patients coded with COPD do not have their smoking status recorded?
- How many patients coded with COPD are current smokers?
- How many patients coded with COPD do not have a current GPMP?
- How many patients coded with COPD have not had a GPMP claimed within the past year?

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

Data quality and clinically coded diagnosis

If your practice has a high percentage of patients on COPD medications without a clinically coded diagnosis, this presents an opportunity to improve data quality.

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

By clinically coding diagnoses you can produce a COPD register which allows you to more easily monitor spirometry, vaccination, smoking cessation, care planning, and pulmonary rehabilitation referrals.

There are six clinical audit indicators that are measurable in the PenCS data analysis software, described in this toolkit:

1. Patients without a diagnosis who are on COPD medication
2. Spirometry
3. Influenza immunisation
4. Pneumococcal immunisation
5. Smoking status
6. Eligibility for GPMP and review

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 and if each person is doing their part, your organisation will achieve and maintain quality data. If not, inevitably, data quality will reduce over time.

Once off data cleaning

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 cleaning efforts will be eroded over time.

As you are focussing on COPD, there are specific data cleaning exercises you can undertake in your clinical software, PenCS CAT4 and Cleansing CAT:

- CAT4 - create a custom patient register by selecting specific respiratory medications
- Cleansing CAT - select the “Indicated COPD with no diagnosis” report (this tool includes spirometry and medications)
- Do a bulk clean-up of free text diagnosis in Best Practice or Medical Director.

For all other clinical software please refer to your provider.



MAKING CHANGES TO YOUR GENERAL PRACTICE SYSTEMS

Where to start your improvement activities

By this stage you should have in place:

- commitment from your team to focus on COPD
- a Quality Improvement Plan (related to COPD)
 - clear Aim
 - measures (about 3) 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 coordinator for the Quality Improvement Plan
- protected time to carry out essential coordination activities, and
- a sound understanding of your COPD population and your organisation's current performance relating to the delivery of care for patients with COPD.

You will need to decide what to do first and this will depend on where you are starting from. For example, if you are planning to provide spirometry and do not have a spirometer, then you will need to acquire one and ensure that staff have appropriate training. But this does not need to be done first.

System changes vs tasks

System change

System change (or process change) is typically where you will seek to change the way people (staff, patients or suppliers) change the way they routinely behave. For example, the way your organisation/staff routinely ensures that all COPD patients have their condition confirmed with spirometry, every year.

Tasks

These are generally actions that can be undertaken, like acquiring a spirometer, and are not really a system change. The system change will come after you have acquired the spirometer (or after the task has been completed).

Identifying which of the change ideas (as they come up) is a task and which is a system change, will help you determine whether you use the Model for Improvement (to test a system change) or if it's a task, 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. The following change ideas are provided as suggested activities that may need to be undertaken to improve outcomes for patients with COPD. The change ideas are not intended to be implemented at once, or necessarily in the order below. It would be best to start on just one change idea that is most suited to your team.

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

Recall and review COPD patients without spirometry

Spirometry is a standardised way of measuring airflow limitation and should be used to diagnose and regularly monitor the severity of COPD. A spirometry test will provide an objective reading of:

FEV₁/ FVC (Forced Expiratory Volume (in 1 Sec) / Forced Vital Capacity)

A diagnosis of COPD is confirmed with the post-bronchodilator FEV₁/FVC < 0.7 and FEV₁ < 80% predicted.

Recording spirometry reading in your clinical software

Spirometry readings may not be properly recorded in clinical software. This makes it more difficult to monitor the quality of care for patients with COPD as it is not possible to pull a report on the date and result of spirometry from free text fields or attached PDFs.

Your clinical software provider may have guidance on device compatibility or provide support on how to manually enter spirometry readings. Please refer to help and support from your software vendor.

Spirometry training

Practice staff must be appropriately trained so they can confidently perform spirometry to international standards. A sound diagnosis or assessment is not possible on poorly performed spirometry.

You can view an online calendar for upcoming accredited spirometry training courses with the below organisations:

- Queensland Health Spirometry Training Program
- National Asthma Council Australia
- Local education and events are listed on our PHN website.

Calibrate the spirometer regularly

RACGP Standards for General Practice, 5th edition require practices to maintain equipment, including testing and calibration.

Regularly assess severity

Spirometry should be performed regularly to assess severity. Symptoms and health related quality of life differs significantly between mild, moderate and severe forms of COPD. Exacerbations are more frequent as lung function worsens, and exacerbations tend to be followed by more exacerbations.

Model for Improvement example – Spirometry

Goal: Increase to 60% the proportion of Active patients diagnosed with COPD, who have spirometry undertaken and recorded correctly in the software, within two months.

Measures:

- The number of Active patients coded with COPD in the clinical software (A)
- The number of Active patients coded with COPD with a recorded spirometry result (B)
- The proportion of Active patients with COPD with a recorded spirometry result (B divided by A).

Please note: the above example uses the concept of 'Active patients' and this is defined as a patient who has visited the general practice 3 times in the past 2 years. This definition is generally used for chronic disease as a way of identifying patients who are more regular patients. However, you may use another definition appropriate to your patient population.

Ideas:

- Find patients with a coded diagnosis of COPD but no recorded spirometry and recall for assessment.
- Hold a spirometry clinic one morning.
- Train practice nurses on spirometry.
- Access resources on spirometry (e.g. from the National Asthma Council).

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 system changes using PDSA cycles. In the ideas above, two are suited for PDSA testing as they relate to system or process change:

- Find patients with a coded diagnosis of COPD but no recorded spirometry and recall for assessment
- Hold a spirometry clinic one morning.

The other two examples are ideas that do not specifically impact on systems or processes. Training for practice nurses needs to be undertaken, but in its own right will not change systems or processes. The same goes for accessing resources. While resources are important and may add value and help identify additional change improvements, this change is not focussed at the organisation's systems or processes.

PDSA cycles

Recalling patients for spirometry or holding a spirometry clinic one morning should be tested in a small scale, ideally one at a time. It's likely that you will have a clinician who is interested in COPD and this may be a good place to start. If you try recalling a small number of patients for this clinician in the first instance, you will be able to study the outcome(s) and identify any other consequences that may arise. It is from these small tests that you will learn how to refine the process to a point where you have confidence that it could be scaled up (include more clinicians) or fully implemented across the organisation.

Please refer to the Model for Improvement Guide for more information on PDSA cycles and how to use them.

Influenza and pneumococcal immunisation

All patients with COPD should be strongly encouraged to have an influenza vaccination annually.

Influenza is a respiratory disease and the vaccine prevents deterioration and reduces the risk of exacerbations, hospitalisation and death.

An annual influenza vaccination is funded under the National Immunisation Program for people with a diagnosis of COPD.

The pneumococcal vaccine is funded under the National Immunisation Program for adults with medical conditions, including COPD, that increase their risk of invasive pneumococcal disease.

A pneumococcal vaccine reduces risk of the bacterial infection *Streptococcus pneumoniae*. This bacterial infection can cause meningitis, pneumonia, bacteraemia and conditions like otitis media.

Consult the **National Immunisation Handbook** for complete information on vaccine, dosage, contraindications, etc.

Model for Improvement example - Influenza vaccination

Goal: Increase to 70% the proportion of Active patients with COPD who have had an influenza vaccination within the past 12 months.

Measures:

- The number of Active patients coded with COPD in the clinical software (A)
- The number of Active patients coded with COPD who have had an influenza vaccination within the previous 12 months (B)
- The proportion of patients with COPD who have had influenza vaccinations within the previous 12 months (B divided by A).

Ideas:

- Identify and recall COPD patients who have not had an influenza vaccine this year.
- Contact local pharmacies to establish a relationship in which you can identify patients who have had influenza vaccinations at the pharmacy.
- Run an awareness campaign on the importance of influenza vaccination.
- Hold a dedicated influenza vaccination clinic.

Please note: As influenza vaccination is a seasonal vaccination, you will need to take into account timing. Therefore, it might be best to commence with work in increasing the proportion of COPD patients with a pneumococcal vaccination. Improvements in this area are likely to directly translate to influenza vaccination when the time is right.

PDSA cycles

As per the previous example, some of the above ideas may not be suitable for PDSA cycles, such as 'contact local pharmacies to see if you can establish...'. However, if the local pharmacy was interested in collaborating on this with you, PDSA cycles could be used to refine the system used to identify and notify of vaccinations.

Make sure you focus on small tests (involving small groups of patients) using PDSA cycles. Refer to the Model for Improvement Guide for more information on PDSA cycles and how to use them.

Offer smoking cessation

Smoking cessation is the most important intervention to prevent further decline in lung function. Smoking cessation support should be offered and smoking status updated regularly.

Brief intervention or simple single consultations have been found to achieve results of between 1 – 3% of smokers quitting and not relapsing for one year. The RACGP '**SNAP**, A population health guide to behavioural risk factors in general practice' provides advice on how general practitioners can:

- provide advice and assistance to quit
- address barriers to quitting
- assess nicotine dependence
- prescribe pharmacotherapy, and
- refer to quit programs.

Model for Improvement example - Smoking cessation

Queensland Government's QuitHQ has apps, cost calculators and tailored resources.

Patients can also speak to a Quitline counsellor on 13 7848 between 7am - 10pm seven days a week.

Goal: Decrease by 5% the proportion of Active patients diagnosed with COPD that smoke within 2 months.

Measures:

- The number of Active patients coded with COPD in the clinical software who are recorded as smokers (A)
- The number of Active patients coded with COPD who quit smoking each month (B)
- The proportion of Active patients with COPD who quit smoking (B divided by A).

Ideas:

- Train staff on how to accurately record smoking status and the re-assessment of smoking status in clinical software.
- Set up prompts in the clinical software to alert clinicians that smoking cessation advice may be required.
- Source smoking cessation resources or services that are available in the region.
- Set up SMS reminders to support and motivate targeted patients.
- Utilise telephone counselling.

PDSA cycles

Some of the ideas above may not be suitable for PDSA cycles, such as staff training and sourcing resources. These activities are important but can be undertaken as a straight forward task.

An idea, such as setting up prompts to alert clinicians, is focussed at the system level as you are trying to change the way things are routinely done. Therefore, this type of idea is suited to a PDSA cycle.

Try to keep the tests to a small population; you may initially focus on setting prompts for COPD patients that are visiting the practice over the next two weeks. Test the outcomes after the two weeks and then consider what improvements you can make. As there may be flow-on activities for this group, like the concept of SMS reminders to support and motivate targeted patients, you may choose to follow patients along this journey and learn to concurrently improve the way you prompt and support clinicians to target and advise COPD patients.

Complete GPMP and TCA and eligible reviews

The Lung Foundation Australia provides evidenced based recommendations for the Stepwise management of stable COPD with pharmacological and non-pharmacological interventions graded to the severity of lung function decline.

These guidelines and local public and private services have been succinctly captured in **HealthPathways** point-of-care resources.

In addition to spirometry, immunisation and smoking cessation, a care plan should consider:

- patient health literacy
- co-morbidities
- pharmacotherapy
- pulmonary rehabilitation
- oxygen therapy
- adherence to inhaler technique
- development of an Action Plan
- community supports, and
- palliative care.

The **Lung Foundation Australia** also provides:

- online training courses for nurses, physiotherapists and GPs
- patient health literacy information and resources.

NPS Medicinewise offers:

- patient health literacy information
- online training for nurses and GPs
- clinical audit tools for COPD.

Monitor impact on wellbeing and daily life

In addition to diagnosis and assessment of severity of COPD with post bronchodilator spirometry, GPs may assess health related quality of life using the **COPD Assessment Tool (CAT)**.

This is a simple, quick, validated tool that can help GPs measure and manage the health status of patients with COPD. Consider uploading it into your practice software.

Impact on daily life can also be measured using the Modified Medical Research Council (mMRC) Dyspnea Scale for severity of breathlessness.

Model for Improvement example – GPMPs

Goal: Over the next two months, increase to 40% the proportion of our patients diagnosed with COPD who have had a GPMP claimed in the previous 18 months.

Measures:

- The number of Active patients coded with COPD in the clinical software (A)
- The number of Active patients coded with COPD who have had a GPMP claimed in the previous 18 months (B)
- The proportion of Active patients with COPD who have had a GPMP claimed within the previous 18 months (B divided by A).

Ideas

- Recall COPD patients without a GPMP to come in for an appointment.
- In the clinical software, flag COPD patients without a GPMP and opportunistically implement a GPMP at next visit.
- Review and improve recall and reminder systems for GPMPs and GPMP reviews.
- Review and improve workflows and educate staff.
- Conduct an annual audit of patients with COPD that do not have a GPMP.

PDSA cycles

Please ensure that you use PDSA cycles to test ideas, where appropriate, and ensure that the tests are small in scale. PDSA cycles ideally focus on a small group of patients or clinicians to test ideas, learn from these tests and make small improvements over time.

Please refer to the Model for Improvement Guide for more information on PDSA cycles and how to use them.

Support 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, telephone, support groups or mobile phone apps.

Develop written **COPD Action Plans** in consultation with your patients. Consider the severity of the disease and the unique circumstances of each patient prior to commencing the plan.

Adherence with the Action Plan will require patients to be physically able to use their inhaler devices. Check inhaler technique, especially in older, frail and cognitively impaired patients. Videos of inhaler techniques are available from the National Asthma Council and NPS MedicineWise websites.

Undertaking spirometry assessment will help develop the Action Plans, specifically with treating exacerbations and optimising pharmacotherapy.

However, 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.

Consider uploading this template into your practice software.

Model for Improvement example - COPD Action Plans

Goal: Over the next two months, increase to 40% the proportion of our Active patients diagnosed with COPD who have an Action Plan.

Measures:

- The number of Active patients coded with COPD in the clinical software (A)
- The number of Active patients coded with COPD who have Action Plans completed (B)
- The proportion of Active patients with COPD who have a completed Action Plan (B divided by A).

Ideas:

- Recall patients for specific appointments to develop Action Plans.
- Develop a tracking sheet to monitor the completion of Action Plans and inform all clinical staff of this sheet.
- Source and utilise appropriate resources and templates (e.g. from the Lung Foundation).
- Involve the whole team in developing plans and allocate roles and responsibilities.

PDSA cycles

Looking at the ideas above, for this Model for Improvement, the last three ideas would need to be undertaken first. Once you have:

- Developed a tracking sheet
- Sourced appropriate resources, and
- Involved the whole team in basic planning around action plans,

You will be in a position to start testing the recall of patients. In this Model for Improvement, subsequent testing using PDSA cycles is likely to:

- improve the effectiveness of recalling patients
- improve the tracking sheet and its use
- make changes to roles as responsibilities as required.

Remember to start small and refer to the Model for Improvement Guide for more information on PDSA cycles and how to use them.