

Improving care for people with chronic disease

A practical toolkit for
clinicians and managers



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Foreword

Improving outcomes for people with chronic disease is a significant challenge health services face nationally and internationally. During 2000, the NSW Department of Health embarked on the first phase of the NSW Chronic Care Program to improve the care of people with chronic and complex conditions, to improve their quality of life and that of their family and carers, and to reduce crisis situations and unplanned hospital admissions. Numerous strategies were implemented to achieve these goals, and outcomes have demonstrated significant reductions in emergency department presentations and hospital admissions.

Phase two of the NSW Chronic Care Program included the NSW Chronic Care Collaborative, which sought to improve the uptake of best practice standards for people with heart failure and chronic obstructive pulmonary disease. The standards were drawn from the NSW Clinical Service Frameworks for heart failure and chronic respiratory disease.

Twenty-two multidisciplinary teams applied Breakthrough Series collaborative methodology to implement improvements in the disease groups of heart failure and chronic obstructive pulmonary disease. For many of the team members this was their first experience of using clinical practice improvement methodology and, although challenging at times, team members reported greater confidence in their ability to plan and implement improvements. By successfully implementing best practice standards, teams demonstrated significant improvements in the care delivered to people with heart failure and chronic obstructive pulmonary disease, resulting in estimated savings of 25,000 inpatient bed days through decreased hospital admissions for patients in these disease groups during 2004.

The NSW Chronic Care Collaborative teams are justifiably proud of their achievements and this toolkit is an opportunity to share their successes and learnings. It provides real-life examples of the interventions the collaborative teams implemented and how the teams used clinical practice improvement methodology. In addition, the toolkit includes a compact disc of resources that the teams developed to support interventions, as well as practical worksheets to assist clinicians and managers in implementing improvements in their own services.

The toolkit was designed to complement existing resources. We hope its practical format will be an incentive for clinicians and managers to continue to implement improvements not only for people with chronic disease, but for all patients.



Professor Ron Penny



Dr Simon Willcock



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Co-Chairs
Chronic Care Collaborative

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How to use this toolkit

The toolkit for improving care for people with chronic disease is divided into three sections:

1. About the NSW Chronic Care Collaborative

This section provides an overview of the NSW Chronic Care Collaborative.

2. Implementing improvements

This section is designed for clinicians and managers undertaking improvement work. It provides a step-by-step guide for implementing improvements and includes practical examples from collaborative teams. Worksheets that will enable improvement teams to work through the stages of the improvement process, are located after section 3.

3. Improvement interventions

This section provides a selection of interventions the collaborative teams designed and implemented. It is not an exhaustive list, but a cross-section of practical examples to use and adapt as necessary.

Throughout the toolkit, when you see an icon of a compact disc, refer to useful resources on the accompanying compact disc.



1 About the NSW Chronic Care Collaborative

1.1 NSW Chronic Care Program

The incidence and burden of chronic illness is increasing worldwide. By 2020, chronic disease will account for nearly 80 per cent of the worldwide disease burden. Chronic disease has a significant impact on hospital admissions and readmissions. The ageing of the population will also impact on the increasing burden resulting from chronic disease.¹

Phase one of the NSW Chronic Care Program commenced in 2000 and focused on the priority health areas of chronic respiratory disease, cardiovascular disease and cancer. A key outcome of the work during this period was the development of NSW Clinical Service Frameworks for heart failure, chronic respiratory disease and cancer defining best practice standards for the diagnosis and management of patients with these conditions.

Phase two of the program (2003–2006) was established to extend the initiatives and lessons learnt in phase one. A key activity in phase two was the NSW Chronic Care Collaborative set up in collaboration with the Clinical Excellence Commission, formerly the Institute for Clinical Excellence.

1.2 What is a collaborative?

The NSW Chronic Care Collaborative was based on Breakthrough Series collaborative methodology, which has been used successfully nationally and internationally to implement improvement in health care. This proven change methodology is designed to facilitate uptake of best practice across multiple sites in a relatively short timeframe (eg six to 12 months).²

A collaborative produces improvement by harnessing the collective wisdom and enthusiasm of participants from a wide network of multidisciplinary teams. It draws on the experience and knowledge of clinical experts and literature reviews to develop strategies to aid implementation of best practice.

1.3 NSW Chronic Care Collaborative

The aim of the NSW Chronic Care Collaborative was to enhance implementation of the standards in the NSW Clinical Service Frameworks for heart failure and chronic obstructive pulmonary disease. Twenty-two multidisciplinary teams from rural and metropolitan Area Health Services across NSW participated in the collaborative between February and November 2004. Teams included members from acute and community care settings who used clinical practice improvement methodology to facilitate improvement in the diagnosis and management of heart failure and chronic obstructive pulmonary disease.

A planning group of clinical leaders in heart failure and chronic obstructive pulmonary disease supported the teams. Planning group membership also included representatives from consumer groups and general practice and experts in clinical practice improvement.

1.4 Best practice standards

Best practice for the diagnosis and management of heart failure and chronic obstructive pulmonary disease was drawn from the frameworks and packaged into 'bundles'. These bundles provided a minimum set of diagnostic and management standards of care which were identified as essential for the effective diagnosis and management of people with heart failure and chronic obstructive pulmonary disease.

Teams aimed to provide 100 per cent of patients with heart failure or chronic obstructive pulmonary disease (or both) with these evidence-based diagnostic and management bundles. Table 1 provides an overview of the bundles. A full description is available as a resource on the attached compact disc.



Table 1: Diagnostic and managements bundles for the NSW Chronic Care Collaborative (for heart failure and chronic obstructive pulmonary disease)

Diagnostic bundle	Clinical assessment, spirometry, echocardiography
Management bundle	Baseline investigations, smoking cessation, medications, rehabilitation, self-management support, vaccinations, after hours point of contact, general practitioner review, advance care directives

1.5 Outcomes

An evaluation of the NSW Chronic Care Collaborative was completed in May 2005 by the Centre for Health Services Research at Westmead. The evaluation findings demonstrated the collaborative has improved the team members' skills to successfully introduce clinical practice improvements and the care of patients with heart failure and chronic obstructive pulmonary disease has improved as a consequence.

The following significant improvements were demonstrated for patients with heart failure between April and November 2004:

- use of the full bundle of diagnostic interventions and management interventions
- use of the full bundle of management interventions at discharge from hospital
- use of beta-blockers and dose titration in the emergency department and at discharge from hospital.

The following significant improvements were demonstrated for patients with chronic obstructive pulmonary disease patients between April and November 2004:

- use of the full bundle of diagnostic interventions
- use of the full bundle of management interventions in the community, at discharge and in the emergency department.

Between July and December 2004, there were significantly fewer admissions for chronic obstructive pulmonary disease to hospitals and facilities fully involved in the collaborative than to those not involved. This saved an estimated 16,000 bed days. There were also significantly fewer heart failure admissions to hospitals and facilities involved in the collaborative during the period October to December 2004 saving an estimated 9,000 bed days.

Additional outcomes of the NSW Chronic Care Collaborative include enhanced teamwork and communication between disciplines and across sites within an Area Health Service.

It (the Chronic Care Collaborative) introduced me to the concept of working together... from different fields but coming in and working together.

Nurse from a Rural Emergency Department

I think there was a...sense that we were doing it together...we had some doubts along the way, had to regroup a couple of times, but there was a sense that we were doing it together and we were learning.

Area Director of Population and Planning

The evaluation from the NSW Chronic Care Collaborative can be downloaded from www.health.nsw.gov.au/pubs/2005/chronic_care_v2.html or www.health.nsw.gov.au

2 Implementing improvements

This section is designed to guide users in implementing improvements in service delivery using clinical practice improvement methodology. It provides case studies of teamwork from the NSW Chronic Care Collaborative. Practical worksheets to assist in planning and implementing improvement projects are located after section 3.

2.1 The model for improvement

The model for improvement provides a framework for planning and implementing improvement. It includes three key questions, followed by plan, do, study, act (PDSA) cycles ³. Table 2 describes a number of critical steps in planning and implementing improvements which were identified and applied to the framework⁴.

Tip

Teams should be flexible about the order in which they address these steps (eg it might be helpful to address team membership before reviewing data)

Table 2: Framework for planning and implementing improvements

Model for improvement	Critical steps for planning and implementing improvements
<p>What are we trying to achieve?</p> <p>How will we know that a change is an improvement?</p> <p>What changes can we make that will result in an improvement?</p> <p>Plan, Do, Study, Act</p>	<p>Step 1: Identify and define the problem</p> <p>Step 2: Review data to understand activity and performance</p> <p>Step 3: Engage clinicians and convene the redesign team</p> <p>Step 4: Complete baseline diagnostic work</p> <p>Step 5: Determine the aim</p> <p>Step 6: Identify interventions to trial</p> <p>Step 7: Design and implement changes</p> <p>Step 8: Analyse the results</p> <p>Step 9: Communicate and spread the changes</p>
<p>Sustain the changes</p>	

2.2 Steps for planning and implementing improvement work

Step 1: Identify and define the problem (Worksheet 1)

Before commencing work, it is useful to clarify the problem you wish to address. A clearly stated one sentence description of the problem will help to focus the core goal of the work you are about to undertake and maintain direction.

Case study

Background

From 2001 to 2003 phase one of the NSW Chronic Care Program was set up to address problems facing patients with chronic and complex diseases. Many of these problems could be attributed to insufficient links (including communication processes and clarifying responsibilities across multiple service providers) within and between services across the care continuum. In many cases these insufficient links compromise the continuity, convenience and cost-effectiveness of patient care and overall quality of life.⁵

The problem was translated into the following goals to:

- improve the quality of life for people with chronic illness
- improve the quality of life of their carers and families
- decrease avoidable and unplanned admissions to hospital.

Collaborative team examples

Based on the problem and goals outlined, teams participating in the NSW Chronic Care Collaborative described how they would address the problem according to their local environment and needs. The collaborative team in the **Northern Sydney/ Central Coast Area Health Service** (formerly the Central Coast Area Health Service) developed the following goal to describe how it would address the problem:

... to improve the diagnosis and management of people with chronic obstructive pulmonary disease both in the hospital and the community.

The collaborative team from **Justice Health**, which was also focusing its efforts on chronic obstructive pulmonary disease, used the following goal to describe how it would address the problem:

... to identify patients in custody with chronic obstructive pulmonary disease and ensure they receive a complete diagnostic and management bundle.

Step 2: Review data to understand activity and performance (Worksheet 2)

An understanding of patient populations' characteristics (eg age, gender, co-morbidities, admission and readmission rates) and the management of those patients within the health system is vital to ensure improvement efforts are targeted and appropriate. To build that understanding data can be drawn from generic systems, such as the Patient Administration System (PAS), the Disease Index, the Emergency Department Information System (EDIS), or the Health Information Exchange (HIE). Units' or departments' own databases might also be useful for gathering information about clinical management. Identification of appropriate data sources and data extraction can be challenging, Teams should consult with staff in their quality unit to assist in this process.

Clinical audits are another method for obtaining data that will help you to understand what is happening in your area of interest. Only extract the data you need to help you to understand that part of the system of interest.

Tip

Use the data to highlight opportunities for improvement, engage reluctant stakeholders and to develop baseline measures against which improvements can be monitored.

Case study

A review of the activity and performance of chronic disease groups conducted before phase one of the NSW Chronic Care Program identified that patients with cardiovascular disease, respiratory disease and cancer represented the largest number of hospital admissions in the NSW health system outside of mental health.

The team from **Bingara in the Hunter New England Area Health Service** (formerly the New England Area Health Service) undertook a medical record audit of patients with heart failure and chronic obstructive pulmonary disease to develop an understanding of how these patients were managed within their local hospital and medical centre. The team audited

compliance with components of the diagnostic and management bundles. The audit identified key areas of non-compliance, which allowed the team to focus its improvements on specific components of care.

Figure 1 demonstrates improvement in patients receiving self-management plans, which was one of the areas highlighted for action in the baseline audit.

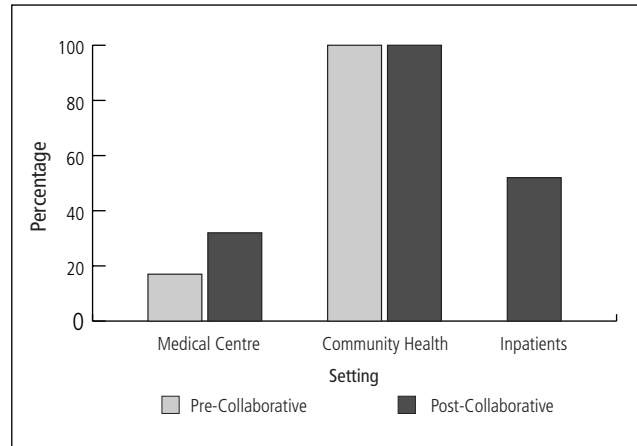


Figure 1: Percentage of patients in Bingara receiving self-management plans pre-collaborative and post-collaborative

The collaborative team from the **Hunter New England Area Health Service** (formerly the Hunter Area Health Service) conducted an area-wide audit of the clinical management of patients with heart failure and chronic obstructive pulmonary disease. Project officers from the collaborative team collected data from the Emergency Department Information System, the Patient Administration System and patient files.

Undertaking an area-wide clinical practice audit was a powerful tool for identifying areas of need, and articulating the need for improvement to staff working in these areas. The baseline data allowed staff to see how their unit/hospital was performing in relation to the area.

Team from HAHS

Tip

Unsure how to do an audit? Go to Worksheet 4 on page 25.

Step 3: Engage clinicians and convene the improvement team (Worksheet 3)

Leadership

Effective leadership is crucial to maintaining a focus on improving the patient experience. The improvement team should include:

- someone with the skills, energy and enthusiasm to lead the project
- strong medical and nursing leadership at all organisational levels
- clinician managers who are effective champions for the project. They have an important role in spreading improvements to other departments and might be required to performance-manage individual variance
- individual clinical leaders who participate and use their influence to support change among their colleagues
- leaders with a clear vision of the project who can sell this vision to others.

Team members

When bringing together a project group or a redesign team ensure there is a mix of administrative, medical, nursing and allied health representation relevant to the project's aims. Increasingly, redesign teams include consumers and you should make every effort to ensure consumers have an opportunity to contribute in an active and positive way.

Enthusiasm and interest in the project are essential qualities to look for in team members. The team members should have an active role in designing and implementing processes to be changed.

Executive sponsor

Previous experience has demonstrated that effective sponsorship at an executive level is crucial to successfully implementing organisational change. Executive sponsors need to be at Area Health Service level or executive level in a facility (that is, Director of Clinical Services or hospital Executive Director) and be:

- someone with enough influence in the organisation to oversee the change
- someone prepared to set aside time for the project.

Findings from the NSW Chronic Care Collaborative evaluation

More than 80 percent of participants surveyed in the collaborative evaluation agreed that having an executive sponsor was crucial for success.

Clinical leaders

Most projects require a nursing lead and a medical lead. These leaders should be people who:

- understand the processes of care
- are able to provide technical expertise to produce solutions that are technically feasible, ethically sound and effective
- provide effective leadership
- are opinion leaders who can influence their peers to produce improvement in existing systems of care delivery.

Findings from the NSW Chronic Care Collaborative evaluation

The evaluation of the NSW Chronic Care Collaborative highlighted the importance of executive and medical leadership in achieving sustainable improvement. Findings showed that collaborative teams involving hospital medical officers demonstrated greater team morale and integration and were more likely to report sustainability and spread of successes.

Project coordinator

The project coordinator should be someone who:

- understands not only the details of the system, but also the various effects of making changes in the system
- has the necessary skills, including computer literacy, project management and high-level organisational skills
- ideally has some experience in change management, process mapping and clinical practice improvement techniques.

Case study

The collaborative team from the **Northern Sydney Central Coast Area Health Service** (formerly the Northern Sydney Area Health Service) based at Royal North Shore Hospital included nursing, medical and allied health representatives from acute and community settings. The team developed a range of interventions aimed at increasing the number of patients with left ventricular systolic dysfunction who are appropriately prescribed a beta-blocker in hospital and by their general practitioner.

The interventions included:

- educating relevant staff, patients and carers about the potential advantages of beta-blockers for patients with left ventricular systolic dysfunction
- distributing algorithms from the NSW Clinical Service Framework for Heart Failure to all hospital clinicians
- developing and distributing a heart failure checklist of diagnostic and management bundle items, including beta-blocker and angiotensin converting enzyme (ACE) inhibitor prescription and titration schedules for cardiac teams and general practitioners to use.



The general practitioner representative on the team played a key role in gaining broad acceptance of the heart failure checklists in the community setting through liaison and promotion. This led to increased incidence of evidence-based medication prescription in the hospital and the community (see Figure 2).

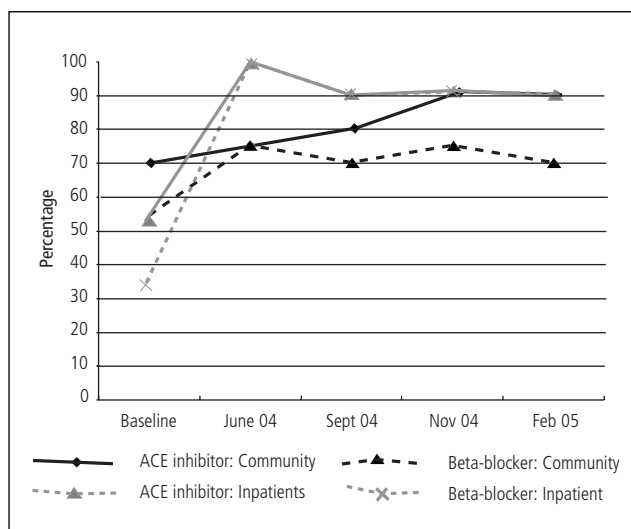


Figure 2: Percentage of patients audited receiving ACE inhibitors and betablockers in the community and at discharge in Northern Sydney/Central Coast Area Health Service during the Collaborative.

Acceptance of responsibility by executive sponsorship and relevant clinical leadership for facilitating the change process was essential for success.

Northern Sydney Central Coast Area Health Service collaborative team.

Step 4: Complete baseline diagnostic work (Worksheet 4)

Understanding current systems and processes

An understanding of the multiple systems and processes in the service you are seeking to improve is fundamental to ensuring interventions are appropriate, effective and sustainable. Teams that have worked together to identify problems and bottlenecks will find it easier to establish priorities for action and to agree on interventions. There are various strategies and tools teams can use, including interviews, focus groups, patient journeys, process mapping and audits.

Case study

Process mapping

The chronic obstructive pulmonary disease team at **St George Hospital in the South Eastern Sydney Illawarra Area Health Service** (formerly the South Eastern Sydney Area Health Service) used process mapping to understand the acute care journey of a patient with exacerbation of chronic obstructive pulmonary disease. The team held a process mapping workshop involving staff from the emergency department, respiratory ward, allied health and quality unit. The exercise highlighted the following inefficiencies and problems:

- inadequate assessment of patients' oxygen needs
- delay in receiving medical records
- delay in nursing assessment
- lack of request for spirometry
- access block preventing patient transfer out of the emergency department.

The team then used this information to prioritise these areas for action:

1. improving performance rates of spirometry
2. reviewing for suitability to receive home oxygen.

The team implemented a range of strategies to improve pre-discharge assessment of all patients with chronic obstructive pulmonary disease for suitability to receive home oxygen. The strategies included:

- informing senior and junior respiratory medical staff of the initiative at the respiratory department meeting by having the team's respiratory specialist make a presentation
- educating ward nursing and medical staff (sessions conducted regularly through a pre-arranged education program)
- purchasing two additional portable pulse oximeters for respiratory ward staff to facilitate oxygen saturation measurement.

The team then monitored its performance throughout the Collaborative. Figure 3 shows the percentage of patients with chronic obstructive pulmonary disease at St George Hospital who were assessed for home oxygen therapy prior to discharge during the Collaborative.

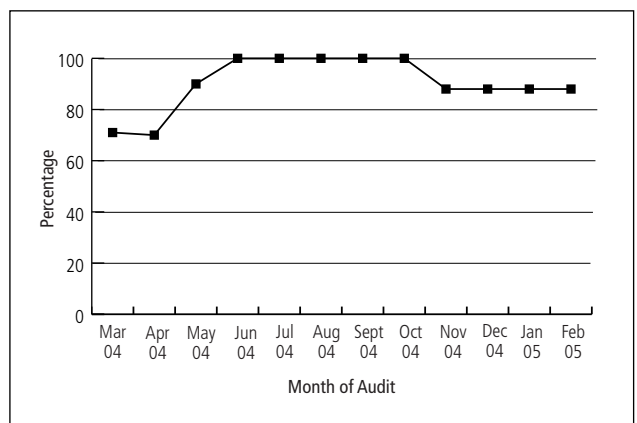


Figure 3: Percentage of patients with chronic obstructive pulmonary disease at St George Hospital assessed for home oxygen pre-discharge during the Collaborative.

Implementing improvements

(Process Mapping) allowed staff to gain greater understanding of existing processes and highlighted a number of problematic areas that could benefit from intervention and improvement. The exercise also facilitated interaction between a number of key areas/staff involved in the care of patients with chronic and complex diseases in a forum which enabled discussion in a non-confrontational manner.

St George chronic obstructive pulmonary disease team

Patient focus group

The heart failure team from **Campbelltown Hospital in the Sydney South West Area Health Service** (formerly the South Western Sydney Area Health Service) conducted a patient focus group to better understand the patient journey and to obtain information on the quality of current services. Patients reported:

- repeatedly telling their health history to health providers
- receiving insufficient information about their condition and progress
- poor communication between providers
- lack of recognition of how 'sick' they were on presentation to the emergency department.

The focus group identified gaps in communication between patients, hospital clinicians and general practitioners as a key issue. In response to these findings the team implemented a number of interventions to improve communication including:

- issuing patients admitted to coronary care and the medical ward with *My Health Record* (a patient-held record) with discharge summaries and diagnostic results attached
- educating staff at key sites, such as the emergency department, to promote reference to *My Health Record* on patient's admission to hospital.

Audit

The **Shoalhaven team from the South Eastern Sydney Illawarra Area Health Service** (formerly the Illawarra Area Health Service) undertook an audit of voicemail messages at general practice surgeries to gain a better understanding of the issues associated with after hours point of contact for patients with a chronic disease. Following the audit, the team negotiated with the local Division of General Practice to improve the standard of information provided to patients accessing general practitioners after hours. This was one of a range of strategies the team implemented to increase the proportion of patients provided with an after hours point of contact (see Figure 4).

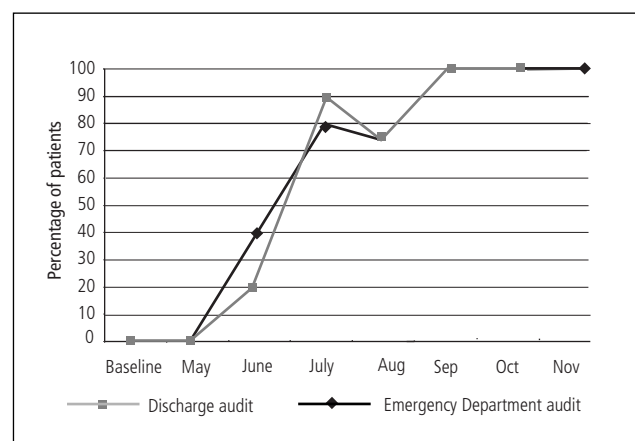


Figure 4: Percentage of patients with chronic obstructive pulmonary disease provided with an after hours point of contact (Shoalhaven team) during the Collaborative.

Step 5: Determine the aim (Worksheet 5)

Establishing an aim is important to maintain focus and to provide a measure against which each team can plot its own progress and improvement. An aim should be **SMART**, that is:

- **specific** to a particular group at a particular site during a particular period
- **measurable** against a set target. Whether the target is conservative or ambitious it provides a number or a percentage against which progress can be measured and demonstrated
- **achievable** to make it more likely to deliver results. Unrealistic aims often result in poor outcomes leaving staff disenchanted and less likely to undertake further improvement work
- **results-oriented** to allow the team to stay focused
- **time-scheduled** to ensure staff remain interested and enthusiastic and to ensure regular review of progress.

Tip

Teams from the NSW Chronic Care Collaborative indicated that the use of baseline data (demonstrating need for improvement) and regular audits (demonstrating actual improvement) were powerful strategies for engaging stakeholders and maintaining interest in improvement projects.

Case study

The following example of an aim from the chronic obstructive pulmonary disease team in the **Greater Western Area Health Service** (formerly the Far West Area Health Service) incorporates all the **SMART** characteristics.

One hundred per cent of people (**measurable and achievable**) diagnosed with chronic obstructive pulmonary disease (**specific**) will have an individualised action plan on discharge or within seven days of presentation. (**results-oriented**).

Note this is a **SMARTer** aim than the following example:

All patients with chronic obstructive pulmonary disease will have an action plan.

Use the following example developed by the team from the **Sydney West Area Health Service** (formerly the Wentworth Area Health Service) to identify **SMART** characteristics:

To offer influenza vaccination prior to discharge to patients admitted to or attending Wentworth Area Health Service facilities who are:

- older than 65 years

or

- between 50 and 65 years and have an eligible chronic condition and have not been vaccinated by their general practitioner, during May and June 2004.

Step 6: Identify interventions to trial (Worksheet 6)

The team can select a range of interventions to implement or trial. Some interventions might be suitable for immediate implementation. This is appropriate when there is a high level of confidence from the diagnostic work and evidence from other organisations where the intervention is already in place that it will effect an improvement. Other interventions will need to be trialled, adapted to the local context and evaluated for effectiveness before the team decides whether to implement them.

Use the PDSA example from the Griffith Hospital in the Greater Southern area health service to guide you with this.

Tip

See section 3 for a range of interventions implemented by collaborative teams. A more comprehensive catalogue of resources is available on the compact disc. The catalogue provides a description of the resource that can be downloaded and adapted for local use.



Case study

The heart failure team from the **North Coast Area Health Service** (formerly the Northern Rivers Area Health Service) used existing resources to develop a comprehensive patient education package to improve self-management. The package is distributed to patients at a nominated time during their acute care admission. The package includes *My Health Record*, an action plan, a daily weight chart and referral for a home medicines review. A heart failure clinical pathway, which the team trialled within a plan, do, study, act cycle, includes the requirement to sign off to indicate the resource had been distributed.



On World No Tobacco Day the team from the **Northern Sydney Central Coast Area Health Service** (formerly the Central Coast Area Health Service) placed advertisements in the local press with five questions about lung health. The Area Health Service's respiratory investigation unit offered free spirometry to people who answered 'yes' to three or more of the questions.

More than 300 people responded and around 200 received spirometry. On forced expiratory volume in one second (FEV¹) alone, 50 per cent had chronic obstructive pulmonary disease. All participants were given their spirometry results and, with their permission, a copy was forwarded to their general practitioner.



Step 7: Design and implement changes (Worksheet 7)

Plan: Plan the change to be tested or implemented. (Includes identification of measures to determine effectiveness of intervention).

Do: Carry out the test or change.

Step 8: Analyse the results

Study: Study data before and after the change and reflect on what was learnt.

Act: Plan the next change cycle or plan implementation.

The focus on small steps with rapid feedback quickly detects any movement in the wrong direction and reduces risk. The cumulative effect of numerous small improvements contributes to larger scale improvements.

Case study

The team from the **Greater Southern Area Health Service** (formerly the Greater Murray Area Health Service) used plan, do, study, act cycles to implement improvements in smoking cessation.

Aim: The team wanted to 'increase provision of smoking cessation information and support from 4 per cent to 50 per cent for patients with heart failure at Griffith Base Hospital'.

Plan: The team proposed to conduct the trial in the emergency department of Griffith Base Hospital. This involved a small number of staff operating from a single access point into the service. The team identified a number of tasks needed to implement this intervention:

- sharing the baseline data demonstrating poor performance on this aspect of care to engage staff and foster commitment to improve
- providing in-service to staff on the use of the Quitline and the associated referral process

- using visual prompts in the emergency department to remind staff about the project
- having the nurse unit manager conduct a daily audit of all patients over the age of 14 years coming to the emergency department
- feeding back the results of these audits to staff daily
- modifying the Emergency Department Information System to assist in data collection.

Measures to determine effect of the intervention

- The number of patients over 14 years of age with smoking history recorded.
- The number of patients with a smoking history referred to Quitline.

Do: Patients over the age of 14 years were asked the following questions as part of the admission/assessment process:

- Do you smoke?
- Have you ever considered quitting?
- Would you like assistance to quit?

Quitpacks were provided to all patients who indicated they wished to stop smoking.

Study: At the end of each day, the nurse unit manager reviewed charts of patients seen in the emergency department. There was consistent evidence that the intervention was successful in capturing the information from the target population. The team also demonstrated a high rate of referral to the Quitline. The monthly audits of the diagnostic and management bundle items the teams were required to complete demonstrated a sustained improvement in smoking cessation.

Act: To spread and sustain the improvement:

- the patient history and assessment form at Griffith Base Hospital was amended to include smoking and vaccination history

Implementing improvements

- stickers were developed for community health records to flag smoking history and vaccination status
- in-service and promotional sessions were repeated at regular stages throughout the implementation and spread.

Figure 5 highlights sustained improvement as a result of achieving this aim.

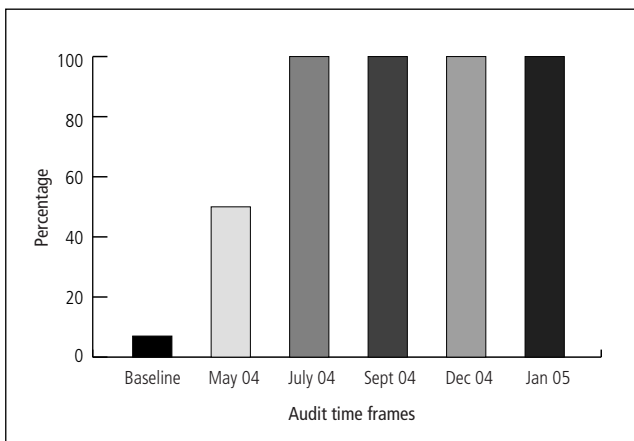


Figure 5: Percentage of audited patient records demonstrating receipt of smoking cessation intervention at Griffith Base Hospital during the Collaborative.

Why did it work?

The intervention required minimal resources, and staff in the emergency department were enthusiastic supporters of the proposed change. In addition, the intervention linked with existing strategies the NSW Department of Health had developed.

Tip

Start by implementing improvements in areas where staff are enthusiastic about proposed changes and interventions are supported by evidence.

Step 9: Communicate the changes

For improvement projects to work smoothly there needs to be good communication with individuals, departments, patients, providers, management and clinicians. Identify all those who have some role to play in the care processes you aim to improve and be open and share information with them. Every individual in the health care team, including nurses, doctors, allied health professionals, administrators, managers, secretaries, cleaners, food services staff and porters, play a significant part in the patient's journey. They will all offer a different and valuable perspective. Remember, if people know what is going on and are actively involved they will have greater ownership of the problem and the solutions.

Tip

Identify data and measures that have 'shock' value and use them to have staff acknowledge the problem and be engaged in the need for change.

As interventions are implemented, display information about the changes that were made and the results that were achieved in a clear format, such as graphs.

Show performance against targets.

Case study

Teams from the **Hunter New England Area Health Service** (formerly the New England Area Health Service) and the Greater Southern Area Health Service (formerly the Southern Area Health Service) used their local newspapers to spread news about their projects and to engage the wider community.

The team from the **Northern Sydney Central Coast Area Health Service** (formerly the Northern Sydney Area Health Service) wrote a newsletter to share the implementation and outcomes of their work with others across the Area Health Service.



Sustain the changes

Sustaining improvements requires a systems approach so the improvements are not dependent on the drive and support of individuals. Sustainability can be demonstrated when new ways of working are integrated into normal practice, when they are not seen as extra work or part of another short term project.

Factors that will improve the chances of sustained change are:

- an organisational will and commitment to place the needs of the patient at the forefront of all activity
- visible commitment from executive and senior management
- ownership of solutions to the problems local clinical and management teams encounter
- resources committed to the redesign process, including personnel experienced in change management to facilitate this at the local level
- a core multidisciplinary team that drives change, supported by a project coordinator
- investigation and data analysis of existing issues and problems using tools such as process mapping and redesign of inefficient processes of care
- built-in monitoring systems and feedback processes to support continuous improvement.

3 Improvement interventions

Improvement interventions

This section provides examples of interventions the NSW Chronic Care Collaborative teams used to improve the diagnosis and management of patients with chronic obstructive pulmonary disease and heart failure.

3.1 Key principles

Adopting these principles will help you to successfully implement change:

- ensure change is driven by the patient's needs rather than the provider's needs
- think outside traditional boundaries and ways of doing things. As Mark Twain said, 'When you always do what you always did, you always get what you always got'
- look at the whole picture. Consider the implications of your actions downstream and upstream
- use existing resources to make improvements. There are numerous examples of successful innovations brought about by Chronic Care Collaborative teams that have value added to current resources or reinvented traditional services or processes to achieve their goals.

3.2 Clinical assessment

Assessment tools

Teams developed checklists, assessment tools or pathways to define best practice in assessing and diagnosing heart failure and chronic obstructive pulmonary disease.



3.3 Diagnostic intervention

Equipment – access and maintenance

Teams working with chronic obstructive pulmonary disease purchased spirometers for appropriate sites. Others involved staff from biomedical engineering to develop maintenance protocols for spirometers.

Spirometry education and training

Teams offered education programs in various formats to ensure staff were capable and confident in performing spirometry.



Information sharing with general practitioners

The chronic obstructive pulmonary disease team at the **North Coast Area Health Service** (formerly the Northern Rivers Area Health Service) used the local Division of General Practice newsletter to highlight the benefits of spirometry assessment against peak flow measures. It also used this medium to describe results of a field test to compare spirometry models for suitability in general practice environments. The team reported that local general practitioners upgraded existing equipment or purchased new spirometers as a result of this intervention.

Streamlining reporting processes

In several cases, teams identified that communication about performance and reporting of diagnostic tests was more of a problem than performance. The team at the **North Coast Area Health Service** (formerly the Northern Rivers Area Health Service) developed standardised echocardiograph reporting forms and placed them next to the machine. The forms were well received and easy to identify at the time of testing and during subsequent admissions.



3.4 Medication management

Education and promotion

The heart failure team from St George Hospital in the **South Eastern Sydney Illawarra Area Health Service** (formerly the South Eastern Sydney Area Health Service) implemented regular meetings with all new cardiology medical staff to review heart failure diagnostic and management bundles and to highlight newly developed titration schedules. They developed a hospital heart failure intranet site to share resources and new ideas. They used posters in key clinical locations to highlight components of the diagnostic and management bundle items.

Building on existing resources

The chronic obstructive pulmonary disease team at **Shoalhaven Hospital in the South Eastern Sydney Illawarra Area Health Service** (formerly the Illawarra Area Health Service) used the reverse side of existing documents associated with chronic obstructive pulmonary disease management to describe puffer technique.



Partnerships with pharmacy

The team at Lismore Base Hospital in the **North Coast Area Health Service** (formerly the Northern Rivers Area Health Service) refer all heart failure patients to pharmacy. Patients are flagged with a yellow sticker to indicate they have been referred and they consult with the pharmacist to discuss medications prior to discharge.

To reduce error and misunderstanding associated with medication, the team from the **Sydney West Area Health Service** (formerly the Western Sydney Area Health Service) worked with pharmacy staff at Westmead Hospital to develop a white card for heart failure patients. The card, which is included in the discharge summary, contains information about medication in an effort to improve understanding and to promote adherence to medication among patients and general practitioners.

3.5 Self-management

Action plans

Teams used action plans and *My Health Record* to address self-management. Teams developed action plans to improve patient and carer understanding of disease and to provide strategies for proactively managing symptoms.



My Health Record

My Health Record is a patient held record and a readily available resource designed to promote self-management and address communication problems between providers. Teams from the **Greater Western Area Health Service** (formerly the Mid West Area Health Service and the Macquarie Area Health Service) distributed *My Health Record* at local agricultural shows to raise consumer and community awareness.

Goal setting for patients

Several teams took the opportunity to involve staff in the self-management workshops provided to collaborative teams. As a result, the teams modified existing activities for developing self-management skills (eg including goal setting for patients participating in rehabilitation programs).

3.6 Smoking cessation

Quitline

The newly developed Quitline referral process provided a ready-made opportunity for staff wishing to address smoking cessation. Quitline fax forms are available from NSW Department of Health website www.health.nsw.gov.au/pubs/2004/pdf/quitline_referral.pdf.

Streamlining assessment process

Some teams made simple adjustments to assessment forms to ensure smoking history is routinely addressed. In some cases, this in itself facilitated referral to smoking cessation interventions.

Improving referral

The team from the **Sydney South West Area Health Service** (formerly the Central Sydney Area Health Service) developed referral pads to make it easier for general practitioners to make referrals to smoking cessation programs.



3.7 Rehabilitation

Raising awareness and increasing referrals through existing networks

In the **South Eastern Sydney Illawarra Area Health Service** (formerly the Illawarra Area Health Service), the coordinator from the pulmonary rehabilitation program attended the daily bed managers' meeting at Wollongong Hospital to raise awareness about the program and to improve referral rates. In combination with a range of other strategies, referrals increased from four to five referrals a month to an average of 41 a month in the first five months of the collaborative.

Redesigning services within boundaries of limited resources

To cater to all patients in cases where numbers were low and resources were limited, the team from the **Greater Western Area Health Service** (formerly the Far West Area Health Service) ran a combined exercise session for patients with chronic obstructive pulmonary disease and patients with heart failure. The education session, however, was targeted at specific disease groups.

In rural areas where low patient numbers and limited staff resources restrict opportunities for disease-specific rehabilitation programs, teams sought other options. The team from the **Greater Western Area Health Service** (formerly the Mid West Area Health Service) extended an existing healthy lifestyle program and incorporated it in a comprehensive service model for people with chronic disease at a range of sites across the Area Health Service. Local programs use local exercise options and provide disease-specific education and self-management skills.

3.8 Vaccination

Improving access to information

Teams used newly developed checklists or assessment tools to flag vaccination status. They then included this information in discharge summaries to inform general practitioners and to promote ongoing review of vaccination status. This information was also documented in *My Health Record*.

Opportunistic vaccination

Several teams identified opportunities for ensuring vaccination for patients identified as being at risk of not following up with a general practitioner following discharge.

3.9 Advance care directives

Raising awareness

Teams addressing this aspect of care acknowledged the difficulties in achieving sustainable change within the life of the collaborative, however, these teams used the opportunity to raise awareness by directing staff and consumer representatives from their teams to workshops held during the collaborative. They also used the opportunity to strengthen relationships with palliative care and aged care groups so they could plan and develop future initiatives.

Worksheet 1

Step 1: Identify and define the problem

This is a broad statement that should be expressed in terms of improving service delivery to a patient group.

- (a) Describe the problem you have identified.

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- (b) Write a goal based on the problem.

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- (c) Consider other stakeholders you need to involve to ensure consensus about the problem and what you are trying to achieve.

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Worksheet 2

Step 2: Review data to understand activity and performance

Use the information provided in this step to identify and review data to understand activity and performance in your area of concern.

(a) What data sources did you use?

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(b) What did the data tell you?

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(c) Did the data confirm your assumptions?

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(d) What unexpected problems or issues did the data highlight?

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Worksheet 3

Step 3: Engage clinicians and convene the improvement team – who to involve to ensure success

Initial brainstorming will help to identify team makeup and roles.

- Refer back to Worksheet 1 to identify all stakeholders who need to be involved.

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- Identify levels of involvement for each stakeholder, highlighting who needs to be:

- actively involved (A)

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- informed (I)

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- co-opted when needed (C)

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- Work out engagement strategies for each stakeholder (eg enlist help of clinical champions).

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- Set meeting arrangements and the agenda for the first team meeting.

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Worksheet 3

Team development worksheet

	Stakeholder group	Individual identified	Engaged Yes/No	Engagement strategy
Actively involved	Ward clerk	Mary Smith	No	Discuss with administration supervisor
Informed				
Co-opted				

Worksheet 4

Step 4: Complete baseline diagnostic work

There are a number of tools available on the compact disc to help you with this step.

(a) Process mapping

These questions will help you to get started:

- (i) What group of patients will be the focus of your process mapping? (eg patients with a primary diagnosis of heart failure.)

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- (ii) What is the start point of the patient journey you wish to map? (eg arrival at emergency department.)

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- (iii) What is the finish point? (eg discharge from emergency department.)

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- (iv) Who will you invite to your process mapping session? (Be inclusive.)

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- (v) When will the process mapping workshop take place? (Nominate a date and time).

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- (vi) Who will facilitate the workshop? Consider facilitators either external or internal, who have had experience in process mapping.

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Worksheet 4

(b) Tracking the patient journey

A staff member can complete this log form by shadowing a patient through the system and recording the activities. Alternatively, a patient or carer can record the information.

Date _____ Time _____

Start point _____ End point _____

Time	Activity All time needs to be accounted for.	Where Location of activity.	Who undertook the activity? Who else was involved?	Additional comments

Worksheet 4

(c) Conducting an audit

Questions to consider in planning the audit are:

- What are you going to audit?

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- How are you going to collect and record the information or data?

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- Who will be responsible for the audit?

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- Where will the audit be carried out?

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- What will be the sample size?

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- How frequently will the audit be conducted?

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- How will you communicate the audit results?

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- How will you use the information?

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Worksheet 5

Step 5: Determine your aim

Task 1

Write an improvement aim that reflects all the SMART characteristics.

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Task 2

Based on your aim, identify the measures to determine the effectiveness of your improvement work.

1.
2.
3.

Task 3

Develop your team's audit strategy for measuring progress. See Worksheet 4 (c) for steps to take in planning your audit.

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Worksheet 6

Step 6: Identify interventions to trial

- (a) List the interventions that were identified during the diagnostic phase.

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- (b) Prioritise the interventions that are targeted at achieving your aim.

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- (c) What can you implement immediately?

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- (d) What will you trial with a Plan, Do, Study, Act cycle?

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Worksheet 7

Step 7: Design and implement changes – plan and do

Step 8: Analyse the results – study and act

Plan:

Describe your interventions and sites for a plan, do, study, act	Person/s responsible	Date for completion	Evaluation
Tasks needed to implement this intervention	Person responsible	Date for completion	Task completed
Measures			
<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 			

Worksheet 7

Do: Describe what happened when you carried out the activity

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Study: Describe the results in relation to the measures identified in the planning stage

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Act: From what you have learnt, what (if any) modifications will you make for the next plan, do, study, act cycle?

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Consider:

- trialling an additional intervention to achieve your aim
- using the success of this cycle to expand the intervention to a larger scale
- trying a new change concept if the desired change did not occur.

Further information

The benefits and sense of achievement associated with any successful improvement project will be short-lived unless a culture that supports continuous improvement has been developed and sustained. This toolkit complements other resources designed to assist clinicians, managers and ancillary staff in developing such a culture. For more information about improving care for patients with chronic disease, refer to the following useful links:

NSW Department of Health

www.health.nsw.gov.au

Clinical Excellence Commission

www.cec.health.nsw.gov.au

National Institute for Clinical Studies

www.nicsl.com.au

**Australian Resource Centre for
Healthcare Innovation**

www.archi.net.au

Institute for Healthcare Improvement

www.ihl.org

Improving Chronic Illness Care Program

www.improvingchroniccare.org

Robert Wood Johnson Foundation

www.rwjf.org

National Health Service Modernisation Agency

www.modern.nhs.uk

Cochrane Collaboration

www.cochrane.org

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Central Coast Area Health Service
Northern Sydney Area Health Service

North Coast Area Health Service

Mid North Coast Area Health Service
Northern Rivers Area Health Service

Greater Southern Area Health Service

Greater Murray Area Health Service
Southern Area Health Service 1 – Eurobodalla
Southern Area Health Service 2 – Southern Slopes

Greater Western Area Health Service

Far West Area Health Service
Mid West Area Health service
Macquarie Area Health Service

Hunter New England Area Health Service

Hunter Area Health Service
New England Area Health Service 1 – Bingara
New England Area Health Service 2 – Gunnedah

Justice Health Service

South Eastern Sydney Illawarra Area Health Service

South Eastern Sydney Area Health Service 1 – St George Hospital chronic obstructive pulmonary disease
South Eastern Sydney Area Health Service 2 – St George Hospital heart failure
Illawarra Area Health Service 1 – North Wollongong
Illawarra Area Health Service 2 – Shoalhaven

Sydney South West Area Health Service

Central Sydney Area Health Service
South Western Sydney Area Health Service

Sydney West Area Health Service

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Western Sydney Area Health Service

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- Pharmacy Guild of Australia, NSW Branch
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