

CHRONIC CARE MANAGEMENT PROGRAMME

General Practice Team Manual

For

Chronic Obstructive Pulmonary Disease

Version 0.1 - March, 2005



He maha ngā pūtake, kotahi te tohenga kē
From many paths, towards a common goal

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1. Overall Aim of CCM COPD Programme

The COPD Chronic Care Management (CCM) Programme has been developed by a working party involving Counties Manukau District Health Board (CMDHB), Middlemore Hospital Specialists and representatives of South Auckland Primary Care groups. The programme is funded directly by CMDHB with the aim of reducing *preventable* morbidity and mortality in people with COPD, through improved clinical management, and by providing timely and integrated care, thereby decreasing long-term resource use in the health delivery system. It is hoped that as with the 1999-2000 COPD trial, the programme will decrease hospital admissions and days spent in hospital.

This will be achieved through implementation of

- Ø Structured care at a population level.
- Ø Targeting of high-risk patients for intensive management of the high-risk components of COPD together with a reduction in smoking.
- Ø Consistency of care at an individual level through the use of guidelines, audit and feedback reports, discussion and guideline based CME to peer groups, with selected one to one “academic detailing” where provider variance exists.
- Ø Funding to support free GP quarterly reviews of high-risk patients, and to facilitate the use of primary care nursing services for promotion of self management skills for high risk patients (Wellness planning, health promotion, action plans, etc.).
- Ø Extra clinical support from secondary care for selected care coordination.

Funding to enrol appropriate patients on the programme (see entry criteria for funding) has been calculated to resource free quarterly GP visits and an average of six hours of practice nurse time. The practice team will offer this time according to individual patient need, with monthly contact (telephone or face-to-face) with patients expected.

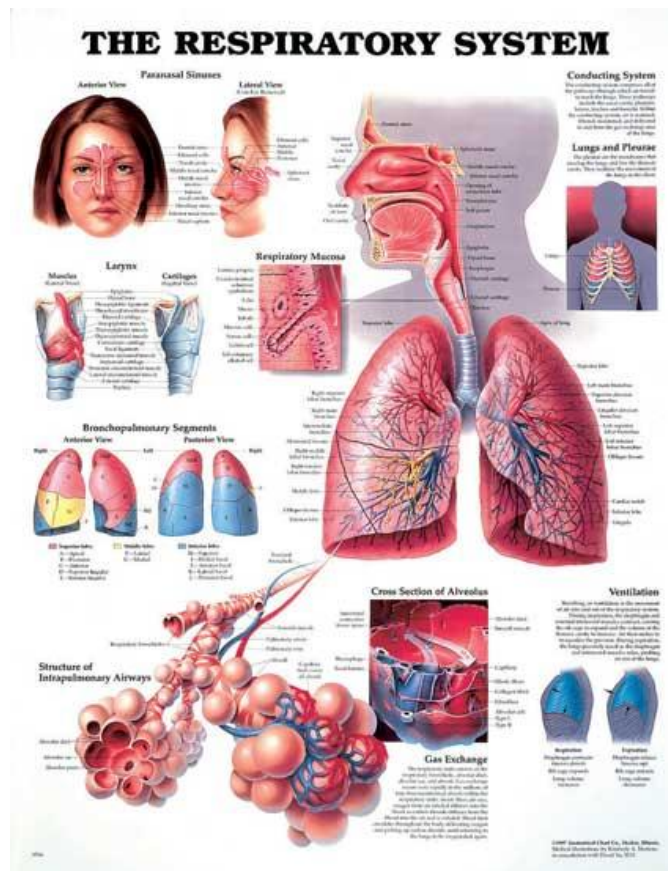
The programme will include upgrading the IT system to provide population tracking and reminders, variance reporting on patient attendance and patient status, decision support and communication process for several providers to share core COPD information of individual patients.

2. Which Practices can participate?

The criteria that practices must meet in order to participate in the COPD CCM Programme are:

- Ø Established use of computerised clinical reports
- Ø MedTech 32 or next generation PMS systems (other patient systems are pending alignment with the CCM programme)
- Ø HealthLink mailbox or Health Intranet connection (if Med Tech)
- Ø Ability to generate COPD register and recall system
- Ø Dedicated Practice Nurse resource available.

Clinical education, IT training and ongoing support necessary for successful implementation of the programme will be provided by PHOs and with support from CMDHB. Practices will be required to participate fully in the education and training programme, identify a GP and a Practice Nurse to act as Project Leaders with overall responsibility for managing the project at practice level, and meet the targets negotiated in the Agreement for Services (CMDHB/PHO agreement)



3. Target Group/Funding Criteria (March 2005)

Patient accepts the “Patient Agreement” to participate

Diagnosis of COPD:

And

- Ø Smoking history, current or past with => 15 pack years

And

- Ø FEV1 post bronchodilator /FVC ratio of < 70%

And

- Ø FEV1 post bronchodilator <80% predicted


OR

FAMA Criteria

Two or more admissions for COPD to an Adult Medical Ward for a total of 5 or more bed days in the last year

Exclusion factors:

- Ø Respiratory failure
- Ø Malignancy



Note Pack years = number of cigarettes smoked a day divided by 20 multiplied by no. of years smoked

Disenrolment Reasons

Disenrolment Reason	Termination Option in Participation Status
Patient Dies	Term – Patient reason
Patient transfers/moves	
Patient requests to be taken off programme	
Clinical assessment of need is lower	Term – Doctor reason
Non attendance	Term – Other/Unknown

4a. Desired Patient Outcomes

Wherever possible as a result of intensive regular review and management patients will report that:

- Ø They have a good understanding of their COPD – i.e. comprehension of their disease.
- Ø They understand their role in managing their condition (Action plan and wellness plan)
- Ø Understand their medication, how it works and when it should be taken
- Ø They are satisfied with their health care.

They should also:

- Ø Be a non-smoker/drink alcohol safely
- Ø Participate in >30 minutes of physical activity every day
- Ø Have a healthy diet (small, regular meals)
- Ø Be on the practice recall for influenza vaccination
- Ø Be on the practice recall for the pneumococcal vaccine

4b. Key performance indicators (KPIs)

1. % of patients with an annual Spirometry recorded.
2. % of patients still smoking after at least one year in the programme
3. % of patients with annual flu vaccine recorded as given.
4. % of patients with pneumococcal vaccine recorded as given.
5. % of patients referred to pulmonary rehabilitation programme.
6. % of patients on regular steroids.



5. Steps in Implementation

Task	Who Responsible	Completed
1. Discuss programme overview and expectations	Practice Team	<input type="checkbox"/>
2. Sign MOU with PHO for services to be provided	GP	<input type="checkbox"/>
3. Attend all related education and training sessions	Practice Team	<input type="checkbox"/>
4. Identify all enrolled patients with COPD	GP Practice Nurse	<input type="checkbox"/>
5. Assess all patients on disease register for eligibility to join the CCM programme against the target criteria identified above	GP Practice Nurse	<input type="checkbox"/>
6. Inform eligible patients of the programme through phone calls or letter of invitation; (see sample letter.) Offer opportunistic enrolment to patients for whom letters or phone calls are not the best means of communication	Practice Nurse	<input type="checkbox"/>
7. Enrol patients in the COPD programme (refer to the PMS specific user guide .) Obtain consent and complete agreement with patient	GP Practice Nurse	<input type="checkbox"/>
8. Go Live with limited enrolment (10 to 20 patients)	GP Practice Nurse	<input type="checkbox"/>
9. On completion of limited enrolment: <ul style="list-style-type: none"> Ø Review feedback from IC server and identify any problems. Ø Review feedback from the team and address any operation issues. Ø Brainstorm any other problems 		<input type="checkbox"/>
10. GPs to provide patients at high risk with free GP consultations every three months with reference to key messages and COPDX management guidelines.	GP Practice Nurse	<input type="checkbox"/>
11. Provide patients with an average of six hours of PN or CHW time per year. This time is flexible according to patient need, allocated as required to meet the programme requirements for all patients. This time can be used to develop personalised wellness plans with the patient and to discuss further interventions to increase levels of physical activity etc.	PN	<input type="checkbox"/>
12. Arrange regular case reviews which should include: <ul style="list-style-type: none"> Ø Discussion of areas of concern Ø Medication review Ø Investigations required, review of clinical data Ø Lifestyle issues and goal setting Ø Review of wellness plan/setting SMART targets 	Practice Nurse and GP	<input type="checkbox"/>
13. Link with secondary specialist staff for advice review, virtual or actual clinics	GP Practice Nurse	<input type="checkbox"/>
14. Claim for services provided	GP Practice Nurse Practice Manager	<input type="checkbox"/>

6. Training Requirements for CCM Delivery

Outlined below are the **minimal requirements** identified for a practice team (doctors, nurses, community health workers and reception staff) to have completed before being able to deliver the CCM disease specific programmes to patients. This is to ensure quality and a standardisation of the programme with an aim to improving patient outcomes. The journey of a patient along the chronic care pathway is influenced by many people. It is as important for the receptionist to have an overall understanding of why effective chronic care requires a proactive team approach as it is for the clinical leader. The reception staff can be a vital link in supporting an empowered patient.

PHOs will be responsible for ensuring delivery of this programme to practices with the CMDHB multidisciplinary team providing trainers and facilitators, as required. It is expected that all members of the practice team funded to provide CCM undertake the CCM introductory sessions.

Introductory sessions – minimal requirements

Session One (Approx 2 hour session)	Format/resource people
<ul style="list-style-type: none"> • CCM Philosophy • Structure of programme • Inviting patients to join the CCM programme • Overview of current guidelines and IT application to IT template and clinical rules for one specific disease • Introduction to the importance of self-management 	<p>Mixture of CCM GP, CCM specialist nurse and secondary care specialist</p> <p>Combination of presentations and small group exercises</p>

Session Two relates to the practice based IT component of the education programme. This session focuses on setting up the practice with the IT knowledge and support to run the CCM templates within their PMS.

Session Two (IT)	
Practice based review of CCM template and IT delivery system.	DHB/PHO IT liaison Interactive/practical sessions

Ongoing support is provided by your PHO CCM Clinical programme manager to review CCM delivery systems, troubleshoot and facilitate effective CCM interventions.

Further education available – the disease specific Modules

A further more detailed educational session is available once you have been doing the programme for a few months and are ready to explore how you can get the best out of the programme and even better outcomes for your patients. This is called Module A Diabetes or CVD or CHF or COPD. It is organised for you by your PHO CCM Clinical programme manager and will be held either in your practice, or for a group of practices in your region, usually at lunch time. The session includes new information around wellness planning and clinical management, and a chance to solve any problems you have – either with the programme, or with wellness planning, or clinical conundrums.

It is expected that providers will begin with one specific disease programme for example diabetes and then once confident with delivering CCM in that programme, move on to the other disease programmes.

When implementing any other programme (i.e. adding COPD to a practice already offering the diabetes programme), the introductory sessions **will not need** to be repeated – participants can go straight to Module A (eg COPD) for the new disease specific programme.

Accessing on going CCM education is through your PHO representative.



Note: MOPS points and nurse certificates will be organised for Introductory Session One by your PHO.

MOP points and & workbooks (assessments/ case study) for nurse Clinical Career Pathway are available for undertaking Module A sessions.

RNZCGP members can obtain Practice Review Activities / Quality Improvement MOPS points if they put in place internal quality improvement activities around their management of the programme – See reporting section 12 Maintenance of Professional Standards for further details.

7. Patient Enrolment 7a. Sample Patient Letter

This sample letter can be used to invite patients to join the COPD CCM programme. It can be posted, emailed or handed to patients when they next attend the surgery.

Dear

Our practice is involved in a South Auckland wide programme focusing on looking after people with COPD as well as possible. The main aim is to help to keep you well and give you an opportunity to better understand your condition.

As a patient known to have COPD we would like to provide you with the opportunity to participate in this programme.

You will be allocated four free consultations over a year, (one every three months) with the GP and additional time with a Practice Nurse involved in your care, to review your COPD. To establish what areas are of concern to you, we will start with a wellness plan that is designed specifically to meet your needs and promote your well being, developed with you and reviewed on each visit.

This programme has been developed with the Specialist Respiratory team at Middlemore Hospital, and they will continue to be involved in your care as required. To help in this process and to monitor success of this programme, some information in relation to your condition will be shared. Should you decide to be part of the COPD programme this will be explained to you in detail.

We will contact you within the week by phone to discuss your interest in taking part in this programme and to make an appointment for your first visit.

Yours sincerely

7b. Privacy Issues and Consent

All patients enrolled in a Chronic Care Management programme will need to understand and consent to the sharing of information about their health care by all members (and potential members) of the care team.

Legally, you don't need the signed consent of clients to collect and subsequently disclose, use or transfer etc identifiable information. But you must be **open** and **transparent** about, among other things, the purposes for collecting the information, the flow of the identifiable information and the intended recipients. You must ensure that the health information you collect is for a lawful purpose and that the purpose is clearly explained.

It is recommended that the standard enrolment form below, which is part of the patient held wellness plan, is used to explain the responsibilities of both patient and health provider and to ensure the consent process is covered.

- Ø Oral explanations should be in an appropriate language to ensure understanding.
- Ø Notices can also be displayed on boards in waiting or treatment rooms.

Patient consent for programme (available in Wellness Plan.)

- Ø I agree to take part in a personal wellness plan for my condition, to attend the regular checks with my doctor and practice team and that any cost has been discussed with me.
- Ø I understand that information about my condition is shared by all members of the team and may be collected along with other patients' records to see how well I am doing and/or how well this programme is doing.

Members of your care team are

Doctors, Nurses and Health Care Worker in your general practice.
 Specialist nurses working between the general practice and the hospital.
 Hospital doctors and nurses in emergency care or the wards.
 Clinicians in specialist practice doing checks for your condition (e.g. Spirometry)

Agreed by:

Patient

Care Team Member

Name:

Name:

Signature:

Signature:

Date:

Date:

7c. What happens with Patient Information? (available in Wellness Plan)**How much of your information is shared?**

My information which my care team can share in order to assist with my care, will include

- Ø Identification information such as my name, date of birth and National Health Index Number (NHI)
- Ø Specific details on my condition such as blood sugar levels or blood pressure. A detailed list of what information is collected is available from my care team and can be discussed with me if you wish.

Who else can access my information and why?

My personal information will not be accessed in a manner that identifies me to anyone else. However grouped information about a large number of patients, in which I cannot be identified:

- Ø May be used for research and analysis to guide further developments of this programme and service delivery for people with my condition(s)
- Ø Will be used to produce statistics for health monitoring, planning and management purposes.

What happens if I do not wish my information to be used in this way?

I will receive the normal care I have always received and this will not be reduced in any way. I still have access to all services such as Emergency Care and the hospital but they will not be in a position to know what has been happening with my condition recently.

Who carries responsibility for managing my information?

The Primary Health Care Organisation (PHO) supported by Counties Manukau District Health Board (CMDHB) is the kaitiaki or governance groups responsible for managing my information.

If I have any concerns I will discuss them with my care team.

Remember that as health providers you have an obligation to ensure that an individual or their representative is aware of the following:

- Ø The fact that health information is being collected;
- Ø The purpose for which the health information is being collected;
- Ø The intended recipients of the health information;
- Ø The name and address of the health agency collecting the health information and the health agency which will hold the health information;
- Ø Whether the supply of the information is voluntary or mandatory; and if mandatory the particular law under which it is required;
- Ø The consequences of not providing the information;
- Ø The right of access to and correction of the health information.

Finally, health information obtained for one purpose shall not be used for another unrelated purpose. Also you must not disclose health information unless, among other things, the disclosure of the information is one of the purposes in connection with which the information was obtained.



8. Information systems.

The CCM programme is presently supported by only Medtech32 (although work is progressing to integrate with other Practice Management Systems (PMS) vendors) and a centralised computer, the IC server (Integrated Care Server). Connectivity is via a Healthlink mailbox or the Health Intranet (Secur IT or Health Express) for Med Tech 32 practices. A detailed CCM user guide relevant to your PMS system is provided and available from your PHO. This covers use of the CCM Template, claiming and correcting error messages.

The IT support is provided as follows:

- Ø Clinical templates for COPD management have been incorporated into the PMS. The templates prompt collection of the relevant clinical and laboratory data communicate with the IC server and provide decision support via messaging from the IC server.
- Ø The decision support is driven by a rules engine incorporating latest COPD guidelines.
- Ø In some cases the templates can be configured to produce documents required frequently in the management of patients with COPD (lab order forms, referral forms to various agencies, elements of the Wellness plan, special authority forms etc).
- Ø A back up is available to report on missed recalls.
- Ø There is an inbuilt facility for claiming and clinical reporting integrated into the template.
- Ø The system integrates with EC (secondary care) where the COPD dataset is available as a read-only non-modifiable extract in PIMs for those patients presenting at Middlemore Emergency Department.

The following screening templates are available for use:

CCM SMITH Arnie (3263)

Main | Diabetes | Diabetes ... | CHE | COPD | **CVD** | Chart | Documents | Audit | Parked

Main
 Provider: Sam Eaves (SFE)
 Date: 13 Jan 2005

Options
 Diabetes Programme
 Congestive Heart Failure
 Chronic Obstructive Pulmonary Disease
 Cardiovascular Diseases Risk
 Access Risk

NHI: PRP4545
 Ethnic Origin: European/Pakeha NZ (1)
 Height: 187 cms
 Weight: 110 kg
 BP Systolic: mm Hg
 BP Diastolic: mm Hg
 Pregnant: Not Applicable
 Smoker: No
 Smoking advice?:
 Type of Diabetes: Type 2
 Flu Vac?:
 Flu Vac Date?:
 TC/HDL Ratio: 0.69
 IHD: Yes
 PTCA/CABG: No

Stroke/TIA: No
 Gen Lipid Disorder: Yes
 PVD: No
 Family Hx of CVD: Yes
 BMI: 31
 CVD Risk: %
 Age: 70 yrs
 Gender: M

OK and Send OK Cancel

CCM SMITH Arnie (3263)

Main | Diabetes | Diabetes ... | CHE | COPD | **CVD** | Chart | Documents | Audit | Parked

Exercise?: Hours
 Exercise enough?:
 Lives with?:
 Mobility?:
 Exacerbation?:
 Depressed?:
 Pneumoc Vac?: No
 Pneum Vac date?:
 Home oxygen?:
 Spirometry Date?:
 Spirometry place?: Not available
 CXR Date?:
 PEF Reading: /min
 PEF Date?:
 FEV1:FVC Ratio: %
 PreB FEV1: Litres
 PostB FEV1: Litres
 Predicted FEV1: 3.8

Vari/Reverse?: %
 Severity: %
 Oxi Reading: %
 Pulse Oxi Date?:
 Dyspnea Score:
 ST Oral Steroids:
 Reg Inh steroid?:
 Reg Oral Steroid?:
 Inhaler technique?:
 Short B2 agonist?:
 Long B2 agonists?:
 Anticholinergics?:
 Theophylline: No
 Splist Ref made?:
 Reason-Splist ref?:
 Ref-Pul Rehab?:
 Pul Rehab Date?:
 End life discuss?:

Care Plan Discuss?:
 Mx goals met?:
 Particip. Status?: 1. Currently enrolled
 GMS?:
 Total pack years:
 Diet Counselling: Year

Outcome / Note
 Outcome:
 Note:
 Recall
 Recall In:
 Provider: Sam Eaves (SFE)
 Note:

Inactive: Park:
 5 months since last check

OK and Send OK Cancel

9. Key Clinical Messages

Evidence Based Guidelines

The key evidence based guidelines used to target interventions in the group of high-risk patients are:

- Ø Confirm diagnosis
- Ø Optimise function
- Ø Prevent deterioration
- Ø Develop self management plan
- Ø Manage exacerbations
- Ø Smoking cessation
- Ø Influenza and Pneumococcal vaccinations
- Ø Assessment of inhaler technique
- Ø Referral to Pulmonary Rehabilitation
- Ø Inhaled corticosteroid trials
- Ø Consideration of long term oxygen
- Ø Adequate nutrition
- Ø Physical activity promotion
- Ø Medication compliance

Information about these interventions can be found in the COPDX Guidelines. A summary of which is included in this manual.

([http://www.mja.com/au/public issues/178_06_170303/tho10508_all.html](http://www.mja.com/au/public%20issues/178_06_170303/tho10508_all.html))

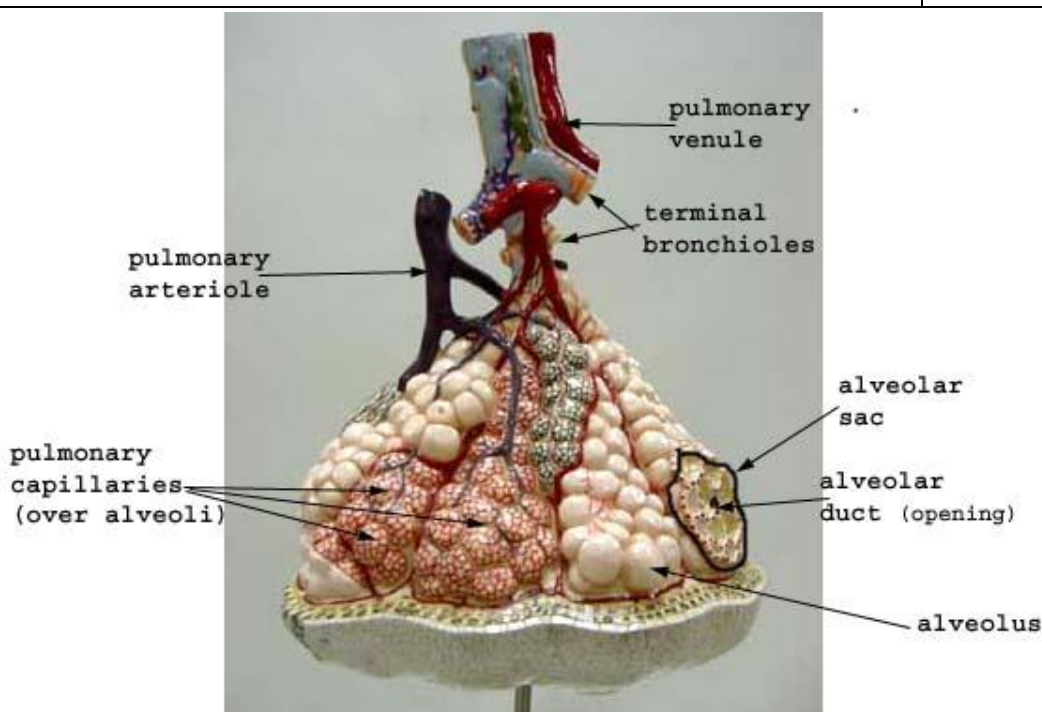
MRC DYSPNOEA SCALE	
Grade 1	“I only get breathless with strenuous exercise”
Grade 2	“I get short of breath when hurrying on the level or walking up a slight hill”
Grade 3	“I walk slower than most people of the same age on the level because of breathlessness or have to stop for breath when walking at my own pace on the level”
Grade 4	“I stop for breath after walking 100 yards or after a few minutes on the level”
Grade 5	“I am too breathless to leave the house” or “I am too breathless when dressing.”
The MRC dyspnoea scale is a category scale that can be used to complement FEV ₁ in the classification of COPD severity. Thorax 1999; 54: 581-586.	


Summary of the COPDX guidelines	
C: Confirm diagnosis and assess severity	Evidence Level
Smoking is the most important risk factor for COPD	A
Consider COPD in patients with other smoking-related diseases	A
Consider COPD in all smokers and ex-smokers older than 35 years	B
The diagnosis of COPD rests on the demonstration of airflow limitation which is not fully reversible	B
If airflow limitation is fully or substantially reversible, the patient should be treated as for asthma	D
O: Optimise function	
Inhaled bronchodilators provide symptom relief in patients with COPD and may increase exercise capacity	A
Long-acting bronchodilators provide sustained relief of symptoms in moderate to severe COPD	A
Long term use of systemic glucocorticoids is not recommended	A
Inhaled glucocorticoids should be considered in patients with a documented response or those who have severe COPD with frequent exacerbations	B
Identify and treat hypoxaemia and pulmonary hypertension	A
Prevent or treat osteoporosis	A
Pulmonary rehabilitation reduces dyspnoea, anxiety and depression, improves exercise capacity and quality of life and may reduce hospitalisation	A
In selected patients, a surgical approach may be considered for symptom relief	C
P: Prevent deterioration	
Smoking cessation reduces the rate of decline of lung function	A
General practitioners and pharmacists can help smokers quit	A
Treatment of nicotine dependence is effective and should be offered to smokers	A
Pharmacotherapies double the success of quit attempts; behaviour techniques further increase the quit rate by up to 50%	A
Influenza vaccination reduces the risk of exacerbations, hospitalisation and death	A
No medication has yet been shown to prevent the long-term decline in lung function	A
Long-term oxygen therapy (>15h/day) prolongs life in hypoxaemic patients ($P_{aO_2} < 55$ mmHg, or 7.3kPa)	A
Inhaled glucocorticoids are indicated for patients with a documented response or who have severe COPD with frequent exacerbations	B
Mucolytics may reduce the frequency and duration of exacerbations	B

Version: 0.1 Last Revised: March 2005 Due for next revision: March 2007

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D: Develop support network and self-management plan	
Pulmonary rehabilitation increases patient/carer knowledge base, reduces carer strain and develops positive attitudes towards self-management and exercise	A
COPD imposes handicaps which affect both patients and carers	B
Multidisciplinary care plans and individual self-management plans may help to prevent or manage crises	B
Enhancing quality of life and reducing handicap requires a support team	C
Patients and their family/friends should be actively involved in a therapeutic partnership with a range of professional disciplines	C
X: Manage eXacerbations	
Inhaled bronchodilators are effective treatments for acute exacerbations	A
Systemic glucocorticoids reduce the severity of and shorten recovery from acute exacerbations	A
Non-invasive positive pressure ventilation is effective for acute hypercapnic ventilatory failure	A
Exacerbations with clinical signs of infection (increased volume and change in colour of sputum and/or fever, leukocytosis) benefit from antibiotic therapy	B
Multidisciplinary care may assist home management	B
Early diagnosis and treatment may prevent admission	C
Controlled oxygen delivery (28% or 5-2 L/min) is indicated for hypoxaemia	C
Involving the patient's general practitioner in a case conference and developing a care plan may facilitate early discharge	C





COPD-X Checklist

Diagnosis and Management of COPD

C – Confirm diagnosis

Anyone who smokes and/or has shortness of breath and sputum production could have COPD

Presence and history of symptoms:

- Shortness of breath
- Cough
- Sputum production

Smoking – history and willingness to quit:

- Smoker Pack years
- Willingness to quit high medium low
- Previous smoker
- Non-smoker
- Other smoking-related disease

Spirometry - measure FEV₁ and FEV₁/FVC and assess reversibility of airflow limitation

Spirometry is essential for case-finding, to differentiate between asthma and COPD, and to determine the degree of disease severity.

Grade COPD severity:

Based on spirometry results – FEV₁ % of predicted post-bronchodilator.

60–80% = Mild
40–59% = Moderate
40% = Severe

	Pre-bronchodilator	% pred	Post-bronchodilator	Reversibility* (%)
FEV ₁				
FVC				
FEV ₁ /FVC				

COPD is defined as post-bronchodilator FEV₁/FVC <0.70 and FEV₁ <80% predicted. If fully reversible (to normal values) treat as asthma.

*Reversibility = $\frac{(FEV_1 \text{ post BD}) - (FEV_1 \text{ pre BD})}{FEV_1 \text{ pre BD}} \times 100$

Smoking Effects on Symptoms & Life Expectancy



Adapted from Fletcher C, Peto R, Br Med J 1977; 1: 1163-8


O – Optimise function

- Check smoking status
- Query optimal drug therapy
- Check compliance
- Review exercise status
- Check current device use
- Nutrition
- Consider sleep apnoea




This checklist is part of "Salon", a National Public Health campaign to help people with COPD "put the wind back into their sails".
 The Australian Lung Foundation has provided the research assistance provided by:
 Sponsors: GlaxoSmithKline, Baxalta, Inogen, Pfizer
 Supporters: AstraZeneca, AIRC, Insite Health, BOC Medical





P – Prevent deterioration

Essential Steps:

- Annual influenza vaccination
- Pneumococcal vaccination
- Consider long-term home oxygen

Risk factor reduction:

- Check current smoking status
- Advise of the risks of smoking and benefits of stopping
- Refer to a Quit program if appropriate - Quitline 131 848
- Advise about pharmacological treatments for nicotine dependence
- Assess occupation e.g. dusty conditions
- Schedule follow up visit

D – Develop self-management plan



- Assist in the development of a self-management plan
- Check for psychosocial problems and suggest supportive strategies, such as The Australian Lung Foundation's LungNet National Support Network - 1800 654 301
- Refer for pulmonary rehabilitation
- Refer to respiratory physician to:
 - Clarify diagnosis
 - Consider other therapies
 - Consider long-term home oxygen
 - Facilitate pulmonary rehabilitation
- Refer to hospital if:
 - Inadequate response to ambulatory management
 - Inability to walk between rooms when previously mobile
 - Inability to eat or sleep because of dyspnoea
 - Altered mental status suggestive of hypercapnia
 - Worsening hypoxaemia or cor pulmonale
 - Newly occurring arrhythmia
 - Cannot manage at home
 - High risk comorbidity condition

X – Manage eXacerbations


- Ensure understanding of exacerbations and importance of early action and treatment at home if possible
- Consider need for controlled oxygen
- Inhaled bronchodilators, oral glucocorticoids and antibiotics are effective
- Review regularly

This checklist is based on the evidence-based consensus document, the COPDX Plan, Australian and New Zealand Guidelines for the management of Chronic Obstructive Pulmonary Disease 2003. This was an independent joint project of the Thoracic Society of Australia and New Zealand and The Australian Lung Foundation, contributed to by physicians, general practitioners, nurses and allied health professionals. See - MJA 2003; 178 (Suppl).

Developed by Crockett A, Laven SA, Bellby J, Stocks N, Primary Care Respiratory Unit, Department of General Practice, the University of Adelaide, South Australia.

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Spirometry

The diagnosis of COPD rests on the demonstration of air flow limitation which is not fully reversible. Spirometry is the GOLD standard for measuring, assessing and monitoring COPD. The results of a well performed Spirometry test give an indication of lung function and whether airflow and lung volume are appropriate for the patient's age, sex and height.

The quality of the test is dependent on the training and experience of the operator. The equipment is also critical in the test accuracy and maintenance needs to be performed in accordance with manufacturer's recommendations. Calibration is an important tool for validating the instrument. Validation and biological / infection controls measures are important components if quality assurance of the equipment is to be upheld.

Interpretation of results:

For further information on interpreting results it is recommended that clinicians refer to the COPDX guidelines on www.lungnet.org.au/COPDhandbook.pdf. Consultation with a respiratory physician is also available. (see secondary linkage for CCM)

Is it an obstructive or restrictive result?

1. Examine reported data for accuracy and reproducibility and refer to additional technical comments on test performance.
2. Determine if the FEV₁/FVC ratio is normal or reduced (below the reference range.)
3. If the ratio is normal or high, examine the vital capacity, if FVC is low the result suggests a restrictive pattern and referral for lung volume testing is recommended. Otherwise you can be confident the result is within the reference range.
4. If the FEV₁ is low (below the reference range), obstructive lung disease is present. The severity of obstruction is assessed using the % Predicted FEV₁

How severe is the obstruction?

The severity can be categorised using the TSANZ Criteria

Mild Obstruction	% Pred FEV ₁ 60%
Moderate Obstruction	% Pred FEV ₁ < 60 and 40%
Severe Obstruction	% Pred FEV ₁ < 40%



Reversibility testing

1. Confirm the patient has withheld medication appropriately prior to testing reversibility e.g. Salbutamol for six hours, Salmeterol for 24 hours.
1. Measure baseline spirometry in usual way
2. Administer bronchodilator medication (MDI nebuliser or space device.)
3. Wait the required time for peak efficacy.
 - Ø 15-20 minutes for Salbutamol
 - Ø 25-30 minutes for Ipratropium bromide or Combivent
4. Perform post-bronchodilator spirometry as for baseline test.

Significant reversibility is defined (TSANZ) as greater than **12% improvement in FEV₁ and an increase of 200ml** (200ml is the natural variability of the test). Note that FVC can also rise significantly such that FEV₁/FVC can fall despite good bronchodilation. Do not use FEF_{25-75%} for assessing reversibility.

Reversibility may also be assessed measuring spirometry before and after a one-month trial of inhaled glucocorticosteroids or two weeks of oral Prednisone with spirometry on the last day of the trial.

Figure 1. Normal spirometry

Age: 46 Height (cm): 166 Weight (kg): 57.0 BMI: 20.69 Gender: female

	Ref	Pre Meas	Pre %Ref	Post Meas	Post % Chg	CI	LLN
FEV ₁ (L)	2.70	2.94	109			0.84	
FVC (L)	3.52	3.63	103			0.99	
FEV ₁ /FVC %	76	81					
PEF (L/sec)	6.20	8.30	134			2.84	
FEF ₂₅₋₇₅ (L/sec)	3.79	4.47	118			1.82	
FET _{100%} (sec)		15.96					2.98
FEV ₆	3.69	3.74	94				74
FEV ₁ /FEV ₆	83	85					

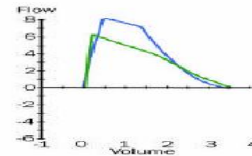


Figure 2. Restrictive pattern. FEV₁/FVC ratio elevated. Reduced FVC at 66 per cent reference value

Age: 49 Height (cm): 167 Weight (kg): 146.5 BMI: 52.53 Gender: male

	Ref	Pre Meas	Pre %Ref	Post Meas	Post % Chg	CI	LLN
FEV ₁ (L)	3.24	2.27	70			1.00	
FVC (L)	4.30	**2.85	**66			1.36	
FEV ₁ /FVC %	75	80					
PEF (L/sec)	8.05	7.59	94			3.87	
FEF ₂₅₋₇₅ (L/sec)	4.09	2.72	67			2.67	
FET _{100%} (sec)	4.23	14.86					3.43
FEV ₆		2.69	64				72
FEV ₁ /FEV ₆	80	84					

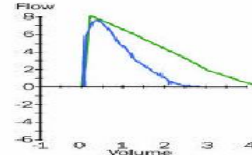


Figure 3. Obstructive pattern with clinically significant bronchodilator response. FEV₁ percentage reference shows an improvement from 64 to 92 per cent

Age: 59 Height (cm): 172 Weight (kg): 92.0 BMI: 31.10 Gender: male

	Ref	Pre Meas	Pre %Ref	Post Meas	Post % Chg	CI	LLN
FEV ₁ (L)	3.11	**2.00	**64	2.85	42	1.00	
FVC (L)	4.35	3.40	78	4.10	21	1.36	
FEV ₁ /FVC %	72	59		69			
PEF (L/sec)	8.17	4.45	54	6.81	53	3.87	
FEF ₂₅₋₇₅ (L/sec)	4.06	**1.23	**30	2.24	82	2.67	
FET _{100%} (sec)	4.22	7.46		10.62	42		3.34
FEV ₆		3.40	81	3.97	17		70
FEV ₁ /FEV ₆	79	59		72			

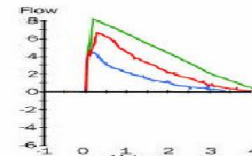
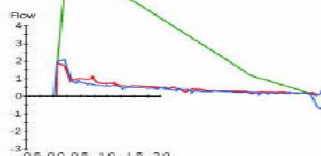


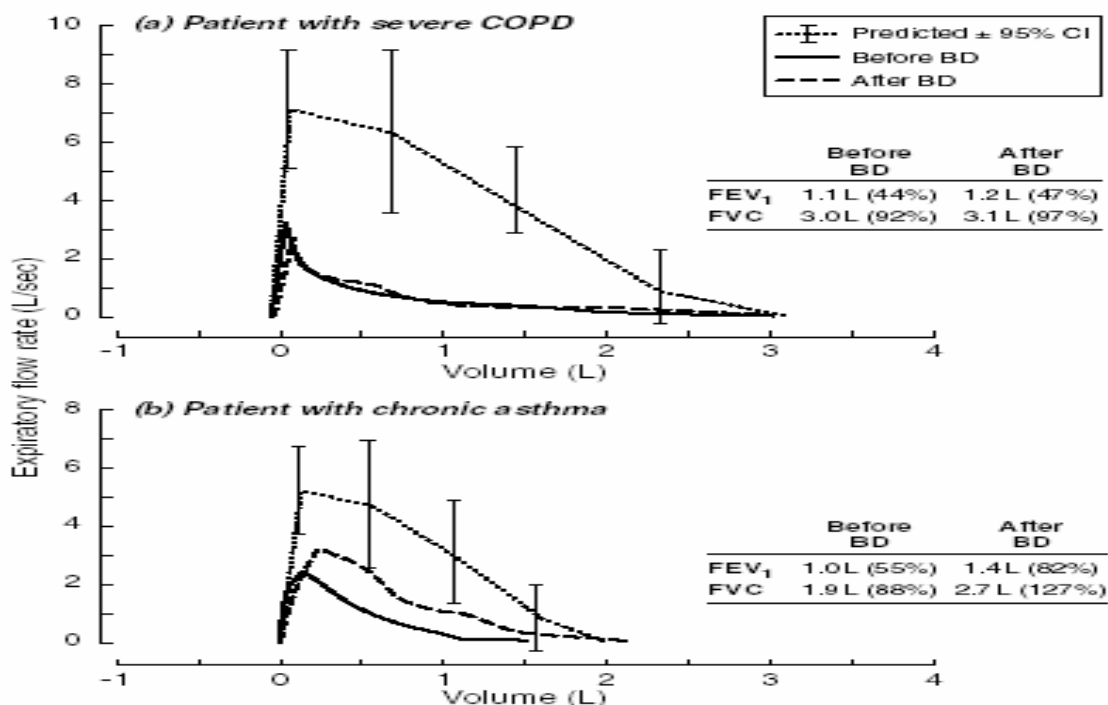
Figure 4. Severe obstructive pattern with no bronchodilator response. FEV₁/FVC ratio 22 per cent. FEV₁ 36 per cent of reference value. Note expiratory time of 20 seconds

Age: 78 Height (cm): 175 Weight (kg): 77 BMI: 25.14 Gender: male

	Ref	Pre Meas	Pre %Ref	Post Meas	Post % Chg	CI	LLN
FEV ₁ (L)	2.59	**0.93	**36	**0.94	1	1.00	
FVC (L)	4.02	4.20	104	4.06	-3	1.36	
FEV ₁ /FVC %	67	22		23			
PEF (L/sec)	7.75	**2.58	**33	**2.23	-13	3.87	
FEF ₂₅₋₇₅ (L/sec)	3.57	**0.28	**8	**0.29	4	2.67	
FET _{100%} (sec)		20.64		20.56	-0		2.79
FEV ₆	3.67	2.51	68	2.62	4		68
FEV ₁ /FEV ₆	77	37		36			



5: Maximal expiratory flow-volume curves in severe chronic obstructive pulmonary disease (COPD) and chronic asthma



The patient with COPD has reduced peak expiratory flow, and severely decreased flows at 25%, 50% and 75% of vital capacity compared with the normal range (vertical bars), and shows minimal response to bronchodilator (BD). By comparison, the patient with chronic asthma shows incomplete, but substantial, reversibility of expiratory flow limitation across the range of vital capacity. After BD the forced expiratory volume in one second (FEV₁) was within the normal range (82% predicted). Absolute and per cent predicted values for FEV₁ and forced vital capacity (FVC) before and after BD are shown for each patient.

References:

Asthma and Respiratory Foundation of New Zealand (2000.) Spirometry training for health professionals. Author.

Global initiative for Chronic Obstructive Lung Disease. (2001). Pocket guide to COPD diagnosis, management and prevention. Northern Institute of health National Heart, lung and blood institute /World Health organisation.

Lowry, J (1998) a Guide to Spirometry for primary care physicians. Boehringer Ingelheim.

Swanney, M. (2004) Guidelines for setting up a Spirometry service. Canterbury District Health Board.

Thoracic Society of New Zealand and Australia, (2003). The COPDX plan: Australia and New Zealand guidelines for the management of Chronic Obstructive Pulmonary Disease 2003. The Medical Journal of Australia. Vol. 178 supplement.

Website links.

<http://www.vh.org/adult?provider/internalmedicine/Spirometry/SpirometryHome.html>

http://www.mja.com.au/public/issues/178_06_170303/tho10508_all.html

http://www.mja.com.au/public/issues/178_06_170303/tho10508_all.pdf

<http://www.5aday.co.nz/health/copd.html>

http://www.everybody.co.nz/docsa_c/cordstress.htm

<http://www.lungnet.org.au/>

**How to Obtain Spirometry and Pulse Oximetry**

1. Some practices have the facilities to provide these services. Please contact your PHO for a provider close to you. Please establish charges and clarify who is paying for the service.
2. Spirometry is available through Cardiac Investigations Unit, Middlemore Hospital.
3. Some drug companies offer a spirometry service.

Referral Procedure for Spirometry to Middlemore Hospital/Superclinic.

1. Please indicate on referral “CCM Patient”
2. Please indicate if pre and post bronchodilator test required

NB No free parking available at Middlemore site.



10. Patient Self Management

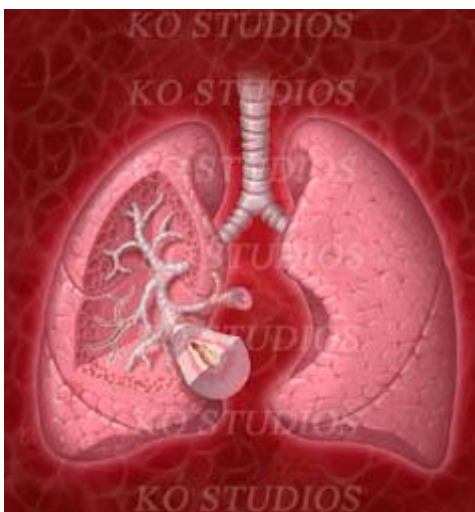
One of the aims of the CCM COPD programme is to increase patient's knowledge and understanding of COPD to enable them to become more involved in their own management. For this purpose, all patients enrolled in the programme will be provided with a personalised patient held wellness plan.

The Wellness Plan

- Ø The wellness plan is patient-centred and unique to each patient.
- Ø The wellness plan is developed in consultation with a practice team member.
- Ø The wellness plan has certain components in common with all CCM programmes;
 - Demographic details of both patient and health providers
 - List of ongoing health problems
 - Medication list (including purpose and directions for use)
 - A **GOALS PAGE** (lifestyle and management goals)
 - A page for writing down tests or appointments due

In addition the wellness plan includes some COPD specific resources;

- Ø Key points for people with COPD
- Ø Action plans
- Ø A Guide to Living Positively with COPD (2nd ed) Freephone 0800 802 461



11. Integration with Secondary Care

The aim of CCM COPD programme is to strengthen the mechanism for integration at the following levels:

- Primary and secondary care input into guideline development and maintenance.
- Secondary care participation in CME and peer group sessions where appropriate.
- Virtual Clinics in which advice and support on problematic patients is provided electronically (through PMS or electronic mail.)
- Secondary Care COPD Care coordinator nurse specialist involvement at a general practice level, (virtual clinics, support with difficult management problems and for upskilling of the practice team

The provision of virtual clinics and the linking of Secondary Care COPD nurse specialists to each general practice for ongoing liaison is already occurring in some practices. The aim is for this to be achieved for all practices involved in the COPD CCM programme.

Resource	Access
Practice Support Care Coordinator nurses (visiting practices to assist with wellness planning etc)	Available on Locator Meg Goodman – 93 8772
Respiratory Nurse Specialists for additional support for patients on home O ₂ CPAP or Pulmonary rehab etc)	Lorraine Faulkner and Diana Hart are available for consultation and advice. Access via MMH telephonist.
CME	<ul style="list-style-type: none"> • PHO, or Practice Based – • Prof Harry Rea & Clinical Team

For clinical advice please contact	Contact details
Secondary care specialist	Urgent (under one hour) <ul style="list-style-type: none"> • Access Respiratory Physician or Registrar on call for referrals via Middlemore Hospital telephonist
	Non-Urgent <ul style="list-style-type: none"> • Message to secretary, Division of Medicine • Ph 276 0158 or Fax 276 0282

Pulmonary Rehabilitation

REFERRAL FORM



Please fax this referral form to 8260 (internal), or 276 0260 (external)

Patient Details	
FORENAME	SURNAME
NHI	DATE OF BIRTH
ADDRESS	
CONTACT TELEPHONE NUMBER (HOME)	CONTACT TELEPHONE NUMBER (MOBILE)

General Practitioner Details	
GP NAME	GP CONTACT TELEPHONE NUMBER

Diagnosis

Reason for referral

Interpreter required?
 Language

Inclusion criteria	Considerations for referral
Please tick: <input type="checkbox"/> moderate to severe chronic lung disease	Please tick all that apply: <input type="checkbox"/> impaired quality of life <input type="checkbox"/> reduction in physical activity <input type="checkbox"/> dependence in activities of daily living <input type="checkbox"/> non-compliance with medication regime <input type="checkbox"/> increased use of medical resources <input type="checkbox"/> motivation for rehabilitation

Possible exclusion criteria	
Please tick all that apply:	
<input type="checkbox"/> exercise induced arrhythmias <input type="checkbox"/> critical ischaemic heart disease <input type="checkbox"/> recent unstable angina <input type="checkbox"/> unstable phase of respiratory disease	<input type="checkbox"/> severe immobility <input type="checkbox"/> severe aortic stenosis <input type="checkbox"/> pulmonary hypertension <input type="checkbox"/> hypertrophic cardiomyopathy

Details of referrer		
SIGNED	NAME	DATE
DESIGNATION	CONTACT NUMBER (LOCATOR)	CONSULTANT

Any queries please contact Lorraine Forbes-Faulkner (Pulmonary Rehabilitation Co-ordinator) on extension 2177 or locator 938405

12. Current CCM COPD Reporting

Monthly reports will be passed to individual practices via their PHO. These reports are important to help benchmark how each individual practice is performing against all the other practices involved in CCM, as well as identifying and allowing follow up of non attendees and overdue patients.

Reports definitions

Total Patients

The total number of patients currently enrolled in the programme as recorded in the CMDHB Integrated Care Server. It does not include those who have been disenrolled prior to the end date of this report.

New Patients

The number of new patients who enrolled during the time period indicated.

Total Visits

The number of visits made by your patients enrolled in the programme.

ECF Met

Of the total visits above, how many were made by enrolees who met the entry criteria.

Visits in Time:

Of those visits made by those who have met the ECF, how many were >10 week since the last funded visit.

Note:

All figures are derived from CMDHB's Integrated Care Server and not from each practice PMS. Therefore it is important that you get successful confirmation of messages sent to the ICS otherwise they will not be included in the reporting.

First visit Summaries:

The data of all the patients you have enrolled currently:

Latest Data:

Summarises the data from the latest time of each of the patient has been seen including those just enrolled as well as those enrolled more than a year ago (for example)

After One Year:

Summarises the date for all your patients who have had a review at one year after their enrolment.

Example of COPD reports available.

This report is a summary of data about your patients in the Chronic Care Management COPD programme for the period above. (Note: clinical measures are not displayed if n is less than 10.)

Programme activity and funding summary

Programme	Total patients	New patients	Total visits	ECF met	Visits in time
COPD					

Demographic and clinical data summary

Ethnicity	% Maori	% Pacific	% European	% Other
Your patients				
Your DHB				

Attendance

Patient attendance	% Up to date with visits:	% not seen for 6 months:
Your patients		
Your DHB		

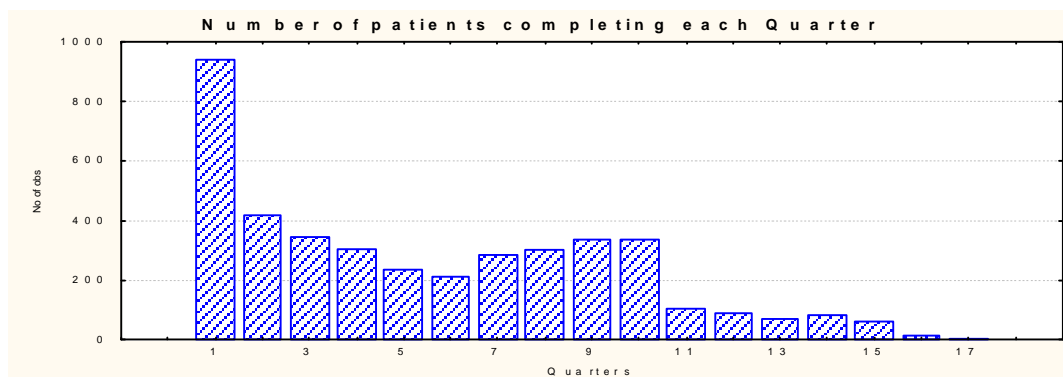
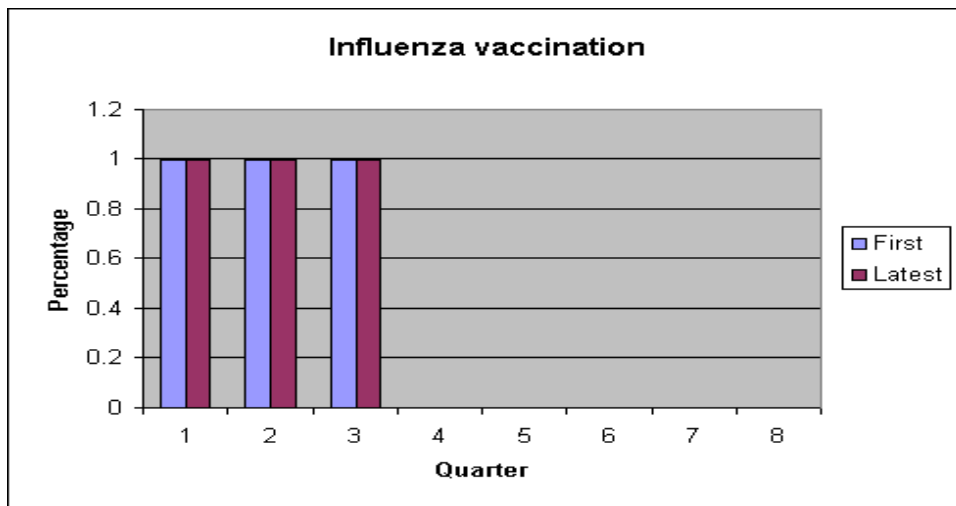
General		First Visit		Latest Data		At 1 Year	
		Your patients	Your DHB	Your patients	Your DHB	Your patients	Your DHB
% Spirometry	Maori						
	Pacific						
	All						
% Smokers	Maori						
	Pacific						
	All						
% Flu Vax	Maori						
	Pacific						
	All						

Steroid Medications		First Visit		Latest Data		At 1 Year	
		Your patients	Your DHB	Your patients	Your DHB	Your patients	Your DHB
% on Inhaled Steroids	Maori						
	Pacific I.						
	All						
% on Oral Steroids	Maori						
	Pacific I.						
	All						

Other Medications		First Visit		Latest Data		At 1 Year	
		Your patients	Your DHB	Your patients	Your DHB	Your patients	Your DHB
% on LABA	Maori						
	Pacific I.						
	All						

Example of graph reports available

For each of the following graphs your patients have been divided into groups according to the number of quarterly visits they have had. The Quarter 1 pair shows the data for those patients who have an enrolment only. The Quarter 2 pair includes all those patients whose latest visit is between quarter 1 and quarter 2 (ie their latest visit is after their first scheduled review but before their second scheduled review). The left bar for each quarterly pair shows the average for that quarterly cohort at enrolment. The right hand bar shows the average for that latest quarter.



Examples of additional CCM reporting available

CCM Overdue Patients

An overdue patient is one that has not had a visit in the 14 weeks prior to the period end date but has had a visit in the 28 weeks prior to the period end date.

CCM Poor Attendees

A poor attendee is a patient that has not had a visit in the 28 weeks prior to the period end date.

Modifiable Risk Factor Report:

This report includes patients with the following observations in a fixed time period.

Smoker? = True

PHOs are responsible for discussing and helping individual practice teams interpret and act on reports.

The Quit Group
TE ROOPU ME MUTU

The Quit Group
TE ROOPU ME MUTU

Nicotine Patches
Ngā Whakamahu
Para Tūpeka

Quit Me Mutu

PO Box 12 605, Wellington
Facsimile 04-470 7632
Email quit@quit.org.nz
URL www.quit.org.nz
Quitline 0800 778 778

Pictures by Adriana Heko
Code: 8006
© The Quit Group, June 2004

Using Reports for the Maintenance of Professional Standards (MOPS)

Claiming Continuous Quality Improvement (CQI) points from CCM programme

The RNZCGP MOPS programme includes the option to include points from Continuous Quality Improvement Activities (previously Practice Review Activities)¹. The CCM programme is endorsed as meeting all the requirements of an RNZCGP CQI activity². This endorsement is VALID FROM 01 OCTOBER 2004

General Practitioners actively participating in CCM Quality Improvement can claim 15 credits per cycle. This status is valid until 2007. Claiming requires the following to be held by the member, and available for an RNZCGP random audit.

1 Either - A certificate of participation from the organisation that facilitated the activity. This is the PHO.

Or A summary of the data collected, eg front page of the CCM report.

And

2 A PRA/CQI summary sheet, containing date and detail of first and second cycle

This is completed by the GP and encourages them to reflect on what they have learnt from taking part in the process, and to specify how the audit of their own practice has resulted in changes.

Each month's reports constitute an audit, and provide the data for the Data section of the summary sheet. A record of a review of results (Check) and change plan (Action) should follow. This constitutes a cycle, and is worth 15 Credits.

Credits are managed in conjunction with other MOPS credits. 30 Credits are required per triennium for CQI, but a maximum of 2 cycles (30 credits) can be claimed from this single activity per two triennia, in order to encourage participation in a range of activities.

However, further credits can be gained from this activity under "Additional Professional Development Activities: Practice Improvement Activities" section at 1 credit per hour to a maximum of 10 credits per annum.

¹ MOPS runs in a three-year cycle (triennium). (<http://www.rnzcgp.org.nz/mops.php>)

- All activities and programme modules attract credits, with a minimum 150 required over the full three years. For people joining in year two the requirement is 100 credits and in year three, 50 credits.
- Credits are obtained from three different categories of activity:
 - Practice Review Activities/Continuous Quality Improvement
 - Continuing Medical Education
 - Additional Professional Development Activities
- There are no annual minimums. Participants decide on the combination and timing of activities that make up the minimum totals over the triennium.
- Participants must participate in an RNZCGP endorsed resuscitation course to at least NZRC Level 5.

² Letter from Helen Glasgow, Professional Development Administrator, RNZCGP, 15 December, 2004

Summary Sheet for a PRA / CQI**Doctor's name:** _____,

The activity was designed by Counties Manukau CCM programme

Topic: Chronic Care Management**Describe why you chose this topic (relevance, needs assessment)****First cycle (15 credits)****Data:** Information collected.

Date of data collection: _____

Please attach:

- a summary of data collected **or**
- if this is an organisation activity attach a certificate of participation.

Check: Describe any areas targeted for improvement as a result of the data collected.**Action:** Describe how these improvements will be implemented**Monitor:** Describe how well the process is working. When will you undertake a second cycle?

Second cycle (15 credits)

Data: Information collected.

Date of data collection: _____

Please attach

- a summary of data collected **or**
- if this is an organisation activity attach a certificate of participation.

Check: Describe any areas targeted for improvement as a result of the data collected.

Action: Describe how these improvements will be implemented

Monitor: Describe how well the process is working. Will you undertake another cycle?

Additional comments:

13. Delivery Systems

i. Recommendations for best practice.

These aspects of delivery systems at the practice level are important for maximum effectiveness of CCM². Low overdue rates and changes in patient KPI's are difficult to achieve without good delivery systems.

Criteria
Staff Roles
Identified nurse project leader
Identified GP project leader
GP and nurse check monthly overdue and exception reports for patients that need following up.
Regular review of CCM progress (minimum of quarterly) at staff meetings, with discussion of reports.
GPs and PN's clear about their individual responsibilities for each aspect of programme.
Practice staff has had training in cultural competence for Maori and Pacific patients.
Ensuring Regular Visits
Read coding of all patients with chronic disease.
All patients enrolled in CCM flagged in PMS system.
All patients on recall.
Patients are recalled at least twice for each quarterly review, by phone and/or letter.
Alerts appear on the patients files if they are overdue for a review.
If no response to phone and letter then CHW follow up patients.
Wherever possible quarterly visits are aligned with timing of repeat prescriptions.
System in place to encourage patients to see same GP and nurse each time.
Appointments system in place for regular nurse and GP CCM visits (even if clinic does not usually run an appointment system).
Systems are in place that ensure that over 75% of patients have lab test results in the template prior to GP review.
Both GPs and PNs use the templates.
Receptionist notifies nurses and GPs if overdue patients arrive in surgery and organises review opportunistically.
If patients are deceased or transfer they are exited from the programme within 3 months..
Encouraging Patient Self Management
Each patient has agreed and documented self management goals, preferably a Wellness Plan.
Both GPs and nurses review and write in Wellness Plan at each visit.
The practice has well filed education pamphlets covering the range of chronic disease, with Maori and Pacific translations available as possible.



Note: ² These criteria were sourced from the following documents. Plan for CCM in Counties Manukau 2001-6, Institute for health care improvement Diabetes – Changing practice, changing lives (Health Disparities Collaborative) 2002, Review of CCM patient attendance (PHOCUS on Health) 2004.

ii. Use of the Recommendations List

2a. Practice Level Process to Review That These are Working Well

It is suggested that you review the above list at a practice meeting at three months post implementation to check that your systems are working well. You may find that due to the nature of your practice some aspects are easier to implement than others.

As you receive your clinical reports you will get an idea about how your practice is doing compared with your peers. If you do not seem to be managing as well as you had hoped, it may be that is worth reviewing the delivery system recommendations to see if there are systems you could change in your practice.

2b. PHO Support

Your PHO CCM project manager may also go over these recommendations with you at a follow up visit, to help you with CCM implementation.

Don't hesitate to ask your PHO CCM project manager for support if you have any concerns at any stage. They will have ideas from other practices as to how you can implement some of the delivery system aspects of the programme.



14. Claiming Reimbursement for Services Provided

General practices participating in the project can claim directly from the PHO holding the contract, on a quarterly basis for provision of the services as outlined. (This payment is to cover one free GP visit plus an average of one and a half hours of practice nurse time every three months).

This claim can be handled electronically where the systems have been set up prior to the commencement of the programme. If electronic systems are not in place, arrangements need to be agreed between the general practice and the PHO for a paper based claiming process.

The disease management templates fields are mandatory. If the information already exists or if the activity has already been carried out within the prescribed time period (e.g. laboratory tests) then the field will pre-populate. Every field must be completed before transferring the data and making a claim. This will be covered in the training programme.

The PHO will be responsible for reconciling the general practice claim against data reports supplied by Counties Manukau.



BOOKLETS	Unit price	Quantity required
What is asthma?	\$0.60	
Triggers in asthma	\$0.60	
Children and asthma	\$0.60	
Asthma medicines and how they work	\$0.60	
Long term use of steroid tablets	\$0.60	
Keep your asthma under control	\$0.60	
Do you have a peak flow meter?	\$0.60	
Asthma, breathing and exercise	\$0.60	
Puffers and other devices	\$0.60	
Nebulisers	\$0.60	
What is COPD?	\$0.60	
Atopic eczema	\$0.60	
MANAGEMENT PLANS		
Asthma Self Management Plan	free	
Child Asthma Plan	free	
Child Plan Symptom Diary Pad (50 sheets per pad)	free	sheets: pads:
COPD Management Plan	free	
Wheel - peak flow levels	\$1.00	
EDUCATIONAL RESOURCES		
Breathing Tubes (set of two)	\$48.00	
Asthma Emergency Kits (for schools)	\$40.00	
'Ben Has Asthma' (book and tape)	\$10.00	
POSTERS		
Adult Lungs and Breathing System	\$4.00	
The 3 Basic Asthma Questions	free	
Asthma First Aid - English	\$1.00	
Asthma First Aid - Maori	\$1.00	
PAMPHLETS		
Asthma and smoking	\$0.10	
Asthma in the workplace	\$0.10	
GST WILL BE ADDED TO THESE PRICES		

OTHER RESOURCES	Unit price	Quantity required
Peak flow record books	\$0.80	
Flag stickers (box of 100)	\$7.50	
Flag pin - fly the flag for asthma	\$5.00	
Booklet holder	\$25.00	
FACT SHEETS		
Photocopy permission granted		
For a full set of the following Fact Sheets:	\$7.00	
Adult onset asthma		
Asthma and allergy		
Asthma and anaesthetics		
Asthma and breathing		
Asthma and other medicines		
Asthma and women		
Asthma and your unborn child		
Asthma First Aid		
Asthma medicines banned in sport		
Asthma in New Zealand		
Bronchiectasis at a glance		
Buteyko		
Cannabis		
Children and breathing		
Complementary therapies		
COPD at a glance		
COPD - energy savers		
COPD - home exercises		
COPD and stress		
House dust mites		
Lung cancer		
Moving to a new place		
Pets and asthma		
Plants, gardening and asthma		
Safety of inhaled corticosteroids		
Spacers vs Nebulisers		
Stopping smoking		
Talking with your Dr (asthma & COPD)		
Using a spacer		
What is spirometry?		
GST WILL BE ADDED TO THESE PRICES		

PO Box 1459
Wellington
Phone 04 499 4592
Fax 04 499 4594
Email: arf@asthmanz.co.nz
Website: www.asthmanz.co.nz



The Asthma and Respiratory Foundation of New Zealand (Inc.)
Te Tūmatua Huango,
Mate Hā o Aotearoa

**POST AND PACKAGING COSTS
WILL BE INVOICED ON ALL
ITEMS**

DO NOT SEND MONEY NOW

Name: _____

Postal address: _____

Invoice to: _____

Order number: _____

Contact phone: _____

Fax: _____

OFFICE USE ONLY

Invoice number: _____

Date: _____