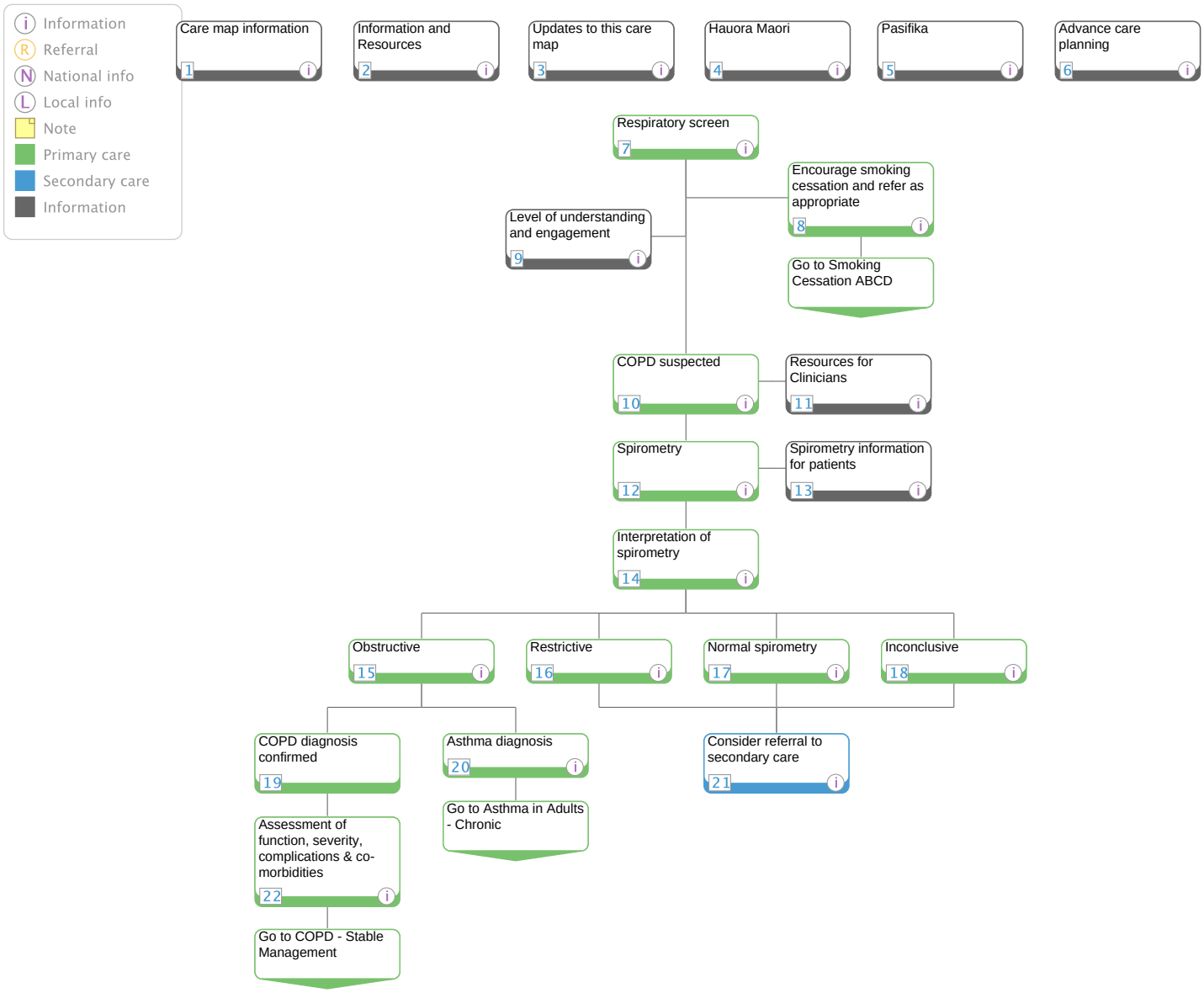
Chronic Obstructive Pulmonary Disease (COPD) - Suspected

Medicine > Respiratory > Chronic Obstructive Pulmonary Disease (COPD)



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Chronic Obstructive Pulmonary Disease (COPD) - Suspected

1 Care map information

Quick info:

In Scope:

- early detection, assessment and diagnosis of Chronic Obstructive Pulmonary Disease (COPD) in adults
- criteria for specialist referral

Out of Scope:

- children and adolescents
- smoking cessation

Definition:

- COPD is characterised by airflow obstruction [2 - 4]
- post bronchodilator forced expiratory volume in 1 second (FEV^1)/forced vital capacity (FVC) ratio less than 0.7 [4]
- airflow obstruction is usually progressive, not fully reversible, and does not change over several months [2,4]
- airflow limitation is usually associated with a chronic inflammatory response of the lungs to noxious particles or gases [3]
- COPD is the preferred term for patients with airflow obstruction who were previously defined as having chronic bronchitis and/or emphysema [2,4]

Incidence and Prevalence

COPD affects hundreds of thousands of New Zealanders, yet most people have never even heard the term COPD. In New Zealand an estimated 200,000 people are affected by COPD. The prevalence of COPD in the population is estimated to be around 15%, as many more are unlikely to be undiagnosed and onset is insidious. Some statistics about COPD in New Zealand:

- COPD has a substantial impact on the health of New Zealanders. Although often undiagnosed, it affects an estimated 15% of the adult population over the age of 45 years (at least 200,000 New Zealanders)
- more than 85% of the burden of COPD arises from tobacco smoking, with contributions from cannabis use and dust exposure in the workplace
- COPD is the fourth leading cause of death after cancer, heart disease and stroke
- COPD is ranked second in men and fifth in women with regards to its health impact
- COPD is an irreversible disease but is almost entirely preventable by avoiding exposure to tobacco smoke. Over 15% of all smokers are likely to become affected
- Maori aged 45 years and over had a COPD hospitalisation rate over four times that of non-Maori in the same age group. The relative disparity was greatest for females: Maori females had a COPD hospitalisation rate five times that of non-Maori female
- COPD mortality rates were almost three times higher for Maori aged 45 years and over than for non-Maori in the same age group. Again, the disparity was greatest for females [1]

Prognosis

COPD is associated with an increased risk of mortality from cardiovascular disease [6]. Other common co-morbidities and systemic features of COPD include [3,4]:

- lung cancer - having COPD increases the risk of developing lung cancer
- depression and/or anxiety disorder
- osteoporosis
- cachexia

Risk factors:

- smoking [2-4] - in most cases COPD is caused by cigarette smoking [6]
- occupational exposure [2-4]
- increasing age [3,4]
- poverty
- Maori and Pacific peoples
- genetic risk of homozygous $alpha^1$-antitrypsin deficiency - accounts for less than 1% of cases [2,3]

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- environmental factors, e.g. air pollution [2,3]

References

[1] Ministry of Health, New Zealand. Health Statistics, Respiratory Disease. http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/respiratory-disease

[2] Clinical Knowledge Summaries (CKS). Chronic obstructive pulmonary disease. July 2013. Newcastle upon Tyne: CKS; 2013

[3] Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. Barcelona: GOLD; 2013.

[4] National Institute for Health and Clinical Excellence (NICE). Chronic obstructive pulmonary disease: management of chronic obstructive pulmonary disease in adults in primary and secondary care. Clinical guidelines 101. London: NICE; 2010.

[6] Department of Health (DH). Medical Directorate. Respiratory Team. An outcomes strategy for COPD and asthma: NHS companion document. London: DH; 2012.

2 Information and Resources

Quick info:

Recommended resources for patients and carers:

- A handbook for people with COPD
- Breathe Hawkes Bay (formerly Asthma Hawkes Bay)
- Asthma and Respiratory Foundation NZ - Living with COPD
- Ministry of Health - Information and useful resources for COPD
- Patient handout for spirometry
- Stanford Long Term Management programme
- Pulmonary Long Term Management programme

Abbreviations:

- SABA = short acting beta agonist
- LABA = long acting beta agonist
- SAMA = short acting muscarinic antagonist
- LAMA = long acting muscarinic antagonist
- ICS = inhaled corticosteroid

Language translation assistance:

HBDHB Interpreting Service. To make an appointment (charges may apply):

- phone 06 878 8109 ext 5805 or
- email interpreting@hawkesbaydhb.govt.nz

These websites may help with simple words and phrases:

- Babelfish
- Google translate

Language Line. Professional interpreters are available, free of charge, for telephone-based sessions (44 languages are supported):

- email language.line@dia.govt.nz
- phone 0800 656 656
- Monday - Friday 9am - 6pm
- Saturday 9am - 2pm

Bookings are not usually necessary. For longer consultations it is best to make a booking at least 24 hours in advance.

3 Updates to this care map

Quick info:

Chronic Obstructive Pulmonary Disease (COPD) - Suspected

Date of publication:
This map was originally developed October 2014-April 2015.
Update: In June 2015, additional information was added on advance care planning and palliative care for patients with COPD.
Update: Map reviewed and updated December 2016.
Next Review and Republication: December 2017

This care map has been developed in line with consideration to evidenced based guidelines. For further information on contributors and references please see the Pathway's Provenance Certificate. NB: This information appears on each page of this care map.

4 Hauora Maori

Quick info:

Maori are a diverse people and whilst there is no single Maori identity, it is vital practitioners offer culturally appropriate care when working with Maori whanau. It is important for practitioners to have a baseline understanding of the issues surrounding Maori health. This knowledge can be actualised by (not in any order of priority):

- considering the importance of introductions ('whanungatanga') - a process that enables the exchange of information to support interaction and meaningful connections between individuals and groups. This means taking a little time to ask where this person is from or to where they have significant connections
- asking Maori people if they would like their whanau or significant others to be involved in assessment and treatment
- asking Maori people about any particular cultural beliefs they or their whanau have that might impact on assessment and treatment of the particular health issues

Maori health services

HBDHB contracts Maori health providers to deliver community based nursing and social support services. A referral to one of these providers may assist Maori people to feel more comfortable about receiving these services.

Central Hawke's Bay:

Central Health
Cnr Herbert & Ruataniwha Streets, Waipukurau
Phone: 06 858 9559 Fax: 06 858 9229
Email: reception@centralhealth.co.nz
Referral Form

Hastings:

Te Taiwhenua o Heretaunga
821 Orchard Road, Hastings 4156
Phone: 06 871 5350 Fax: 06 871 535
Email: taiwhenua.heretaunga@ttoh.iwi.nz
Referral Form

Kahungunu Health Services (Choices)
500 Maraekakaho Road, Hastings
Phone: 06 878 7616
Email: kahungunu@paradise.net.nz
Referral Form

Napier:

Te Kupenga Hauora
5 Sale Street, Napier
Phone: 06 835 1840
Email: info@tkh.org.nz
Referral Form

Wairoa:

Kahungunu Executive (no website)
65 Queen Street, Wairoa 4108
Phone: 06 838 6835 Fax: 06 838 7290
Email: kahu-exec@xtra.co.nz

Secondary care Maori Health Services:

Hawke's Bay DHB - Te Wahanga Hauora Maori Health Services
Phone: 06 878 8109 ext. 5779, 06 878 1654 or 0800 333 671 Email: admin.maorihealth@hawkesbaydhb.govt.nz

Further Information

Practitioners should be versed in the knowledge of:

- historical overview of legislation that impacted on Maori well-being
- Maori models of health, such as Te Whare Tapa Wha and Te Wheke when working with Maori whanau
- national Maori Health Strategies:
  - Mai Maori Health Strategy 2014-2019 - Full file or Summary diagram
  - He Korowai Oranga: Maori Health Strategy - sets the Government's overarching framework to achieving the best health outcomes for Maori
- local Hawke's Bay health sector's strategies and initiatives for improving Maori health and wellbeing

Cultural Competency Training

Training is available through the Hawke's Bay DHB to assist you to better understand Maori culture and to better engage with Maori people. Contact the coordinator
Email: education@hbdhb.govt.nz to request details of the next courses.

5 Pasifika

Quick info:

Pacific people value their culture, language, families, education and their health and wellbeing. Many Pacific families have a religious affiliation to a local church group.

The Pacific people are a diverse and dynamic population:

- more than 22 nations represented in New Zealand
- each with their own unique culture, language, history, and health status
- share many similarities which we have shared with you in order to help you work with Pacific people more effectively
- for many families language, cost and access to care are barriers

Pacific ethnic groups in Hawke's Bay include Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau, Kiribati and Tuvalu. Samoan and Cook Island groups are the largest and make up two thirds of the total Pacific population. There is a growing trend of inter-ethnic relationships and New Zealand born Pacific populations.

Acknowledge The FonaFale Model (Pacific model of health) when working with Pacific people and families.

General guidelines when working with Pacific people and families (information developed by Central PHO, Manawatu):

- Cultural protocols and greetings
- Building relationships with your Pacific people
- Involving family support and religion during assessments and in the hospital
- Home visits

Hawke's Bay-based resources:

- HBDHB interpreting service website **or** phone 06 8788 109 ext.. 5805 (no charge for the hospital; charges may apply for community-based translations) **or** contact coordinator at interpreting@hbdhb.govt.nz
- Pacific Navigation Services Ltd Phone: 027 971 9199
- services to assist Pacific people to access healthcare (SIA)
- Improving the Health of Pacific People in Hawke's Bay - Pacific Health action Plan

Ministry of Health resources:

- Ala Mo'ui Pathways to Pacific Health and wellbeing 2014-2018
- Primary Care for Pacific people: a Pacific and health systems approach
- Health education resources in Pacific languages (links to a web page where you can download resources)

6 Advance care planning

Quick info:

Advance Care Planning:

Advance Care Planning is a voluntary process of discussion and shared planning for future health care. It involves the person who is preparing the plan, and usually involves family/whanau and health care professionals.

Advance Care Plan:

An Advance Care Plan is the outcome of Advance Care Planning. It is formulated by the person and sets out their views about care towards the end of their life. It may also include views about medical care and a wide range of other matters. An Advance Care Plan may include an Advance Directive.

Advance Directive:

An Advance Directive is a statement a person makes about their medical care in the future and becomes effective if a person ceases to be competent to make decisions for themselves. An Advance Directive is legally binding if made in appropriate circumstances.

Competency and Advance Care Planning:

Competent people have the right to make autonomous decisions that as medical professionals we may regard as imprudent, and sometimes such decisions are a reflection of the person's longstanding personality, beliefs or lifestyle. This right is described in the Health and Disability Consumers Rights Acts.

According to ACP - A Guide for the NZ Health Care Workforce - "in the context of ACP, competency relates to an individual's ability to make a decision regarding their own health care (that is, competence at decision-making or decision-capacity). At a minimum, decision making capacity requires the ability to understand and communicate, to reason and deliberate, and the possession of a set of values".

Helpful websites:

- The code of rights
- Advance care planning guide Ministry of Health
- Advance care planning resources

7 Respiratory screen

Quick info:

When is spirometry indicated?

- aged 30+ years
- current smoker/ex smoker

If yes to above questions, progress as below:

- do they cough regularly?
- do they cough up phlegm regularly?
- do even simple chores make them short of breath?
- do they wheeze when exerting themselves or at night?
- do they get frequent colds that persist longer than those of other people?
- are they well? If unwell, reschedule spirometry

If yes to any of these questions, then refer to a Respiratory champion Practice Nurse or Breathe Hawke's Bay for spirometry.

Breathe Hawke's Bay (formerly Asthma Hawkes Bay:

- Breathe Hawkes Bay website
- Phone: 06 835 0018 or 0800 278 462
- Referral Form

8 Encourage smoking cessation and refer as appropriate

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The most critical intervention is smoking cessation. All people with Chronic Obstructive Pulmonary Disease (COPD) should be encouraged to stop smoking and offered help to do so at every opportunity. Telling smokers their lung age has been shown to significantly improve the likelihood of them quitting smoking.

For illustration of effects of smoking on rate of decline in FEV^1 (Fletcher and Peto natural history of lung function decline graph)

'ABC' is a memory aid for health care workers to understand the key steps to helping people who smoke:

- A. **ask** all people about their smoking status and document this
- B. provide **Brief** advice to stop smoking to all people who smoke, regardless of their desire or motivation to quit
- C. make an offer of, and refer to or provide, evidence based **Cessation** treatment

For further support, advice and information, people can:

- contact their practice nurse
- phone Quitline: 0800 778 778 or to go to the Quitline website
- Aukati KaiPaipa phone 0800 742 666 for a free face-to-face kaupapa Maori service or go to the Aukati KaiPaipa website

9 Level of understanding and engagement

Quick info:

Assess the person's level of understanding and engagement in medical care.

Ask about:

- their understanding of their symptoms or problem at the moment
- their understanding of what has to happen next

Consider:

- familiarity with medical terminology and knowledge
- language of origin
- hearing impairment
- cultural background and belief systems
- anxiety or extreme emotional intensity

Address any issues regarding understanding and engagement.

Consider barriers to effective care:

- factors that could stop the person from getting further tests or treatments:
  - complexity of care pathway or not knowing when or where to go next
  - whanau, family and social network dynamics:
    - whanau support, family history
    - family obligations including dependents
    - work responsibilities
    - whanau, hapu and iwi obligations
    - community engagement and obligations or responsibilities
  - locality and geographical access to health and hospital services
  - socio-economic factors including source of income
- arrange for appropriate support

See "Advance care planning" box at the top of this pathway.

10 COPD suspected

Quick info:

Consider Chronic Obstructive Pulmonary Disease (COPD) in those with:

- dyspnoea
- chronic cough

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- sputum production
- and/or a history of exposure to risk factors for the disease especially smokers

During the early stages of COPD the patient may have no or minimal symptoms; airflow limitation may be present in the absence of symptoms. Clinical presentation of COPD includes:

- persistent and progressive dyspnoea
- wheeze
- cough - may be intermittent and unproductive
- sputum production
- frequent chest infections

Systemic features of COPD include:

- cachexia - loss of fat free mass
- skeletal muscle wasting
- osteoporosis
- depression
- increased risk of cardiovascular disease

Additional features of severe COPD include:

- weight loss
- anorexia
- cough syncope
- rib fractures caused by coughing
- pedal oedema - symptom of cor pulmonale
- increasing panic/depression and anxiety

11 Resources for Clinicians

Quick info:

Recommended websites:

- Lung Foundation Australia
- Asthma and Respiratory Foundation NZ: Coping with COPD
- Breathe Hawkes Bay (formerly Asthma Hawkes Bay)
- The Global Initiative for Chronic Obstructive Lung Disease (GOLD)
- The National Advance Care Planning Cooperative NZ
- Health Navigator NZ: Health Information and Resources for all New Zealanders: Pulmonary Rehabilitation
- For illustration effects of smoking on rate of decline in FEV^1 (Fletcher and Peto natural history of lung function decline graph)

12 Spirometry

Quick info:

Demonstrating airflow obstruction is critical in supporting the diagnosis of Chronic Obstructive Pulmonary Disease (COPD):

- post-bronchodilator FEV^1/FVC (forced expiratory volume in 1 second/forced vital capacity) ratio of less than 0.7 confirms the presence of airflow limitation
- NB: caution if required in the elderly. A number of published guidelines define airflow obstruction as a fixed ratio of $FEV^1/FVC < 0.7$ rather than the lower limit of normal. However, this results in over-diagnosis of COPD in the older age group
- spirometry is the only accurate method of measuring airflow obstruction in COPD
- severity of airflow limitation is measured by post-bronchodilator FEV^1
- peak expiratory flow measurement may underestimate the severity of obstruction and should not be done routinely to measure COPD

Check contraindications to spirometry.

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Referrals to Spirometry

Spirometry can be performed by:

- Respiratory Champion Practice nurses/Iwi providers holding a valid spirometry passport
- Breathe Hawke's Bay Referral Form

To achieve passport accreditation, training is required.

13 Spirometry information for patients

Quick info:

Patients should be advised that spirometry can take up to one hour. Ideally no short acting bronchodilators (relievers), caffeine, smoking for four hours prior to spirometry. All other regular medication should be continued:

- patient Information Leaflet - Pulmonary Function Tests

14 Interpretation of spirometry

Quick info:

Interpretation of results should only be done on adequate spirometry i.e. good effort, acceptable flow-volume/time-volume curves, minimal variability between manoeuvres. **Quality A or B session.** Post bronchodilator results should be used to confirm presence and severity of fixed airway obstruction.

Interpretation:

Post-bronchodilator FEV^1/FVC ratio:

- < 0.7 = fixed airway obstruction
- ≥ 0.7 = no fixed airway obstruction

FVC:

- ≥ 80% predicated = normal
- < 80% predicated = restrictive spirometry

FEV^1 % predicted indicates severity of obstruction if FEV^1/FVC ratio is < 0.7:

- > 80% = mild obstruction
- 50 - 79% = moderate obstruction
- 30 - 49% = severe obstruction
- < 30% = very severe obstruction

A degree of reversibility is not uncommon in Chronic Obstructive Pulmonary Disease (COPD), but if over 400ml asthma is likely.

15 Obstructive

Quick info:

If the post bronchodilator FEV^1/FVC ratio is less than 0.7 an obstructive defect is present. Determine the severity of the obstructive defect by looking at the post-bronchodilator FEV^1% predicated value.

See attached for information on the difference between Asthma and COPD.

See Breathe Hawke's Bay website for useful information about living with COPD.

16 Restrictive

Quick info:

Common causes of a restrictive pulmonary pattern are:

- poor technique: check technique to ensure accurate FVC, using Forced Expiratory Time (FET) of minimum 6 seconds. If the FVC is underestimated then a false high ratio will result in an interpretation of restriction
- hyperinflation - consider if coexisting severe obstruction on spirometry
- obesity

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- parenchymal lung disease
- pleural disease
- neuromuscular disease
- chest wall deformity i.e. Kyphoscoliosis
- miscellaneous including heart failure and pneumonia

If FVC is < 80% predicted, consider:

- chest x-ray
- referral to the hospital for lung function testing

Pulmonary Rehabilitation Services including pulmonary long term management programme:

Provides support for respiratory patients in Napier, Hastings, Waipukurau and Wairoa:

- programme information and flowchart
- referral form
- handout

Contact Details:

- Email: pulmonarymanagement@hbdhb.govt.nz
- Telephone: (06) 878 8109 extn 5726
- Fax: external (06) 878 1310; internal extn 2210

17 Normal spirometry

Quick info:

Normal spirometry does not exclude pulmonary or non-pulmonary pathology. If patients are symptomatic with cough/phlegm, frequent chest infections or exertional breathlessness, consider further investigation including:

- chest x-ray
- serial Peak Flow Monitoring
- referral to hospital for lung function testing
- ECG/Brain Natriuretic Peptide (BNP)

18 Inconclusive

Quick info:

If patient is unable to carry out adequate quality spirometry in the community then referral to secondary care may be appropriate if patient has symptoms of Chronic Obstructive Pulmonary Disease (COPD) or other respiratory illness.

20 Asthma diagnosis

Quick info:

Consider GASP assessment and asthma management as appropriate:

- Global Initiative for Asthma
- Breathe Hawke's Bay (fomerly Asthma Hawke's Bay)
- Asthma and Respiratory Foundation NZ

21 Consider referral to secondary care

Quick info:

Consider referral to secondary care for pulmonary function tests.

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22 Assessment of function, severity, complications & co-morbidities

Quick info:

No single measure can give an adequate assessment of the true severity in an individual. Assess breathlessness - use the Medical Research Council (MRC) dyspnoea scale to assess functional impact of breathlessness:

- grade 0: not troubled by breathlessness except during strenuous exercise
- grade 1: short of breath when hurrying or walking up a slight hill
- grade 2: walks slower than contemporaries on level ground because of breathlessness; or has to stop for breath when walking at own pace
- grade 3: stops for breath after walking approximately 100 metres or after a few minutes on level ground
- grade 4: too breathless to leave the house; breathless when dressing or undressing

The Chronic Obstructive Pulmonary Disease (COPD) assessment test (CAT) is an 8-item unidimensional measure of health status for people with COPD. Use this CAT online tool, or an advanced form to perform a CAT score, document as required.

Severity

GOLD criteria - severity of airway obstruction can be classified according to the post bronchodilator FEV^1:

- stage 1 (mild) > 80%
- stage 2 (moderate) 50 - 79%
- stage 3 (severe) 30 - 49%
- stage 4 (very severe) < 30%

Other investigations

Consider the following investigations as part of the diagnosis and assessment of COPD:

- chest x-ray
- full blood count
- body mass index

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Chronic Obstructive Pulmonary Disease (COPD) Provenance Certificate

Overview

This document describes the provenance of Hawke's Bay's District Health Board's COPD Pathway. It was completed in January 2014 and first published in April 2015. A review of the Pathway was completed in December 2016.

The Collaborative Clinical Pathways programme is one initiative stemming from the *Transform and Sustain* agenda. The main aims of CCP are to:

- → Identify opportunities to improve how health and disability care is planned and delivered within the district to improve patient access to a wider range of health services that are both closer to home and reduce avoidable hospital admissions.
- → Provide health professionals throughout the Hawke's Bay district with best practice, evidence-based clinical pathways that are available at the point of care.

Outcomes we expect to achieve include faster access to definitive care, improved health equity and outcomes, better value from publically-funded resources, and better patient experience through clear expectations, improved access and greater health literacy. These outcomes are clearly aligned to the NZ healthcare *Triple Aim* and *Better, Sooner, More Convenient* policy directions.

Editorial methodology

This Pathway was based on high-quality information and known Best Practice guidelines from New Zealand and around the world including Map of Medicine editorial methodology. It was developed by individuals with front-line clinical experience (see Contributors section of this document) and has undergone consultation to gain feedback and input from the wider clinical community.

Map of Medicine Pathways are constantly updated in response to new evidence. Continuous evidence searching means that Pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the Pathways through the quarterly publication cycle.

An update to this Pathway is scheduled for 12 months after first publication. However, feedback is welcomed at any time, with important updates added at the earliest opportunity within the Map of Medicine publishing schedule (the third Friday of each month).

References

This Pathway has been developed according to the Map of Medicine editorial methodology. Its content is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. Feedback on this Pathway was received from stakeholders during a consultation process.

1	Ministry of Health, New Zealand. Health Statistics, Respiratory Disease. http://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/maori-health-data-and-stats/tatau-kahukura-maori-health-chart-book/nga-mana-hauora-tutohu-health-status-indicators/respiratory-disease-various-ages
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6	Department of Health (DH).Medical Directorate. Respiratory Team. An outcomes strategy for COPD and asthma: NHS companion document. London: DH; 2012.

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Disclaimers

Clinical Pathways Steering Group, Hawke's Bay DHB and Health Hawke's Bay – Te Oranga Hawke's Bay

It is not the function of the Clinical Pathways Steering Group, Hawke's Bay DHB and Health Hawke's Bay – Te Oranga Hawke's Bay to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness and completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.