The Asthma Foundation welcomes comments on this draft document by 10 August 2015, to Kathy Lys at kathy@asthmafoundation.org.nz.
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Improving access to specialist care

Extending the respiratory health workforce

Integrated models of care

Introducing a respiratory national health target and indicators

Research and evaluation where it is most needed

References
The National Respiratory Strategy in Summary

Aim and purpose
The overall aim of the National Respiratory Strategy is to:

- reduce the incidence and impact of respiratory disease, and
- reduce inequalities in respiratory health

....by implementing the recommended actions.

To this end the purpose of the Strategy is to answer the question:

“What are the key issues for respiratory health in New Zealand, and what actions would make the most difference to respiratory health outcomes and equity?”

Structure
The Strategy is framed around four high level goals relating to people with respiratory conditions and their families, their environment, the health community and the health system (see Strategy Framework below). Each goal presents a description of the key issues and a number of priority actions. The Strategy also identifies where to focus research and evaluation for the greatest benefit.

Conditions
The Strategy deals with factors that are common across most respiratory conditions, and has a focus on seven important diseases. These are asthma, bronchiectasis, childhood bronchiolitis, childhood pneumonia, chronic obstructive pulmonary disease (COPD), lung cancer and obstructive sleep apnoea. More information about the status of each of these in New Zealand is contained in the next section.

Equity focus
In order to achieve the biggest gains in respiratory health we need to focus efforts first and foremost on those who are most affected. For respiratory disease this includes children, Māori, Pacific peoples and those living in the most deprived areas of New Zealand.

Actions
Actions have been selected that:

- have an evidence base of research showing they are effective, or in the absence of research a clear intervention logic and support from respiratory health experts
- address known risks and barriers to good respiratory health and equitable outcomes
- are supported by health professionals and others working to improve respiratory health (evidenced by stakeholder feedback during development)
- are realistic and where possible integrated with existing strategies and programmes
- make up a holistic set of actions that address various barriers (eg affordability and quality) rather than one at the expense of another.

The actions contained in the National Respiratory Strategy will also serve to lift New Zealanders’ general health and wellbeing and benefit non-respiratory conditions.
The National Respiratory Strategy Framework

<table>
<thead>
<tr>
<th>Long-term outcomes</th>
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<tbody>
<tr>
<td>• Lower incidence and impact of respiratory disease in New Zealand.</td>
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<tr>
<td>• People with respiratory disease lead longer, healthier, more independent lives.</td>
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<tr>
<td>• No inequities in respiratory health: Māori, Pacific and low income communities in New Zealand have equitable health outcomes and access to services and support.</td>
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<tr>
<td>• High quality respiratory health services are delivered that are timely and accessible for all who need them.</td>
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<table>
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<tr>
<th>Goals</th>
<th>Environment: All people live, work and play in healthy environments, and have enough money to meet their health needs and the needs of their families.</th>
<th>Individuals and Families: People and families living with respiratory conditions are empowered to be as healthy as they can, and live longer healthier and more independent lives.</th>
<th>Health Community: Health workers have the information and tools they need to provide quality advice and care to people with respiratory conditions.</th>
<th>Health System: Respiratory health is a health priority for New Zealand. All people are able to easily get the care they need when they need it.</th>
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<tr>
<th>Action areas</th>
<th>Housing Poverty Smoking Nutrition</th>
<th>Health literacy Health behaviour change</th>
<th>Role of health workers in self-management support Training and education Best practice guidance Tools and services for diagnosis and treatment</th>
<th>Access to primary and specialist care Integrated models of care Respiratory health targets and indicators Extending the respiratory health workforce</th>
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</table>

| Research                                                                 | Research and service evaluation for the greatest good |
Introduction

What is respiratory health?

Good respiratory health means being free of respiratory symptoms. Respiratory disease is a general term used to describe a large group of conditions that impair the airways and lungs. Respiratory diseases cause symptoms such as difficulty breathing, coughing and tiredness.

In New Zealand many people struggle with chronic and serious respiratory diseases that have a huge impact on their lives and the lives of their families. Being unable to breathe or having to watch a child struggling for breath is frightening.

What makes respiratory disease a health priority for New Zealand?

The World Health Organisation has identified chronic respiratory disease as one of the four leading non-communicable diseases (NCDs) worldwide along with cardiovascular disease, cancer and diabetes. In New Zealand respiratory disease is the third most common cause of death after cardiovascular disease and cancer (World Health Organisation, 2014). Respiratory conditions make up a big part of our overall health burden and of health inequalities. Children, people on low incomes, Māori and Pacific peoples experience a much greater burden of respiratory ill health than other New Zealanders.

The most recent data tells us:

- Over **700,000 people** take medicine for a respiratory condition.
- Respiratory diseases account for **1 in 8 of all hospital stays** in New Zealand. In 2013 there were over **69,000** admissions with a third of these (23,000) being children.
- Respiratory disease was the cause of over **2,700 deaths** in 2011.
- Respiratory disease costs New Zealand over **$5.5 billion** every year (in direct costs of doctors’ visits, prescriptions and caring for people in hospital, and indirect costs of death, disability affected life years and lost work days) (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

There are extreme and worsening inequities in respiratory health between Māori, Pacific and low income groups, and the rest of the New Zealand population:

- People living in the most deprived households are admitted to hospital for respiratory illness over 3 times more often than people from the wealthiest areas.
- Across all age groups hospitalisation rates are much higher for Pacific peoples (2.6 times higher) and Māori (2.1 times higher) than other ethnic groups (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

The New Zealand Burden of Diseases, Injuries and Risk Factors Study, 2006-2016, estimated health loss across 217 diseases and injuries and 31 risk factors. Health loss is how much healthy life is lost due to early death, illness or disability. This study placed respiratory conditions among the top contributors to overall health loss in New Zealand:
Lung cancer, COPD and asthma were among the top 25 conditions that together make up 58% of all health loss in New Zealand. COPD was the fourth leading cause of health loss in 2006, and lung cancer was sixth. Sleep disorders, including obstructive sleep apnoea (OSA), were also identified as a major cause of health loss in New Zealand, and OSA was identified as a risk factor for other conditions (Ministry of Health, 2013).

**Why do we need a national strategy for respiratory health?**

The numbers above show that respiratory disease places a huge burden on individuals, families and the New Zealand health system. Now more than ever, things need to change if we are to effectively address our current and future health burden. We know this because the situation has not improved in the last 10 years and is worsening, despite improvements in health care, medicines and smoking rates over that time (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

New Zealand has never had a national strategy or policy on respiratory health. Despite this a great deal of effort, expertise and resource has gone into preventing and managing respiratory disease and supporting those who live with it. But the work is fragmented and there are gaps and variations in the availability and quality of services, support and information.

Developing a national respiratory strategy is an important first step toward a planned and co-ordinated approach. It helps us to view the whole picture of respiratory health so we can see where best to put time, effort and resources in order to make the biggest gains. This includes making stronger links between health and other key sectors such as housing, welfare and education, all which have a crucial role in improving respiratory health.

There is much we can do to make real health gains. A lot of respiratory illness can be prevented in the first place by removing or reducing risk factors. For people and families who live with respiratory disease we can provide better support so they can manage their conditions, live well and avoid health emergencies needing hospital care.

In sum, a national strategy focused on respiratory health is needed because:

- New Zealand has high and worsening rates of respiratory disease, especially among Māori, Pacific peoples and low income groups.
- Personal and financial costs will continue to increase without a new approach to improving respiratory health.
- Current efforts are uncoordinated and a considered national approach is needed to identify the gaps and inequalities in services and outcomes, and to address them in the most effective way.
How was the Strategy developed?

The National Respiratory Strategy was developed over 2014-2015 by The Asthma Foundation, under the direction of a group of national experts and leaders in respiratory health. Appendix 1 lists members of the Expert Advisory Group. The Strategy's content and recommended actions were informed by:

- key literature including the latest research on respiratory disease in New Zealand,
- input from the respiratory health community via a survey of respiratory health workers and agencies and feedback on the draft areas for action.

More detail on the steps taken to develop the strategy and those involved is presented in Appendix 2.

How does the Strategy fit with other health strategies and plans?

Other national health frameworks, strategies and plans have been considered in the development of this strategy, in order that it can be supported and strengthened by them, and vice versa. It generally aligns in the following ways:

<table>
<thead>
<tr>
<th>National Respiratory Strategy Goals</th>
<th>Related New Zealand health strategies and plans</th>
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</thead>
<tbody>
<tr>
<td><strong>Environment:</strong></td>
<td></td>
</tr>
</tbody>
</table>
| All people live, work and play in healthy environments, and have enough money to meet their health needs and the needs of their families | **NZ Health Strategy 2015** TBC  
*He Korowai Oranga: Māori Health Strategy*: Wai Ora – healthy environments; Te Ara Tuawahā-Working across sectors  
*Reducing Inequalities in Health*: Structural interventions including economic and social policies. |
| **Individuals and Families:**      |                                                 |
| People and families living with respiratory conditions are empowered to be as healthy as they can, and live longer healthier and independent lives. | **NZ Health Strategy 2015** TBC  
*‘Ala Mo’ui Pathways to Pacific Health and Wellbeing 2014-2018*: Pacific peoples are better supported to be healthy (health literacy)  
*Reducing Inequalities in Health*: Intermediary pathways including behaviour/lifestyle, internal empowerment. |
| **Health Community:**              |                                                 |
| Health workers have the information and tools they need to provide quality advice and care to people with respiratory conditions. | **NZ Health Strategy 2015** TBC  
*He Korowai Oranga: Māori Health Strategy*: Te Ara Tuarua-Māori participation in the health and disability sector  
*‘Ala Mo’ui Pathways to Pacific Health and Wellbeing 2014-2018*: Pacific peoples are better supported to be healthy (cultural competency education) |
Health System:
Respiratory health is a health priority for New Zealand. All people are able to easily get the care they need when they need it.

NZ Health Strategy 2015 TBC
He Korowai Oranga: Māori Health Strategy: Te Ara Tuatoru-Effective health and disability services
‘Ala Mo‘ui Pathways to Pacific Health and Wellbeing 2014-2018: Systems and services meet the needs of Pacific peoples; More services are delivered locally in the community and in primary care; Pacific peoples are better supported to be healthy (Healthy Families NZ programme).
Equity of Health Care for Māori: A Framework: Health practitioner and health organisation leadership, knowledge, commitment.

Reducing Inequalities in Health: Health and disability services including improving access and care pathways.

(Ministry of Health, 2014a; Ministry of Health, 2014b; Ministry of Health, 2002; Ministry of Health, 2014c).

How will we know if it is working?

There are a number of key indicators of health we can use to estimate the extent to which implementing the strategy is meeting its intended gains. Measures used in the 2014 Impact of respiratory disease report (Telfar Barnard, Baker, Pierse, & Zhang, 2015) and other key research, provide a useful baseline.

It is important to note that improving respiratory health will help lift the overall health status of New Zealanders, and vice versa. For example, improving Māori and Pacific health literacy and the cultural competence of the health workforce will benefit the ability of people and families to live well with respiratory conditions. In this way general health indicators are a useful measure.


This report uses the same data sources to measure the prevalence (population rates) and incidence (number of hospital events and deaths) of asthma, bronchiectasis, childhood bronchiolitis and pneumonia and COPD. The New Zealand Health Survey was also used to estimate the prevalence of medicated asthma, and a variety of sources were used to estimate costs relating to asthma.
<table>
<thead>
<tr>
<th>Total respiratory health indicators</th>
<th>Data sources</th>
<th>Latest analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicated respiratory conditions</td>
<td>National pharmaceutical collection</td>
<td>At least 700,000 people taking medication for a respiratory condition</td>
</tr>
<tr>
<td>Respiratory deaths per year</td>
<td>New Zealand mortality collection</td>
<td>2,700 deaths (56.7 per 100,000 people) in 2011</td>
</tr>
<tr>
<td>Respiratory hospitalisations per year</td>
<td>National minimum data set (NMDS)-hospitalisations (publically funded hospital discharges)</td>
<td>69,000 in 2013 (1563.1 per 100,000)</td>
</tr>
<tr>
<td>Total cost of respiratory disease per year: Including private costs (doctors visits, prescriptions) and public costs (years of life lost, hospitalisations)</td>
<td>National Pharmaceutical Collection NMDS –mortality, hospitalisations NZ Health Survey NZ Census Pharmac</td>
<td>$5.5 billion</td>
</tr>
<tr>
<td>Respiratory health inequalities</td>
<td>NMDS-and hospitalisations by ethnic group and NZDEP quintile</td>
<td>Hospitalisation: 2.6 times higher for Pacific and 2.1 times higher for Māori, 3 times higher for most deprived households than least</td>
</tr>
</tbody>
</table>

How will the Strategy be used?

The Strategy provides direction on what needs to be done to improve respiratory health in New Zealand. The Strategy should:

- Justify resources being moved to areas and groups most in need
- Inform planning and preparation to implement the actions
- Act as a framework for key agencies and groups to work together
- Act as a platform for advocacy on behalf of people with respiratory conditions and their families.
Who will implement the strategy?

Implementation of the recommendations in the Strategy will need a combined effort involving all of us. Some of the actions need to be driven by government, and others will be led by a range of organisations and groups including DHBs, PHOs, local communities, the Asthma Foundation and other non-government organisations. Everyone has a role to play in improving respiratory health:

- **All New Zealanders** need to look after their own health and build knowledge of how to stay well. We all have a role in creating healthy home, school and work environments, and healthy communities.

- **People with respiratory conditions** can learn how to manage their condition, and build their support network of family, carers, friends, health professionals, groups and agencies who can help. They also have a valuable role in improving the health system by getting involved as leaders and participants in planning and delivering services.

- **Families, Māori whānau, Pacific ‘aiga, kāiga, magafaoa, kōpū tangata, vuvale, fāmili** provide vital support and advocacy for their loved ones, and have valuable knowledge and skills to contribute to those parts of the health system they are involved in.

- **Māori and Pacific leaders, communities and organisations** provide services directly to their people. They also have a key leadership role in shaping how the wider health community and system can best support individuals and whānau, ‘aiga, kāiga, magafaoa, kōpū tangata, vuvale and fāmili who experience respiratory disease, and those at risk due to unhealthy environments.

- **Asthma societies, trusts and other community providers** can use the Strategy as a resource to inform their planning and service delivery, to support advocacy work and communication with funders and providers. As a living document the Strategy will also provide a central point for sharing information, research and examples of innovative service delivery.

- **Primary care providers** such as general practice teams and community health services provided by NGOs, have a key role in applying the Strategy in practice. This role spans all of the Strategy’s goals and includes delivery, easy to access and culturally relevant services, and ensuring staff are well trained and have best practice information and tools.

- **DHB planners and funders** have a role in ensuring their service planning includes the Strategy’s priority actions and joint work across health and other sectors such as social support, housing and education.

- **DHB providers** need to work in partnership with primary care, NGOs and other respiratory health providers to provide effective and integrated services for their populations.

- **Researchers, universities and funders** can use the Strategy to inform decision making on what research should be undertaken and funded that would be of most benefit to respiratory health in New Zealand.
The Asthma Foundation has a central role in bringing the Strategy to life through its key functions of respiratory health education, advocacy and research.

The Ministry of Health as a health sector leader, has a key role in implementing this Strategy. This includes making respiratory health a national health priority, leading health system improvements, working across government, and providing national coordination that supports health funders, providers and the workforce to better address New Zealand’s respiratory health needs.

Other government and non-government agencies involved in housing, social support, education and employment, have an important role in enabling all New Zealanders to have access to healthy environments as the basis for good respiratory health.
Major Respiratory Conditions in New Zealand

The National Respiratory Strategy recommends addressing factors that are common across most respiratory conditions. This is so that actions can be taken that will make the most gains.

To strengthen this approach there is a focus on seven major respiratory conditions; asthma, bronchiectasis, childhood bronchiolitis, childhood pneumonia, chronic obstructive pulmonary disease (COPD), lung cancer and obstructive sleep apnoea (OSA). These are considered to make the largest contribution to New Zealand’s respiratory burden, due to

- the large numbers of people affected (asthma, lung cancer, COPD, obstructive sleep apnoea)
- extreme inequalities in health status for Māori, Pacific peoples and those on low incomes (this relates to all conditions but especially bronchiectasis, childhood bronchiolitis and childhood pneumonia)
- increasing rates (bronchiectasis, childhood bronchiolitis).

Each of these conditions is described below, along with recent key statistics drawn mainly from “The impact of respiratory disease in New Zealand: 2014 update” (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

Asthma

People with asthma have sensitive airways that react when they come into contact with certain triggers (for example a cold or flu virus, house dust mites or cold weather). These triggers cause the airways to tighten and partially close up. This makes it hard to breathe and causes wheezing and coughing.

Hospital visits for asthma are preventable, and we would see a huge drop if everyone had good control of their symptoms. To have good control people need to use their asthma medication as prescribed, have regular visits to a health professional and an asthma management plan. Asthma is much harder to control when people are living in crowded, damp, cold houses where people smoke, and don’t have enough income to visit a GP or pick up prescriptions when needed. Asthma and wheeze is the most common diagnosis among children (0-14 years) who are admitted to hospital for a poverty-related condition (Craig, Reddington, A, G, & Simpson, 2013).

In New Zealand:

- Over 460,000 people take medication for asthma - One in nine adults and one in seven children.
- Large numbers of children (3,730 or 430.9 per 100,000 in 2013) are still being admitted to hospital with asthma, and some of these will have had a potentially life threatening attack.
• By far the highest number of people being admitted to hospital with asthma are Māori, Pacific peoples, and people living in the most deprived areas. Māori are 2.9 times and Pacific peoples 3.7 times more likely to be hospitalised than Europeans or other New Zealanders. People living in the most deprived areas are 3.2 times more likely to be hospitalized than those in the least deprived areas.

• The cost of asthma to the nation is over $800 million per year (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

Bronchiectasis

Bronchiectasis is a lung condition where the breathing tubes in the lungs become damaged and are larger than usual. This damage builds up over time due to repeated infections. Bronchiectasis often results in a chronic productive cough and shortness of breath.

Immunisations, appropriate use of antibiotics, improved living conditions and better nutrition all help to reduce the onset and severity of bronchiectasis. Early diagnosis and treatment is important to lessen the lung damage.

Once a person has bronchiectasis they usually have it for life, so good care is important to helping them stay well with the condition. This includes chest physiotherapy once or twice a day to clear the lungs, using antibiotics and medicines, regular exercise, good nutrition, keeping smoke free, and having an annual flu vaccination.

In New Zealand:

• An estimated 4,226 or 99.6 per 100,000 people are living with bronchiectasis.

• Although bronchiectasis is much less common than other respiratory conditions, hospitalisation rates increased by 30% between 2000 and 2013 to 26.4 per 100,000, and deaths doubled from 42 per year in 2000-2001 to 84 in 2011.

• There is a much higher risk of hospitalisation or death for people of Māori, Pacific or Asian ethnicity. Overall Pacific peoples are 6.4 times, Māori 3.7 times and Asian 2.3 times more likely to be hospitalized than other New Zealanders (non-Māori, Pacific or Asian). These differences are similar for mortality.

• People living in the most deprived areas are 3.2 times more likely to be hospitalized and 2.7 times more likely to die from bronchiectasis, than those in the least deprived areas. (Telfar Barnard, Baker, Pierse, & Zhang, 2015)

Childhood bronchiolitis

Bronchiolitis is a chest infection caused by a virus that affects the small breathing tubes in the lungs, causing babies and small children to cough, wheeze, and have trouble breathing. It is a common infection in the first year of life and especially in babies under 6 months of age. It is very contagious and is usually caught from a close contact who has a cold or cough. It can make babies sick for 3 to 7 days and the cough can last for several weeks.
Because bronchiolitis is caused by a virus there is no medicine that will treat it once it starts. Most babies can be cared for at home with rest, small frequent feeds and being kept warm. Some need to be admitted to hospital if they have trouble breathing or feeding, or if they are not able to get enough oxygen.

In New Zealand:

- Hospitalisation rates have increased by nearly a third from 3,937 in 2000 to 5,351 (1832.3 per 100,000) in 2013.
- These rates are 3.4 times higher for Māori children and 4.3 times higher for Pacific than other New Zealanders.
- Between 2002 and 2011 there were few deaths from childhood bronchiolitis (9), but most were from the highest deprivation areas and all but one was a Māori or Pacific child. (Telfar Barnard, Baker, Pierse, & Zhang, 2015)

**Childhood pneumonia**

Pneumonia is a bacterial or viral infection of the lungs. In children, especially young children, viral pneumonia is more common.

Pneumonia causes fever, chills, shortness of breath, coughing and chest pain. Most children make a full recovery in a couple of weeks, but some need specialised treatment for complications.

Most children can be treated at home by resting, drinking plenty of fluids and eating small healthy meals, and will recover in a couple of weeks. Those with bacterial pneumonia are given antibiotics. A small number of children who are very unwell need to be treated in hospital.

Pneumonia can be prevented by breastfeeding past four months of age to boost the immune system, having a smoke-free environment, having the flu vaccine and other immunisations, a healthy diet and healthy weight, having good management of any chronic condition (such as asthma), good hygiene and a warm well-insulated home.

In New Zealand:

- Overall mortality from childhood pneumonia has remained at around 1 death per 100,000 over time (using 2000 – 2011 data), and hospitalisations have dropped by more than a quarter from 410.8 per 100,000 children in 2000 to 319.7 per 100,000 in 2013.
- There is extreme inequity in the distribution of childhood mortality. Rates are 5.42 times higher for Māori children and 6.19 times higher for Pacific than other New Zealanders (non-Māori, Pacific or Asian). Of the 110 children who died between 2002 and 2011, 59 were Māori and 35 were Pacific.
- Hospitalisation rates are 1.6 times higher for Māori children and 3.1 times higher for Pacific than other New Zealanders (non-Māori, Pacific or Asian).
Childhood pneumonia rates are highest in the most deprived areas of New Zealand – 2.5 times higher in the most deprived areas than the least. Over half of all deaths occur in the most deprived areas.

Across DHBs the highest rates are in Hutt Valley, Auckland, Counties Manukau and Northland. (Telfar Barnard, Baker, Pierse, & Zhang, 2015)

**Chronic Obstructive Pulmonary Disease (COPD)**

COPD is an umbrella term for the diseases emphysema, chronic bronchitis and chronic asthma. Most COPD is caused by smoking, and most people diagnosed are over the age of 40. Spirometry (measuring the lung capacity) is the most important test to diagnose and monitor this condition.

In a person with COPD the airways are permanently partly blocked making it hard to breathe. COPD progresses over time. It is not curable but can be managed. Good management involves stopping smoking, maintaining a healthy body weight, correct use of medicines, keeping a warm and dry home, and pulmonary rehabilitation. Pulmonary rehabilitation is an exercise and education programme that takes place over several weeks. It helps people to learn about their condition, become more confident in managing, and participate more in social and physical activities. Community based support groups provide important ongoing support for people with COPD and their carers. (Ward, Donnelly, Cooper-Taylor, & Cooper-Taylor, 2014).

In New Zealand:

- 28,515 New Zealanders are estimated to be living with severe COPD requiring stays in hospital (Telfar Barnard, Baker, Pierse, & Zhang, 2015).
- COPD is often undiagnosed and for this reason at least 200,000 or 15% of the adult population may be affected (Broad & Jackson, 2003).
- Between 2000 and 2013 there were no changes in COPD hospitalisation rates but there was a decline in reported mortality due to COPD (Telfar Barnard, Baker, Pierse, & Zhang, 2015).
- A large proportion of COPD deaths are not recorded as such because of misreporting or a co-morbidity (eg heart failure or pneumonia) being the final cause of death.
- Even with undercounting, COPD is still the fourth leading cause of death after ischaemic heart disease, stroke and lung cancer (Broad & Jackson, 2003).
- Hospitalisation rates are highest for Māori, at 3.5 times the non-Māori, Pacific, Asian rate for hospitalisation and 2.2 times the rate for mortality.
- Pacific peoples’ hospitalisation rates are 2.8 times higher than other New Zealanders, though mortality is not significantly different.
- COPD hospitalisation rates are 5.1 times higher in the most deprived areas than the least deprived, and mortality rates are 2.7 times higher.
- COPD rates are relatively evenly spread across the country, though mortality in 2011 was above average in Hawkes’ Bay, Lakes and Wairarapa DHBs. (Telfar Barnard, Baker, Pierse, & Zhang, 2015)
Lung cancer

[This section is under development]

Active and passive smoking is the cause of most lung cancers, but it can also be caused by exposure to asbestos, radiation and air pollution.

Lung cancer is the most common cancer worldwide and is one of the most deadly, with more than 90% of patients dying of the disease within five years of diagnosis (Broad & Jackson, 2003). Treatment for lung cancer can include surgery, radiation treatment and chemotherapy.

In New Zealand:

- Lung cancer is one of the most common cancers diagnosed
- Age-specific death rates in Māori women are similar to those seen in non-Māori women aged 20-25 years older. For men this interval is 15-20 years. (Broad & Jackson, 2003)

Obstructive sleep apnoea (OSA)

In obstructive sleep apnoea, the muscles at the back of the throat relax during sleep so that part of the airway is closed off. This causes the person to stop breathing then partially wake before starting breathing again. This cycle can occur hundreds of times during sleep, reducing the quality and benefits of a good night’s sleep.

People with OSA experience snoring, day-time sleepiness, altered mood and morning headaches. The daytime sleepiness caused by OSA can also result in poor work performance and motor vehicle accidents.

OSA can occur at any age but is most common in middle-aged males. OSA is more common if a person is overweight, if alcohol, tranquillisers or sleeping tablets are used prior to going to sleep, and where nasal obstruction or excess tissue in the airway is present (eg, enlarged tonsils or jaw deformities).

Mild OSA can often be managed with lifestyle interventions. People with more severe symptoms will usually need treatment with a continuous positive airway pressure (CPAP) device. CPAP provides air pressure through a mask which is worn during sleep.

In New Zealand:

- 4% of adult males and 2% of adult females experience OSA (The Best Practice Advocacy Centre New Zealand, 2012)
- OSA rates are higher among Māori and Pacific peoples. OSA is twice as common in Māori males compared to non-Māori males, and Māori and Pacific peoples tend to have more severe OSA and more co-morbidities. This is thought to be mainly due to higher rates of obesity (The Best Practice Advocacy Centre New Zealand, 2012).
- OSA is considered a contributor to overall health loss and also a risk factor for other life-limiting conditions (coronary heart disease, ischaemic stroke, type 2 diabetes) (Ministry of Health, 2013).
• Despite this, there is a lack of up to date published data on OSA and its effects (Telfar Barnard, Baker, Pierse, & Zhang, 2015).
The Environment

Everyone lives, works and plays in healthy environments, and has enough money to meet their respiratory health needs and the needs of their families.

The conditions of our daily lives have a big impact on our health and wellbeing, and how well we prevent and cope with ill health. For this reason there will be no major gains in respiratory health without a strong focus on actions to improve them.

Like other major long term conditions in New Zealand, respiratory health is made worse by poverty, poor housing, smoking and unhealthy diets. These situations affect a great number of New Zealand families, but overall are much worse for Māori whānau and Pacific ‘āiga, kāiga, magafaoa, kōpū tangata, vuvale, fāmili. For this reason Māori and Pacific income, education, employment and housing must greatly improve for there to be good health for all New Zealanders (Ministry of Health, 2014b) (Tukuitonga, 2012) (Loring, 2009).

This section recommends how we can achieve good respiratory health in New Zealand by making real improvements to incomes, housing, smoking status and our obesity rates. Because these aspects are closely related and affect each other, solutions need to involve government, agencies, communities and businesses working together to deliver packages of support or actions (Commission on Social Determinants of Health, 2008).

Work to eliminate poverty

Of all the conditions of our lives income has the strongest link to health (Asher & Byrnes, 2006). Families in poverty do not have the means to meet basic health needs. There is not enough money for adequate housing, healthy food, good heating, warm clothes, bedding, phones, transport, visits to the doctor or medicines. All of these factors contribute to poor respiratory health and make people less able to manage at home to prevent conditions getting worse and needing hospital care (Dale, O'Brien, & St John, 2014) (Howden-Chapman, Pierse, Nicholls, & al., 2008) (Keal, Crane, Baker, Wickens, & Cunningham, 2012) (Turner & Asher, 2014).

The link between income and respiratory health is clearly reflected in the living conditions of people admitted to hospital due to a respiratory illness. People who live in the most deprived areas of New Zealand are almost three times more likely to be hospitalised than those in the least deprived areas (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

The Ministry of Social Development monitors poverty and has recently applied a new European Union measure of material hardship. Using this measure compared to 20 other European countries New Zealand ranked around the median overall for deprivation, but our child hardship risk ratio of 1.6 (the rate of child deprivation compared to the overall population) was higher than any others (Perry, 2015).

It follows that any approach to eliminating poverty in New Zealand needs to start with children and their families. In 2012 the Children’s Commissioner published a review of child poverty in New Zealand and the full range of solutions needed to address it, prepared by an
advisory group of New Zealand experts (Children's Commissioner, 2012). This recommended starting with a strategic framework and a series of priorities for immediate and longer term action, some of which are already underway in existing activities nationally and in local communities.

Actions:
- Develop a comprehensive strategy and national plan to reduce child poverty that includes actions, targets, measurable outcomes and regular reporting requirements.
- Implement “Solutions to Child Poverty in New Zealand evidence for action” (Children's Commissioner, 2012)
- Make health care whenever and wherever it is needed accessible and affordable for all, and in particular for people on low incomes, and Māori and Pacific peoples who experience poorer health (actions to this end are presented under Health System).

Improve access to affordable, warm, dry, uncrowded homes

As for poverty, no national respiratory strategy would be credible without a determined effort to improve housing.

Overall New Zealand housing is of a lower quality than most OECD countries, and conditions are worse in private rental housing where families in poverty tend to live because they have limited choice (Bennett, Chisholm, Hansen, & Howden-Chapman, 2014). Houses that are overcrowded, cold, damp, and either unheated or heated with unhealthy fuel (eg unflued gas heaters) contribute to poor respiratory health. This is especially so for children and adults with asthma, bronchiectasis and pneumonia, and for adults with COPD.

Actions:
- Introduce a warrant of fitness for rental housing to ensure all rental houses are dry, insulated and heated.
- Develop a national housing strategy that confirms the state’s commitment to provide and adequately maintain houses, and addresses our state and social housing issues.
- Ensure all rental houses are fitted with non-polluting effective heating (eg heat pumps, flued gas heaters), particularly in the homes of children with asthma.
- Extend efforts to increase the availability of affordable state and social housing that is of the right size for families, including cross-government work to reduce overcrowding among Pacific families.
- Deliver programmes to ensure all homes are adequately insulated over the next decade.
- Educate New Zealanders on how to create healthy homes.
Accelerate efforts toward a Smokefree Aotearoa 2025

Smoking, including passive exposure, is the main cause of Chronic Obstructive Pulmonary Disease (COPD) and lung cancer. It also affects people, especially children, who have asthma and other respiratory conditions.

Actions:
- Develop a national plan detailing the pathway toward achieving the goal of making New Zealand smoke free by 2025.
- Accelerate the necessary policies, health promotion, leadership, advocacy and treatment services toward achieving this goal – including the recommendations of the Māori Health Select Committee inquiry into the tobacco industry in Aotearoa and the consequence of tobacco use for Māori (NZ House of Representatives Māori Affairs Committee, 2010).

Tackle obesity

Being obese can have serious effects on the lungs and breathing. It is a major risk factor for obstructive sleep apnoea (OSA) and makes asthma worse (New Zealand Medical Association, 2014). New Zealand is now the fourth most obese country in the OECD (New Zealand Medical Association, 2014), so for the good of our respiratory health we need to improve healthy eating and physical activity.

Actions:
- Implement the final recommendations of the Commission on Ending Childhood Obesity expected in late 2015 (World Health Organisation, 2015).
- Ensure Māori and Pacific people are strongly engaged in deciding and designing initiatives to reduce obesity in their communities.
Individuals and Families

People and families living with respiratory conditions are empowered to be as healthy as they can, and live longer healthier and more independent lives.

The first goal of The National Respiratory Strategy “Everyone lives, works and plays in healthy environments, and has enough money to meet their health needs and the needs of their families” set the basic living conditions for good respiratory health. The actions toward this goal also touched on helping people to learn how to improve their health by not smoking and understanding what makes a healthy home.

This section extends these types of actions. It focuses on self-management support, which involves teaching knowledge and skills so that people can manage their own conditions and help children to do the same. Self-management support is one of the most important ways we can improve health for people with long-term conditions (Ministry of Health, 2014d).

There are three key parts of self-management support programmes; health literacy, behaviour change, and the role of the health professional in supporting self-management. The first two are explained below, and the third is covered in the next section on the health community.

For self-management support programmes to be successful they need to be delivered in a way that works best for the people using them, and reflects their values and learning styles. Programmes for Māori, for example, need to recognise that Māori are supported within a wider network (whānau, hapū, iwi and communities) that help them manage their own health and wellbeing (Ministry of Health, 2014a). Programmes to support Pacific peoples need to value their traditional beliefs about individual health, family and community needs and realities. These are unique and can influence health choices and behaviours such as when and how New Zealand medical services are used (Tukuitonga, 2012). Māori and Pacific peoples need to be strongly involved in deciding and designing support programmes if they are to be effective for their communities.

Health literacy

Health literacy is about people being able to receive and understand health information and services so that they can make good health decisions. It also involves the complex ways in which people and the health system interact with each other. People with respiratory conditions who have good health literacy are more likely to believe in their own abilities, use medication and enjoy better health (Jones & Ingham, 2015).

Taking action to improve health literacy is a focus across all areas of this Strategy. Good health literacy supported by a health system with a focus on services being easy to access and navigate, effective health worker communication, and clear and relevant health messages that empower people to make informed choices (Ministry of Health, 2015).

On average New Zealanders have poor health literacy skills, and skill levels are lower among Māori and Pacific peoples (Ministry of Health, 2010a) (Earle, 2015), who also experience
worse respiratory health. For example, many Pacific people are unaware of the services available to them through government agencies or health professionals and providers (Ministry of Health, 2014b).

Respiratory health professionals in New Zealand report that low public awareness of some major conditions like bronchiectasis, COPD and pneumonia, can lead to delays in diagnosis and treatment (Asthma Foundation, 2015). Help for people with COPD can also be delayed if they are reluctant to report symptoms because they blame themselves.

Actions for respiratory health literacy:

- Develop resources for adults, children and families that:
  - are interactive and/or audio-visual, simple and easy to use
  - involve Māori in the design of resources for Māori children and whānau, and reflect Māori concepts and values
  - involve Pacific in the design of resources for Pacific children and their families, and reflect Pacific concepts and values
  - are written in different languages for different population groups, including a variety of Pacific languages
  - are varied and tailored for children of different ages and levels of knowledge.
- Ensure resources are able to be easily accessed by all health workers and people with respiratory conditions
- Undertake research on how best to strengthen Pacific peoples’ health literacy.
- Provide free access to community-based self-management education for major conditions such as asthma, bronchiectasis, COPD, and OSA, including education on breathing techniques.
- Deliver community education that is culturally appropriate for Māori and Pacific.
- Provide targeted public education on:
  - asthma management and the importance of good asthma control
  - the signs and symptoms and importance of seeking help for bronchiectasis, COPD, pneumonia, obstructive sleep apnoea.

Health behaviour change

Teaching health literacy needs to sit within and alongside programmes to help people improve their health behaviour. Health behaviours include:

- Active involvement in problem solving, goal setting and written action plans
- Lifestyle changes including diet, physical activity and smoking cessation
- Informed decision-making
- Managing medication
- Positive mental health and managing stress.

Because these are common to all long term conditions, existing programmes can be used to improve respiratory health in general, and aspects can be adapted to include behaviours specific to respiratory conditions, such as managing asthma medication.
Some programmes have been evaluated and shown to deliver results. For example, the Waikato-based “Project Energize” is a community based nutrition and activity programme that has involved Māori and Pacific providers among others, and has resulted in improvements in participants’ weight, fitness and attitudes toward healthy eating (New Zealand Medical Association, 2014). Participants of Green Prescriptions have reported sustained increases in their activity levels and improved diets (Ministry of Health, 2010b). The “Healthy Families New Zealand” programme has been based on the model of the Australian “Healthy Together Victoria” which was also evaluated and showed measurable results in body weight and fitness levels (New Zealand Medical Association, 2014).

Programmes need to be designed by and for Māori and Pacific peoples that use culturally appropriate content and delivery methods, and are offered in places where people gather. An example of this are Pacific church initiatives to promote physical activity and healthy eating (Ministry of Health, 2014b).

Actions:

- Resource and extend across all regions community-based health behaviour programmes that have been shown to work.
- Ensure “Healthy Families New Zealand” programmes support people with respiratory conditions and their families to lead healthy lives.
- Fully involve Māori and Pacific peoples in the selection and adaption of programmes specific to their own people.
- Fund research on effective initiatives for Māori and Pacific communities.

The education sector has an important role in self-management education

Schools, early childhood centres, and other educators provide an opportunity to help children, families and teachers learn about managing asthma and other respiratory conditions. They also help by lessening the negative impacts of poverty and other life conditions on their school day, and providing a safe and healthy learning environment.

Children with respiratory conditions need some extra support so that they don’t miss out on education and can fully participate along with their peers. Children with asthma for example, can be kept home from school if their parents are not confident that staff will manage their child’s asthma properly (Jones & Ingham, 2015).

Actions:

- Develop and implement evidence-based tools to help schools better support children with asthma and other respiratory conditions.
- All schools and early childhood education centres identify children with asthma on enrolment, educate staff in asthma safety, have an asthma policy and maintain a smoke free environment 24 hours a day, 7 days a week.
- Youth-friendly health and social services are established and funded in all low decile secondary schools.
The Health Community

Health workers have the information and tools they need to provide quality advice and care to people with respiratory conditions.

This section focuses on the role of health professionals and other healthcare workers in communicating with patients and their families, and in providing clinical diagnosis and treatment services.

The role of health professionals in health literacy and self-management support

Primary health care providers, multidisciplinary teams and individual health workers all have an important role in working with people and their families/whānau so that they can manage well at home. But in New Zealand most health professionals have not received training in health literacy. Many find it hard to explain health information to people in a way they will understand, and to be sure how well people understand. For example, a doctor may wrongly assume that parents of a child with asthma have a good understanding because they either say they do or are quiet and don’t ask any questions (Jones & Ingham, 2015).

Asthma education by health professionals tends to focus on taking medicine correctly, monitoring symptoms, the serious nature of the disease and when to seek help. Other aspects are often missed, such as exercise and breathing techniques, whether the plan is manageable, whether the prescription is affordable, if the family have other resources like transport, access to after-hours emergency care, and have or can get a community services card or disability benefit.

Health education is more effective when a range of learning styles are used. Research on asthma health literacy for Māori children suggests that many health professionals rely on face-to-face verbal communication and tool demonstrations, with very little use of pictures, audio-visual aides, models, or internet technology (Jones & Ingham, 2015).

Language is also important, and is one of the top barriers for Pacific peoples in accessing the health care they need. There is a need for more formal, qualified translators, and training for providers in how to best work with informal and formal translators (Southwick, Kenealy, & Ryan, 2012).

Cultural competence is crucial to being able to provide effective support, especially for Māori and Pacific people with respiratory conditions. Understanding diversity and the differences between patient and provider worldviews and lived realities leads to improved communication, diagnosis and adherence to treatment (Southwick, Kenealy, & Ryan, 2012).

There are opportunities for best practice at each stage of patient contact and for all health professionals to better support health literacy. For example, a community pharmacy pilot in the Hutt Valley introduced targeted counselling of people with asthma in need of more self-management support (Duncan & O’Rourke, 2010). This involved pharmacists spending time educating people about their inhalers and spacers and how to use them. While numbers
were small there were positive results in medicine adherence, optimal supply of medicines, and asthma related hospital admissions. The study also noted that developing trusting relationships with patients and their other health professionals was important, as well as allowing for the time and resources needed from all those involved.

Actions for effective self-management support:

- Health professionals view all consultations as opportunities to build health literacy and develop relationships with patients and families.
- All health professionals are trained in health literacy education and cultural competency.
- Health literacy and long term conditions management is taught to students at medical, nursing and pharmacy schools and other health training programmes.
- Pacific families supporting a child or adult are visited or seen by nurses who are able to speak the preferred language of the patient/caregiver.
- Adults and children with asthma have access to expert respiratory educators in all DHB areas.

Clinical diagnosis and treatment

For people to manage well and be as healthy as they can be, they also need to have an early and correct diagnosis of their condition, be provided with high quality medical treatment, and trust in the advice that they are given. Health professionals need to have the information, tools and services available to them to be able to provide this care and advice.

In New Zealand early and correct diagnosis is an issue for serious respiratory conditions such as COPD, bronchiectasis and asthma (Town, Taylor, Garrett, & Patterson, 2003) (Loring, 2009) (Jones & Ingham, 2015). For example, it has been estimated that as few as one in every 4-5 people living with COPD have had their condition confirmed by a doctor, and many people do not seek help until the disease has progressed and their lung damage is irreversible (Town, Taylor, Garrett, & Patterson, 2003).

Late or misdiagnosis (eg COPD being misdiagnosed as bronchiectasis or vice versa) can have a big impact on quality and length of life. For example, undiagnosed asthma is very likely to lead to poor control, and children with bronchiectasis may have multiple admissions to hospital before it is accurately diagnosed.

To diagnose correctly and provide the best care possible, health professionals need ongoing education on respiratory diseases, and access to relevant and up to date clinical guidance in a form that is easy for them to use. But this is currently not the case in New Zealand for common and serious respiratory conditions such as asthma and COPD.

The Global Asthma Report 2014 recommends that all countries ensure that appropriate asthma management guidelines are available (Global Asthma Network, 2014). The current New Zealand Guidelines for Asthma in adults were developed in 2002 and for children in 2005, meaning that the latest clinical evidence is not available in this form. More recent guidelines are available overseas but these refer to medicines that are either not available or not funded in New Zealand. Issues for Māori and Pacific Peoples are not addressed in
either the international asthma guidelines or the Australian and New Zealand Guidelines for the management of COPD (Lung Foundation Australia, 2015). For OSA there are no clinical guidelines for adults and the latest guidelines for the management of sleep disorders in children (Paediatric Society of New Zealand, 2005) are due to be updated.

As well as updated guidelines, improved access to diagnostic testing will help health professionals to diagnose conditions and therefore start treatment earlier, to give people with respiratory conditions their best chance of achieving optimal health.

Training for health professionals in the content and use of clinical guidelines will also help them to provide nationally consistent advice and care. This is important for peoples’ health literacy and their ability to manage at home. Families of children with asthma for example have reported the confusion of being taught different ways of using asthma medication by different health professionals (Jones & Ingham, 2015).

Finally, targeted research that asks the right questions, has an important role to play in improving the diagnosis, assessment and treatment of people with respiratory conditions. Actions for research and evaluation are covered in the last section of this document.

The recommended actions below are aimed at supporting health professionals to more effectively diagnose and treat the major respiratory conditions in New Zealand, where there are gaps in the tools and information available to them.

Actions for asthma diagnosis and treatment:
- Develop up to date, New Zealand specific, child and adult asthma management guidelines to benchmark best practice and ensure consistency of advice.
- Ensure that good quality spirometry services to diagnose asthma are available in all DHB regions.
- Strengthen health literacy by ensuring everyone has access to an asthma nurse educator and an up to date asthma management plan that is easy to follow.
- Provide regular in-service training for health workers on asthma best practice.
- Provide free access to physiotherapy assessment.

Actions for COPD:
- Ensure that good quality spirometry services to diagnose COPD are available in all DHB regions.
- Introduce a national standard for spirometry testing, including approved provider training.
- Ensure all health workers providing spirometry services are properly trained and that quality assurance is carried out.
- Provide free screening in high risk employment areas/industries.
- Provide free and accessible screening (eg mobile clinics) for Māori and Pacific people with a history of smoking and symptoms.
- Develop up to date, New Zealand specific guidelines for COPD, consistent with the updated Global Strategy for the Diagnosis, Management and Prevention of COPD (Global Initiative for Chronic Obstructive Lung Disease, Inc., 2015) and ensure they meet the needs of Māori and Pacific with COPD.
• Increase the availability and access to pulmonary rehabilitation programmes in all regions.

Actions for bronchiectasis:
• Provide education for health professionals on the diagnosis and treatment of bronchiectasis.
• Improve access to diagnostics (eg high resolution CT scanning).
• Improve access to physiotherapy assessment and education on exercises/sputum clearance in hospitals and in the community.

Actions for OSA:
• Provide free screening for high risk occupations such as driving.
• Provide improved and consistent access to appropriate treatment options, eg surgery, weight loss, CPAP.

Actions for lung cancer:
• [This section is under development]

Prevention

Section one “The Environment” included actions to prevent respiratory diseases starting and getting worse. Eliminating poverty and improving housing are effective actions for many conditions and especially asthma, childhood bronchiolitis, pneumonia and COPD. Becoming smoke free is crucial to reduce the incidence and effects of lung cancer and COPD. Maintaining a healthy weight is especially important for OSA, and healthy nutrition and physical activity helps with self-management across all conditions.

Another important preventative action for people with asthma and other respiratory conditions is vaccination against the flu virus. Influenza causes more illness each year than any other vaccine-preventable illness. The populations of Auckland and Counties Manukau District Health Boards are participating in a world-wide project to study influenza and prevent its spread. Effectiveness of the flu vaccine is being looked at and to this end the 2014 vaccine was shown to provide 67 percent protection against influenza that leads to a visit to a general practice and 54 percent protection against influenza that leads to hospitalisation (The Institute of Environmental Science and Research, 2014)

To improve access for people who need it most, the flu vaccine is free for people who regularly use an asthma preventer, and any child aged 4 and under who has been hospitalised for a respiratory illness, or has a history of significant respiratory illness. This addresses one of the barriers people can face when accessing primary care.

Action:
• Ensure influenza vaccinations are accessible to all people with respiratory conditions and they are encouraged to take it.
The Health System

Respiratory health is a health priority for New Zealand. All people are able to easily get the care they need when they need it.

This goal focuses on what needs to be done at the wider health system level to improve respiratory health in New Zealand.

To ensure real and lasting improvement respiratory health needs to be made a national health priority, alongside our two other major long term conditions, cancer and heart disease. The huge personal, population and health system costs of respiratory disease are growing and will continue to grow without a focused national commitment to reducing these costs (World Health Organization, 2007).

Actions at the national level include improving access to primary care, extending the health workforce, using integrated models of care, introducing a national health target and respiratory health indicators for DHBs and PHOs.

Improving access to primary care

Primary health care relates to health care provided in the community, usually from a general practitioner (GP), practice nurse, pharmacist or other health professional working within a general practice. It covers a wide range of health services, including diagnosis and treatment, health education, counselling, prevention and screening.

People who are living on low incomes face a number of barriers to getting the health care they need when it is needed. These were discussed under “The Environment” and include distance to the nearest medical centre, not having a means of transport or being able to afford a bus or taxi to get there, not being able to afford to attend appointments or collect prescription medicines, and time delays in getting an available doctor’s appointment (Turner & Asher, 2014) (Asthma Foundation, 2015).

For adults and children with conditions like asthma, bronchiectasis, COPD and pneumonia, these barriers can cause them to delay seeking help until a problem is seen as severe or there is a health emergency. Emergency department visits and hospital stays can be prevented by making it easier for individuals and families in low income and high needs groups to access primary care services (Turner & Asher, 2014).

The New Zealand Health Survey asks adults whether they had been unable to access primary health care when they needed it at any point in the last 12 months. This included an unmet need for a GP or after-hours service due to cost, lack of transport, or being unable to get an appointment at their usual medical centre within 24 hours. The survey’s annual update in 2013/14 found that

- 28% of adults reported had an unmet need for primary health, with higher levels among Māori (37%), Pacific people (33%) and adults living in the most deprived areas (35%).
• 22% of children experienced one or more types of unmet need, with higher rates again for Māori and Pacific children (both 1.4 times more) and children living in the most deprived areas (1.5 times more) (Ministry of Health, 2014e).

There are many examples of efforts to remove barriers to primary health care taking place in communities across New Zealand. This is a feature of Whānau Ora and Māori Provider collectives such as Tākiri Mai Te Ata Whānau Ora collective in the Hutt Valley, which works to build trusting relationships with whānau, reaching out and empowering them to engage with the health services they need (Lee, 2014).

At a national level two important steps to reduce cost barriers are now in place that will help families to seek medical help sooner for their children with respiratory conditions. These are:
• Free doctors’ visits, during the day and after hours for children aged under 13
• Free prescriptions for children under 13.

The actions below are recommended in order to further reduce barriers to primary care for people and families who live with respiratory conditions.

Actions:
• Introduce free doctors’ visits and medicines for children of all ages (0-18) in low decile areas.
• Introduce free doctors’ visits and medicines for all Community Services Card holders.
• Locate community health services near public transport routes and provide transport to health services for those in most need.
• Extend services beyond clinic settings into homes, schools, marae, churches, kōhanga reo, and other settings where people gather.
• Provide appointment systems that are flexible to meet the needs of families, such as appointments outside of work hours and walk in appointments.

Improving access to specialist care

The barriers to primary care also apply to access to specialist respiratory care based mainly in hospitals. These include the cost of taking time off work to attend appointments, travelling to and from hospital, the time and cost involved in staying away from home to reach the closest specialist centre, and delays in waiting for specialist assessments and treatment.

Some of the highest respiratory hospitalisation and mortality rates are in DHBs with many isolated rural communities, such as Tairawhiti, Bay of Plenty, Lakes and Whanganui (Telfar Barnard, Baker, Pierse, & Zhang, 2015). The section below considers how we can improve the number and quality of health professionals, but this will not necessarily lead to improved health outcomes if they are not available in the areas that need them.

Actions:
• Review the geographic spread of respiratory specialists across New Zealand and improve specialist availability and access in the areas of highest need.
• Address the barriers to specialist care, and improve care pathways between primary and secondary care.

Extending the respiratory health workforce

The health system must develop a range of health care workers who are able to meet the challenges of long term condition management and holistic health care when and where it is needed. All health workers, regulated and unregulated, need to be supported through training and removing barriers such as unnecessary limits to scopes of practice.

“Individuals and Families” touched on the importance of all health workers being able to better respond to Māori and Pacific health needs, through cultural competence learning and practice. This is one way to reduce barriers and start to address the heavy burden of respiratory disease experienced by Māori and Pacific peoples in New Zealand.

But much more needs to be done. There is an urgent need to grow the size and capability of the Māori and Pacific health workforce so that respiratory health services better reflect the communities they serve. Māori and Pacific health workers are best placed to deliver care that works and is easy to access by their communities, but they are too few in number, especially in regulated roles such as doctors and nurses:

• Māori make up 15% of the New Zealand population (Statistics New Zealand, 2013) yet only around 5% of the regulated health workforce, and this rate has not grown since 2009 (Ihimaera & Maxwell-Crawford, 2012)
• Pacific peoples make up 7% of the New Zealand population (Statistics New Zealand, 2013) and only around 2.3% of the regulated workforce (Pacific Perspectives, 2013).

This need is even greater given that Māori and Pacific health workers often have extra demands on their time. They face high expectations from both their communities and the health system to improve services and to bring an understanding of the reality of health services from a cultural perspective (Southwick, Kenealy, & Ryan, 2012).

Producing a more equitable and culturally appropriate health sector will require long-term cross-government effort. This includes ensuring Māori and Pacific are achieving at school from young ages and are well prepared for tertiary education. An example of this is the Awhina programme at Victoria University of Wellington, which supports Māori and Pacific Science, Engineering, Architecture and Design students at university and also runs an outreach programme for secondary school students (Victoria University of Wellington, 2015).

Actions:
• Make it a New Zealand workforce priority to build the capacity and capability of the Māori and Pacific health workforce.
• Review the scope of practice of respiratory health workers (including pharmacists, asthma nurse educators) to identify and remove barriers to care when and where it is needed.
Integrated models of care

Respiratory diseases are complex, can span over many life stages, and need to involve a range of different health professions in order to be managed well. For this reason, as with other long term conditions, an integrated team approach is needed to provide effective self-management support for people and families with respiratory conditions (Ministry of Health, 2014d) (Jones & Ingham, 2015). This involves organisations and health professionals working together, sharing information and service delivery, and co-ordinating care around patients, to meet their needs and improve health outcomes.

Multidisciplinary teams to support people with respiratory conditions can be made up of doctors, nurses, Māori providers, Pacific providers, pharmacists, allied health professionals and respiratory specialists. Community organisations such as asthma societies, support groups and trained volunteers are also an important part of this team in supporting the provision of holistic care (Jones & Ingham, 2015).

In New Zealand examples of integrated care making it easier for people with respiratory conditions to access care and information include the Integrated Respiratory Services programme in Canterbury and the Repiratory Pilot programme in Hawke’s Bay. Initiatives such as these could be shared as models for other regions to adapt to local population needs.

Actions:
- Develop, implement and evaluate integrated models of care, and share learnings across the health sector.
- Develop and encourage collaborations and provider networks (e.g. within and between DHBs, PHOs, Māori and Pacific providers, NGOs and other community agencies) in all DHB regions.

Introducing a respiratory national health target and indicators

Lifting the performance of the health sector is a high priority for the Ministry of Health. To this end a number of financial and non-financial incentives are in place, such as the open reporting of performance against national health targets by DHB and PHO, and financial rewards through the PHO Performance Programme (Ministry of Health, 2014f).

Many respiratory health professionals support respiratory management indicators being developed for DHBs and PHOs, to provide incentives for DHBs and PHOs to take actions that will improve the respiratory health of New Zealanders (Asthma Foundation, 2015).

Health targets have shown to be successful in lifting performance in defined government priority areas. The national health target of “Better help for smokers to quit” has the greatest potential to help reduce respiratory disease. The targets of “shorter waits for cancer treatment” and “shorter stays in emergency departments” help contribute to improving lung cancer services and addressing the high number of emergency department visits by children and adults with respiratory conditions.
While these are positive steps, there is support among health professionals for a target that directly relates to services for respiratory disease (Asthma Foundation 2015). National health targets are already in place to encourage improved services for people with cancer, and for people with cardiovascular disease via “More heart and diabetes checks”. Given that respiratory disease is our third highest cause of death after cancer and heart disease (World Health Organisation, 2014), there is good reason to consider introducing a respiratory related health target.

Two other national initiatives are being developed that give an opportunity to acknowledge and address respiratory health as a national health priority: an update of the New Zealand Health Strategy which was published in 2000, and development of a new and comprehensive performance and incentive framework.

The Integrated Performance and Incentive Framework is under development by the Ministry of Health in partnership with health sector leaders. It intends to support the health system to address equity, safety, quality, access and cost of services, all of which need to lift to improve our respiratory health status. The Framework will do this by setting direction, monitoring progress, and providing incentives for health system integration to lead service improvement. Equity, particularly equity of access to services, will be a central element of performance within the framework (Ministry of Health, 2014g).

All of these levers could prompt better planning and resourcing of initiatives to improve respiratory health across all DHB regions, for example through DHB Annual Plans and Māori Health Plans, and the development of clinical pathways for asthma, COPD and other conditions.

Actions:
- Investigate a new national health target relating to respiratory health, to secure respiratory health as a national priority and incentivise best practice nationwide.
- Develop and introduce DHB and PHO respiratory management indicators and incentives.
- Prioritise respiratory health and address the poor status of respiratory health through the updated New Zealand Health Strategy.
- Ensure the Integrated Performance and Incentive Framework facilitates improved health outcomes for people with respiratory conditions.
Research and evaluation where it is most needed

To inform decisions around funding and service design, New Zealand policy makers, funders and providers of health services now have strong data that is up to date on most of the major respiratory conditions and the population groups most impacted. Even so there are still issues with diagnosis and data coding, gaps in the epidemiology of some conditions, and in research to help us understand the causes of the severe impact of respiratory disease on low income groups, Māori and Pacific peoples. (Telfar Barnard, Baker, Pierse, & Zhang, 2015).

Given what we do know about the poor state of respiratory health in New Zealand, we now need a firm evidence base on what interventions and prevention programmes work and are cost effective. At present there is limited research in New Zealand to help us confidently select, design and target initiatives to improve respiratory health outcomes. In this context our focus then needs to remain on implementing activities, learning as we go and building the evidence base (Ministry of Health, 2014f).

An example of the type of evidence needed is a recent case study on the impact of primary healthcare investment at Capital and Coast DHB (Tan, Carr, & Reidy, 2012). This demonstrated how targeted support for tailored services in areas of high health and social need and particular groups (young people, Māori, Pacific and refugee communities) led to improved health outcomes, health inequalities and avoidable hospital use. These included reduced asthma hospitalisations for children 0-5 years old, especially among Māori and Pacific children.

Actions:

Research and funding should focus on the gaps in the respiratory health evidence base:

- Models of care that work to improve respiratory health for Māori and Pacific peoples, involving Māori and Pacific fully in the research design and delivery.
- Formal evaluation of existing initiatives and their impact on respiratory health outcomes.
- Successful strategies to prevent respiratory infection and pneumonia.
- Improving health literacy and in particular how best to strengthen Pacific peoples’ health literacy.
- Understanding OSA and other conditions where there are research challenges or gaps.
- Targeted research to improve the diagnosis, assessment and treatment of people with COPD, as advised by the American Thoracic Society and European Respiratory Society (American Thoracic Society, 2015) and adapted to the New Zealand context.
- The effectiveness of an annual check for people with asthma and the utility of considering such an initiative as a national health target.
References


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