

## POSITION STATEMENT ON AIR QUALITY

This position statement is consistent with the position statements of Nelson Marlborough, West Coast, Canterbury, South Canterbury, and Southern District Health Boards and should be read in conjunction with the evidence-based background paper on air quality.<sup>1</sup> Both documents have been developed collaboratively by the South Island Public Health Units and represent the South Island DHBs working together to address the harm caused by air pollution.

### What air quality means for health

The Southern District Health Board:

- Considers air quality to be a key determinant of health and wellbeing.
- Recognises that among air pollutants, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) has the greatest impact on health in the South Island population.<sup>2</sup>
- Recognises that the main sources of PM<sub>2.5</sub> in the South Island are home heating, vehicles and industry. Outdoor burning also contributes, but to a lesser extent.
- Acknowledges that fine particle air pollution (such as PM<sub>2.5</sub>) is most harmful when people are exposed to it over long periods of time. Potential health effects include cancer, respiratory disease and cardiovascular disease.
- Recognises that poor air quality also affects health by restricting people's ability to engage in their usual activities, such as work or recreation.
- Recognises that there is no evidence of a PM threshold below which no adverse effects occur.

### What can be done to reduce the harm from air pollution

The Southern District Health Board:

- Recognises that local outdoor air quality is influenced by the interaction of geography, climate, and pollutant source (human versus natural). Of these, human sources are considered the most amenable to intervention.
- Recognises that the cost to society of air pollution is very large through the cost of shortened lives, hospital admissions and days of lost activity. There is an opportunity to invest in preventive measures to reduce these costs.
- Acknowledges that the issues of outdoor air quality and home heating are intrinsically linked. Both have implications for human health. Collaboration across sectors is needed to encourage cleaner forms of heating to achieve mutually desirable aims of warmer homes and cleaner air.
- Acknowledges that while current central and local government housing and air quality standards, policies and programmes that seek to improve local air quality have contributed to improved air quality in most places in the South Island, there is room for further improvement to reduce potential impacts on human health.

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<sup>1</sup> A summary of evidence from the paper is attached as an appendix. Full references are in the background paper.

<sup>2</sup> Particulate matter (PM) less than 10 and less than 2.5 micrometres in diameter respectively.

- Will advocate for national standards that include long-term maximum levels of PM<sub>2.5</sub>.
- Recognise that continued collaboration between DHBs and Regional Councils is necessary to implement effective interventions to reduce air pollution, including Air Plans.

## Strategies to reduce harm

The Southern District Health Board will advocate for evidence-based interventions as follows:

- To reduce the health impacts of poor air quality associated with some forms of home heating:
  - Public education on energy efficient housing design for new builds and renovations
  - Programmes that support improving the thermal efficiency (better insulation) of existing homes
  - The use of clean and efficient sources of heating (heat pump or other electric, flued gas, low emission wood and pellet burners)
    - Incentives to replace existing coal and/or wood-burners with a heat-pump or low emission wood and pellet burners (targeting support to those most at risk from cold homes)
  - Regulation of open fires and coal and/or wood burners and public education on how to operate them correctly
    - Reducing the use of open fires and older-style burners in a staged way, allowing households sufficient time to make changes.
- To reduce the health impacts of poor air quality associated with vehicle emissions, including:
  - Consideration of the proximity of early child-care centres to busy roads
  - Traffic-calming measures
  - Vehicle and fuel modifications
  - Policies (transport and land use) that promote active/public transport.
- To reduce the health impacts of poor air quality associated with industry, including:
  - Regulation of the discharge of hazardous materials
  - Management plans that can be independently audited for activities that release dust, smoke or odour.
- To reduce the health impacts of poor air quality associated with outdoor burning, including:
  - Bans on outdoor burning in urban areas
  - Regulation of outdoor burning in rural areas
  - Collaboration across sectors to produce management plans for the effects of smoke.

## Warm Homes

Action on improving air quality needs to be undertaken in parallel with ensuring people have warm homes.

## **APPENDIX: Summary of Supporting Evidence**

New Zealand generally has good air quality as a result of its relatively small population, low level of reliance on heavy industry in comparison to other developed countries, geographic position and climatic factors.

There are a range of pollutants that affect New Zealand's otherwise good air. The pollutant of most concern that can harm health is fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). These tiny airborne particles can be inhaled into the lungs and affect respiratory and cardiovascular health, resulting in increased hospital admissions, days of not being able to work or take part in sport or recreation, and shorter lives for some New Zealanders. The health effects of PM<sub>10</sub> and PM<sub>2.5</sub> are well documented and, according to the World Health Organisation, there is no safe level of exposure from which no adverse health effects occur. Accordingly, World Health Organisation policies aim to achieve the lowest concentrations of particulate matter possible.

In the South Island, a key source of PM<sub>10</sub> and PM<sub>2.5</sub> is burning wood or coal for home heating. Several international reviews have looked at the health effects of wood smoke from residential wood burners and that of wild fires/vegetation clearance (researchers have presumed the effects to be the same as for residential wood burners given the similar fuel sources). The reported health effects associated with wood smoke include those that are less severe such as eye, nose and throat irritation and increased coughing and wheezing as well as more severe health effects such as increased risk of premature death. Wood smoke is associated with increased rates of hospitalisation and emergency department visits for respiratory and cardiovascular diseases, especially for asthma and chronic obstructive pulmonary disease (COPD). Effects of wood smoke include an increased risk of cancer. In New Zealand in 2006, burning wood or coal for home heating was estimated to have contributed to over half (56%) of all premature deaths from air pollution.

Health impacts from air pollution in the South Island are also caused by vehicle emissions, industry and outdoor burning, which contribute a range of pollutants including particulate matter. Recently, the number of premature deaths in New Zealand from all sources of human-generated air pollution was estimated as 1000 per year. These and other health impacts were estimated to cost the country at least several billion dollars. Those most susceptible to air pollution include the elderly, people with existing health issues (especially cardiovascular and respiratory illnesses) and young children, including babies. There is some evidence that Māori are disproportionately affected.

Since 2006, air quality has improved nationally as well as in many areas of the South Island, mainly as a result of the shift to cleaner home heating. Stricter regulations concerning vehicles have also contributed. There is still room for further improvement in air quality to mitigate health impacts.

The way forward for public health includes ongoing collaboration with Regional Councils and other agencies to implement local Air Plans and to support initiatives towards cleaner heating, insulation of homes, traffic calming and healthier urban planning including active/public transport.