

Management information: Children admitted to hospital one or more times in a year with a primary diagnosis of asthma or wheeze

Indicator name (short)

Childhood admissions due to asthma or wheeze.

Why this measure is important

Hospital admissions with asthma are potentially preventable by addressing exposure to risk factors, eg, parental smoking, good access to primary health care and the appropriate use of preventer medication. The OECD's *Health at Glance 2011*¹ reported that New Zealand has a high rate of asthma admissions compared with other similar countries.

What good looks like

A reduction in the number of childhood hospital admissions.

Potential causes of variation in this measure

The causes of variation in childhood admissions difficult to pinpoint, however it is likely that the differences are influenced by environmental factors, health literacy, housing standards/crowding and the prevalence of smoking among household members. Difficulty in accessing primary healthcare is also likely to play a large role.

The evidence base for the effective treatment and management of asthma is well established, however childhood asthma hospitalisations rates are increasing.² Currently, data indicates that Māori and Pacific children with asthma are more likely to have severe asthma symptoms and be hospitalised. Despite this, they are less likely to be prescribed inhaled corticosteroid (ICS), receive an asthma action plan, and receive adequate parental asthma knowledge.¹ This strongly suggests that variation in childhood admission for Māori and Pacific children is due to the quality and accessibility of the health care system.

Other measures that influence the outcome

- Maternal smoking
- [Use of antibiotics](#)
- Tobacco smoke exposure

¹ OECD. 2011. *Health at a Glance 2011*. Paris: OECD. URL: www.oecd.org/els/health-systems/49105858.pdf.

² Schlichting D, Fadason T, Grant CC, et al. 2021. Childhood asthma in New Zealand: the impact of on-going socioeconomic disadvantage (2010–2019). *Childhood* 134(1533).

How this measure been used to improve quality of care

A case study: Childhood respiratory warrant of fitness: Unichem Russell Street, Hastings

Unichem Russell Street in Hastings developed a quality improvement project to improve asthma management in a group of Māori and Pacific children. The pharmacy worked in partnership with adjacent medical centre, The Doctors Hastings medical centre, and primary health organisation Health Hawke's Bay's clinical advisory pharmacist and respiratory support service, Breathe Hawke's Bay. Families of Māori and Pacific children waiting at the pharmacy for their asthma medication were invited to have an asthma control test (ACT), quick respiratory 'warrant of fitness' and education session with a pharmacist. The patients' average ACT score increased from 13.7 to 21.7, with 83 percent achieving their target score. More preventer inhalers were dispensed and fewer emergency steroids required.

What improves this measure

Improving health literacy

As parents and caregivers are responsible for most of the health care of children, their health literacy impacts children's health outcomes.³ Evidence suggests a large proportion of adult New Zealanders have low health literacy, with reported levels worse among Māori.⁴ Several resources exist to help health professionals build the skills and knowledge of individuals, whānau and communities so the latter can evaluate and synthesise the information they receive from the health system and others, decide whether they have enough information and act on the information.

- [Health Navigator – health literacy](#)
- [bpac^{nz} – understanding health literacy](#)
- [Health Literacy NZ](#)

Reducing smoke exposure

A recent study by researchers at the University of Otago analysed nicotine levels in infants' hair to measure the impact of passive smoking on respiratory issues. Results from the study showed that 15-month-olds with high levels of nicotine in their hair were twice as likely to have asthma or recurring problems with wheezing. Wheezing is one of the most common causes of hospitalisation for young children.⁵ Health professionals can help to address this issue by encouraging caregivers to reduce tobacco smoke exposure in the child's environment (home and car) and recommending smoking cessation.⁶

³ Harrington KF, Zhang B, Magruder T, et al. 2015. The impact of parent's health literacy on pediatric asthma outcomes. *Pediatric allergy, immunology, and pulmonology* 28(1): 20–6.

⁴ Ministry of Health. 2010. *Kōrero Mārama: Health Literacy and Māori*. Wellington: Ministry of Health.

⁵ Pattemore PK, Silvers KM, Frampton CM. 2018. Hair nicotine at 15 months old, tobacco exposure and wheeze or asthma from 15 months to 6 years old. *Pediatric Pulmonology* 53(4): 443–51.

⁶ OECD 2011, *op. cit.*

Improving access to income support

Families on lower incomes often find it harder to access doctors and pharmacies, and pay for prescriptions.⁷ Health professionals can support families on lower incomes by giving them information about seeking income support; for example, children with partly or uncontrolled persistent asthma may meet the criteria for access to the Child Disability Allowance.⁸

Improving housing environment

There is increasing evidence that cold and damp housing can exacerbate or trigger asthma symptoms⁹. Health professionals can support families by giving them information about having a healthy home and, if relevant, refer them for healthy housing assessment if available in the region.¹⁰

Te Kāwanatanga o Aotearoa New Zealand Government

⁷ Pharmac. 2019. *Achieving medicine access equity in Aotearoa New Zealand: towards a theory of change*. Wellington: Pharmac.

⁸ OECD 2011, *op. cit.*

⁹ Telfar-Barnard, L., Bennett, J., Robinson, A., Hailes, A., Ombler, J., & Howden-Chapman, P. (2019). Evidence base for a housing warrant of fitness. *SAGE open medicine*, 7, 2050312119843028.

¹⁰ OECD 2011, *op. cit.*