



# Te Niwaha

## Research Project Impact Case Study

Preventing recurrent admissions for preschool wheeze respiratory infections – ARROW

**ARROW: Aiming for a healthier tomorrow for our children and environment**

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## Introduction

**Research purpose:** Preschool wheeze is a leading cause of hospitalisation during childhood, particularly affecting Māori and Pacific children in New Zealand. Current asthma-based treatments are ineffective, highlighting the urgent need for more effective prevention strategies. This project aims to determine if an oral medicine with an excellent safety profile, called OM-85, prevents wheezy illness hospitalisations in preschool-aged children with recurrent wheeze. If shown to work, this intervention could improve health outcomes for children, addressing respiratory health disparities and advancing equitable health in New Zealand.

**Research approach:** This is a multi-centre, randomised, double-blinded, placebo-controlled trial. We enrol children aged 1-6 years experiencing wheezy illnesses and at least one hospitalisation due to wheeze. Participants receive the study medication, either OM-85 or placebo, administered daily for the first 10 days of each month over a 12-month period. We are enrolling 1088 children in this trial.

The project involves collaboration between seven New Zealand hospitals and 45 Australian hospitals, alongside various community organisations supporting preschool-aged children. These include Plunket, Asthma New Zealand, Kōhanga Reo, preschools and schools, libraries, pharmacies, and Māori and Pacific primary care organisations in the Tāmaki Makaurau and Waikato regions, and iwi across multiple regions of New Zealand.

Funding partners include the Australian National Health and Medical Research Council, Cure Kids, Starship Foundation, Auckland Medical Research Foundation, University of Auckland, Te Niwha, Lottery Health, and the Health Research Council of New Zealand.

**Alignment with Te Niwha:** We align with the Te Niwha mission by addressing infectious diseases that are the most frequent cause of hospital admissions in preschool-aged children. Most childhood wheezing illnesses occur in this age group. Therefore, we need treatments and preventive strategies specifically tailored to preschool-aged children.

The project aligns with Te Niwha's Investment Objectives through its research approach (Tiakitanga). It fosters existing relationships and builds local and international collaborations (Hononga) and partnerships (Tūhonotanga) among academic sites, hospitals, Māori and Pacific healthcare organisations, and community settings. People have come together and collaborations strengthened by learning from one another, by respecting each other's culture and contributions, and above all, by developing trusty relationships. The ARROW whānau includes >30 researchers, doctors and nurses in New Zealand working towards improving the health of our children. There have been many opportunities for emerging researchers and leaders to be mentored and supported (Rangatiratanga) throughout. New strategies are being implemented to enhance the knowledge and understanding of local communities, guided by their input and suggestions. These strengthened partnerships will extend beyond this project.

## Results

**Key results:** To date 687 children have been recruited across Australasia, including 182 from New Zealand. Among the New Zealand participants, approximately 30% identify as Māori and 24% as Pacific. In April and May 2025, we will open additional recruitment sites at Christchurch and Wellington Hospitals.

## Impact

**Current Contributions:** This research contributes to our economy by creating new job opportunities for nurses and doctors. New collaborations among health professionals across hospital and community settings have improved connections between primary, secondary, and tertiary healthcare, building stronger social and infrastructure systems.

**Future Impact:** This project creates meaningful benefits across health, the economy, environment, and vision Mātauranga:

- **Health and Wellbeing:** If OM-85 prevents preschool-aged children needing hospital admission for wheeze, it could substantially improve the health outcomes of these vulnerable children.
- **Economic Impact:** Preventing repeated hospital admissions for preschool-aged children leads to significant healthcare cost savings.

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- **Environmental Benefits:** This new treatment may reduce the use of asthma inhalers, specifically metered dose inhalers containing hydrofluoroalkane propellants. This reduction could help alleviate the harmful environmental impact of these propellants on the atmosphere.
- **Vision Mātauranga:** Fostering partnerships with Māori communities impacted by preschool wheeze has been a project cornerstone. Community Hauora and well-being remain central to our strategy. This features the "Hui Whakapiri series"—a combination of online and kanohi ki te kanohi (face-to-face) workshops. These workshops aim to strengthen Hauora, deepen knowledge, and inspire greater interest in health within the community.

**Conclusion:** This project has already contributed to the economy by creating jobs and strengthening healthcare collaborations. Its future potential spans health, economic, environmental, and social domains. By improving outcomes for vulnerable children, reducing healthcare costs, addressing environmental concerns linked to asthma treatments, and fostering partnerships with Māori communities through Vision Mātauranga, this project represents a transformative effort to enhance well-being, equity, and sustainability.

**Future directions:** In 2026 and 2027, this project transitions into the data analysis phase. We look forward to sharing the findings with stakeholders and funding partners. The project intent is a healthier, more resilient future for children in New Zealand.