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Australian Government
National Health and Medical Research Council

NHMRC

SAPPHIRE

# Application Summary

## Application Details

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| **Grant Opportunity:** | 2023 Global Alliance for Chronic Diseases |
| **Application ID:** | 2027451 |
| **Application Title:** | Air pollution and non-communicable disease: City-wide implementation to reduce transport emissions. |
| **Chief Investigator A:** | Prof Mark Stevenson |
| **Administering Institution:** | University of Melbourne |
| **Grant Duration:** | 3 Years |

## Participating Institutions

| Participating Institution | Department | Research Effort (%) |
|---|---|---|
| University of Melbourne | Transport, Health and Urban Design Research Lab | 50 |
| Hanoi University of Public Health | Epidemiology and Biostatistics | 25 |
| University of Medicine and Pharmacy at HCMC | Environmental Health | 25 |

## Research Team

| Role | Investigator | Primary Institution |
|---|---|---|
| CIA | Prof Mark Stevenson | University of Melbourne |
| CIB | Assoc Prof Cuong Pham | Hanoi University of Public Health |
| CIC | Dr Jason Thompson | University of Melbourne |
| CID | Dr Dang Tran | University of Medicine and Pharmacy at HCMC |
| CIE | Dr Kerry Nice | University of Melbourne |
| CIF | Dr Nhung Nguyen | Hanoi University of Public Health |
| CIG | Dr Dominika Kwasnicka | University of Melbourne |
| CIH | Dr Thanh Ho | University of Melbourne |

| Associate Investigator | Institution |
|---|---|

## Research Classification

**Broad Research Area**

Public Health Research

**Fields of Research**

HEALTH SCIENCES | Public health | Public health not elsewhere classified

**Research Keywords**

air pollution - physical inactivity - behaviour change - implementation - Vietnam

## Synopsis

Air pollution is a significant population health problem, causing 4.2 million premature deaths worldwide per year. Populations living in low- and middle-income countries (LMICs) are disproportionately exposed to the burden of air pollution with 89% (of the 4.2 million premature deaths) occurring in the South-East Asia (SEA) and Western Pacific

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Regions (WPR). Vietnam, a LMIC in SEA, is struggling to respond to the rising prevalence of air pollution, ranking 36th out of 118 countries with the most polluted air and its two largest cities, Hanoi and Ho Chi Minh City (HCMC), are among the most polluted cities in SEA with road transport a leading cause of the air pollution. Air pollution in Vietnam leads to numerous non-communicable diseases, resulting in 60,000 deaths per year. We propose to implement in two large urban areas namely, Hanoi and HCMC, an implementation trial in which personalised feedback and smart financial incentives are delivered targeting reduced motor vehicle emissions. The technology, developed by scientists from the University of Melbourne in collaboration with industry partners, has been robustly evaluated (using randomised control trials) highlighting the significant utility of the intervention in influencing driver behaviours.

The aim of this innovative implementation research project is to assess the effects of personalised feedback and financial incentives relative to personalised feedback only, to reduce motor vehicle emissions, assess the fidelity and sustainability of the intervention. The implementation of intervention is critical to facilitating changes in driver behaviour leading to reduced transport emissions in these cities. Emission reduction strategies are urgently needed in Vietnam to mitigate the burden of non-communicable diseases attributed to air pollution and to respond to the urgent climate implications arising from the fossil fuelled motor vehicles that are exclusively used in both Hanoi and HCMC.