

Massive potential health gains in switching to active transport

July 17 2019

Swapping short car trips for walking or biking could achieve as much health gain as ongoing tobacco tax increases, according to a study from the University of Otago, New Zealand.

Lead author Dr. Anja Mizdrak, of Otago's Burden of Disease Epidemiology, Equity, and Cost-Effectiveness Programme (Department of Public Health), says transport has a major impact on [population health](#)

"New Zealand is highly car dependent—79 per cent of all self-reported trips are made by car and ownership rates are among the highest in the world—and only half of New Zealand adults meet national physical activity recommendations.

"Road transport also makes up 17.3 per cent of the nation's gross [greenhouse gas emissions](#), so it directly affects injury rates, physical activity and air pollution, and indirectly affects health through [climate change](#).

"Switching short trips to walking and cycling is a good way to incorporate physical activity into [daily life](#) and reduce [carbon emissions](#) associated with vehicle use," Dr. Mizdrak says.

The study, just published in *Plos One*, is the first to estimate the health impact, and changes in health system costs and greenhouse gas emissions, associated with increasing active transport in New Zealand.

The researchers estimated changes in physical activity, injury risk, and air pollution for switching car trips under 1km to walking, and switching car trips under 5km to a mix of walking and cycling.

They used modelling to perform a "what if" analysis of uptake levels of 25, 50, and 100 per cent. From this, they estimated health gains and health system cost impacts of changes in injury risk, air pollution exposure and physical activity levels.

Health impacts across these different risks were combined into a common metric—quality adjusted life years (QALYs) - where one QALY represents a year lived in full health, which were calculated out over the rest of the life course of the New Zealand population alive in 2011 (4.4 million people).

Depending on uptake levels: health gains ranged between 1.61 and 25.43 QALYs per 1000 people, with total QALYs up to 112,000 over the remaining lifespan; healthcare cost savings ranged from \$127 million to \$2.1 billion over the remaining life span, with around 4 per cent of this total saved in the next ten years.

Greenhouse gas emissions were reduced by up to 194ktCO₂e per year—the equivalent of 64,000 people flying from London to Auckland.

"The overall greenhouse gas emissions reductions we observed for 100 per cent uptake of the walking and cycling scenario were equivalent to up to 1.4 per cent of total emissions from road transport in New Zealand," Dr. Mizdrak says.

Co-author Professor Tony Blakely, also of the Department of Public Health, puts it this way: "If people swapped their car for walking or biking for just one quarter of short trips, the health gains would be comparable to the health gain we have estimated previously for 10

percent per annum tobacco tax increases from 2011 to 2025."

Thus, he says, the health gains are substantial.

"Predicting the future is never easy, but that is implicitly what we do as a society when we make policy decisions that change our cities and lifestyles for decades into the future.

"Our research suggests that making walking and cycling easier and preferred over cars for short trips is likely to be beneficial on all three counts of health gain, [health](#) system cost savings and greenhouse gas emissions. This evidence needs consideration in future policy making and urban design."

Background facts on New Zealand:

- 79 per cent of all self-reported trips are made by car.
- 56 per cent of car trips are under 5km (12 per cent are under 1km).
- New Zealand has among the highest car ownership rates in the world.
- 17.3 per cent of gross greenhouse gas emissions are related to road transport.
- Only half of adults meet the national [physical activity](#) recommendations.

More information: Anja Mizdrak et al, Potential of active transport to improve health, reduce healthcare costs, and reduce greenhouse gas emissions: A modelling study, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0219316](#)

Provided by University of Otago

Citation: Massive potential health gains in switching to active transport (2019, July 17) retrieved 20 April 2024 from

<https://medicalxpress.com/news/2019-07-massive-potential-health-gains.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.