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Te Ara Mua-Future Streets

Submission date
14/06/2018

Recruitment status
No longer recruiting

Registration date
21/06/2018

Overall study status
Completed

Last Edited
11/07/2018

Condition category
Other

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims
A shift to more walking and cycling for transport and recreation has the potential to benefit health and equity. Road traffic injuries cause death and disability in New Zealand, while vehicle-related air pollution has a comparable mortality cost. New Zealand has the OECD's third highest rate of obesity, partly caused by physical inactivity. Obesity and inactivity cause a wide range of negative health impacts and are influenced by physical and social environments. Car-dependent urban transport patterns create social and health inequities and contribute to climate change, arguably this century's most pressing public health problem. Existing evidence suggests that encouragement alone is ineffective for achieving healthy change, and that environmental change may be needed. Research to support effective interventions for shifting from car dependence towards healthier transport is difficult to undertake and therefore uncommon. Natural experiment studies of improving urban infrastructure for walking and cycling have shown some positive outcomes but are prone to bias. Evidence suggests longer term follow-up is needed (over 2 years) to see the effects of such interventions. The aim of this study is to measure the effectiveness of street changes on a range of public health outcomes in a mainly Pacific and Māori community. The intervention changes the design of streets to prioritise walking and cycling, improve safety and social connection, and reflect indigenous history and aspirations.

Who can participate?
Residents aged 7 and over who live in the study areas during the study period

What does the study involve?
Two areas of Auckland are randomly allocated to be either the intervention area or the control area. In the intervention area the changes include: improving and widening footpaths, new pedestrian crossings, pedestrian priority across side streets, improved routes through linear parks, a fitness trail, improvements to lighting and informal surveillance, cycle lanes, way-finding, and landscaping. Changes in walking and cycling, traffic speeds and volumes, physical activity, road traffic injuries, neighbourhood perceptions and greenhouse gas emissions are measured before and after the intervention.

What are the possible benefits and risks of participating?
The possible benefits of taking part in the study include the health, social and financial benefits of having improved access to safer walking and cycling for short distances in the neighbourhood

(for example improved physical activity, reduced fuel costs and greater neighbourhood social connection). Some possible benefits also come at a community level from community level participation (such as improved air quality, community sense of safety from crime, and reduced motor vehicle traffic). The possible risks of taking part include the possibility of physical injury from walking and cycling, and potentially in this context a risk of exposure to criminal activity. The design of the intervention is focused on making walking and cycling safer (from crime and road traffic injury), and multiple studies have demonstrated that the benefits of increasing daily walking and cycling outweigh the risks of injury in almost all settings.

Where is the study run from?
1. Māngere Central (New Zealand)
2. Māngere East (New Zealand)

When is the study starting and how long is it expected to run for?
October 2012 to December 2021

Who is funding the study?
1. Ministry for Business Innovation and Employment (New Zealand)
2. NZ Transport Agency (New Zealand)
3. Auckland Transport (New Zealand)
4. Māngere-Otahuhu Local Board (New Zealand)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

Scientific Title
Te Ara Mua-Future Streets: a controlled before-after intervention study of suburb-level street changes for walking and cycling in Auckland, New Zealand

Acronym
Future Streets

Study objectives
Changing the physical environment to make walking and cycling safer and more attractive is an effective way to increase walking and cycling at a population-level, and thereby improve health and health equity.

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of Auckland Human Participants Ethics Committee, 06/11/2013, ref: 010723

Study design
Single-centre area-level randomised unblinded controlled before-after intervention study

Primary study design
Interventional

Secondary study design
Cluster randomised trial

Study setting(s)
Community

Study type(s)
Prevention

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

Health condition(s) or problem(s) studied

Transport-related public health outcomes (physical activity, road traffic injury, social connection, air and climate pollution, diabetes risk)

Interventions
Two areas of Auckland have been randomised into an intervention and control area. The project statistician used a computer random number generator to select the intervention area. The other area was designated as the control area. There was no allocation of concealment possible for the researchers, the participants, the people completing the intervention or during the analysis.

A policy-research-community co-design process has resulted in the design of physical street changes to prioritise walking and cycling. Changes comprise: improving and widening footpaths, new pedestrian crossings; pedestrian priority across side streets; improved routes through linear parks; a fitness trail; improvements to lighting and informal surveillance; cycle lanes; way-finding; and landscaping.

Intervention Type
Other

Primary outcome measure
1. Changes in walking and cycling, measured by a longitudinal random sample face-to-face survey of residents which includes a 1-week travel diary (baseline 2014; 2017; 2019)
2. Traffic speeds and volumes, measured by tube counters (2014, 2017, 2019)
3. Changes in physical activity, measured by a 7-day pedometer protocol in random sample survey participants, and by IPAQ questionnaire in the survey (2014, 2017, 2019)
4. Road traffic injury, measured objectively using hospitalisation and national crash analysis system (cas) data, and self-reported in the survey (2010-2014 and 2017-2021)
5. Neighbourhood perceptions, measured by validated survey questions (2014, 2017, 2019)
6. Greenhouse gas emissions, modelled from survey travel data (2014, 2017, 2019)

Secondary outcome measures
1. Road user behaviour, measured by video monitoring (2014, 2017, 2019)
2. Air quality, measured by stationary NO2 monitoring (2014, 2019)
3. Perceptions of walking and cycling, measured by in-depth qualitative interviews and focus groups (2014, 2018)
4. Researcher assessed changes in safety and security, measured with validated street audit tool (2014, 2019)
5. Diabetes risk, measured with a retrospective anonymised dataset of HbA1c tests taken from residents in the study areas before and after the intervention

Overall study start date
01/10/2012

Completion date
31/12/2021

Eligibility

Key inclusion criteria

1. Participants must be resident in the intervention and control area during the study period
2. Two age groups are included in the survey: 7-13 year-olds, and 13 years and over

Participant type(s)
All

Age group
All

Sex
Both

Target number of participants
For the area level measures, there are two areas: intervention area = 6729 at baseline; control area = 6165 at baseline. For individual measures (random sample survey plus pedometry), planned sample size = 360 children and 720 adults in each area

Key exclusion criteria
1. Participants were excluded from survey and pedometer participation if they were not able to mobilise outside their house
2. Participants were excluded from participating in the survey and pedometer measurement if they were less than 7 years of age

Date of first enrolment
10/10/2013

Date of final enrolment
15/12/2019

Locations

Countries of recruitment
New Zealand

Study participating centre
Māngere Central
Auckland
New Zealand
2022

Study participating centre
Māngere East
Auckland
New Zealand
2024

Sponsor information

Organisation
University of Auckland

Sponsor details
Private Bag 92019
Auckland
New Zealand
1142

Sponsor type
University/education

ROR
https://ror.org/03b94tp07

Funder(s)

Funder type
Government

Funder Name
Ministry for Business Innovation and Employment

Alternative Name(s)
MBIE

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
New Zealand

Funder Name
NZ Transport Agency

Funder Name
Auckland Transport

Funder Name
Māngere-Otahuhu Local Board

Results and Publications

Publication and dissemination plan
The study protocol is under review for open access publication by BMC Public Health. The trialists intend to publish intermediate results from early follow-up in 2019. They plan to publish many of the longer-term outcomes of the study in a high-impact peer reviewed journal in 2021, and further longer-term outcomes in 2022 (including longer-term cost-benefit modelling).

Intention to publish date
31/12/2022

Individual participant data (IPD) sharing plan
The data sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article	protocol	09/07/2018		Yes	No