Results from the OL@-OR@ cluster randomised controlled trial

A co-designed mHealth programme to reduce risk of NCDs in Māori and Pasifika communities in New Zealand: Results from the OL@-OR@ cluster randomised controlled trial

Professor Cliona Ni Mhurchu

On behalf of the OL@-OR@ research team

OL@-OR@

mHealth

- Has reach into all populations
- Is effective in supporting healthy behaviour change and self-management of long term conditions
- Can provide support, motivation, reminders
- Tailoring & cultural appropriateness can be incorporated
- Can incorporate a more holistic approach to health
- Can help build social networks and support group-based programmes
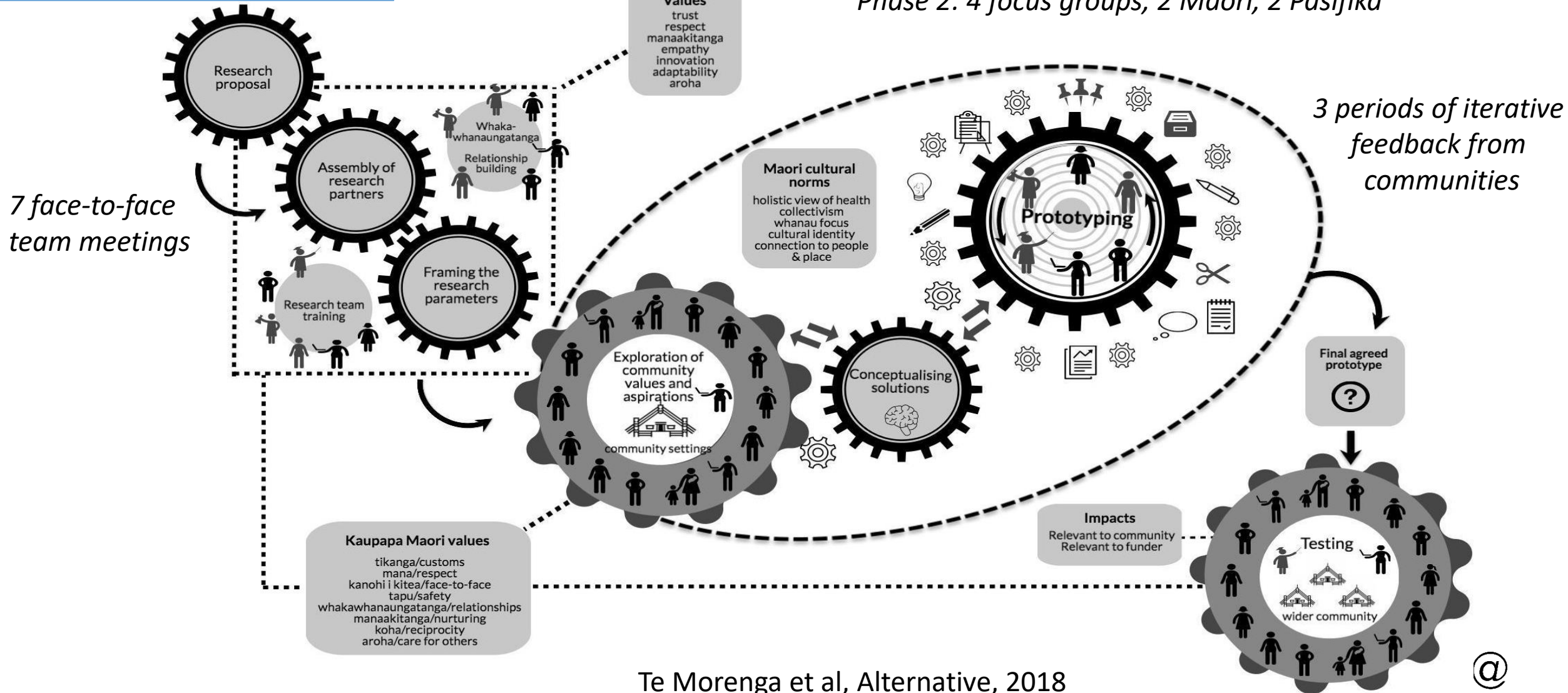
Participatory co-design model
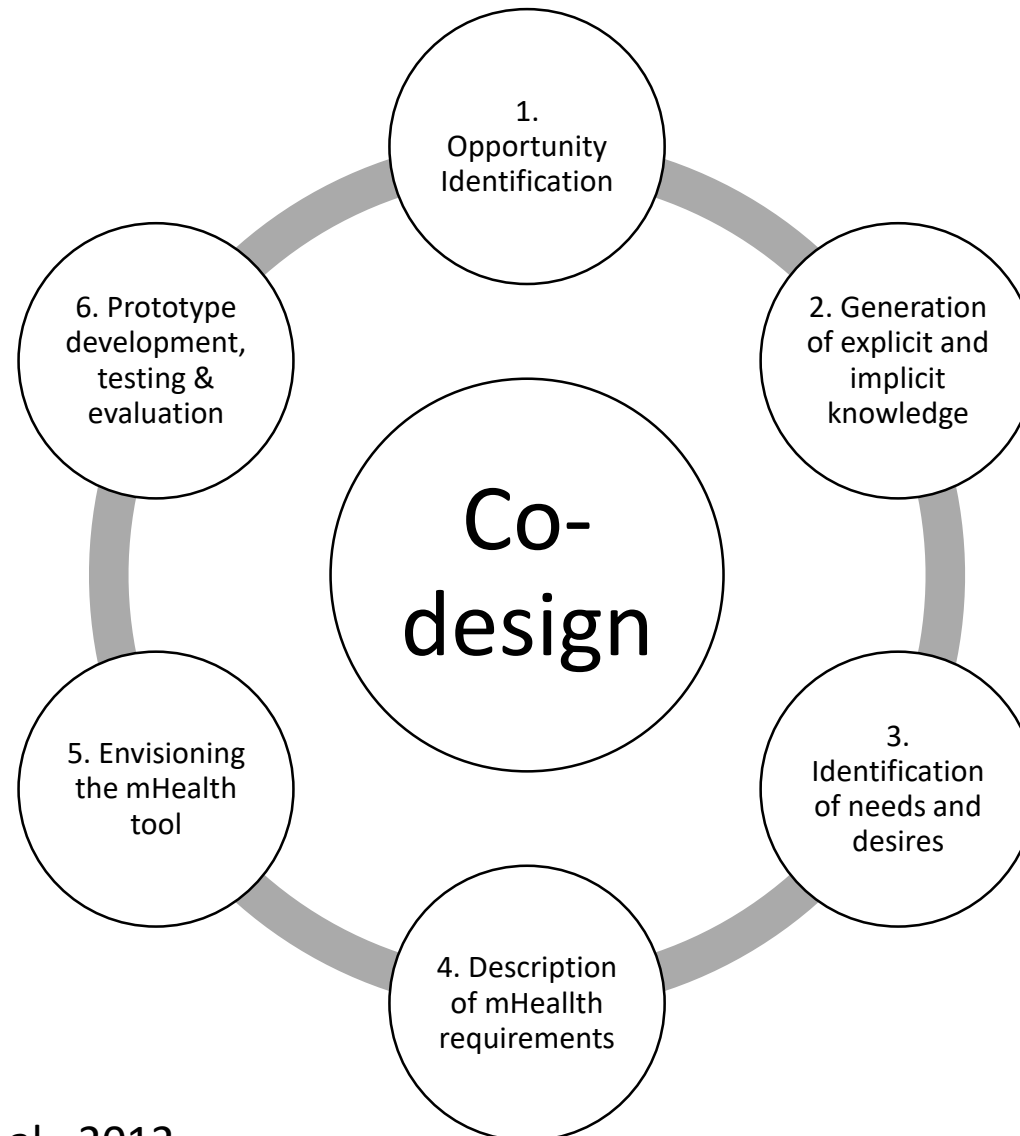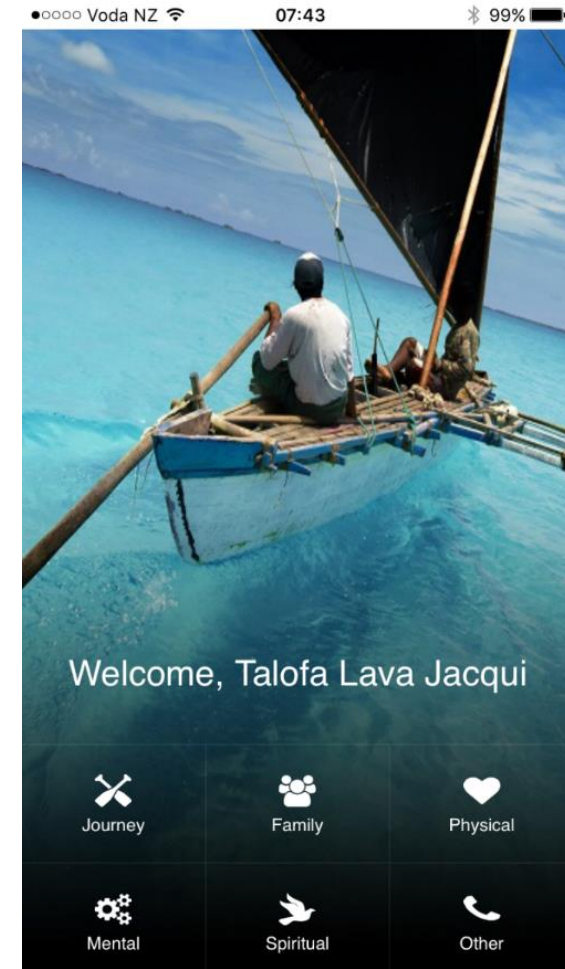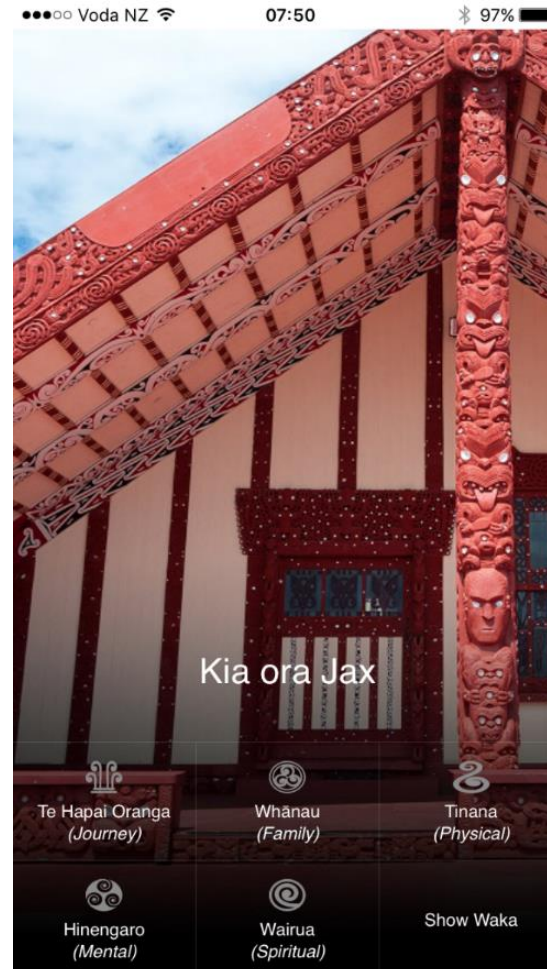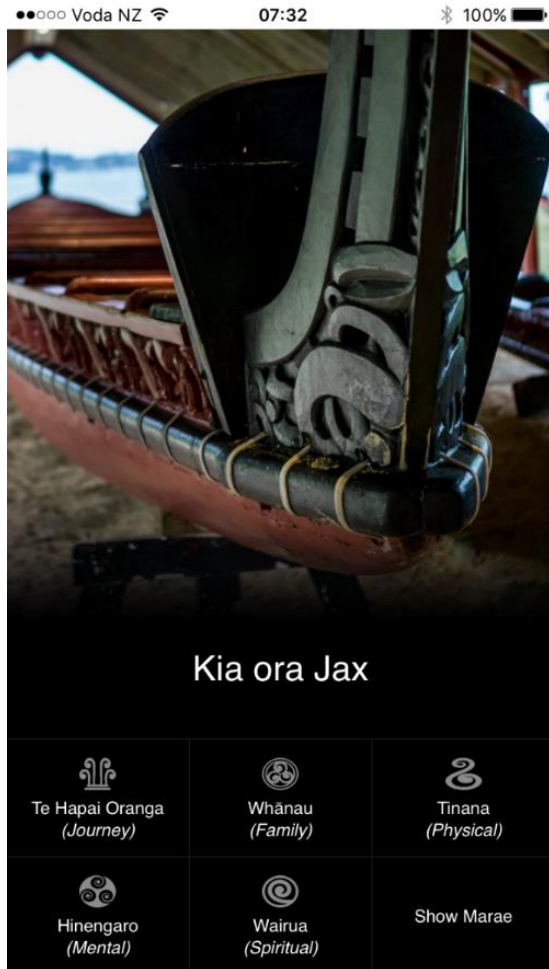
Co-design partners

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June 2016 – April 2017

Phase 1: 8 focus groups, 2 Māori, 6 Pasifika
Phase 2: 4 focus groups, 2 Māori, 2 Pasifika

3 periods of iterative feedback from communities

7 face-to-face team meetings

Research proposal

Assembly of research partners

Whaka-whanaungatanga

Relationship building

Partnership Values
trust
respect
manaakitanga
empathy
innovation
adaptability
aroha

Research team training

Framing the research parameters

Maori cultural norms
holistic view of health
collectivism
whanau focus
cultural identity
connection to people & place

Prototyping

Exploration of community values and aspirations

community settings

Conceptualising solutions

Kaupapa Maori values
tikanga/customs
mana/respect
kanohi i kitea/face-to-face
tapu/safety
whakawhanaungatanga/relationships
manaakitanga/nurturing
koha/reciprocity
aroha/care for others

Final agreed prototype
?

Impacts
Relevant to community
Relevant to funder

Testing

wider community

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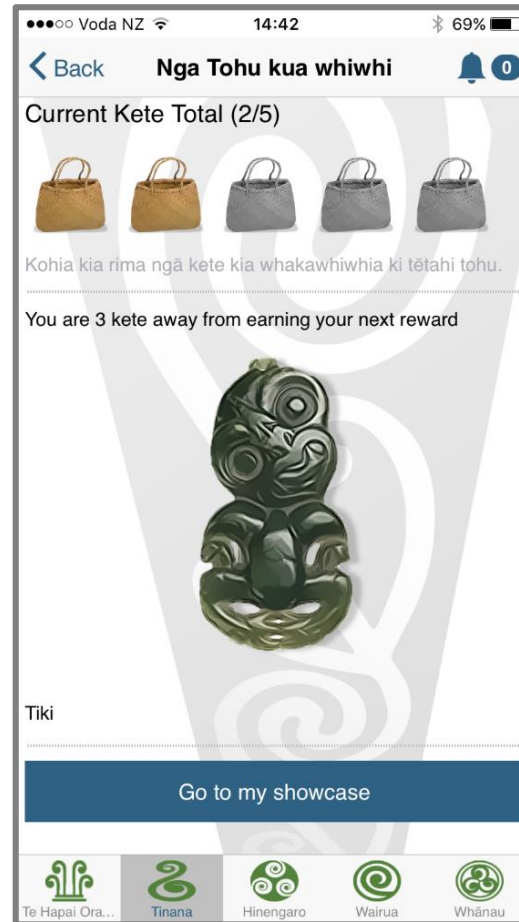Te Morenga et al, Alternative, 2018
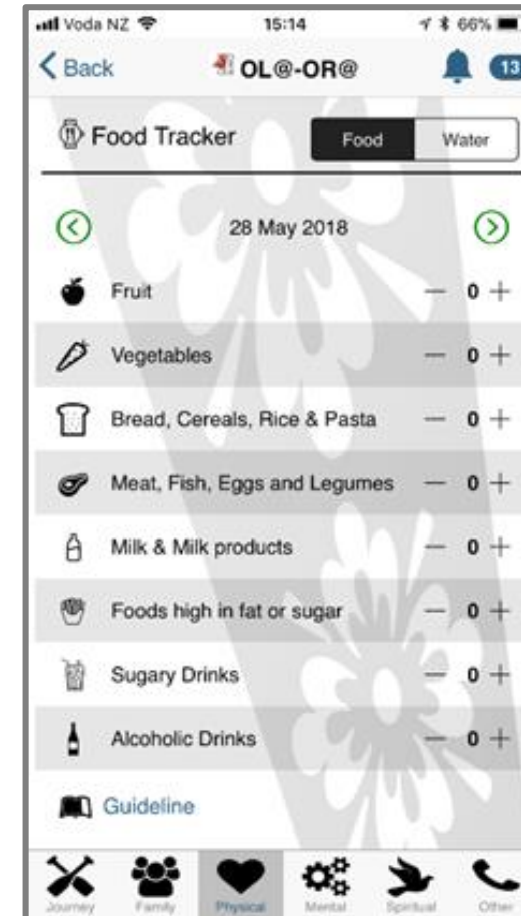
The OL@-OR@ app

Behaviour change strategies
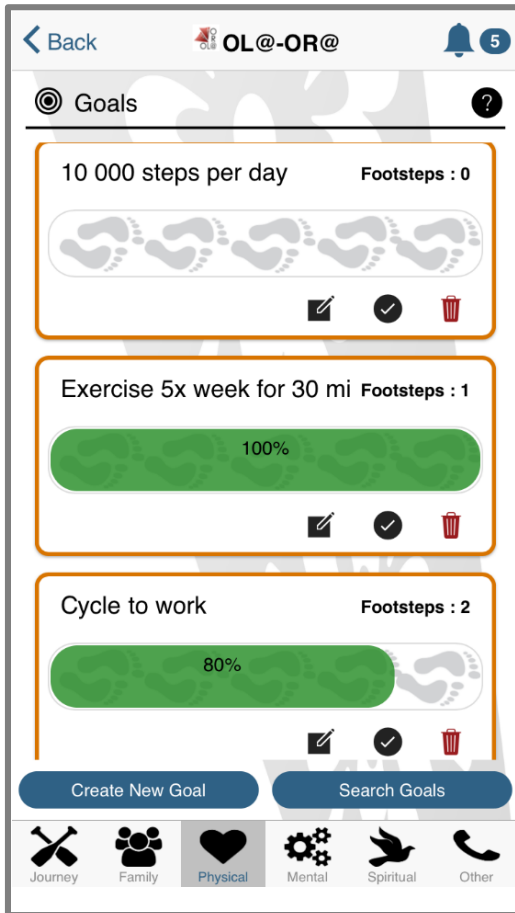
Goal Setting

Rewards

Self-monitoring

Aim

To determine the effects of the OL@-OR@ programme on key risk factors for heart disease, obesity and diabetes (diet, physical activity, smoking, and alcohol consumption) compared with a control condition

Culturally Tailored

Co-design
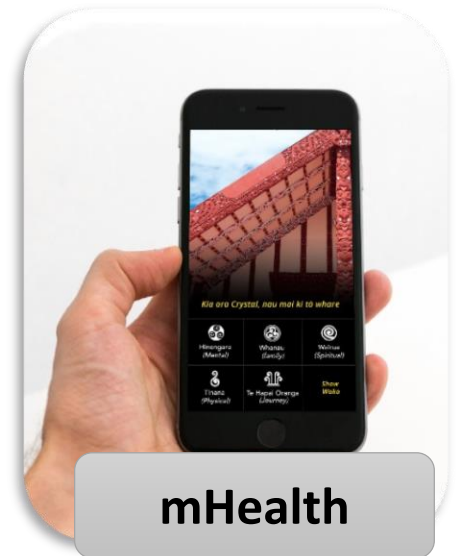
mHealth

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Study design

Recruitment of Māori and Pasifika communities in NZ

Randomisation

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Control

12-week follow-up to assess effects on adherence to health-related guidelines

Recruitment

- Community groups
- Sports groups
- Church groups
- Whanau
- Schools
- Kindergartens

Flow chart
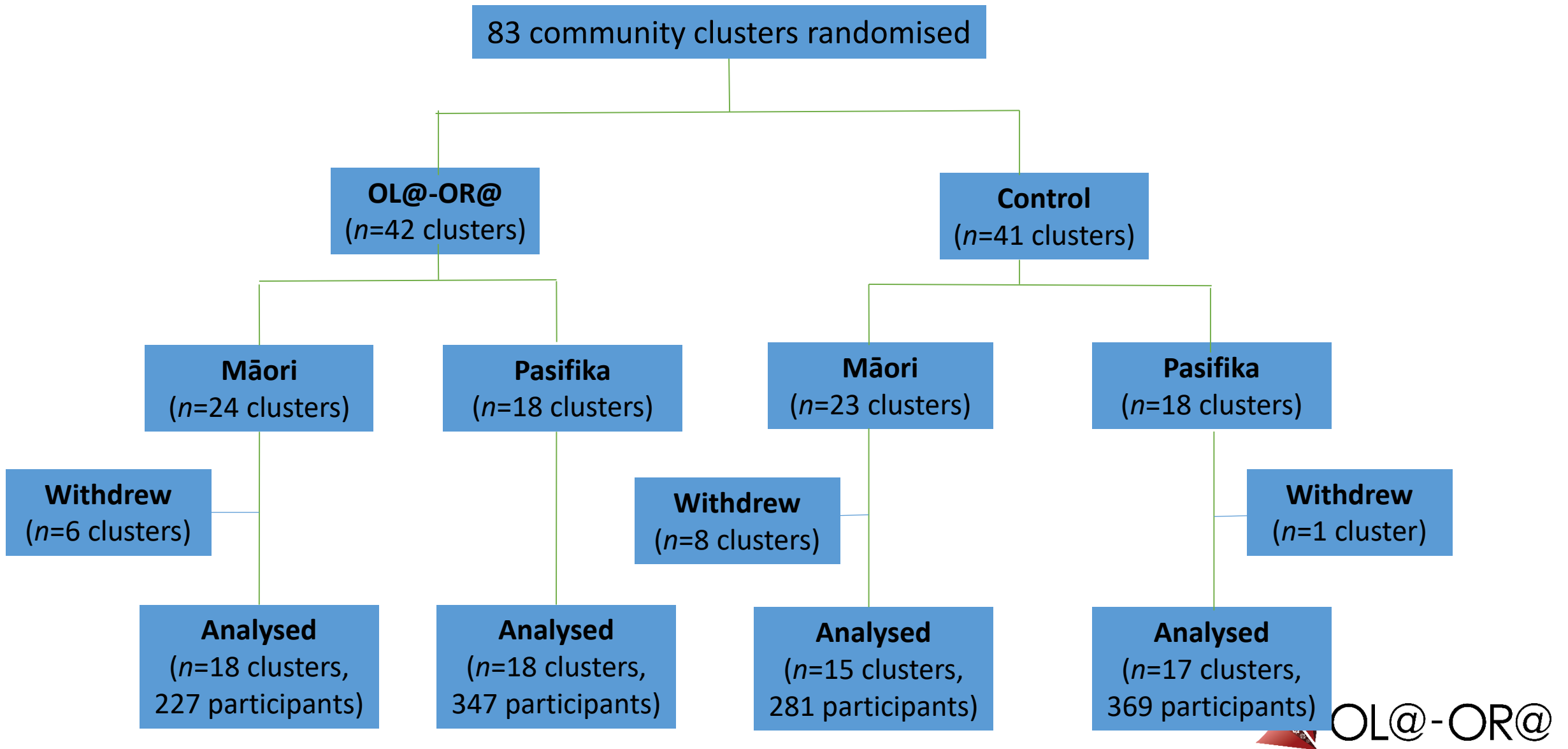

83 community clusters randomised

OL@-OR@
(*n*=42 clusters)

Control
(*n*=41 clusters)

Māori
(*n*=24 clusters)

Pasifika
(*n*=18 clusters)

Māori
(*n*=23 clusters)

Pasifika
(*n*=18 clusters)

Withdrew
(*n*=6 clusters)

Withdrew
(*n*=8 clusters)

Withdrew
(*n*=1 cluster)

Analysed
(*n*=18 clusters,
227 participants)

Analysed
(*n*=18 clusters,
347 participants)

Analysed
(*n*=15 clusters,
281 participants)

Analysed
(*n*=17 clusters,
369 participants)

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Participant characteristics at baseline

	Māori		Pasifika		All	
	Intervention	Control	Intervention	Control	Intervention	Control
Age, years	38.2	36.3	39.6	36.4	38.9	36.3
% female	72	72	67	69	69	70
BMI, kg/m^2	33.1	33.1	35.5	36.3	34.4	34.8
Met physical activity guideline, %	46.6	53.1	49.4	51.4	48.1	52.1
Non-smoker, %	71.2	80.9	77.6	74.3	74.7	77.2
Met alcohol guideline, %	89.0	88.1	93.6	90.9	91.5	89.7
Met fruit & vegetable guideline, %	25.5	24.8	25.7	19.5	25.6	21.5

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Adherence to guidelines at 12 weeks

Health-related behaviour, %	Intervention (36 communities, 574 participants)*	Control (32 communities, 650 participants)*	Odds Ratio (95% CI)	*P* value
Met physical activity guideline	61.1	62.6	1.03 (0.73 to 1.45)	0.88
Non-smoker	75.6	77.1	1.12 (0.67 to 1.87)	0.66
Met alcohol guideline	90.2	91.7	0.73 (0.37 to 1.44)	0.36
Met fruit & vegetable guideline	33.8	30.2	1.08 (0.79 to 1.47)	0.64
Met guidelines for >3 behaviours	57.3	56.8	1.13 (0.84 to 1.52)	0.42

*84% follow-up at 12 weeks

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Results for engaged participants

Met guidelines for >3 behaviours	Intervention (engaged participants only)*	Control	Odds Ratio (95% CI)	P value
Māori, %	62.0	59.8	1.14 (0.57 to 2.30)	0.71
Pasifika, %	65.8	54.5	2.94 (1.50 to 5.78)	0.002
All, %	63.9	56.8	1.88 (1.19 to 2.98)	0.007

*Set at least one behaviour change goal (*n*=147/574, 25.6% intervention group who completed 12-wk follow-up)

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Participant feedback

My family and I make that salad in the recipes [section] all the time! It is awesome!

I never knew I could even track steps in my phone so it's so cool I can do it in the app

I love the gardening stuff- what an awesome idea

For us it isn't about the Koha, it is about making our families happier and healthier and this is the perfect start

I am going to invite all my family! We need this

I am so excited about the potential that this app has to make changes in the community. What you guys are doing is awesome

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Take home messages

- **Co-design is best practice for working with Māori and Pasifika communities** and led to successful app design, high community engagement in research, and successful trial recruitment and follow-up

- In both intervention and control groups, there were **improvements over time in adherence to health-related behaviours**. However, there were **no significant differences between the intervention and control groups**

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Take home messages

- **Community coordinator engagement with their communities most likely explains improvements in the control group** even though they didn't receive the intervention.

- **Participants who engaged with OL@-OR@ and set behaviour change goals showed significant improvements compared with the control group.** Findings suggest apps are not for everyone but may support behaviour change in those people who engage with them

To download the app:

Go to https://welltext.auckland.ac.nz/

For more information on co-design:

Using codesign to develop a culturally tailored, behavior change mHealth intervention for indigenous and other priority communities: A case study in New Zealand

Marjolein E.A. Verbiest,[1,2] Callie Corrigan,[3] Sally Dalhousie,[4] Ridvan Firestone,[5] Tevita Funaki,[4] Debbie Goodwin,[1] Jacqui Grey,[1] Akarere Henry,[6] Gayl Humphrey,[1] Andrew Jull,[1,7] Mereaumate Vano,[6] Crystal Pekepo,[3] Lisa Te Morenga,[8] Robyn Whittaker,[1] Cliona Ni Mhurchu[1]

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Participants: 69 Māori and Pasifika communities and 1,451 individuals

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National SCIENCE Challenges

HEALTHIER LIVES   He Oranga Hauora

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