



The health effects of sub-standard housing on children.

For: AIVC 19th March

By AP Nevil Pierse



Te Whare Wānanga o Ōtago

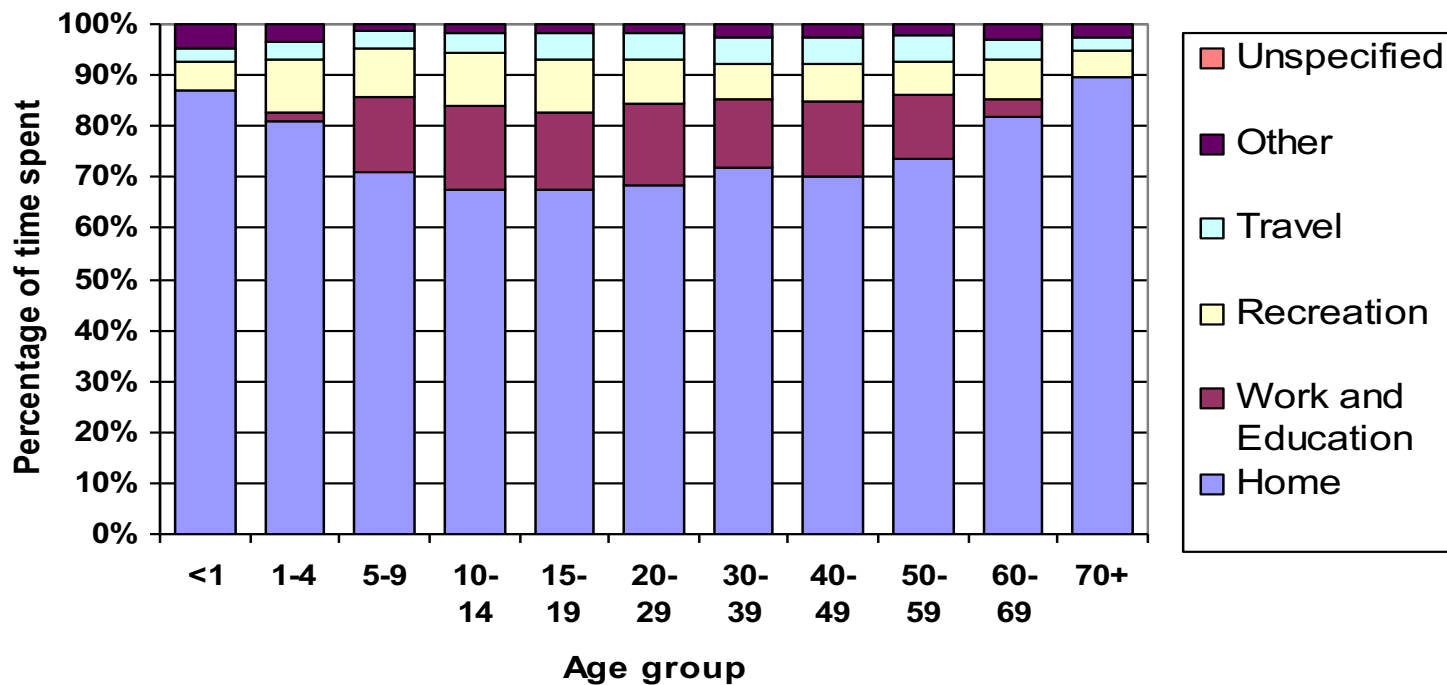
H E K A I N G A O R A N G A



Overview

- New Zealand Housing
- Getting to Warm, Dry, Mould free, Safe
- Insulation Study
- Heating Study
- Injury Prevention Trial
- Remaining challenge
- Future Work
- Conclusions

Where we spend our time?



New Zealand Travel Survey, 1997-98



79 11



N.Z.S. 3504

GRADE

11/21/2011

D... 5 PA.

Housing & Health

RESEARCH, POLICY AND INNOVATION



edited by

Philippa Howden-Chapman & Penelope Carroll



Housing, Insulation & Health Study

- Community-based study of 1400 homes, 4,414 people
- Insulation retrofitted
- Significant increase in indoor temperature + decrease in relative humidity + less energy used
- ↓in self-rated poor health; ↓self-reported wheezing in the last three months, ↓children's days off school, ↓adults' days off work; ↓visits to GPs; ↓respiratory hospitalisations

Howden-Chapman, P., Crane, J., Matheson, A. *et al.*, Retrofitting houses with insulation to reduce health inequalities: aims and methods of a clustered, randomised trial in community settings. *Social Science and Medicine*, 2005, 61, 2600-2610.

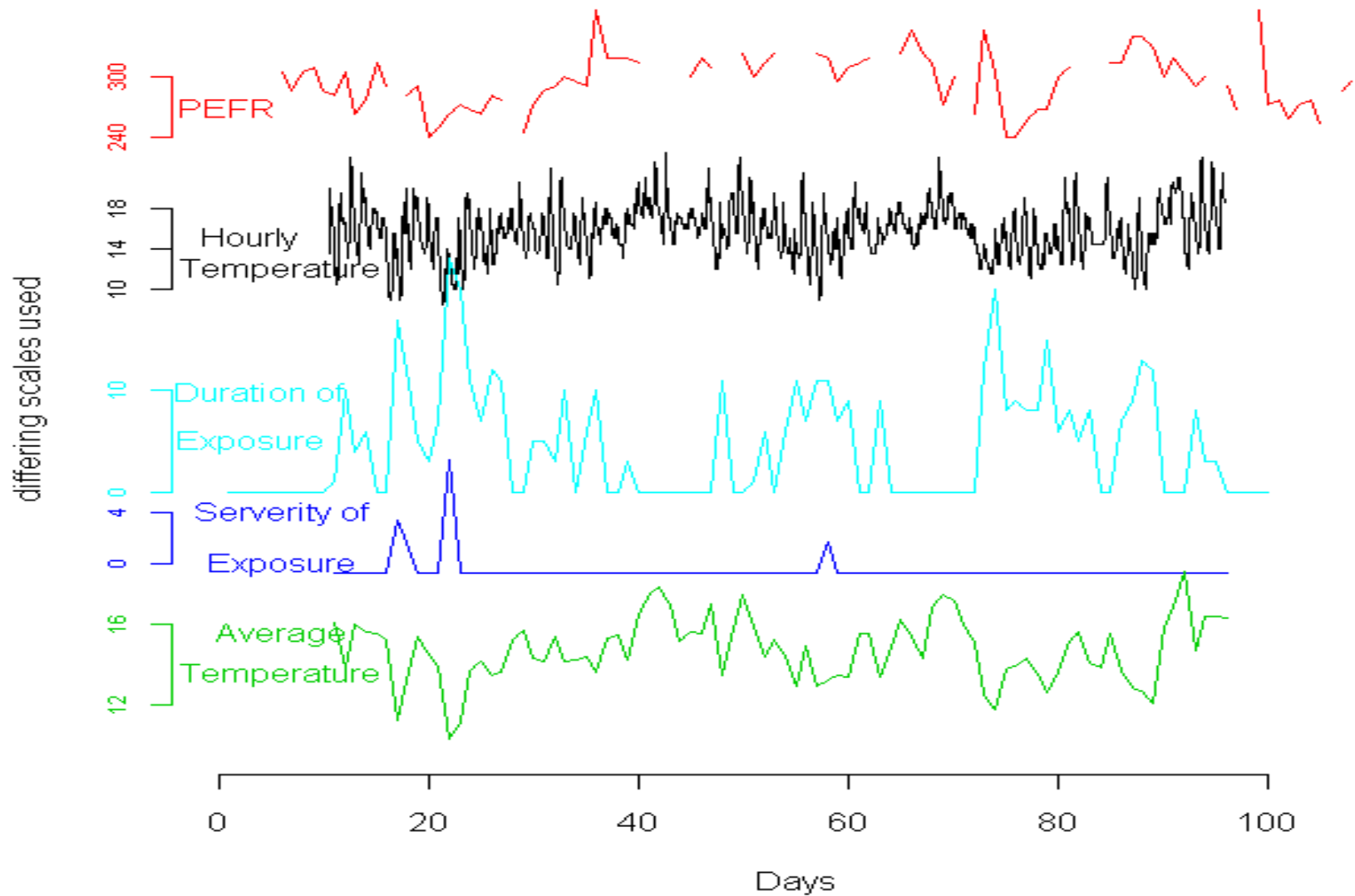
Howden-Chapman, P., Crane, J., Matheson, A. *et al.*, Retrofitting houses with insulation to reduce health inequalities: results of a clustered, randomised trial in community settings *Submitted for publication*



Housing, Heating & Health Study

- Community-based study of 409 homes, of children with asthma
- Installed, Heat Pumps, Wood Pellet Burners & Flued Gas Heaters, in insulated homes.
- Significant increase in indoor temperature + less energy used
- ↓in self-rated poor health; ↓self-reported wheezing in the last three months, ↓children's days off school, ↓visits to GPs.

One Child's Data





Temperature

- WHO recommends minimum indoor temperatures of **18-21°C**
- NZ Children's bedrooms are on average 14.5°C
- Insulation improves bedroom temperature by ~0.8°C
- Heating improves bedroom temperature by ~0.8°C
- These are averages
- The worst home had -4°C in the asthmatics child bedroom while they were sleeping
- 10% of insulated bedrooms had temperatures < 9°C

**Is your home one of the 900,000 houses
with sub-standard insulation?**

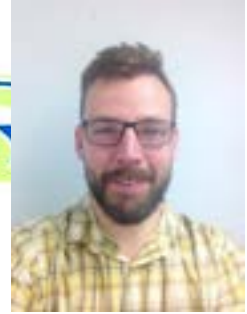
You could get 1/3 off the cost to upgrade.



New Zealand Government



Warm Up New Zealand: Heat Smart Evaluation



- \$347 million four year insulation and heating retrofit programme administered by EECA
- 100,000 homes in first two years
- Quasi-experimental design linked administrative (NHI) and commercial datasets (QV)
- *He Kainga Oranga* focussed on health impacts
- Found household reductions in hospitalisation costs
- Reductions in mortality for vulnerable individuals
- Benefit: cost ratio (3.8: 1) primarily driven by health benefits, for children closer to 6:1



Home Injury Prevention Intervention

- Community-based study of 950 homes, >30 years old
- \$500 remediation of slip trip and fall hazards
- Assessment by Qualified builder
- Followed for 5 years
- All age groups included
- 26% Reduction in slips trips and falls
- 39% Reduction in preventable injuries
- 15:1 Cost to benefit ratio



Solutions to
Child Poverty
in New Zealand
evidence for
action



Expert Advisory Group on
Solutions to Child Poverty



H E

G A

Unable to pay steep rent, family huddle in freezing tent

ASHLEIGH STEWART

BLANKETS and body heat.

That is how one Christchurch family, huddling together in a freezing tent as rain batters their makeshift home, have spent two months trying to keep warm.

The family of five have just weathered their third storm in a tent pitched at the Spencer Beach Holiday Park.

Taurua Houia, his wife and their three children are one of 270 priority A applicants on the Housing New Zealand waiting list.

They have been priority A for three weeks, despite being assessed in February.

"We had a private rental in Hills Rd, but it was too expensive," Houia said.

"I've just been sitting up in the tent every night. I don't get much sleep."

Houia works fulltime as a roofer, but wife Sonia is unemployed and receives a benefit.

But they say this income still does not provide enough money for Christchurch's rents as well as being able to survive.

A large tarpaulin is draped across the outside of the tent for



Tent trap: Taurua Houia and his family live in tents at a holiday park because of a housing shortage.

Photo: FAIRFAX NZ

extra insulation as members of the family curl together under duvets during this week's rain. The mattresses account for about half of the floor in the small tent, the remainder is bare.

There are no separate rooms, and no privacy.

"It's blankets and body heat to keep warm," Houia said.

They had returned to the spot on Monday after a brief, but un-

pleasant, stint outside the camping ground.

Forced to leave as it was booked out for Easter, the family moved their tent to Waikuku on Friday - where it was blown

down. In an effort to save money, they then gave freedom camping a try.

After their tent flooded, they moved to a camping ground in Linwood, where they paid \$62 a night for a campsite.

But even after their ordeal and as the weather closed in, Houia was hesitant to complain. "We just take it. I'm all right, it's just the kids."

Family friend and Taurua's boss, Allan Rolfe, has been helping the family and advocating for them to the agencies.

He had offered to let the family stay with him at his home, but they were "fiercely independent" and had refused, Rolfe said.

"It's a horrendous situation. It's a desperate situation, they've got three children as well."

Ministry of Social Development general manager Marama Edwards said Sonia Houia - whose name the application was under - was first assessed in February, and has been on the waiting list since April 4.

"Housing New Zealand and registered community housing providers will continue to work with Ms Houia to find a suitable property," Edwards said.

Better decision making for better outcomes

OUR DATA

The People's Project data in partnership with local government services

Who

NHI
SWN
Police #

When

Date commenced
Date housed

Where

Housing type
Before and after

How

of visits
Wraparound support and services

Housing Outcomes

Client profile
Retention
Comparison - national and international
Safety

MATCHED AND ANONYMISED

IDI
(Integrated Data Infrastructure)

GOVERNMENT OUTCOMES

Datasets

Health

NMDS
(Hospital)
Mortality
Pharmac

MSD

Benefit
HNZ housing
Accommodation supplement
Training

Justice

Police (victims and offenders)
Courts
Corrections

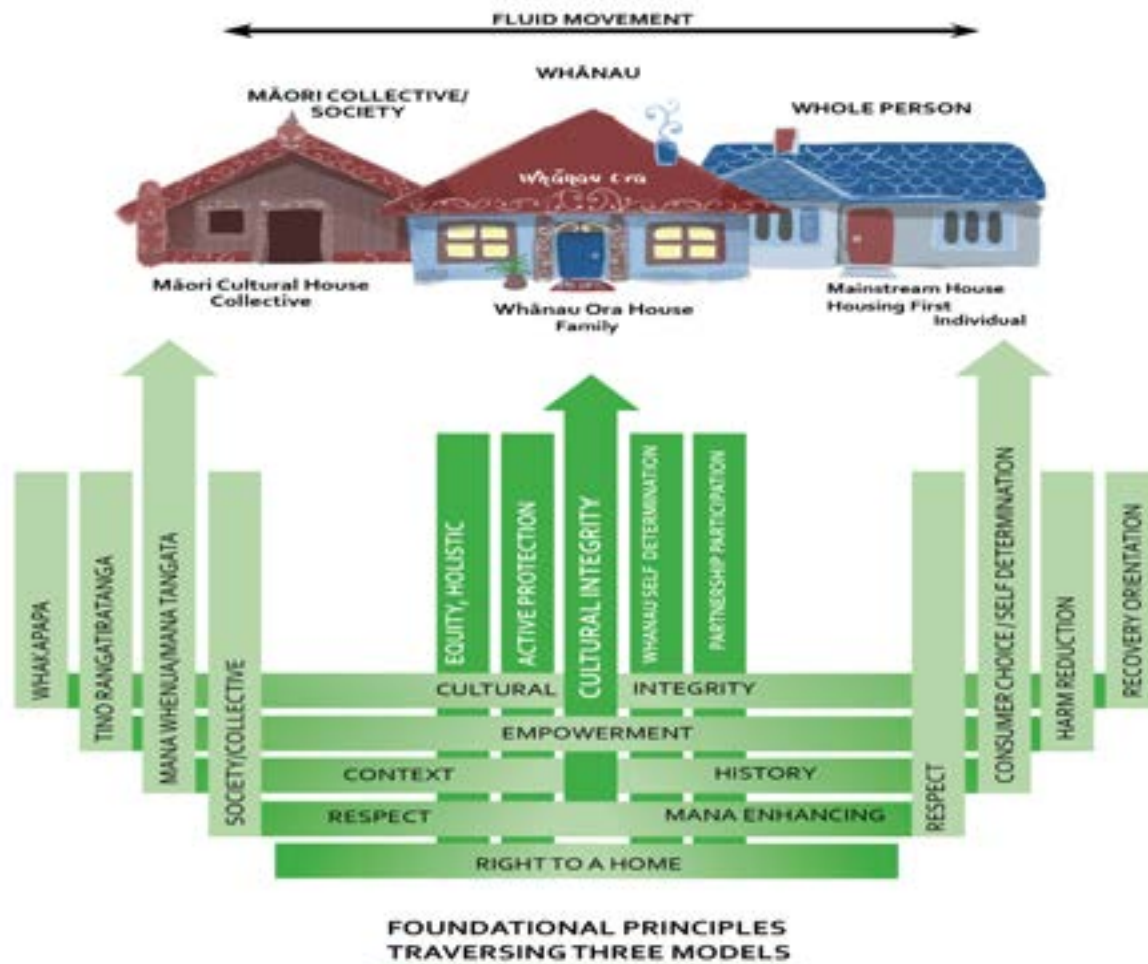
IRD

Tax
Employment



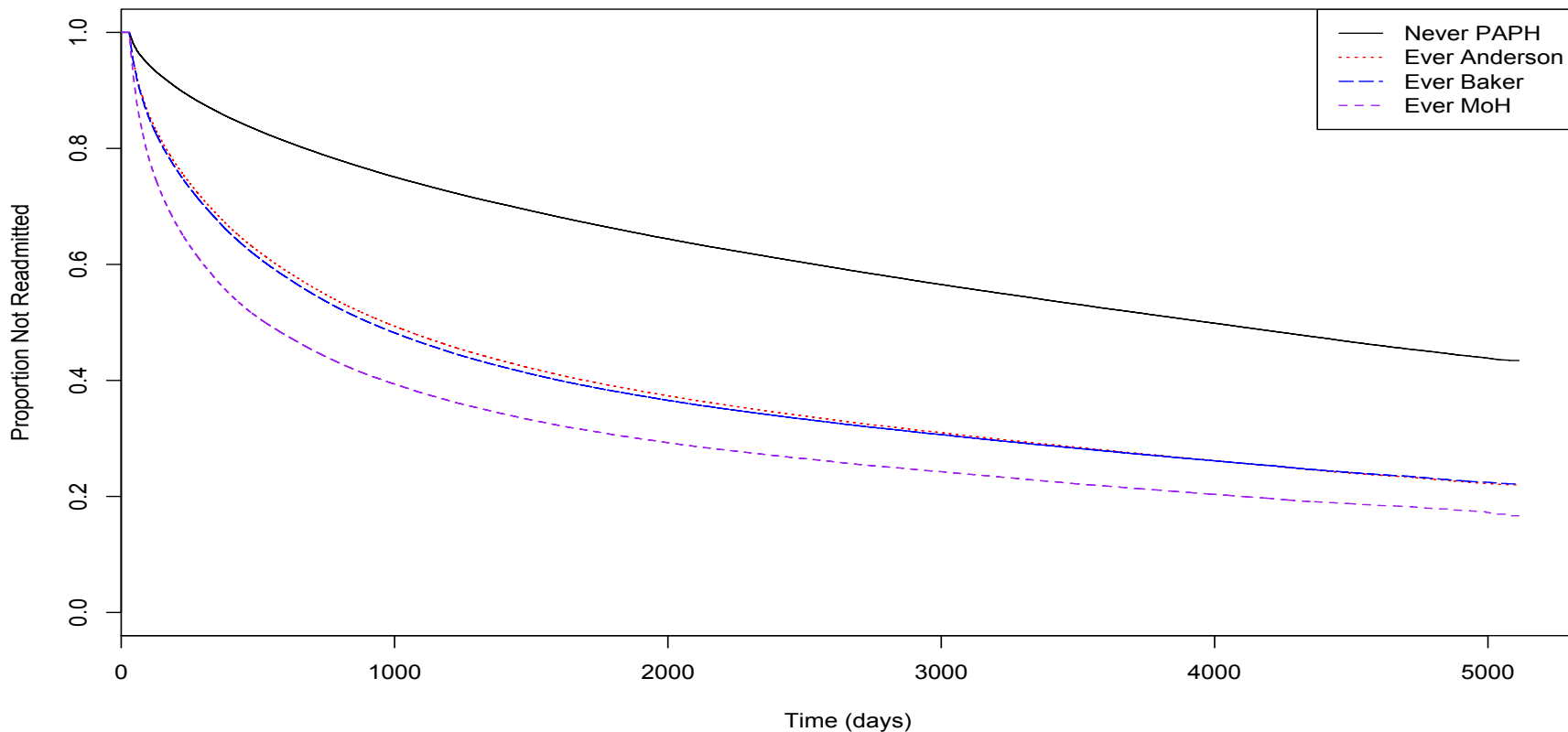
Feedback to partner agencies

Principles Framework for Māori Housing



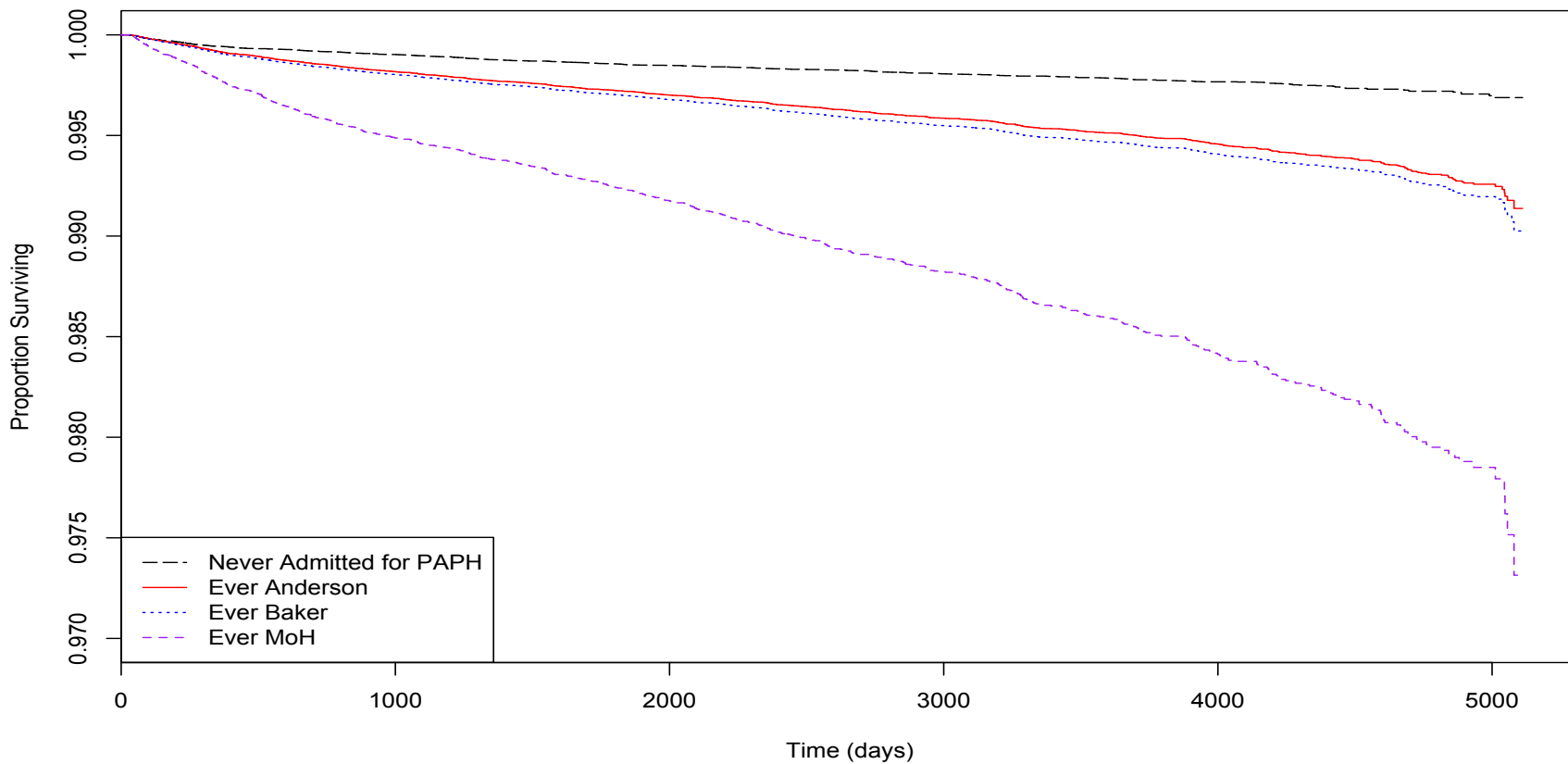
Potentially avoidable hospitalisation (PAH)	PAHHE Criteria (housing & physical environment)	Crowding Criteria	MoH Criteria	ICD codes
Acute bronchiolitis	Yes	Yes	Yes	J21
Acute rheumatic fever	Yes	Yes	Yes	I00-I02
Bacterial meningitis	Yes	Yes	Yes	G00,G01
Bacterial/ Unspecified pneumonia	Yes	Yes	Yes	J13-J16, J18
Bronchiectasis	Yes	Yes	Yes	J47
GAS sepsis	No	Yes	Yes	A400
Meningococcal disease (includes meningococcal meningitis)	Yes	Yes	Yes	A39
Viral / other / unspecified meningitis	No	Yes	Yes	A87,G02,G03
Viral pneumonia	Yes	Yes	Yes	J12, J100,J110
Urinary tract infection ¹	No	No	Yes	N10, N12,N300,N390,N136,309
Acute upper respiratory tract infection excluding croup	Yes	Yes	No	J00-J03, J06
Asthma	Yes	Yes	No	J45,J46
Croup, acute laryngitis, tracheitis	No	Yes	No	J04 J050
Dermatitis/eczema	No	No	No	L20-L30
Febrile convulsions	No	No	No	R560
Gastroenteritis	No	Yes	No	A00-A09,R11, K529
Nutritional deficiency	No	No	No	E40-E64, D50-D53
Otitis media	Yes	Yes	No	H65-H67
Skin infection	Yes	No	No	L00-L05,L08,L980,J340,H010,H000
Tuberculosis	Yes	Yes	No	A15-A19
Vaccine preventable diseases (tetanus neonatorum, congenital rubella, tetanus, diphtheria, pertussis, polio, hepatitis B ,measles, rubella, mumps)	No	No	No	P350,A33,A34,A35,A36, A37,A80, B16,B180,B181,B05,B06,B26, M014
Viral infection of unspecified site	Yes	No	No	B34
Constipation	No	No	No	K590
Dental (dental caries, pulp, periodontal)	No	No	No	K02,K04,K05
Gastro oesophageal reflux	No	No	No	K21
Osteomyelitis	No	No	No	M86
Rheumatic heart disease	No	No	No	I05-I099

Preventing Hospitalisations





Deaths



Well Homes

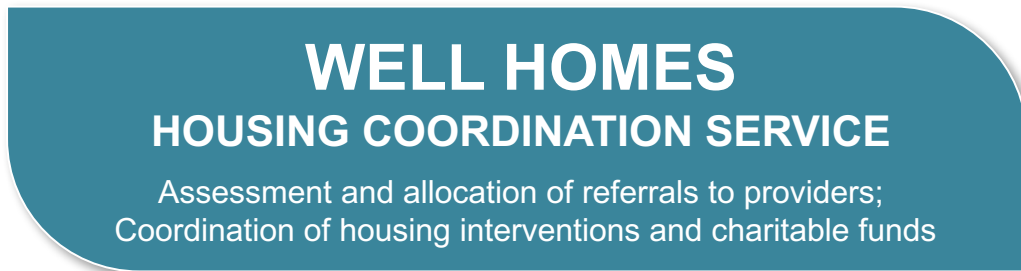
REFERRAL SOURCES

HVDHB
Secondary
services

Community
providers

GPs
Primary
care

CCDHB
Secondary
services



Well Homes
RPH Nursing



Well Homes
Tu Kotahi
Māori Asthma
Trust



Well Homes
Sustainability
Trust



Eco
Design
advisors



Warm
Fuzzies

Sustainability
Trust

MoH/DHB FUNDED HOUSING
PROVIDERS

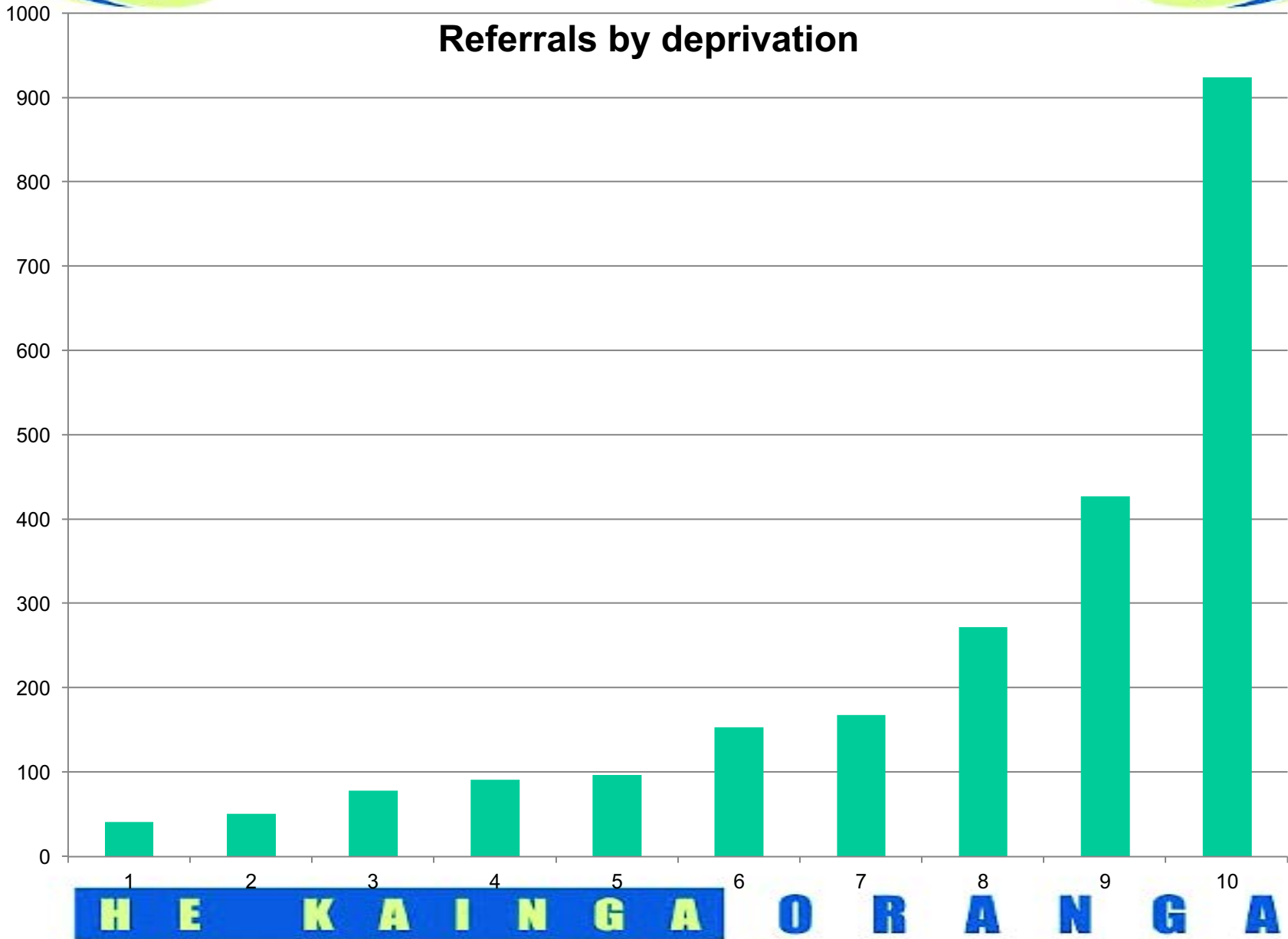
COMMUNITY FUNDED
HOUSING PROVIDERS

H E K A I N G A

O R A N G A



Referrals by deprivation



Well Homes is a free service that may be able to help your whānau with:



BEDS & BEDDING



CARPET



CURTAINS



HEATING



INSULATION



MINOR REPAIRS



MOULD CLEANING KITS



MSD/WORK & INCOME ASSISTANCE



OTHER - I.E. HEALTH OR SOCIAL REFERRALS



SOCIAL HOUSING RELOCATION



VENTILATION

Please phone us on 0800 675 675



Half a million Kiwis snug as a bug in a rug

What about you?

Thanks to everyone who helped us reach our target of insulating 168,500 New Zealand homes through the Government's Warm Up New Zealand: Heat Smart insulation programme.

The programme has been extended and grants are still available. Visit www.energywise.govt.nz for a list of providers in your area.

It took just a little more than three years, and it was a real team effort by the insulation industry, supporting banks and councils who made it easier for people to afford insulation, and third party funders who gave over \$20m. Most of all it's 'well done' to the Kiwi homeowners who made the decision to invest in a warmer, healthier, more comfortable home.