The evidence: evaluating the effectiveness of interventions

Prof Cliona Ni Mhurchu, on behalf of DIET Programme team







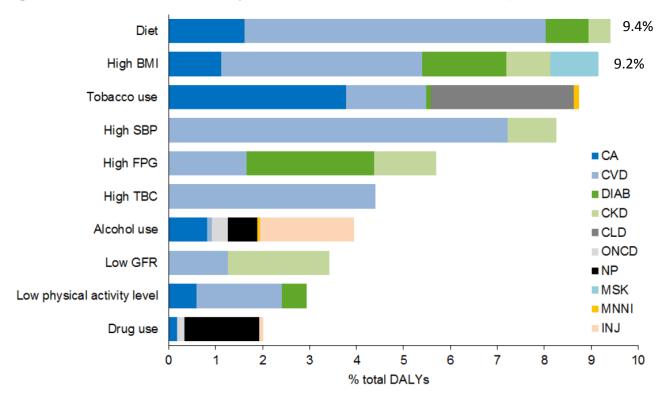






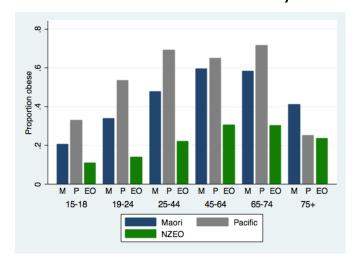
Diet-related burden of disease

Figure 19: Health losses caused by selected risk factors (% total DALYs), 2013



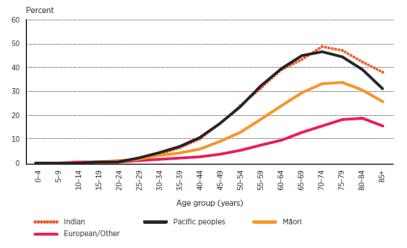
Burden of disease by ethnicity

Prevalence of obesity



University of Otago and Ministry of Health. 2011. A Focus on Nutrition: Key findings of the 2008/09 New Zealand Adult Nutrition Survey

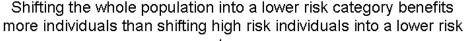
Prevalence of diabetes

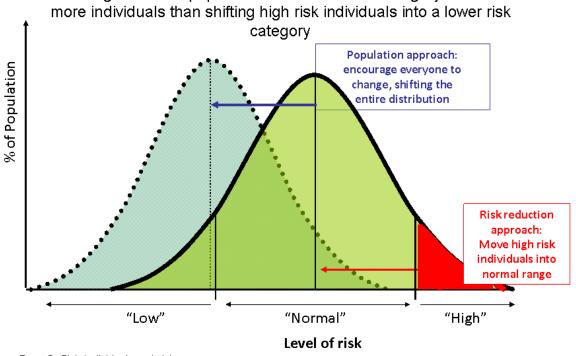


Ministry of Health, Health and Independence Report 2015

Improving population diets

The Bell-Curve Shift in Populations





Source: Rose G. Sick Individuals and sick populations. Int J Epidemiol. 1985; 12:32-38.

Our vision

Excellent research

Collaborating for impact

We are a world-leading population nutrition research programme that, through excellent research, improves the diet-related health of all New Zealanders and reduces burden of disease

Unique NZ resources

Responsive to Māor



DIET team 2013-18

Tony Blakely, Rachel Carter, Helen Eyles, Luke Gemming, Yannan Jiang, Bruce Neal, Mike Rayner, Louise Signal, Boyd Swinburn, Katya Volkova, Wilma Waterlander







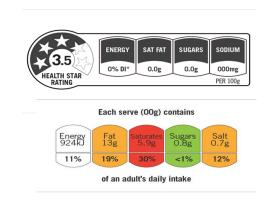


Funded by Health Research Council of New Zealand (13/724)

DIET research objectives

Previous research Programme research 2006-2012 2013-2018 Survey of use & understanding of labels (NZ, UK) Development of Traffic Light Label (TLL) system (UK) Project 1: Effects of front-of-pack labels on TLL feasibility study (NZ) **Nutrition Labels:** food purchases: RCT using smartphone Pre-post evaluation of introduction of TLL (UK) technology Online supermarket trial of TLL (Australia) FoodSwitch TLL smartphone application (Australia) RCT of 12.5% price discount on food purchases (NZ) RCT of 50% price discount on food purchases Project 2: Effect of a comprehensive range of Food Pricing: (Netherlands) price changes (increases & decreases) on food · Virtual supermarket trials of pricing and labelling purchases: Virtual supermarket RCT (Netherlands) Nutritrack food composition database (NZ) Project 3: Population exposure to salt & Global food composition database (Australia) Food Composition: saturated fat: Linkage of electronic food Electronic household food purchasing data analyses purchasing and Nutritrack data (NZ, UK) Is junk food promoted through sport? (NZ) Project 4: Quantifying children's exposure to Food Advertising: Sydney Declaration (Australia) food & beverage marketing: SenseCam Study Kids'Cam pilot study (NZ) Modelling effects of food taxes & subsidies on population health (UK, Australia, NZ) Project 5: Effects of an nutrition interven- ACE-Prevention (Australia) Simulation Modelling: tions on long term health outcomes: BODE³ HRC programme (NZ) Simulation modelling study · Centre for Research Excellence in Policy Research on Obesity & Food Systems (Australia, NZ, UK)

Effects of interpretive nutrition labels on food purchases: Starlight RCT





- 1,357 NZ household shoppers who owned smartphones
- Randomised to different labelling formats for 4 weeks
- Smartphone captured food purchase data (280,000 packaged food purchases)

Effects of price changes on food purchases: Virtual Supermarket RCT

- 1,038 NZ household shoppers did up to 5 grocery shops over 5 weeks in a Virtual Supermarket (4,258 shopping occasions total)
- Each shopping occasion
 was randomly allocated to a
 set of price changes
 reflecting F&V subsidy, SSB
 tax, sugar tax, salt tax,
 saturated fat tax, or control
 (no price changes)



NZ food composition and reformulation opportunities: Nutritrack



4 supermarket chains



20 fast food chains



Food purchases (2,500 NZ households)

Products (n)	2012	2013	2014	2015	2016	2017	2018
Supermarket foods	8,440	13,406	14,191	14,436	15,370	14,913	15,190
Fast foods	2,310	2,940	2,945	3,055	3,589	4,752	4,500
Cumulative total	10,750	27,096	44,232	61,723	80,682	100,347	120,037

- Food labelling, ingredient and composition data 2012-17 ($n\sim120,000$)
- Linked with NZ household food purchasing data 2012-17 (Nielsen Homescan panel)

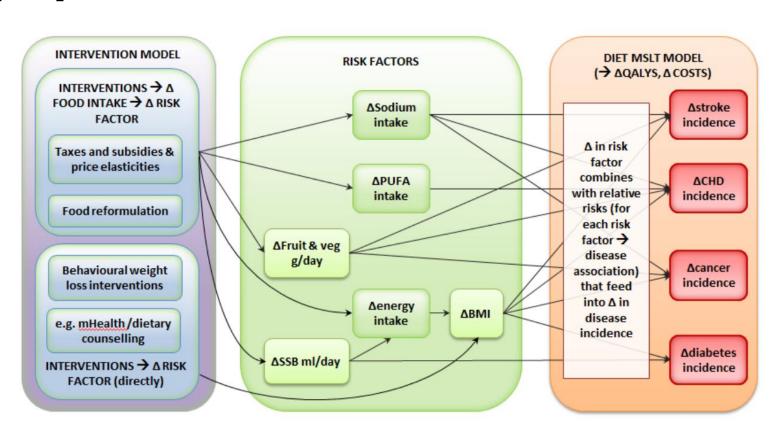
Children's exposure to food marketing: wearable camera study





- 168 NZ children aged 11-13 years
- Wore automated cameras and GPS devices for 4 days (2 weekdays & 2 weekend days)
- Cameras captured images automatically every 7 seconds (~1.5 million images collected)

Effects of dietary interventions on population health: BODE³ models



Take home messages

- Front-of-pack nutrition labels have no significant effect on population food purchases but may influence industry to create healthier foods
- 2. Taxing foods based on salt, saturated fat and sugar content leads to healthier consumer food purchases
- A government-led NZ food reformulation programme is feasible and could lead to meaningful (and equitable) improvements in population diets
- 4. NZ children are exposed frequently, across multiple settings, to the marketing of unhealthy foods. Current voluntary standards do not protect our children sufficiently





