

# **Matching research agendas to the action strategies for preventing obesity and diabetes**

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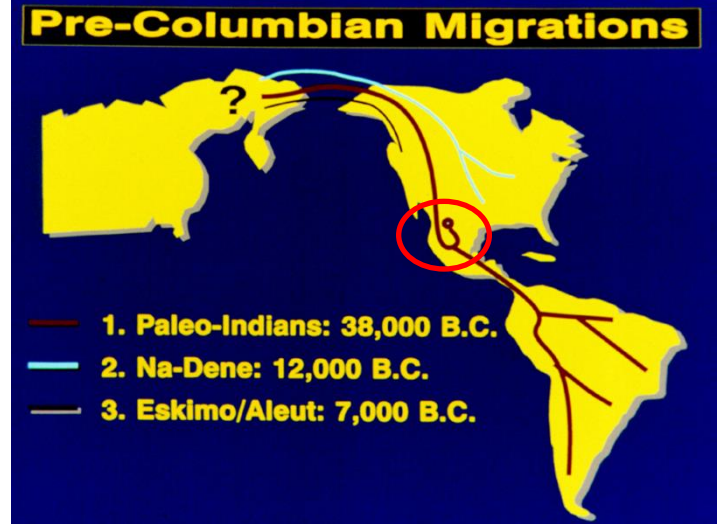
**Co-Director, WHO Collaborating Centre for Obesity  
Prevention, Deakin University**

**Edgar Diabetes and Obesity Research  
University of Otago  
10 year anniversary symposium**

# Reflections on diabetes and obesity research

- Investments in research
  - Investigator-driven research (the natural inclinations of *Homo Scientificus*) vs targeted research
- Two helpful paradigms
  - Problem-oriented and solution-oriented research
  - ‘Strategic Science’
- Roles and risks of public health research
  - Current *Dirty Politics* saga
  - Example – benchmarking government progress
- Challenges and opportunities ahead
  - *Healthy Families NZ*

# Pima Indians



**Arizona Pimas**

- 70% obesity, 45% diabetes

**Mexico Pimas**

- 15% obesity, 7% diabetes



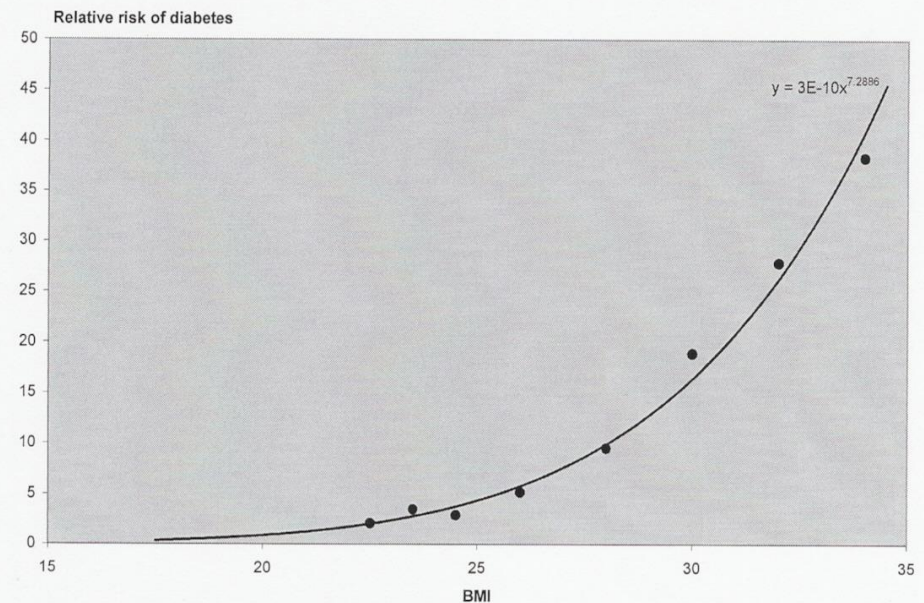




# Obesity and diabetes research

- Obesity as the normal physiological response to an abnormal (obesogenic) environment
- Overweight and obesity as the driver of type 2 diabetes

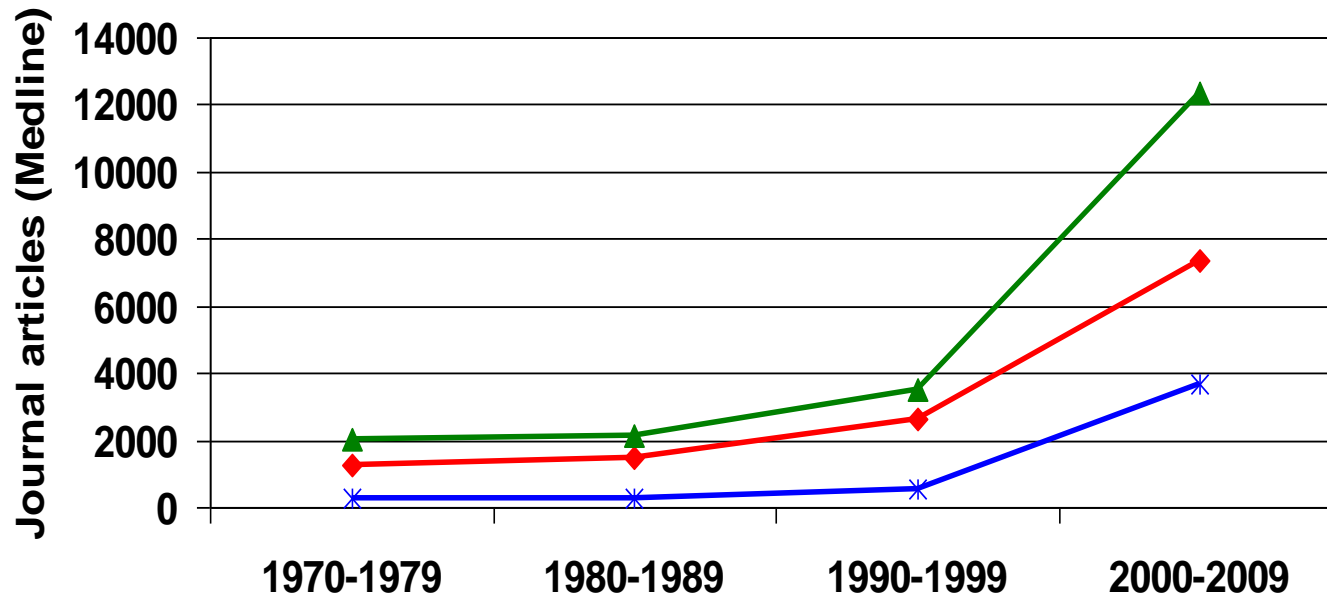
Figure A3: Relationship between BMI and risk of type 2 diabetes



Source: Modified from Colditz (1990) and Chan (1994)

# Publications in obesity research

Medline journal article numbers referenced with 'Obesity' and other key MeSH headings



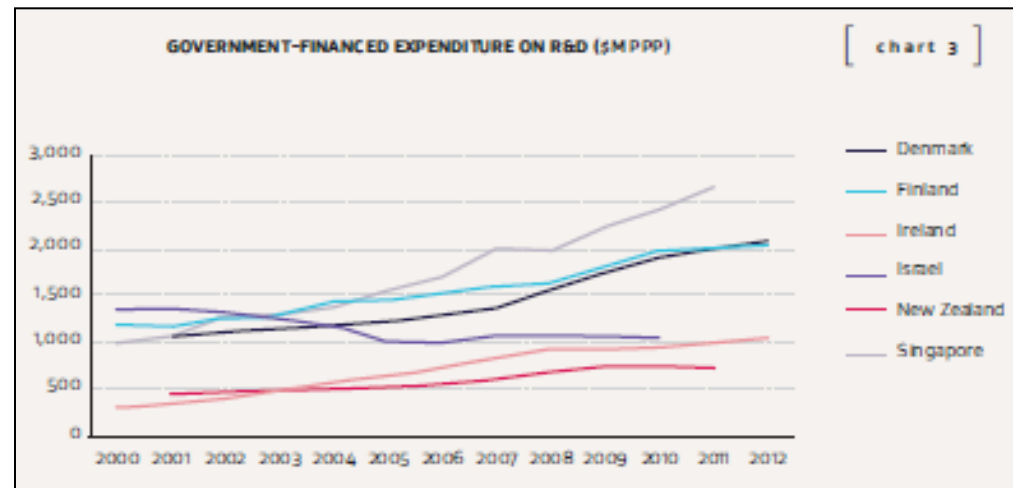
◆ 'Gene' or 'metabolism'

▲ 'Treatment' or 'management'

\* 'prevention'

# Targeted research

- National Science Challenges
  - Targeted themes and projects
  - Major 'challenge' is the low total investment in research



# Why invest in science?



1. Productivity and sustainable economic development
2. An evidence base for addressing key concerns, developing good public policy and ensuring a better informed public
3. Ensuring we have the skills in our workforce and society to become an innovation-led economy



# Preventing Childhood Obesity

(Robinson T, Sirard J Am J Prev Med, 2005)

## Problem-oriented

- Causes and correlates of disease
- Past orientation
- Reductionist approach
- Understanding the causes may or may not help with solutions
- Usually easier to perform

## Solution-oriented

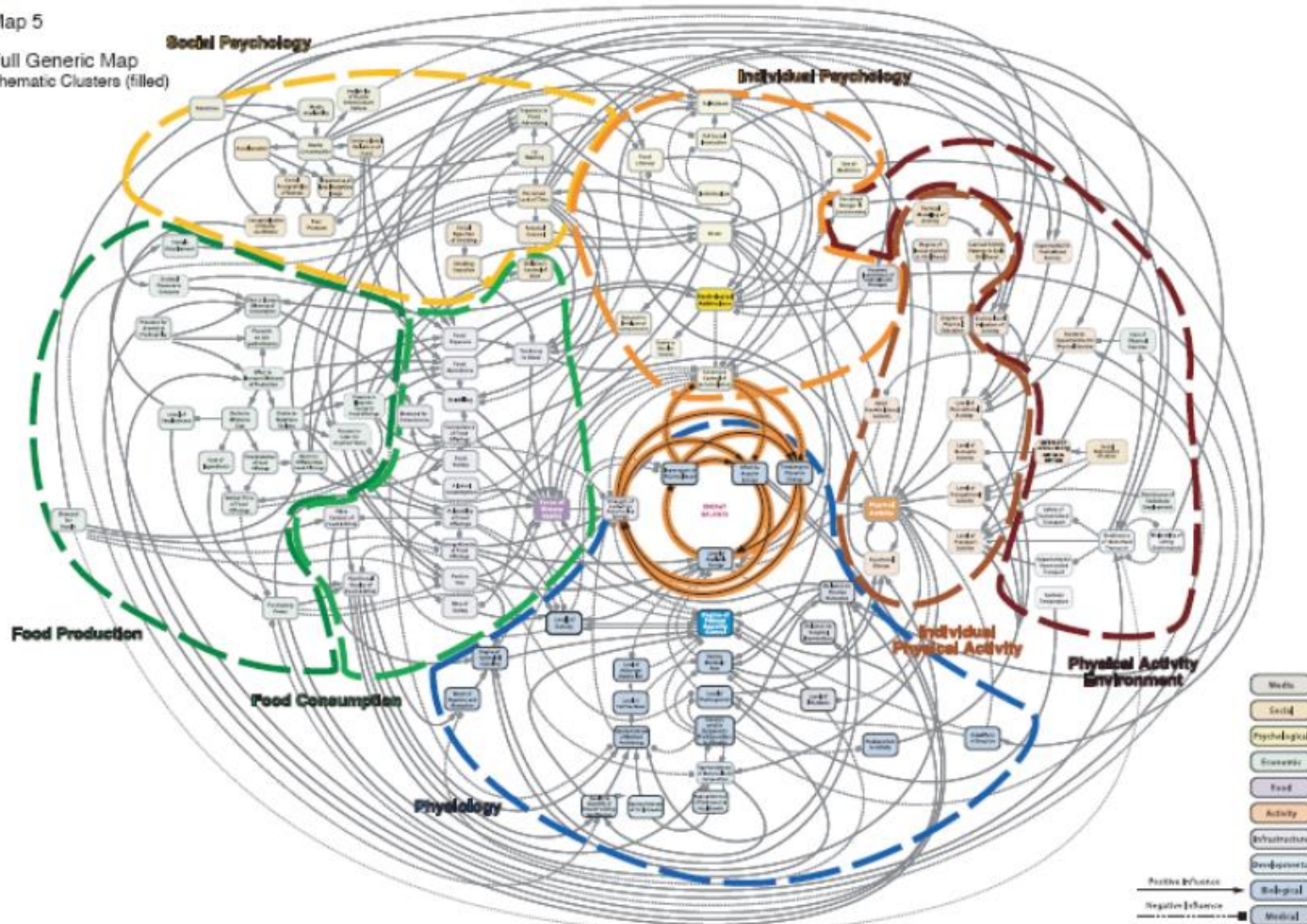
- Causes of improved health, reduced risks
- Future orientation
- Experimental approach
- Solutions need to be tested
- Usually harder to perform

# The causes of obesity



Map 5

Full Generic Map  
Thematic Clusters (filled)



# Litmus test for research

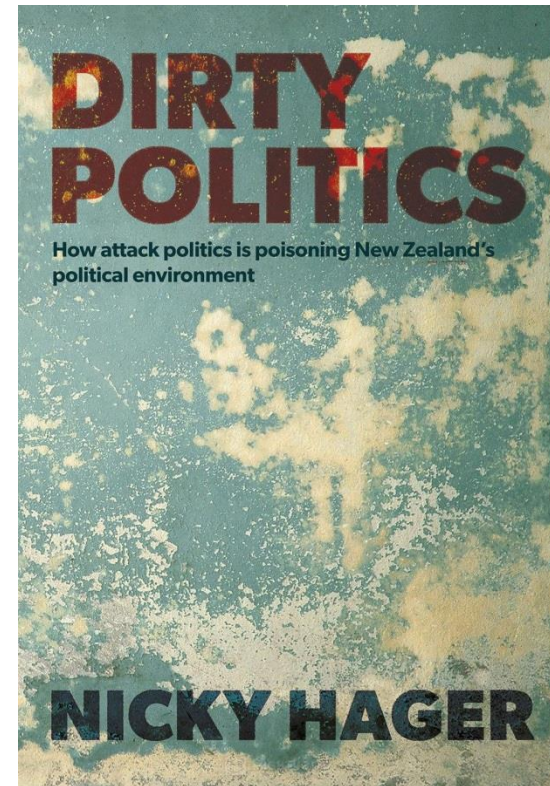
1. Can you draw conclusions no matter what the result (positive, negative, null)?
2. Will the result change what you would do at a clinical, policy or public level?

# 'Strategic Science' (Kelly Brownell)

1. Policy relevant research questions
  - Preferably co-created
2. Collaborative research with end-users
  - Often end-users as co-investigators
  - Potentially using end-users' data sets (Integrated Data Infrastructure)
3. Robust knowledge exchange systems
  - Links with policy-makers
  - Practitioner knowledge exchange networks
  - Advocacy organisations

# Challenges of public health research

- 'Public health is politics'
- Clash with commercial interests
- Disease 'vectors':
  - Tobacco
  - Alcohol
  - Junk food





# Dr Margaret Chan

Director General

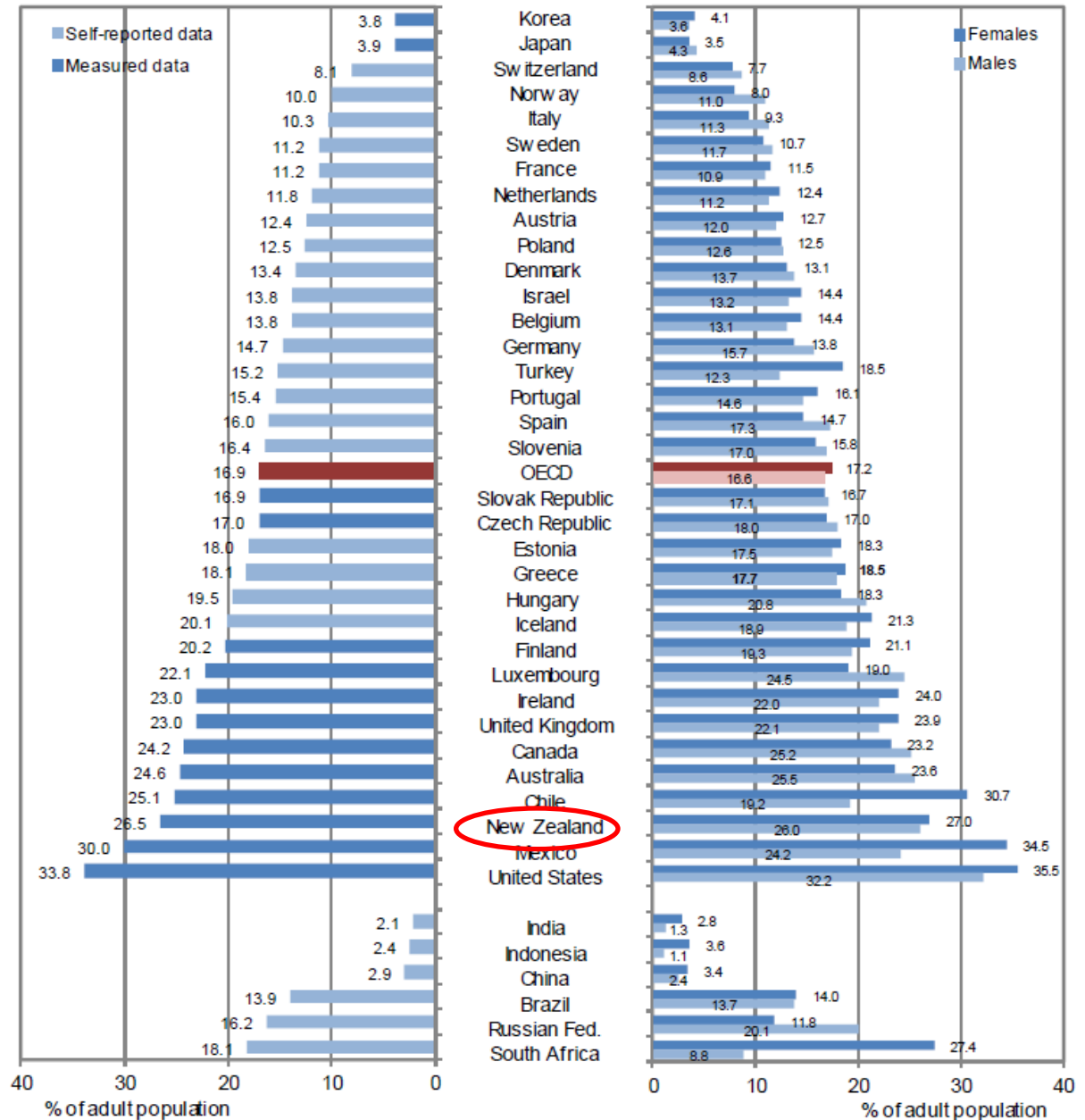
World Health Organisation

June 2013

*"Let me remind you. Not one single country has managed to turn around its obesity epidemic in all age groups. This is not a failure of individual will-power. This is a failure of political will to take on big business"*

**Adults:  
NZ is the  
third fattest  
in OECD  
after USA  
and Mexico**

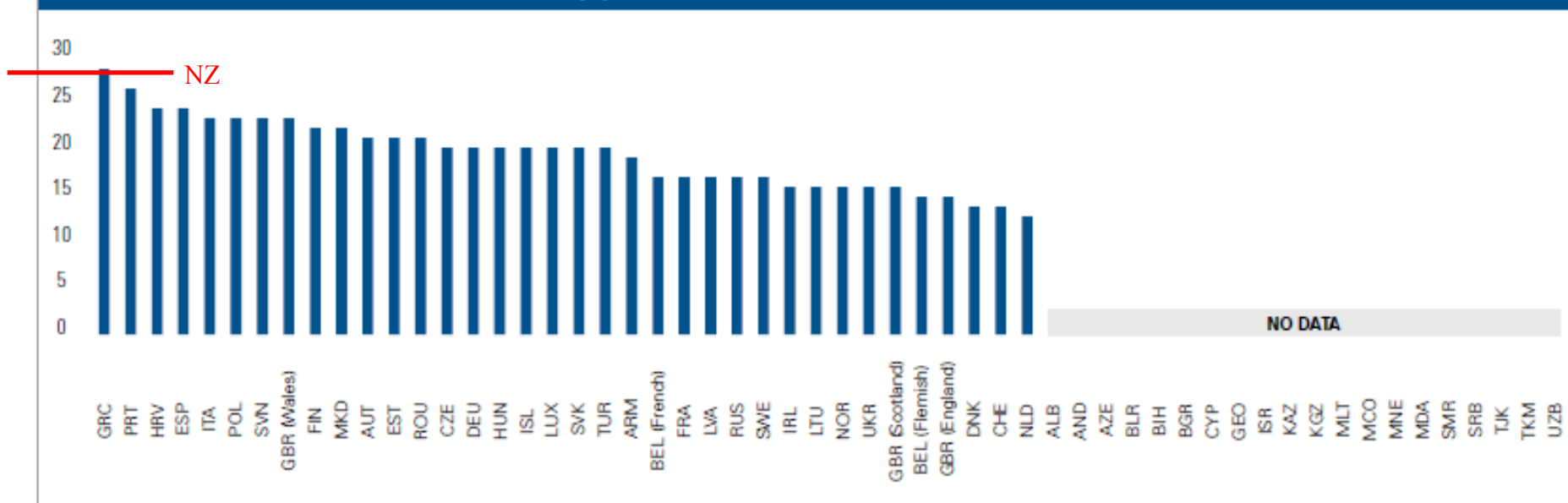
Obesity rates among adults, 2009 (or nearest year)



Source: OECD Health Data 2011; national sources for non-OECD countries.

# Overweight in European adolescents

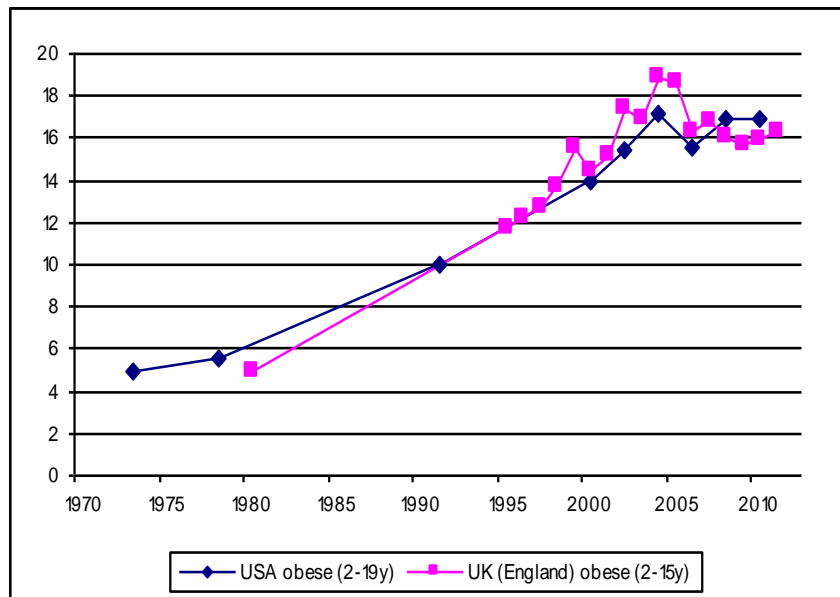
FIG. 2. PREVALENCE OF OVERWEIGHT (%) AMONG 13-YEAR-OLDS IN COUNTRIES IN THE WHO EUROPEAN REGION, 2009–2010



(If NZ used WHO definitions, the prevalence would be higher)

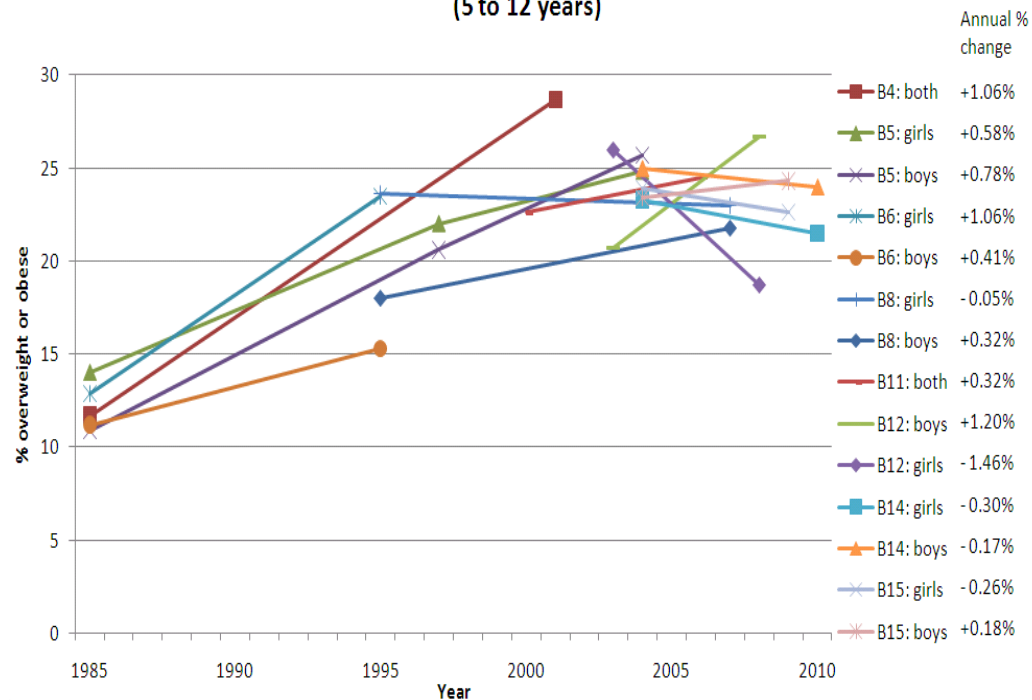
# Plateau effect in prevalence rise in childhood overweight and obesity

US and UK



Australia

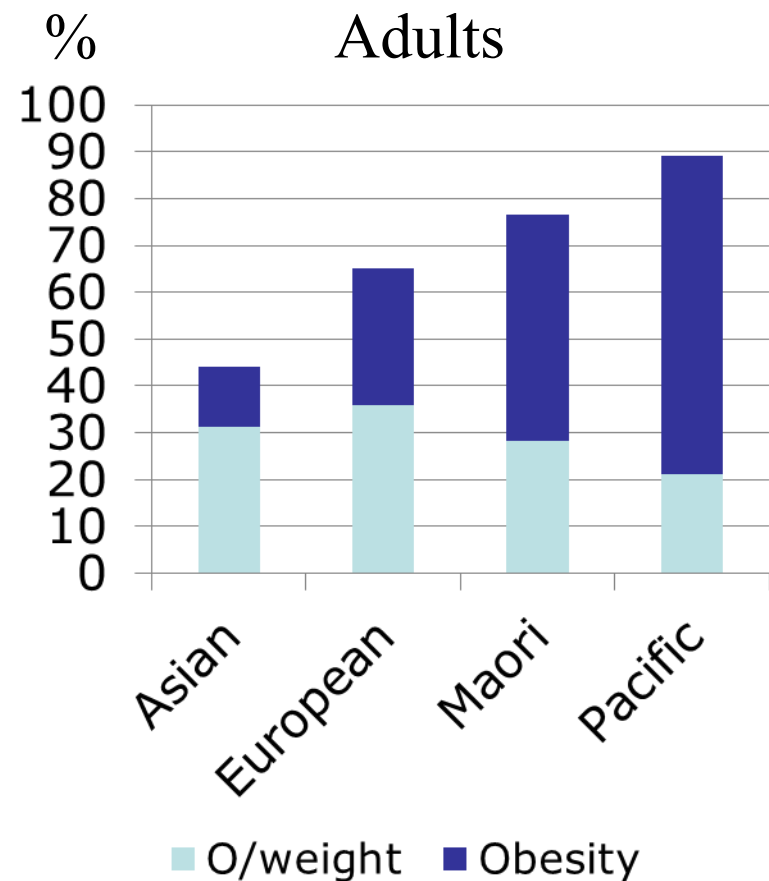
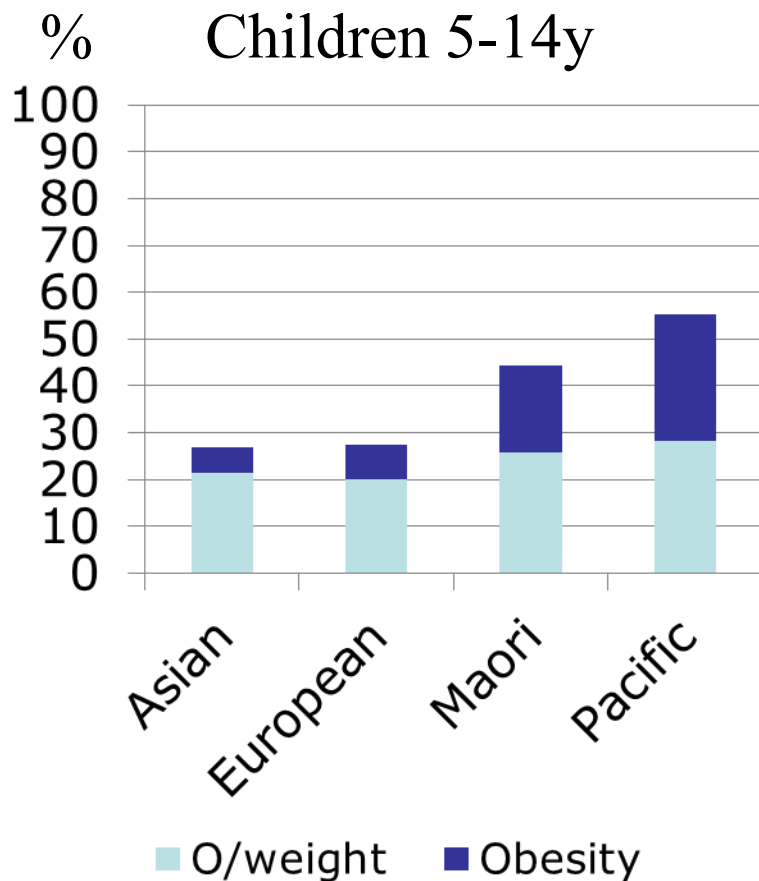
Trends in prevalence of overweight and obesity among Australian children (5 to 12 years)



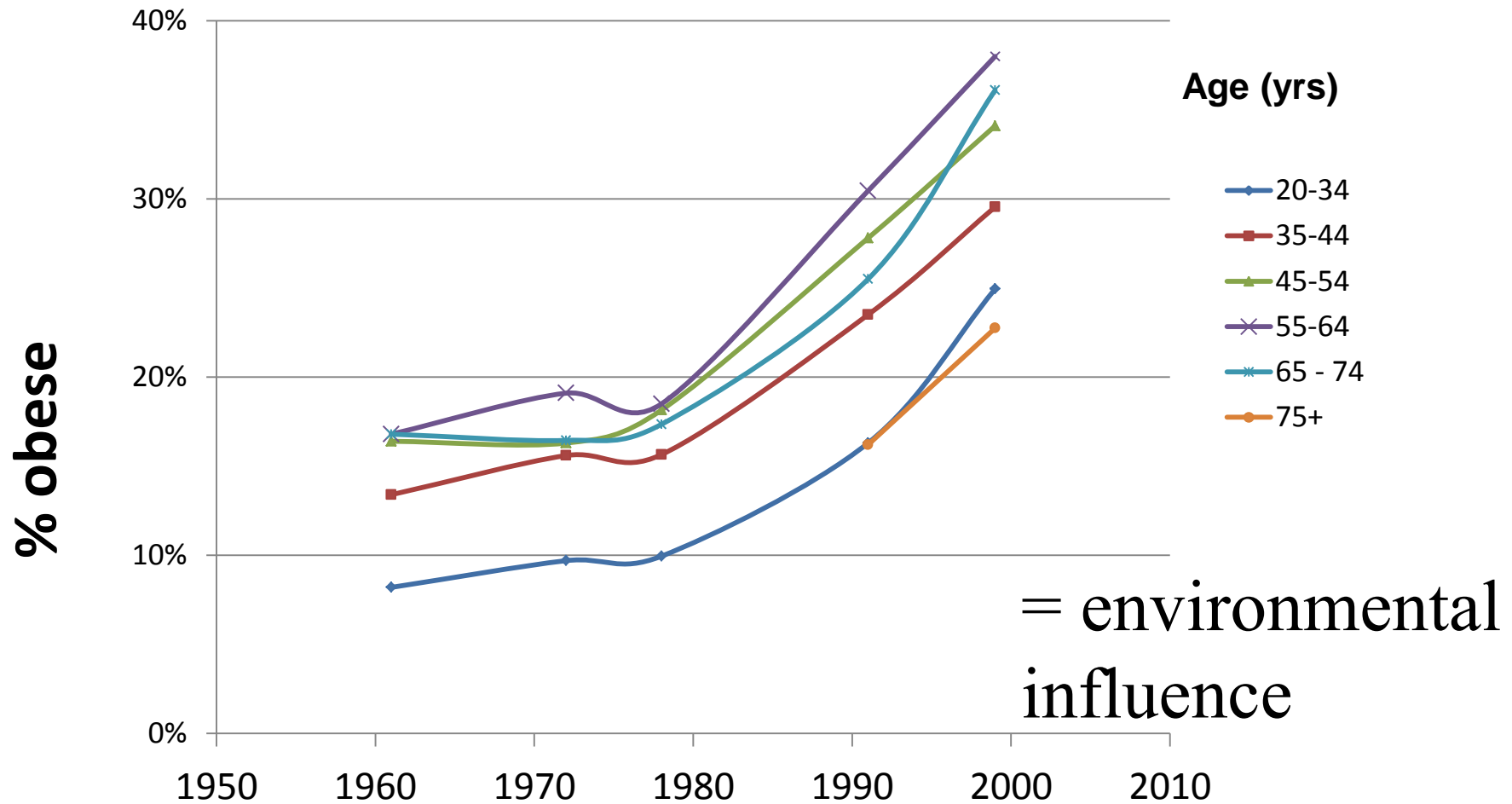




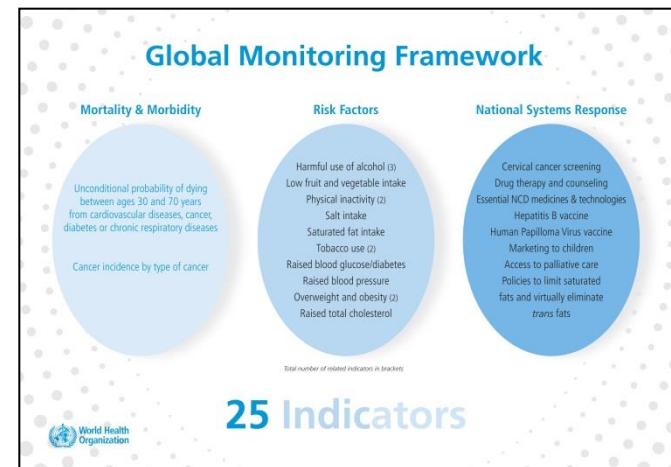
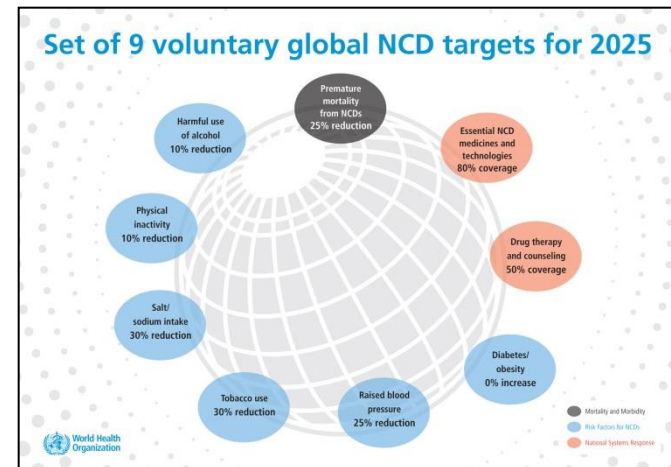
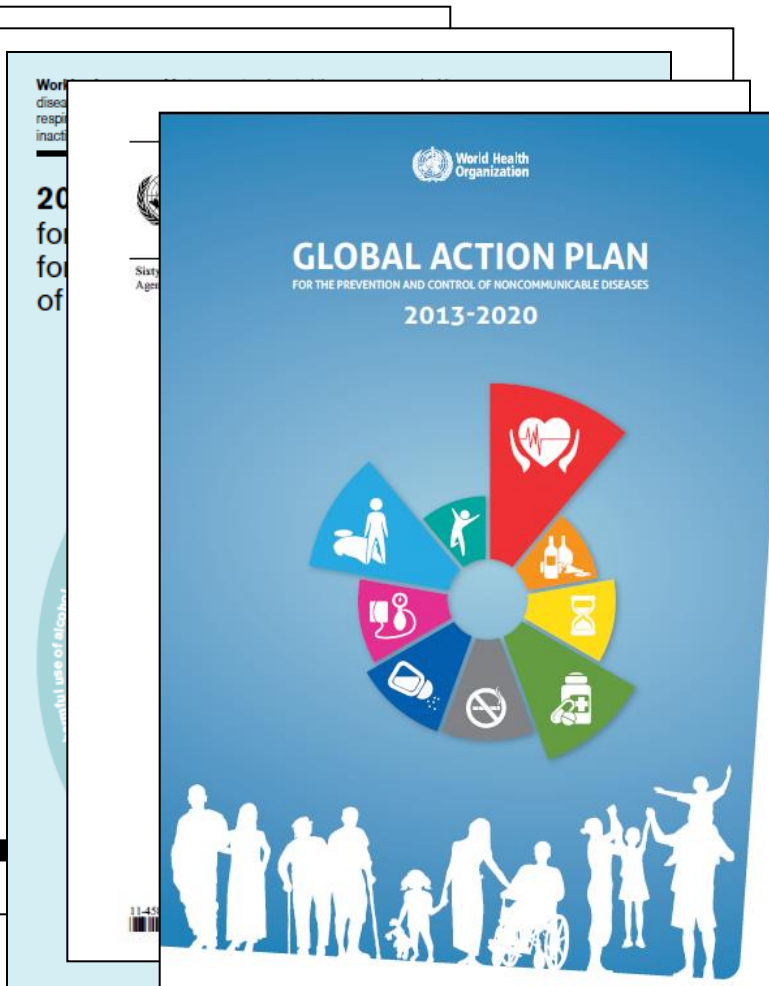
# NZ overweight/obesity by ethnicity



# Obesity increase by age group

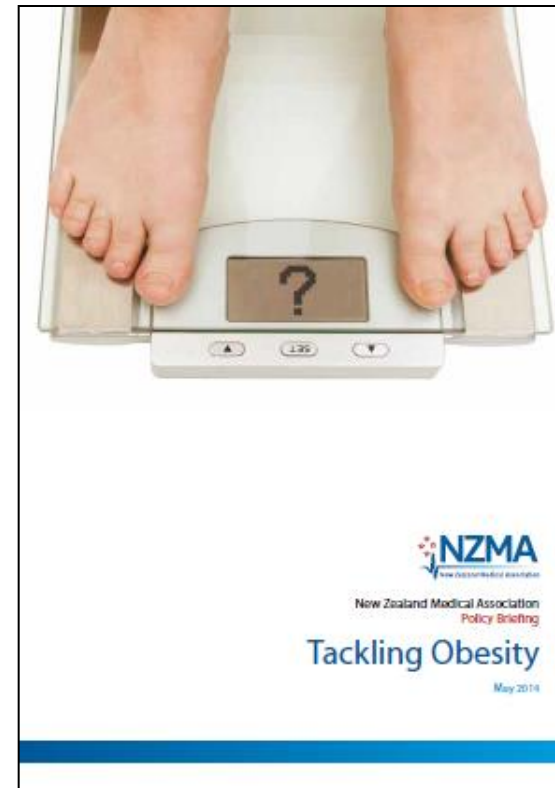


# What needs to be done?



# NZMA: Tackling Obesity

- Policy briefing
- Top Ten recommendations
  - Government
  - Local government
  - Health professionals
  - Communities



# Recommendations 1-5

1

Health professionals should take every opportunity to engage sensitively with patients who are obese, providing them with advice for healthy living and directing them to exercise and nutrition programmes as appropriate. Recognising and acting on obesity in childhood is of particular importance.

Engage with & support patients

2

Community-based approaches to obesity, as well as nutrition and exercise programmes, should be expanded across the country. These approaches need to be complemented by policy and regulatory initiatives.

Community-based approaches

3

Greater protection from the marketing of unhealthy food should be afforded to children. This should entail a more stringent statutory regulatory regime that addresses all forms of marketing including product packaging and sponsorships.

Restrict marketing to children

4

The use of fiscal instruments in the New Zealand context should be evaluated as a means of influencing food consumption, with priority given to a tax for SSB.

Tax on sugary drinks

5

A consistent and easy-to-understand food labelling system, preferably the traffic light concept, should be developed and implemented on the front of packaging to help inform consumers about their food choices. Restaurants and fast food outlets should be encouraged to develop visible calorie indicators.

Front of pack labelling



# Recommendations 5-10

6

Food and nutrition guidelines should be introduced in school canteens and in all public services including hospitals.

Healthy food: schools, hospitals

7

Nutrition should be included as part of the mandatory curriculum in schools.

Nutrition in curriculum

8

The licensing of fast food premises should be audited by local authorities, with a view to reducing the proximity of fast food outlets to schools and leisure centres.

Restrict fast food outlets

9

Local authorities should work with public health officials to conduct health impact assessments of planning decisions to facilitate urban environments that support physical activity.

Urban planning for PA

10

The concept of a health target around the provision of healthy living advice for pregnant women should be considered, eventually expanding this to all patients.

Health target: advice in pregnancy

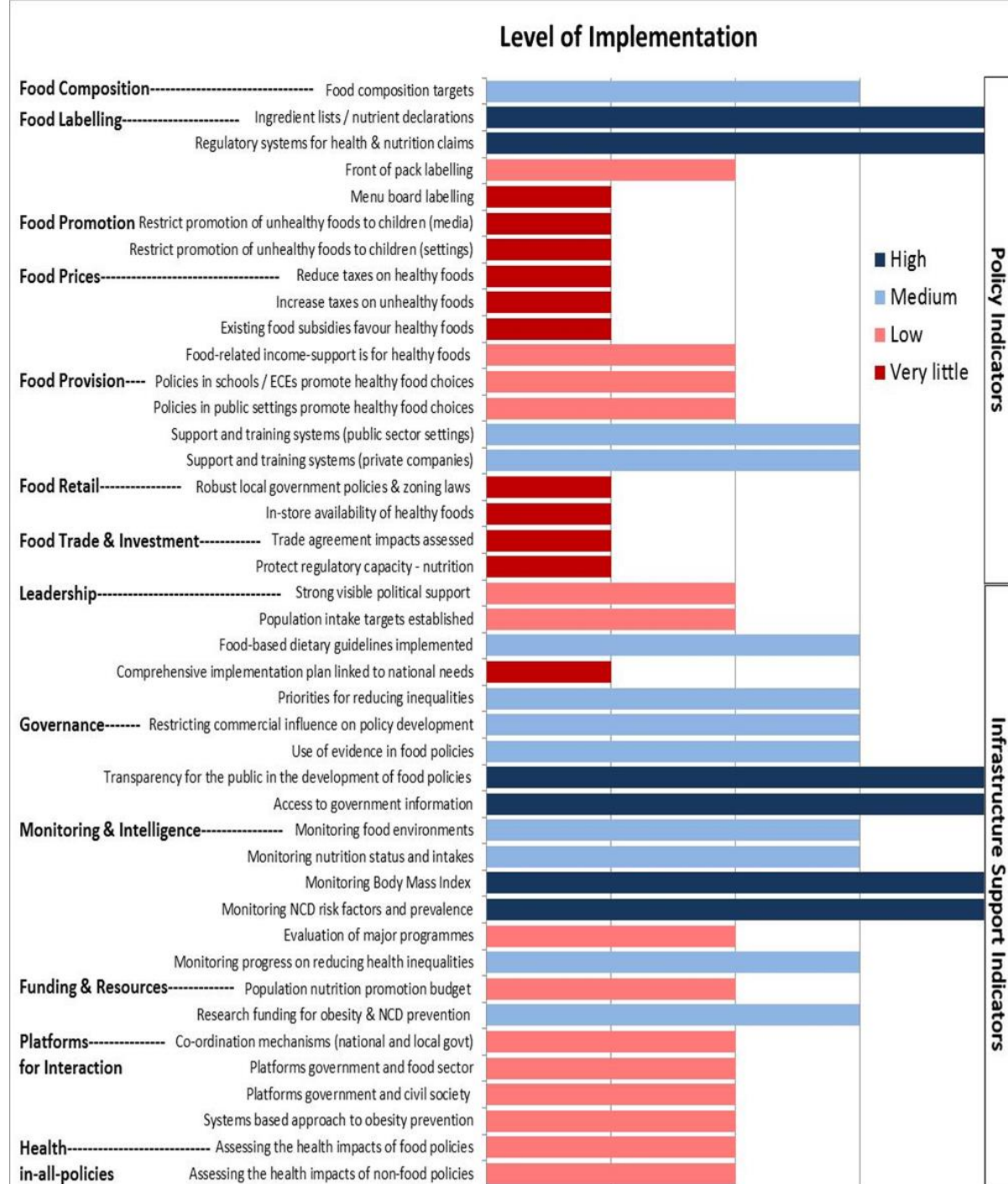
# Benchmarking food policy progress

- 52 member Expert Panel
- 42 indicators:
  - Policy implementation
  - Infrastructure support
- Verified evidence of implementation
- Benchmarks: international best practice
- Rated implementation
- Prioritised actions



# NZ Food-EPI

- Positives: international standard in 6
- Stronger infrastructure than specific policies
- Major gaps in implementation
  - Marketing to children
  - Fiscal policies
  - Comprehensive plans & funding



## Top priorities (out of 34 actions)

1. Comprehensive plan
2. Targets
  - Childhood obesity
  - Population intakes Na, SFA, sugar
  - Food composition
3. Funding (\$70m/y)
4. Restrict marketing to children
5. Healthy food policies
  - Schools
  - Early childhood settings
6. Health Star Rating food labelling
7. 20% excise tax on sugary drinks

# Community-based approaches

- Important complement to policy/regulatory approaches
- *Healthy Families NZ* about to be launched
  - 10 areas in NZ
  - \$40m over 4 years
  - Modelled on *Healthy Together Victoria*
- HTV arose out of overarching funding for Australian states/LGAs for obesity prevention
- Based on proof of principle from successful demonstration projects reducing childhood obesity



# Healthy Families NZ

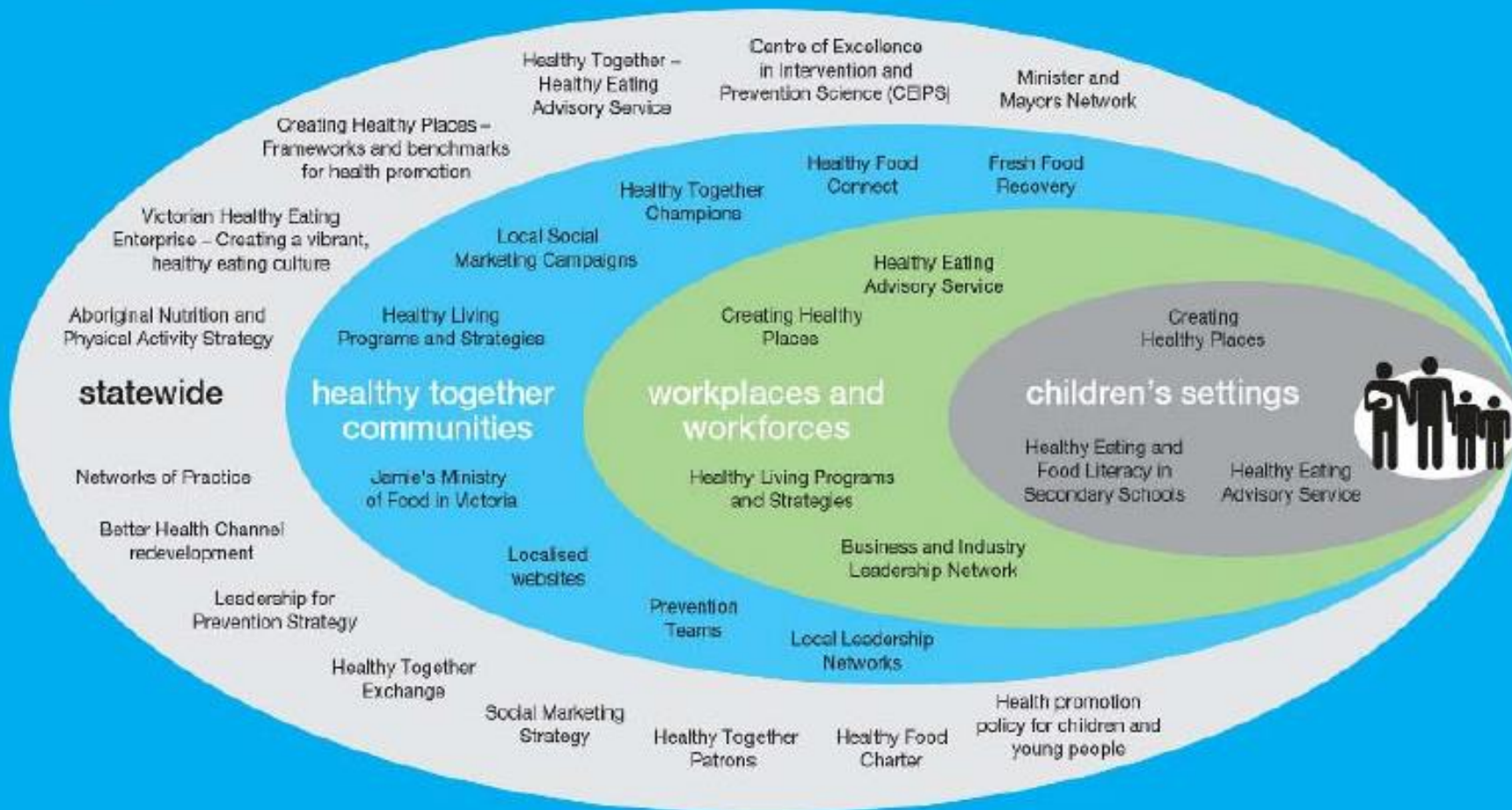
- Close links with Victoria
  - MoU, sharing materials, training, support etc
- Sites announced
  - Currently choosing providers
- High speed to implementation
  - Months rather than years
- Important opportunity for regions to seize
  - Political moment
  - HFNZ action at ground level (eg training, networks)
  - National components (eg achievement program, social marketing)

# Victoria – a systems approach to prevention

- Using funding to strengthen prevention systems (~\$1b over 9 years across Australia)
- Victorian health minister as a champion of government, community and personal action on healthy eating and PA
- A vision of sustained 'activating systems' approach – not projects
- Empower and fund local govt and communities



# Improving people's health where they live, learn, work and play



## Healthy Together Communities

14	520	938	4,409	Over 1.3 million
Local government areas	Schools	Early childhood services	Workplaces	Victorians

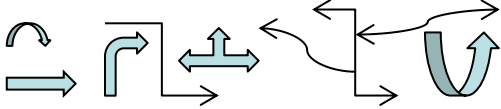
# Key components of HTV

- Champions program
  - Mayors Club, Jamie Oliver, local leadership groups
- Achievement Award program
  - Quality assurance system, early progress results
- 12 sites for intensive intervention
  - Randomised pair selection of sites
  - >100 new staff on the ground
- Training and networks of practice
- Evaluation
  - Measuring how to activate systems and what the impacts are – especially on childhood obesity

# The Full Prevention House

Systems dynamics

Apply arrows everywhere



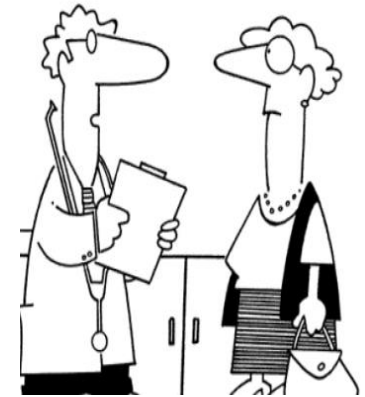
Political commitment

Specific actions  
– people and  
food & PA envs

High Level Policies

- Leadership & governance
- Information & intelligence
- Finances & resources
- Networks & partnerships
- Workforce development
- Health in all policies

Service  
delivery,  
programs,  
policies



System & capacity building blocks

# Implications for NZ and Otago

- HFNZ is an important opportunity to seize
- Sufficient resources in DHBs, councils, NGOs, HFNZ sites, iwi, and community groups for region-wide approaches
- Needs high level leadership to drive the challenges of re-orientation, engagement of many players, co-ordination of efforts, resource mobilisation, new thinking etc
- Could be packaged into building a **Prevention System** for the region
- Incorporate primary care



# Conclusions

- Congratulations to the Edgar Diabetes and Obesity Research team
  - Look forward to their ongoing leadership in 'strategic', 'solution-oriented' research
- Challenges ahead
  - Insufficient research dollars
  - Implementation research
  - Battling the toxic tactics of 'Big Junk Food'
- Opportunities ahead
  - Healthy Families NZ
  - Region-wide activation
  - Collaborations on the National Science Challenges