

Global status of the evaluation of obesity prevention

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**THE UNIVERSITY
OF AUCKLAND**
**FACULTY OF MEDICAL
AND HEALTH SCIENCES**

Overview

- Global scan
- Full prevention house
- 3 generations of intervention/evaluation
 - Package testing
 - Capacity building
 - Integrated systems
- What would SA need to shift into systems interventions and evaluations?
- Conclusions

Obesity prevention: systems-oriented and at scale

- Australia
 - Healthy Together Victoria, WHO-CC & South Coast
- New Zealand
 - Healthy Families NZ, Healthy Auckland Together
- UK
 - Public Health England – 4 pilot studies (RFP)
- US
 - TX CORD, Somerville
 - In forward thinking



Evaluating Obesity Prevention Efforts:
What Have We Learned?

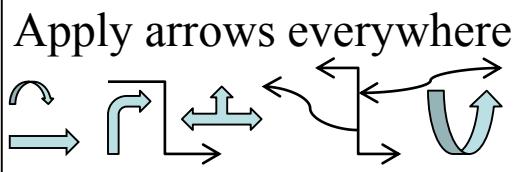
Highlights From a Conversation of Funders and Evaluators

January 12, 2015

Oakland, CA

The Full Prevention House

Systems dynamics

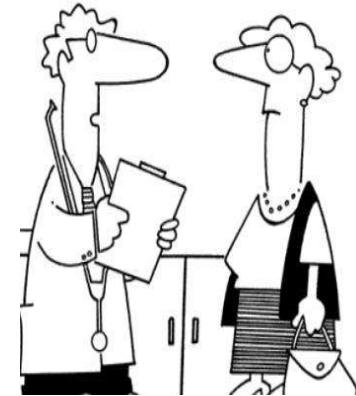


Political commitment

High Level Policies

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

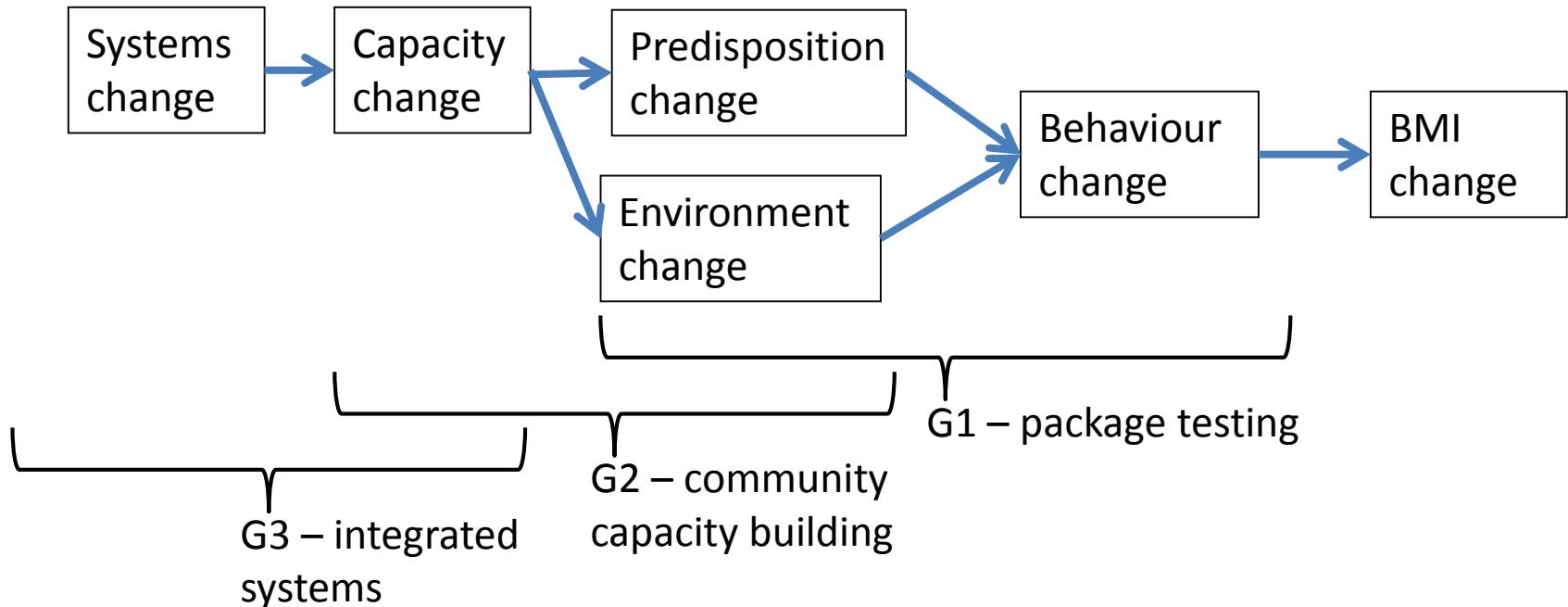
Service delivery,
programs,
policies



Specific actions
– people and
food & PA envs

System & capacity building blocks

Moving interventions upstream: 3 generations of approaches



G1-3 characteristics

	G1 – Package testing	G2 – Capacity Building	G3 – Integrated Systems
Research question	Does this intervention package work?	Does capacity building work?	Do systems approaches work? (or ‘how’?)
What is the intervention?	Package of individual & env interventions	Building community capacity	Activating / re-orienting existing systems
Who develops it?	Content experts	Local & content experts	Local experts
Role of community	Consulted & support implementation	Engaged, co-design & implement	Design & implement
Role of experts	Create & implement	Co-design, support implementation	Support design & ?implementation
Resources applied	Directly to interventions	Community organisations to deliver interventions	To support change agents to leverage systems
Evaluation methods	RCT, cluster RCT	Cluster RCT, quasi-experimental	Quasi-exp, systems methods, SNA, CQI
Fidelity	Package implementation	Process and relationships	Process and relationships
Validity	Internal (delivery), weak external	Internal (processes), strong external	Internal (processes), very strong external
Application to ‘at scale’ action	Marginally relevant	Proof of principle	Directly applicable

Barwon-South Western region



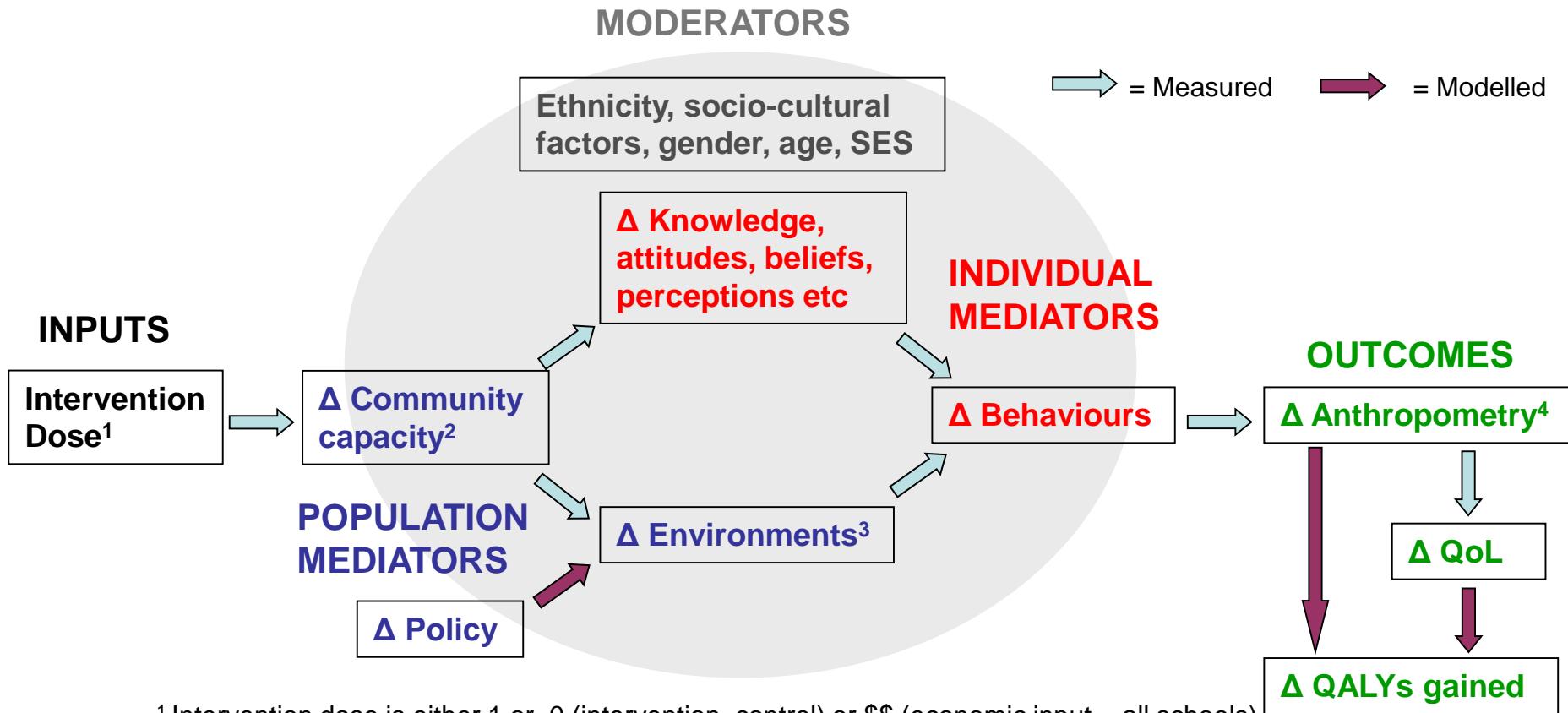
Regional population
~300,000

Geelong population
~200,000

3 Whole-of-community intervention programs

- **3 years duration**
- **preschool, primary school, secondary school**
- **Community capacity building approach**

Logic model for interventions



¹ Intervention dose is either 1 or 0 (intervention, control) or \$\$ (economic input – all schools)

² Capacity is leadership, skills/knowledge, structures, resources

³ Relevant environments are schools, homes, neighbourhoods, churches

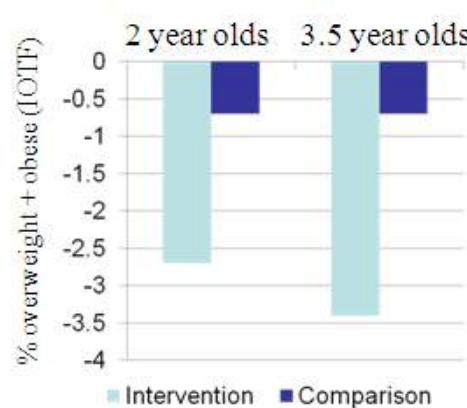
⁴ Weight, BMI, BMI-z, waist, waist:height, %fat, prevalence of o/w+obesity



(Geelong) <5s
2004-'08

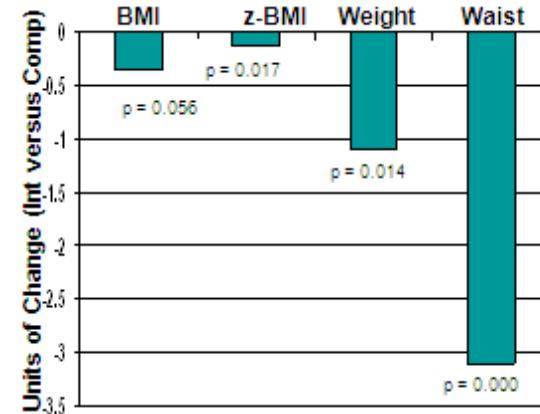
↓ 1.8% (2y/o) & 2.7 % (3.5y/o)
over 3 y

\$100k for 12,000 children
Δ behaviours and environments
Δ state prevalence
(de Silva-Sanigorski Am J Clin Nutr 2010)



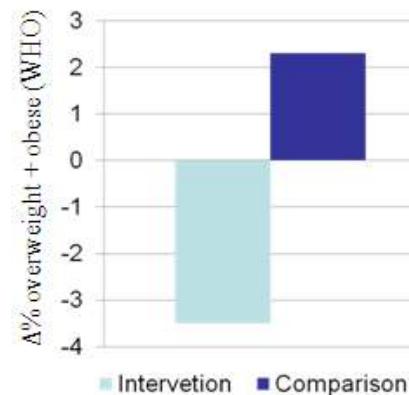
(Colac) 4-12y
2002-'06

↓ ~1kg, 3cm waist over 3y
Greater effect in lower SES children
No Δ 'safety measures'
Sustained & ?spreading influence
(Sanigorski et al Int J Obesity 2008)

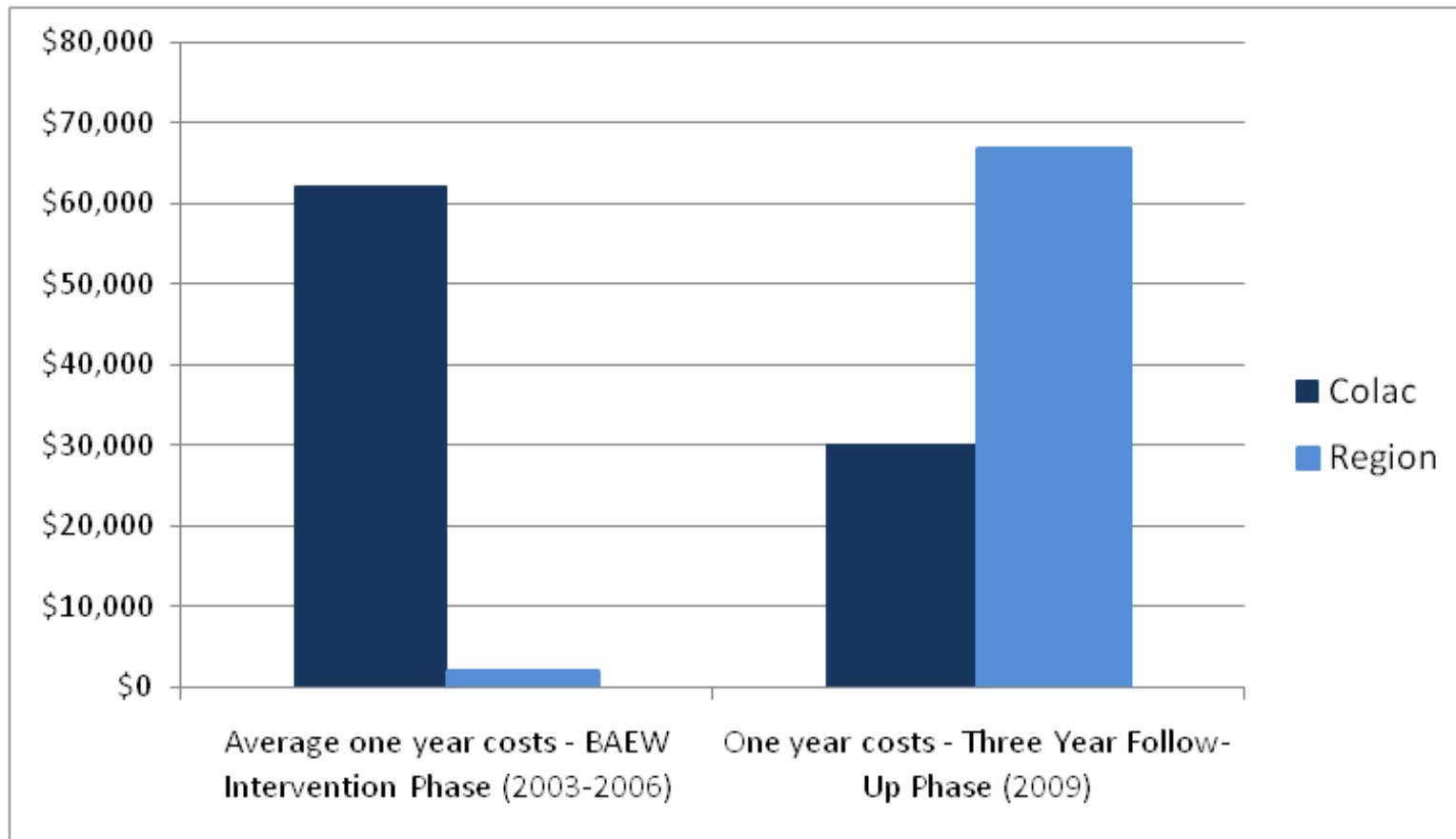


(E Geelong) 13-18y
2004-'08

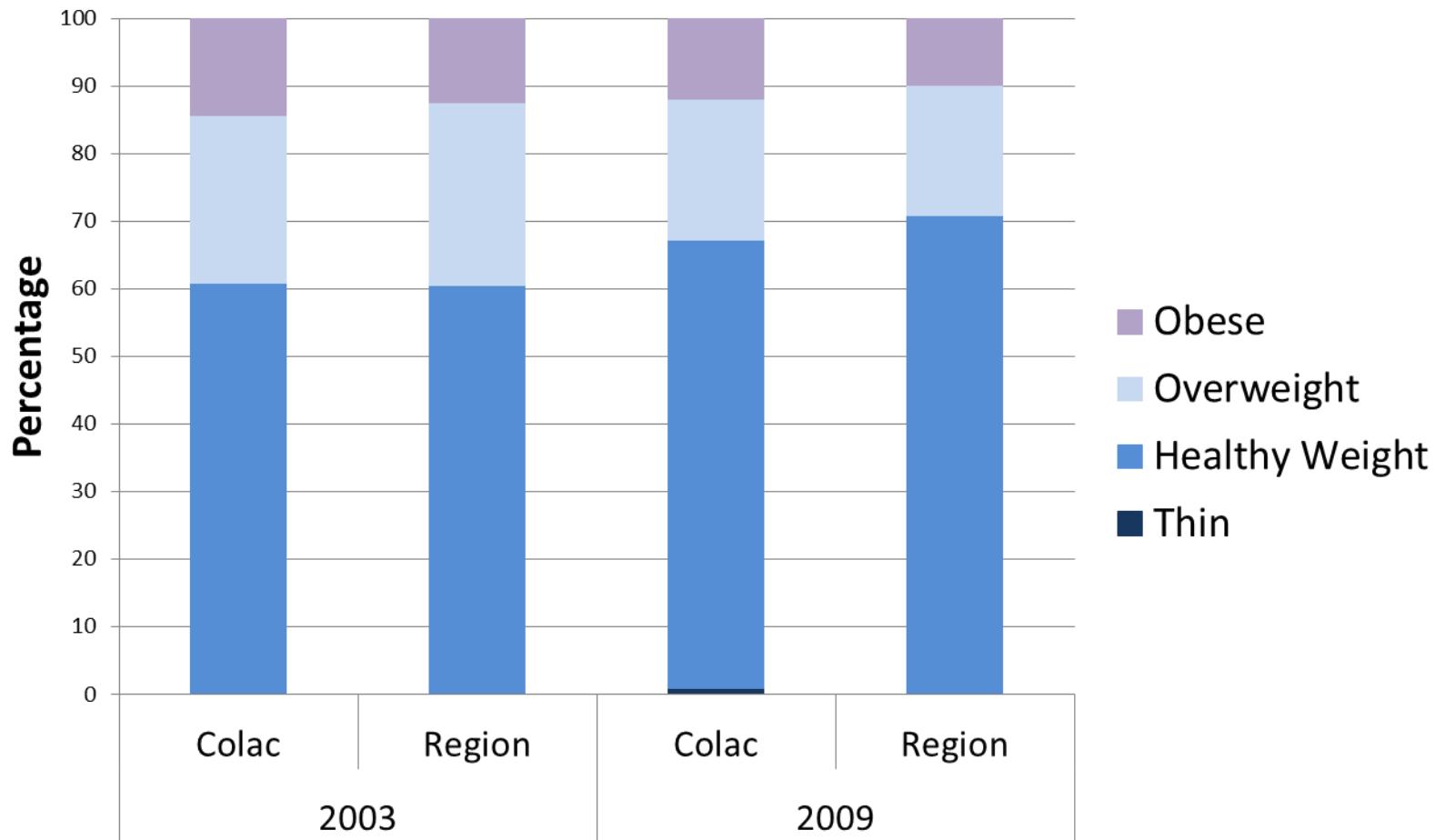
↓ 5.8 % prevalence over 3 y
Δ community capacity
Δ in school environments
No Δ behaviours
(Millar et al Obes Rev 2011)



Investment during & after a 3y intervention program in Colac (vs comparison region)



Changes in overweight & obesity prevalence



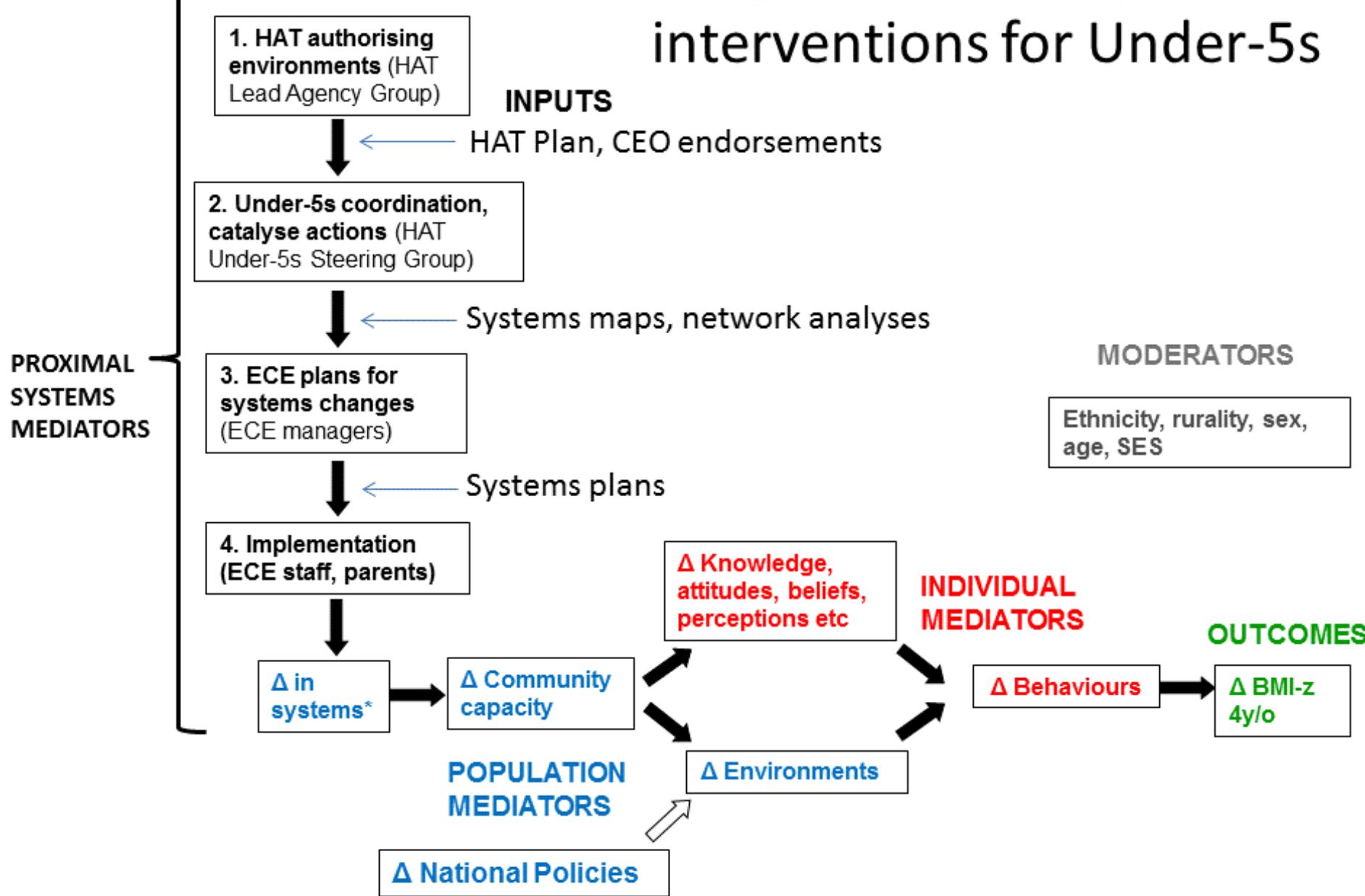
Pre-systems thinking approaches

- Interventions were systems building blocks
- Organisational argy-bargy may have been an important sign of systems change
- Quasi-experimental designs with standard epidemiological tools were used
- Low cost interventions eg policies, training
- Problem of measuring behavioural change
- 'Obesity prevention virus' spreading along networks
- Cultural barriers to change - ?need systems lens

Systems approaches

- At community level
 - \$\$ investment: rapid capacity & stimulates action
 - External \$\$ can be pulled (eg NPAPH) – ‘project-like’
 - ‘Boot-strap’ with existing community resources
 - ‘Coalition of the willing’ – mandate, capacity, interest
- At state level
 - ‘Backbone’ for coordination, training, creating platforms for interaction, supporting networks and leaders, communications, monitoring & evaluation
 - Tools to support a community through a process of activating a cascade of systems change
 - Supportive state-level policies, leadership, advocacy

Logic model for systems interventions for Under-5s

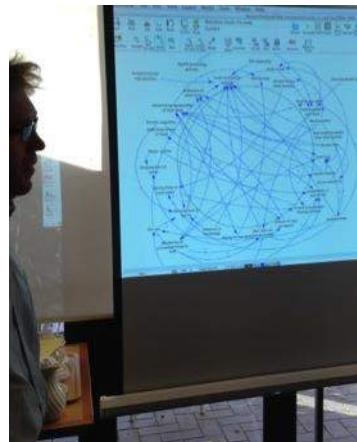


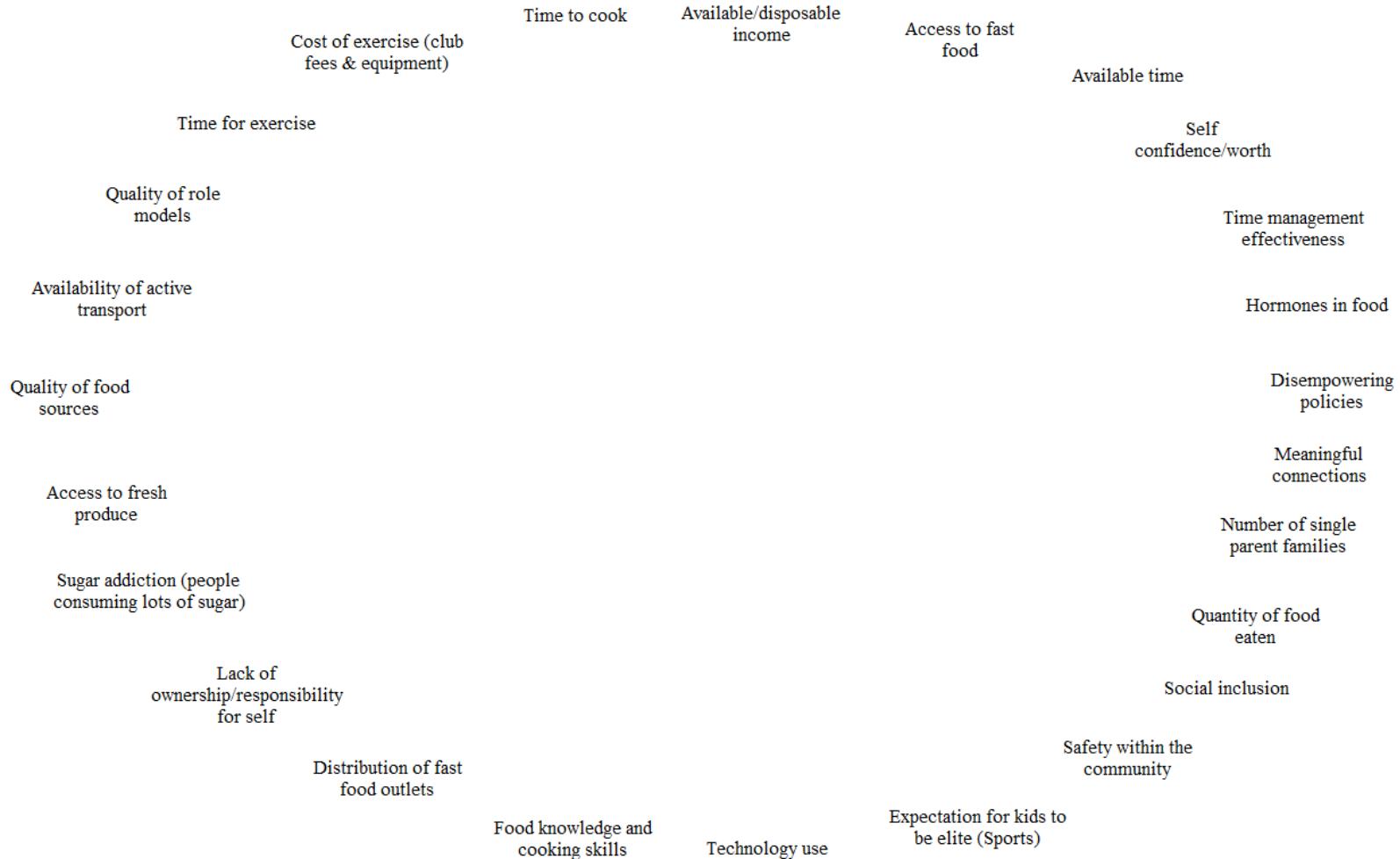
GROUP MODEL BUILDING

- Uses system dynamics to develop a causal map/diagram
- Community driven participatory research
 - core modelling team
- Involves community members in the process of building model (STICK-E)



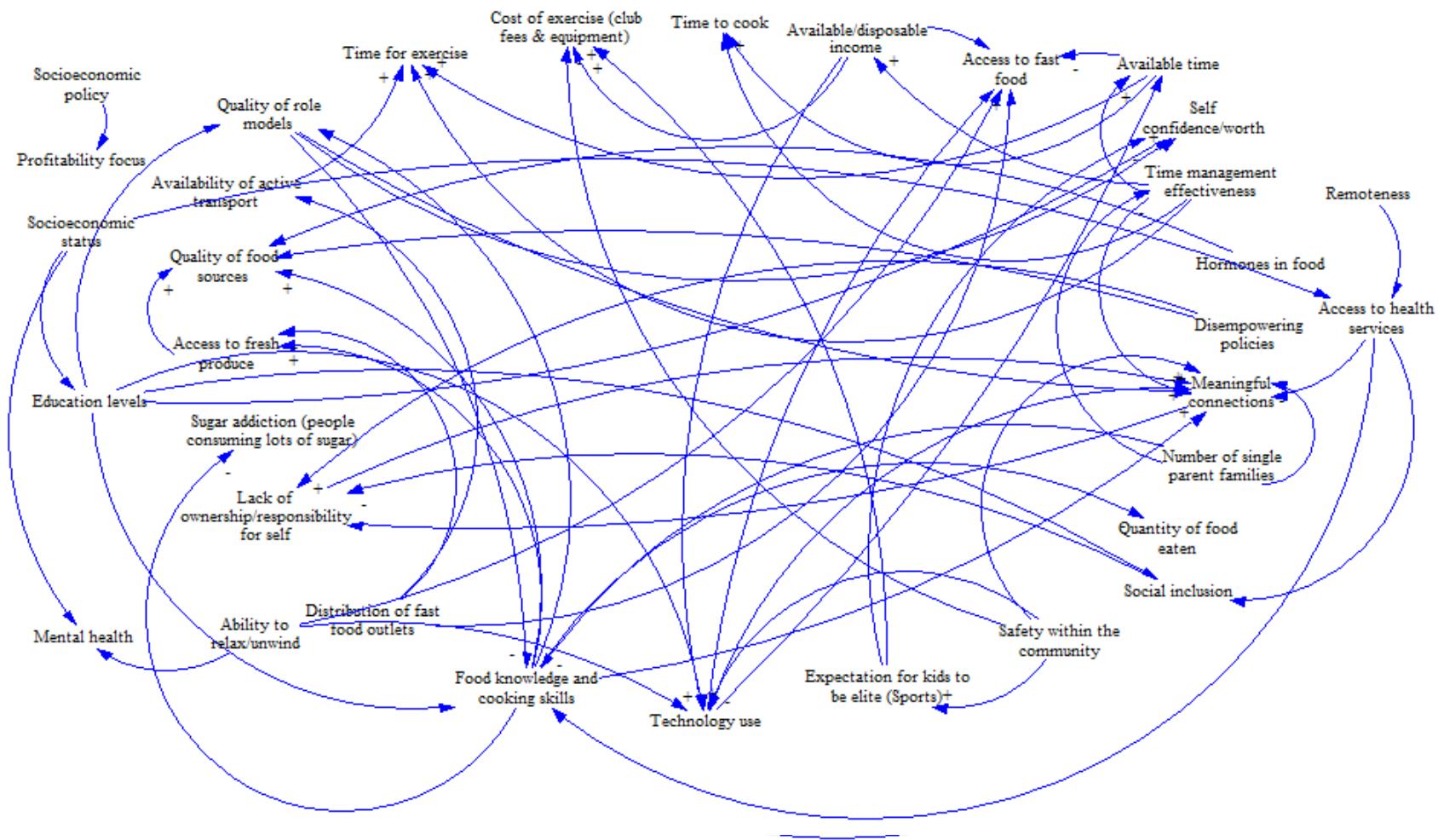
→ Ownership, collaboration, insight, foundation for action plans, monitor progress

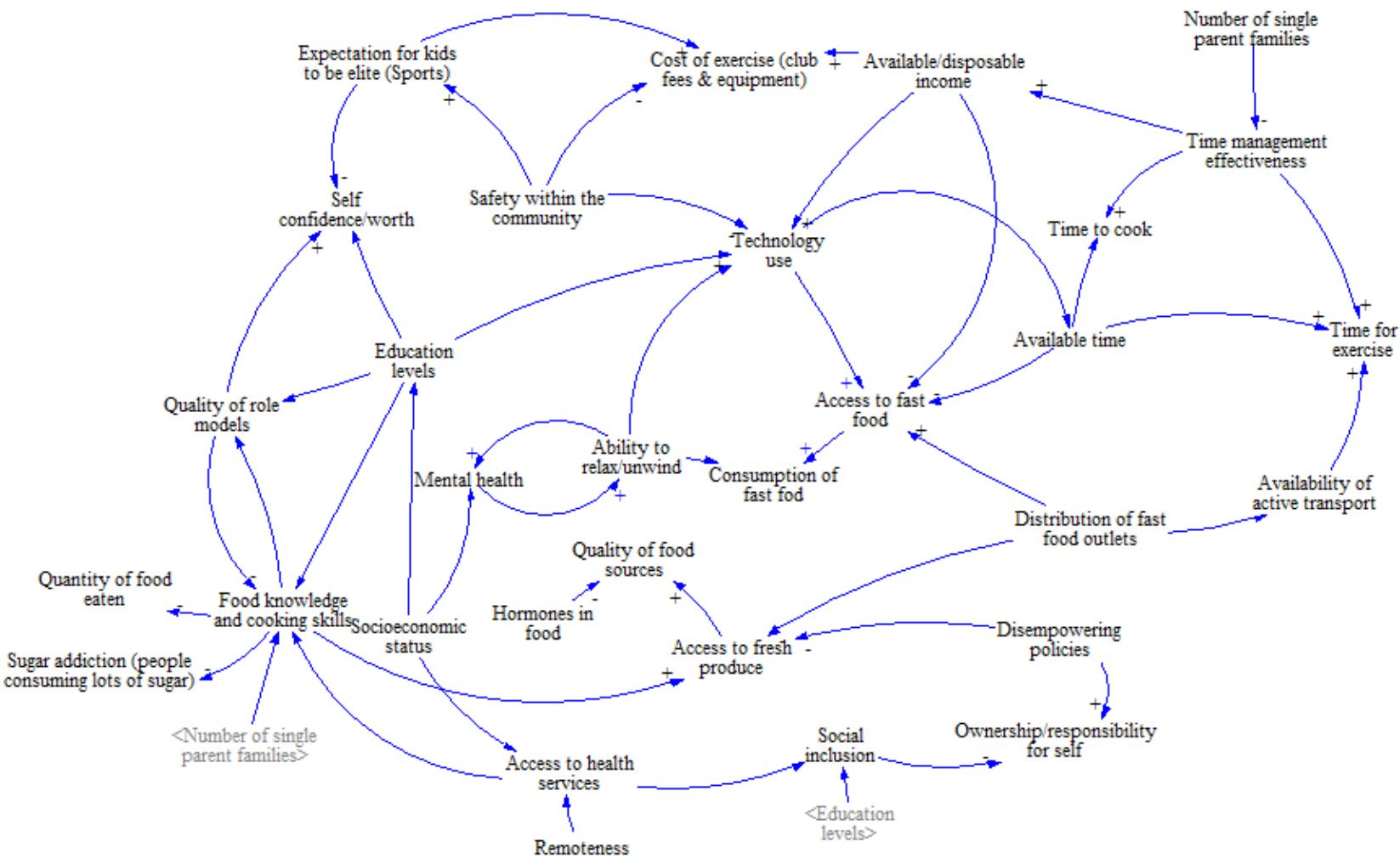




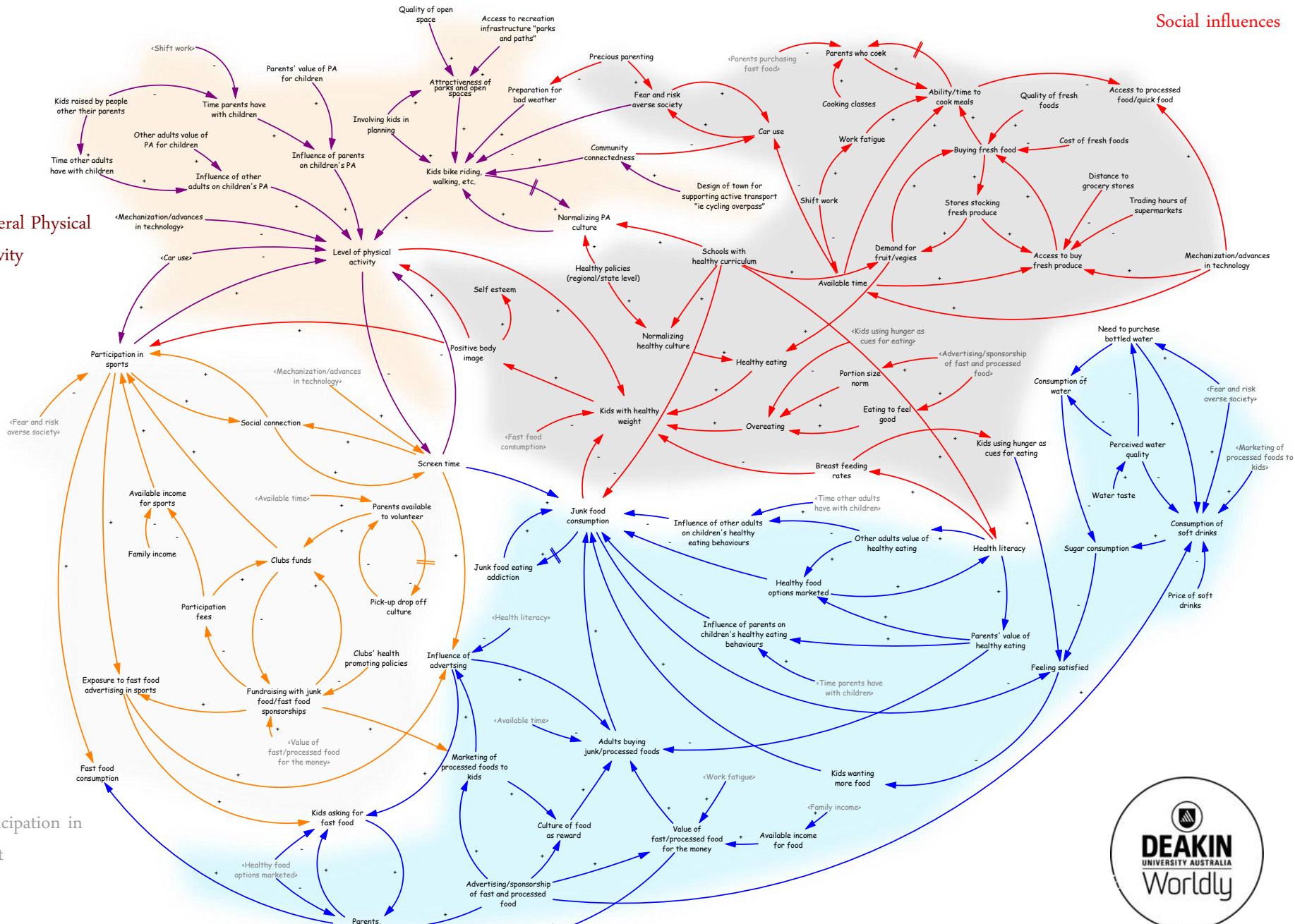
Connection circle for 'What is making children fat in our community?'







General Physical Activity

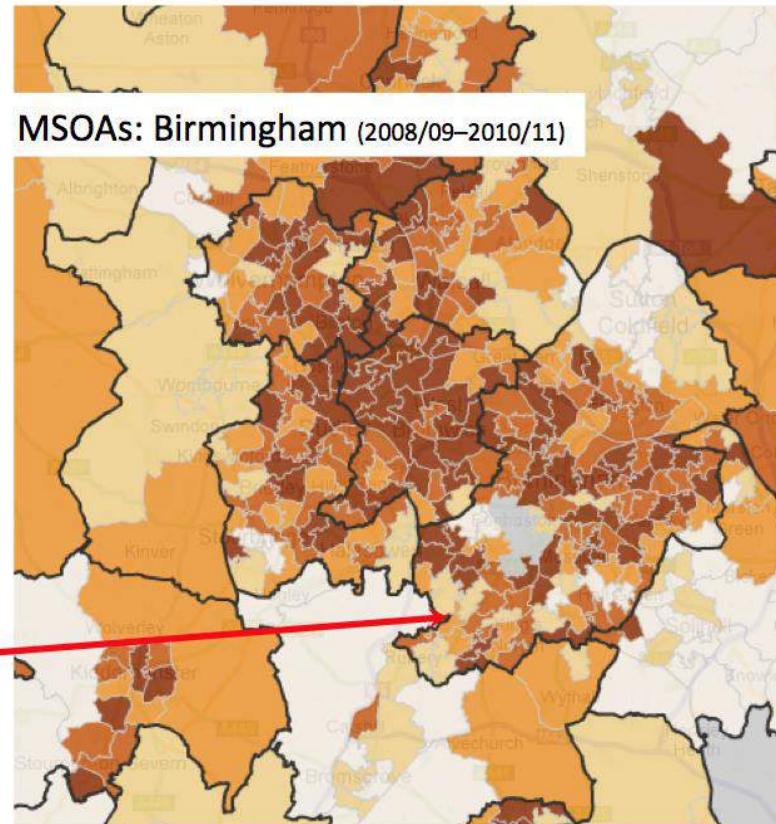
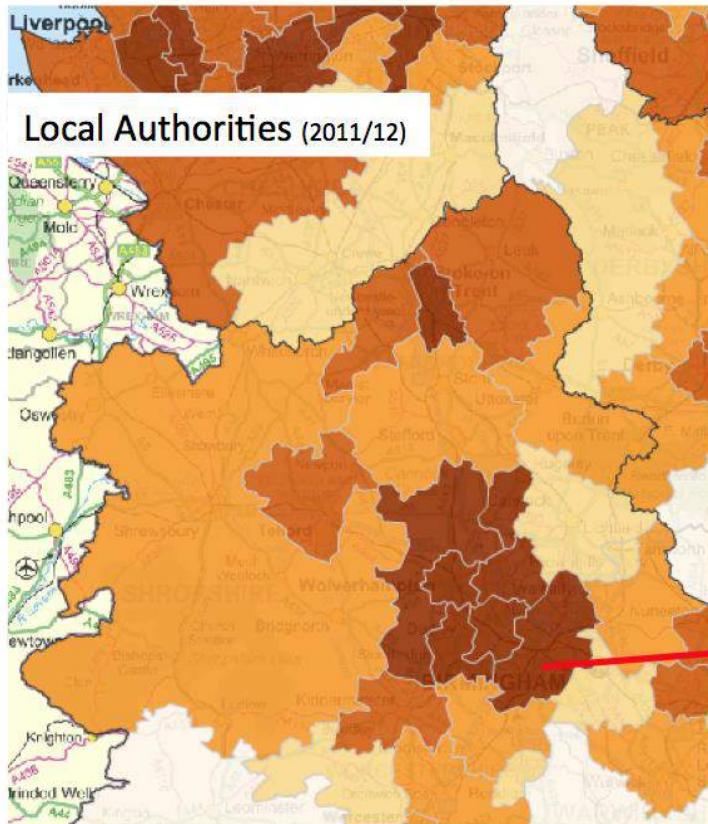


Critical importance of monitoring systems

(progress, benchmarking, intervention)

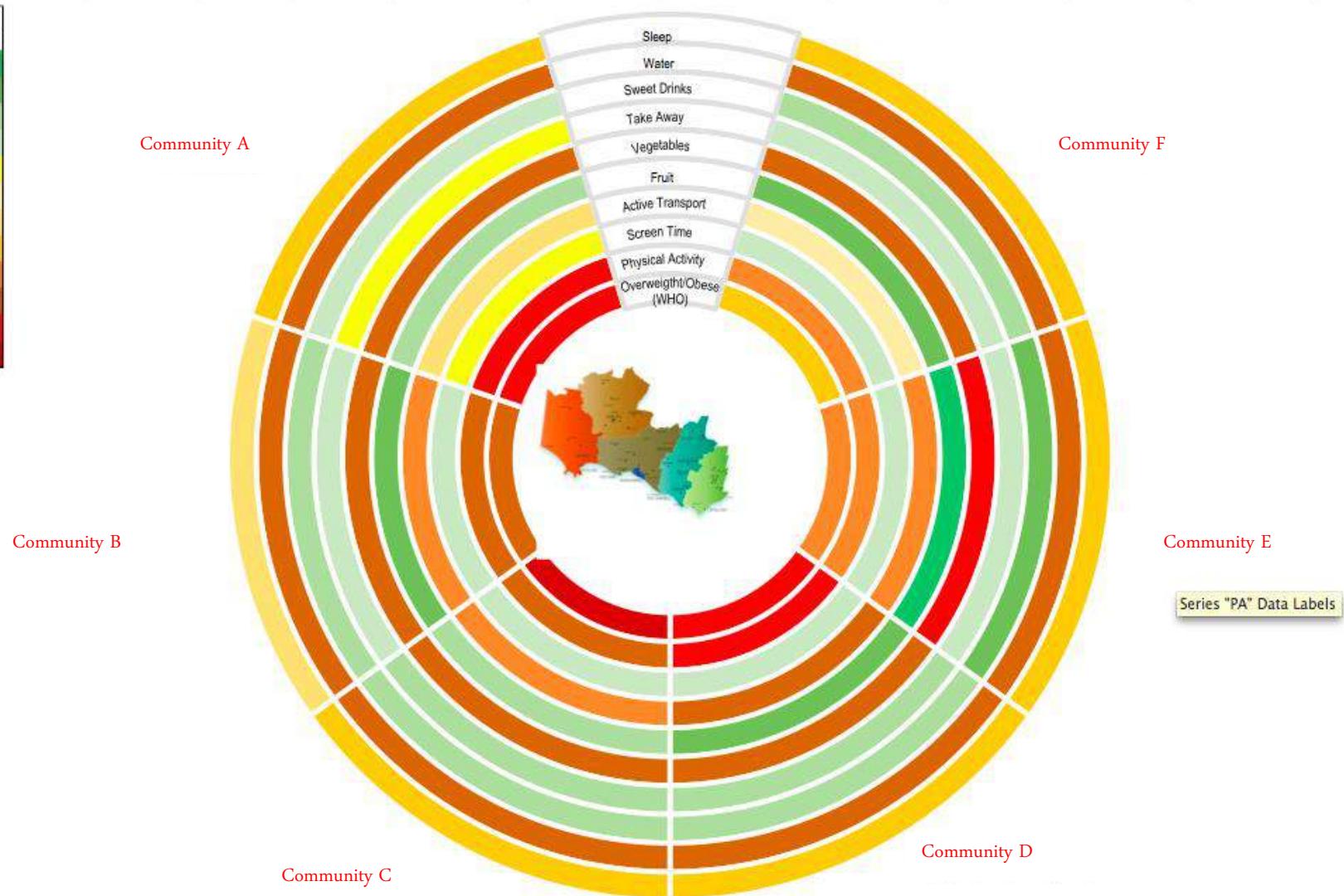
- Childhood obesity
 - MCH / pre-school
 - Need for school-based monitoring
 - **WITH OPT-OUT CONSENT!** (Claudia.strugnell@Deakin.edu.au)
- Key behaviours
- Food and PA environments
- Government policy implementation
- Private sector activities

England's National Child Measurement Program



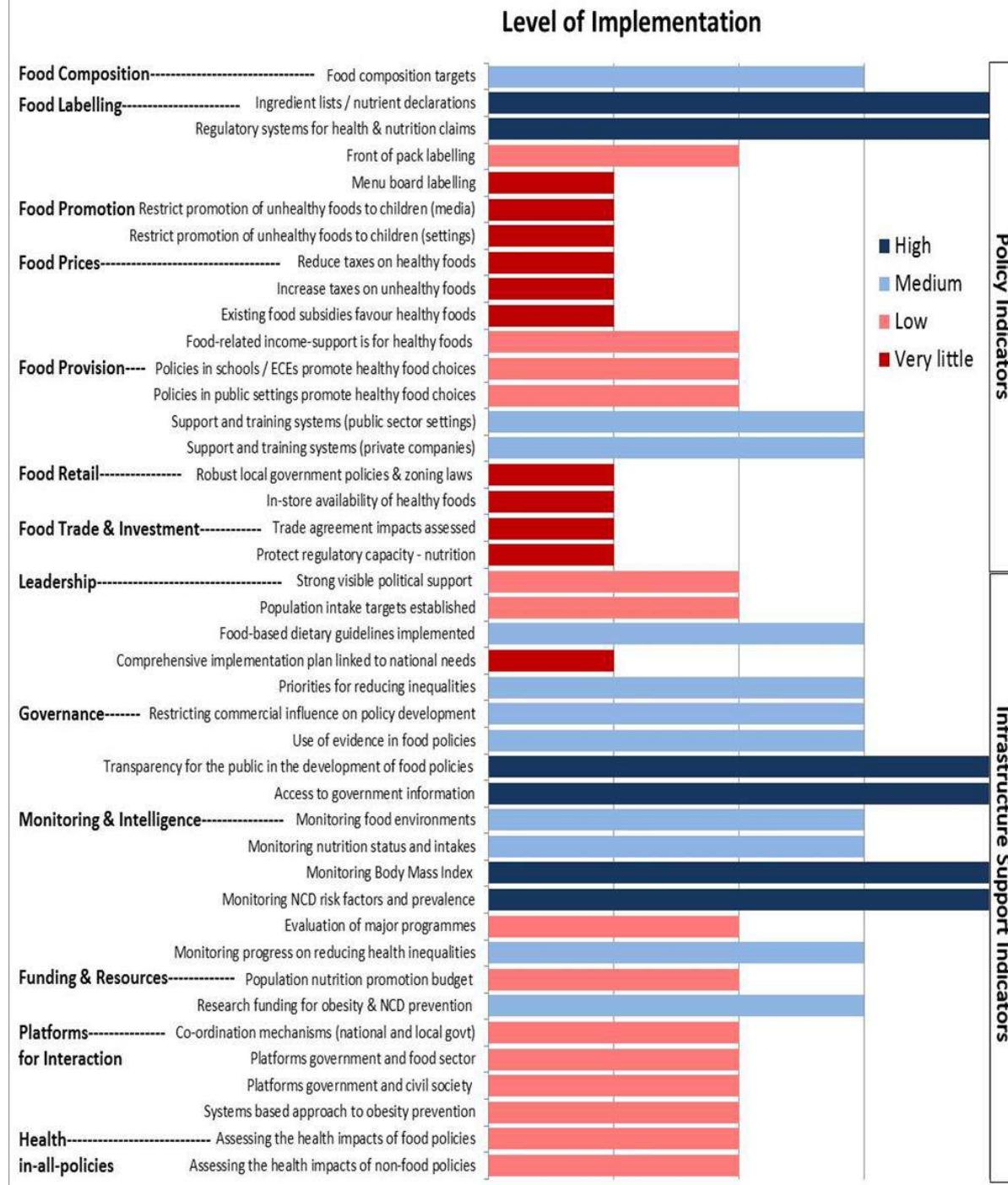
Heat map of local risk patterns

Behaviours (%)	Overweight /Obesity (%)
0-7	17-18
8-14	19-20
15-21	21-22
22-28	23-24
29-35	25-26
36-42	27-28
43-49	29-30
50-56	31-32
57-63	33-34
64-70	35-36
71-77	37-38
78-84	39-40



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



Conclusions

- Time is right to transition to sustainable, at-scale, systems-oriented approaches to obesity prevention
- **Communities** – bootstrap, coalition of the willing (mandate, capacity, interest)
- **States/territories** – backbone functions, political leadership, tools
- Development of systems tools
- Importance of monitoring systems