

Using complexity theory to develop health policy: a proposed method

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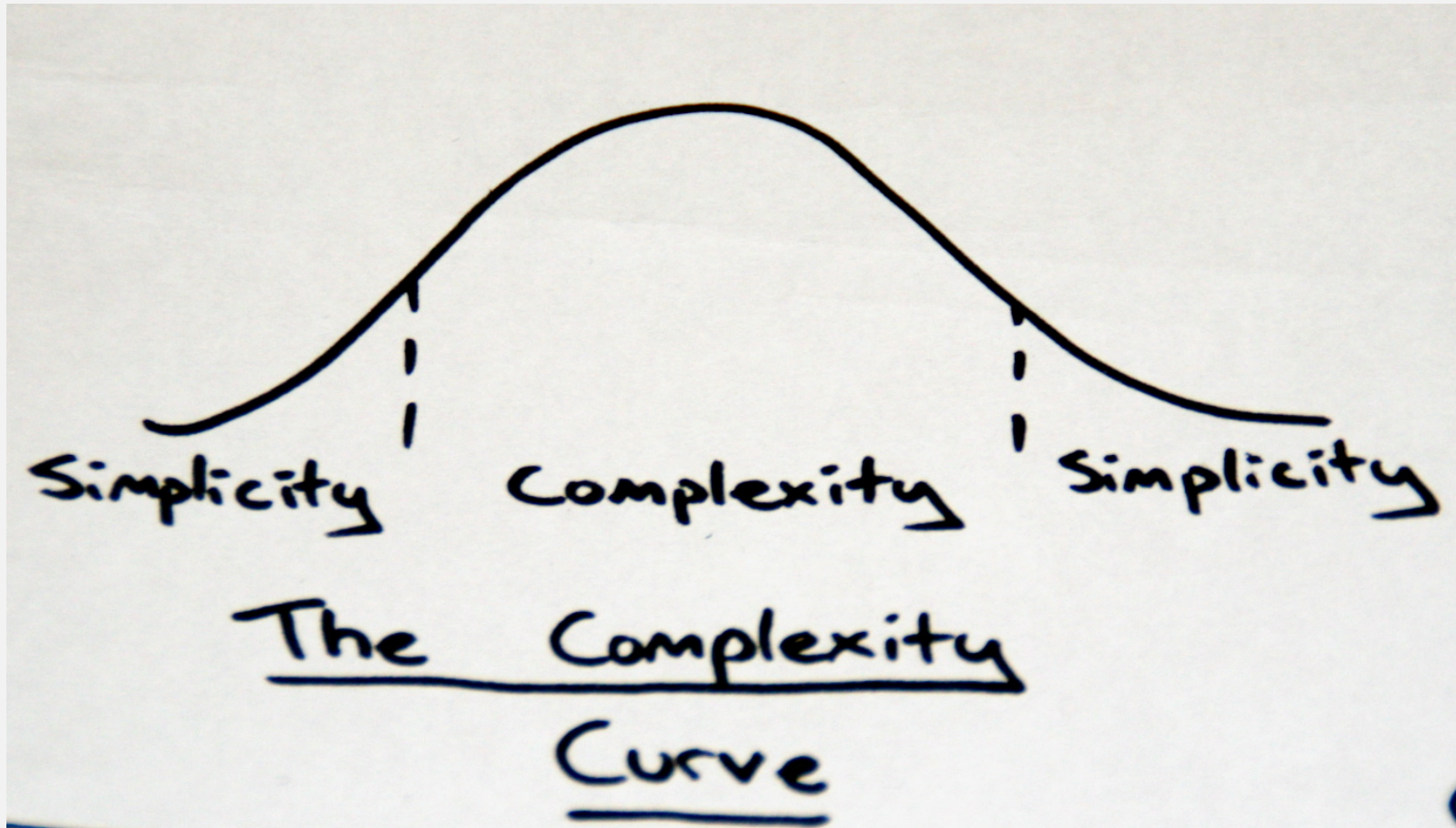
Complexity theory

- Social phenomena 'emerge' from systems as a whole
- Complex systems are made up of many elements, including other complex systems
- The exact structure of a complex system is time and location specific

Where to use complexity theory to inform health policy?

Wicked Policy Problems

“Wicked” Problem (complex system)	“Tame” Problem (simple or complicated system)
No definite formulation	Well-defined and stable
Continually evolves	Know when a solution is reached
Solutions are better or worse	Solutions are clearly right or wrong
Many causal levels	Causes are evident



Traditional Policy Analysis



- Designed to address tame issues
- Assumption of linearity
- Conducted within policy silos
- Machinery of government designed along rational policy development and delivery assumptions

Proposed complex systems policy analysis

Acknowledges:

- Limits to knowledge
- Importance of problem definition
- Diverse range of actors involved
- Multiple interventions are likely required across policy silos
- Local flexibility required

Proposed Method

Stage One:

Case-comparison approach

- Compare whole systems
- Aim for diversity between systems
- Identify policy options for each case and then look for overlap and difference

Proposed Method

Stage Two:

Capture policymakers views

- What are priorities for action
- What are the principles for action
- Where is there overlap and difference

Example – nutrition in schools

The problem:

“An epidemic of obesity threatens to undo the significant progress made in improving our health and our quality of life. More than 50 per cent of New Zealanders are now either overweight or obese. Most alarmingly, more than 30 per cent of our children can already be classified the same”

Statement by the Prime Minister of New Zealand Helen Clark (2006)

Example – nutrition in schools

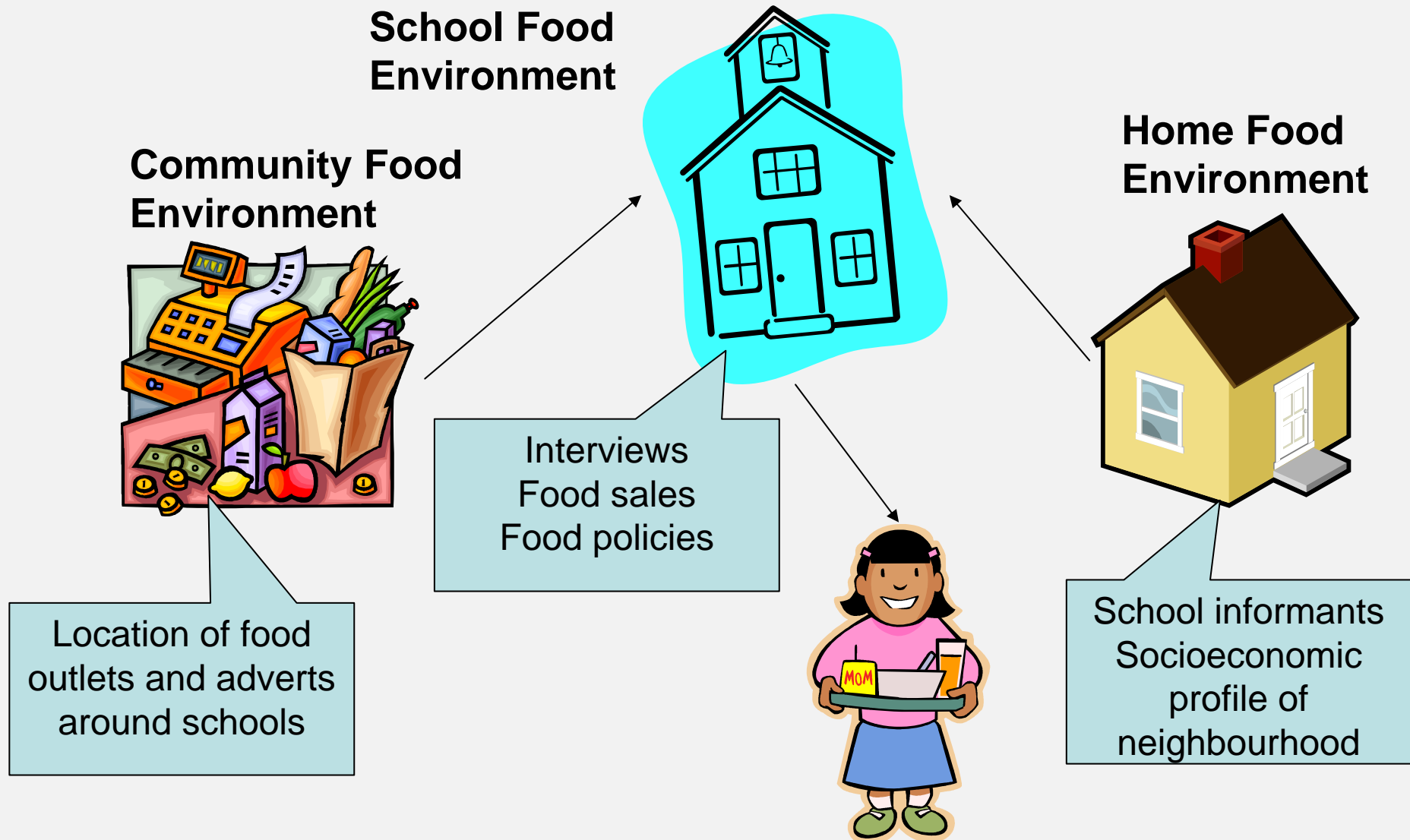
Five primary school case studies

- Chosen for diversity

Sixteen policymaker interviews

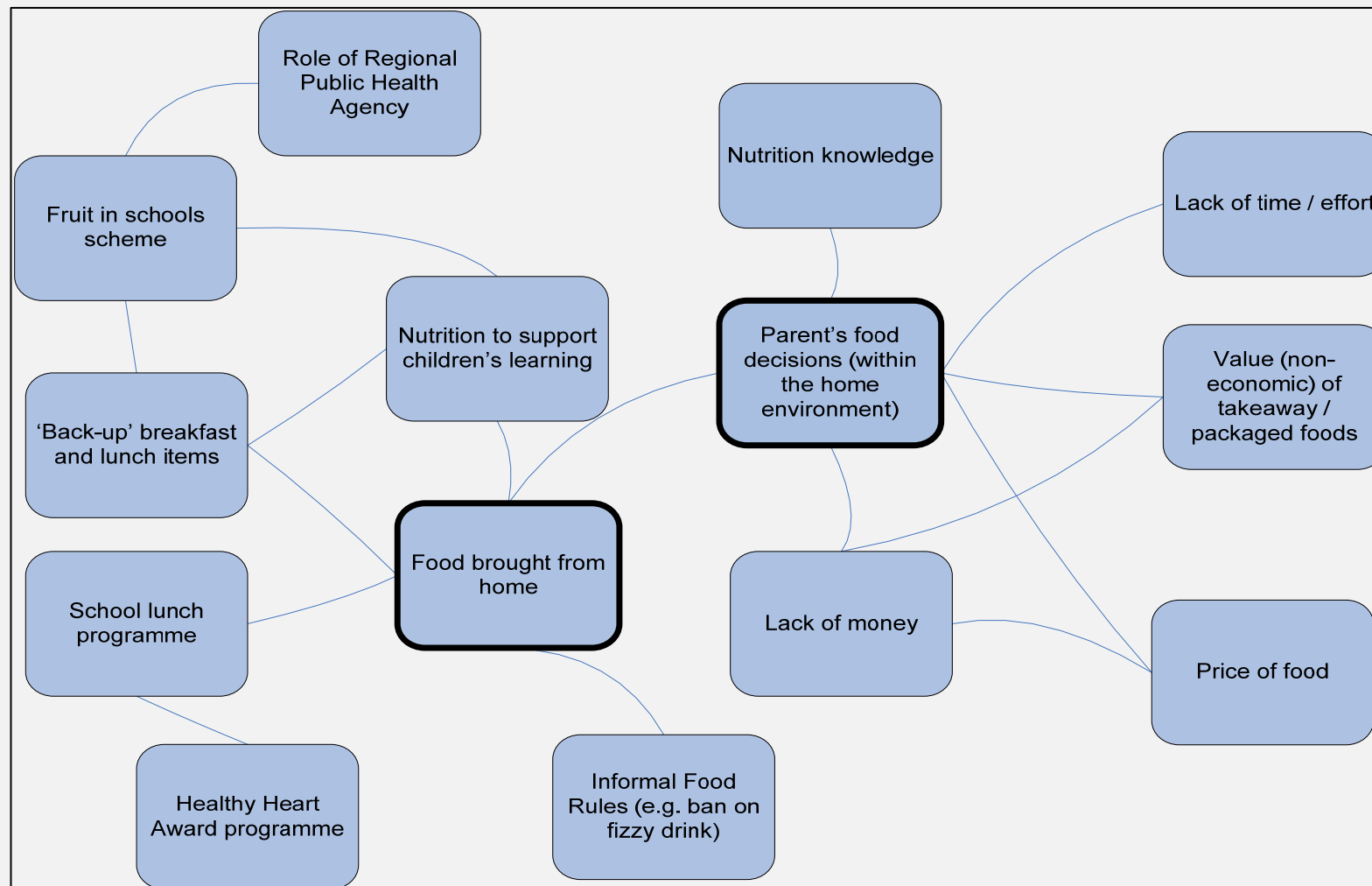
- Chosen for represent nutrition and school policy communities

Example – nutrition in schools



Example – nutrition in schools

Develop a working model of the system:



Example – nutrition in schools

Where to intervene:

- Focus on ‘controlling parameters’
- Prioritise interventions that impact on multiple system elements
- Complementary interventions – direction of travel

Example – nutrition in schools

Prioritise interventions:

11 Interventions including:

Priority 1 – School food policies

Priority 2 – Price of food

Priority 3 – Advertising of food

Priority 4 – School breakfasts and lunches

Advantages of method

- Make explicit the impact of home and community on school based interventions
- Highlight difference between SES context of schools
- Included a wide range of perspectives
- Final output a manageable 'portfolio' of interventions

Disadvantages of method

- Information hungry
- Leaves many questions regarding implementation (although does hint at solutions)
- Relies heavily on accuracy of controlling parameter identification
- Challenges many current policy making processes – how acceptable is it?



Health policy implications

- Traditional policy methods inadequate for complex issues
- Understanding whole systems at local and national levels required
- A complex approach is likely to require multiple interventions with local flexibility within national frameworks
- Challenge traditional implementation, evaluation and policy accountability frameworks