

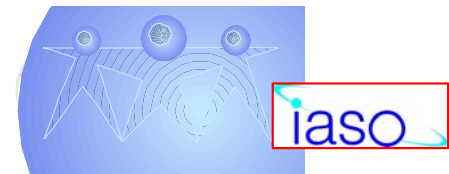
Research and Evidence in Obesity Prevention: Getting it “Right”

Shiriki Kumanyika, PhD, MPH

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African American Collaborative Obesity Research Network

International Obesity Task Force



Questions I hope to answer?

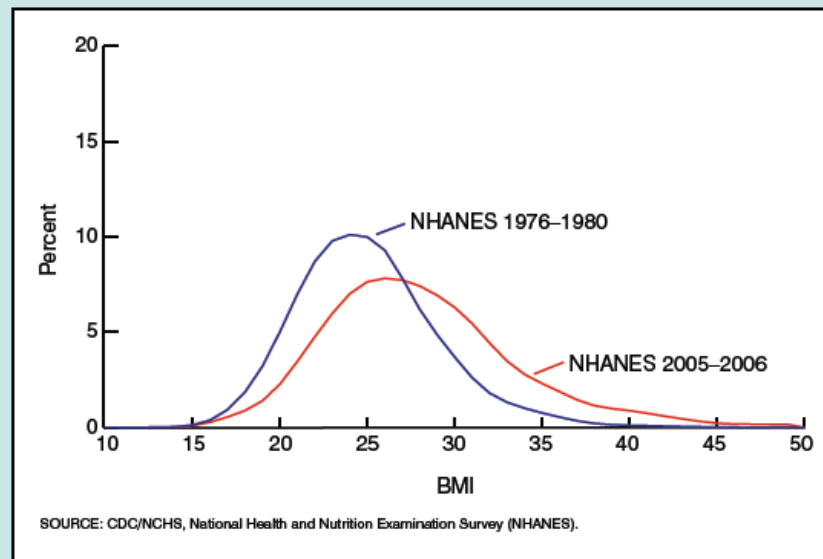
- Where does research fit into program and policy development?
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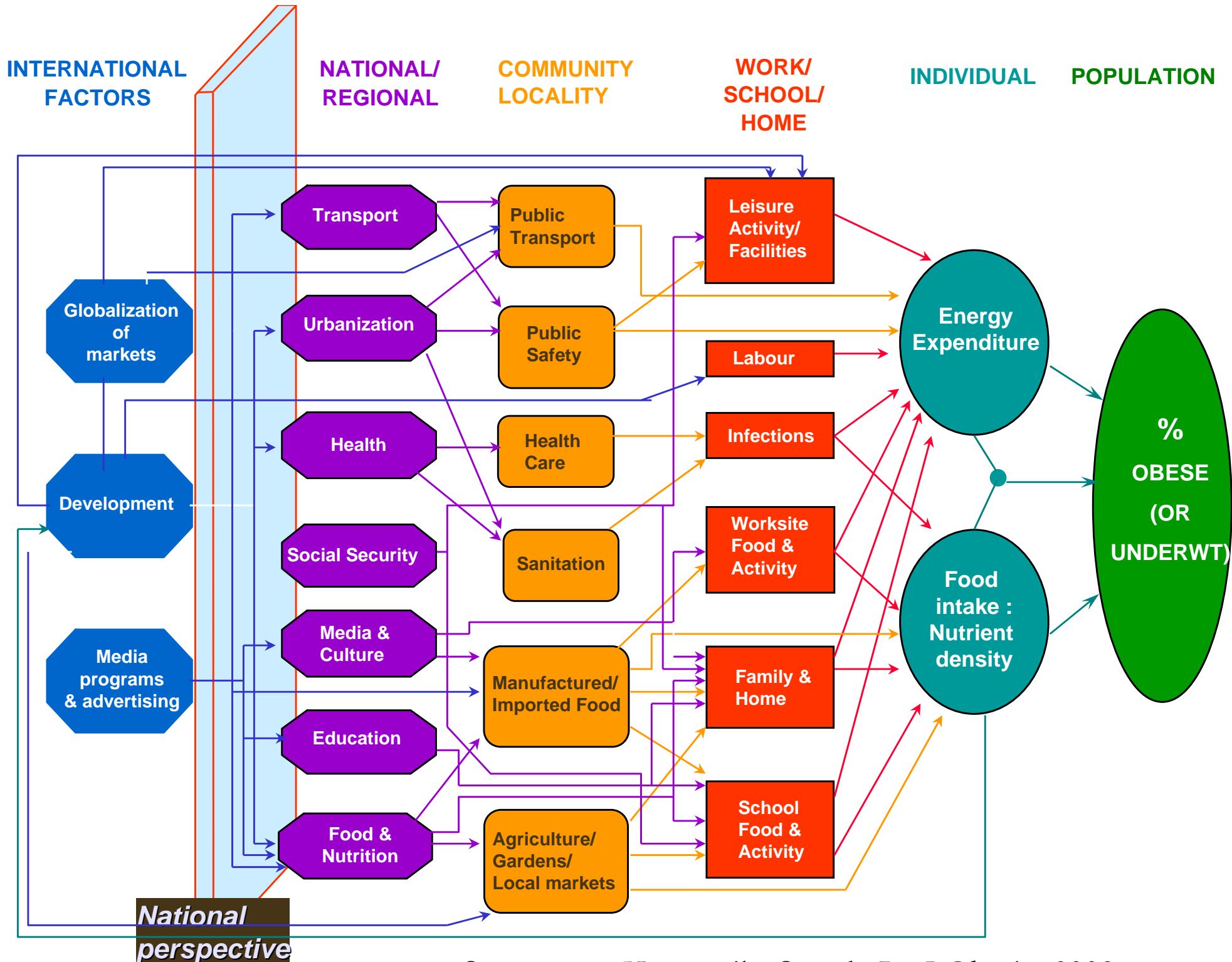
What do we mean by obesity prevention?



Finding the source of the epidemic and shutting it off

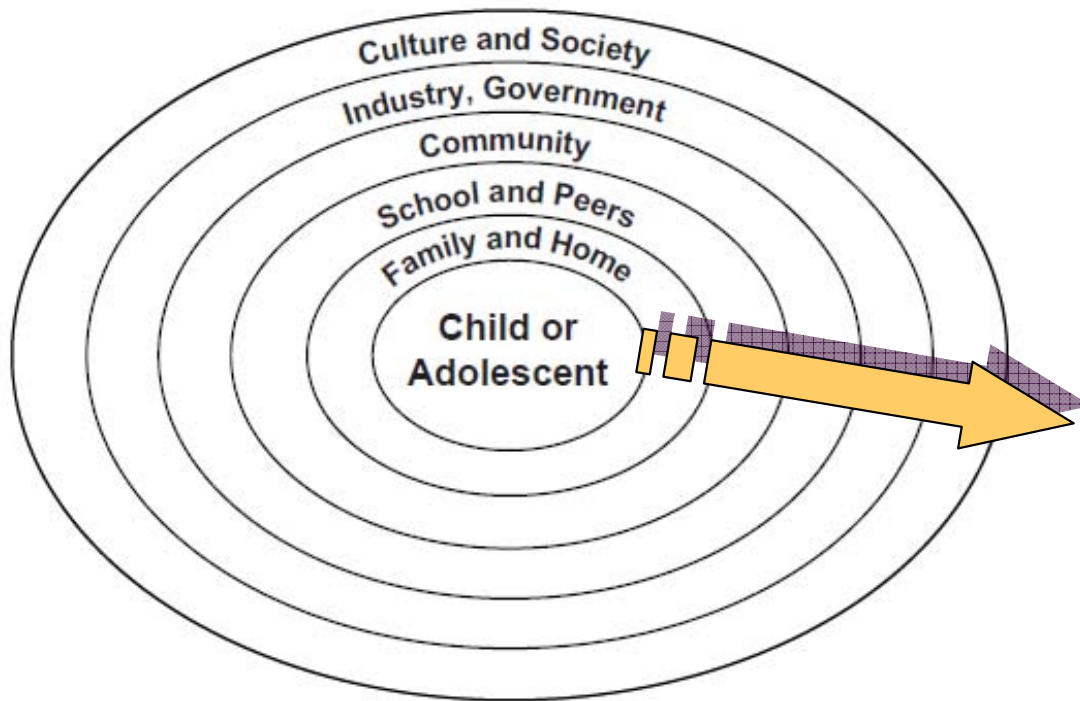
Figure 3. Changes in the distribution of body mass index (BMI) between 1976–1980 and 2005–2006, adults aged 20–74 years: United States





Source: see Kumanyika S et al. Int J Obesity 2002

Levels of influence for improving choice options, cues, and social norms related to food, activity, and weight



Fast food consumption

Media use patterns

Figure is adapted from Figure 3.1 in *Preventing Childhood Obesity. Health in the Balance*. Institute of Medicine, 2005

Levels of influence for improving choice options, cues, and social norms related to food, activity, and weight

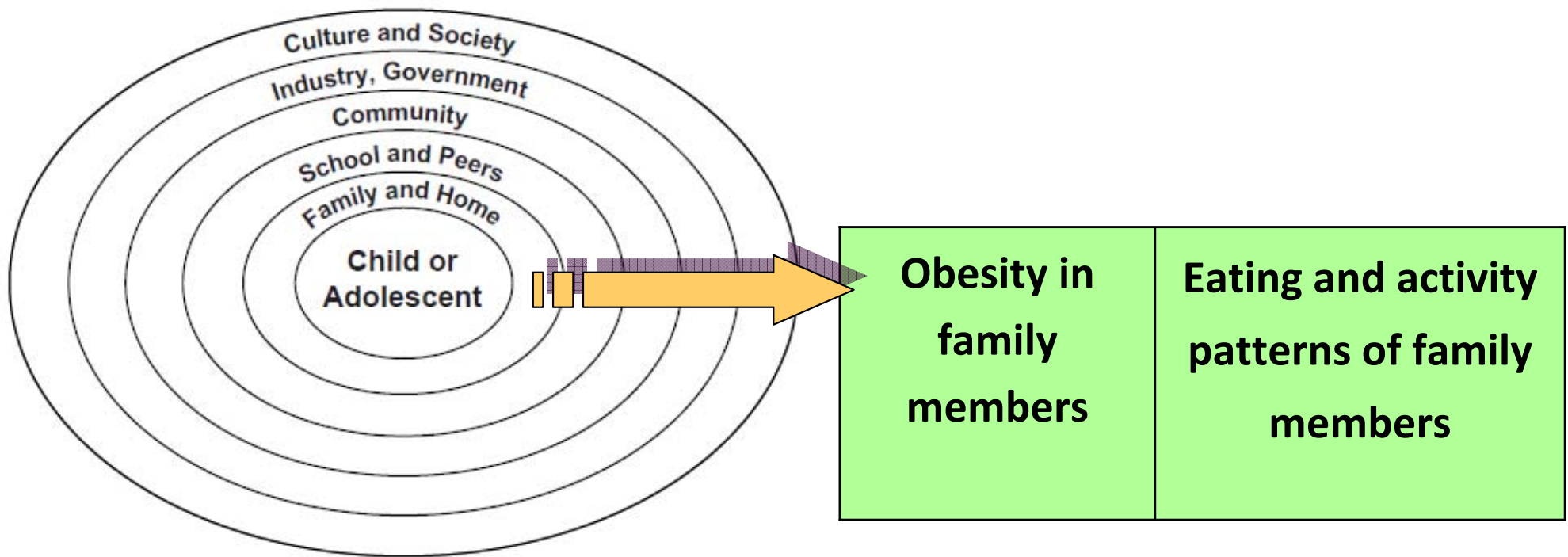


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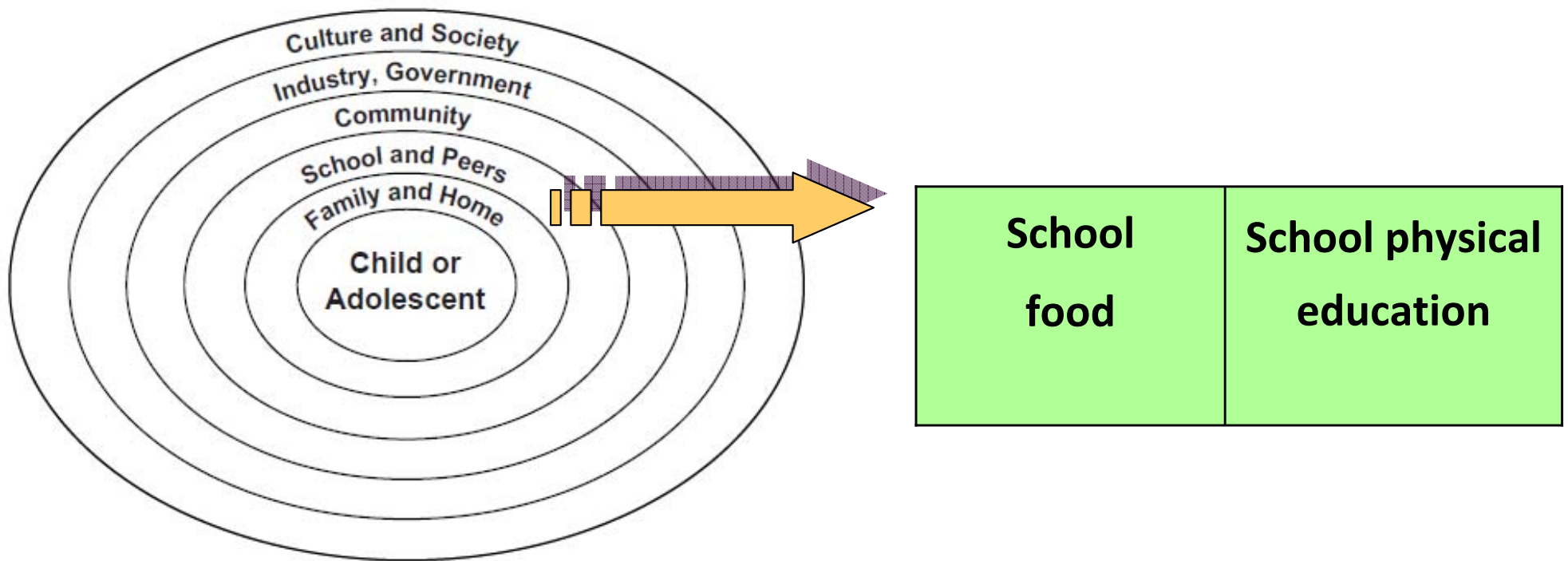
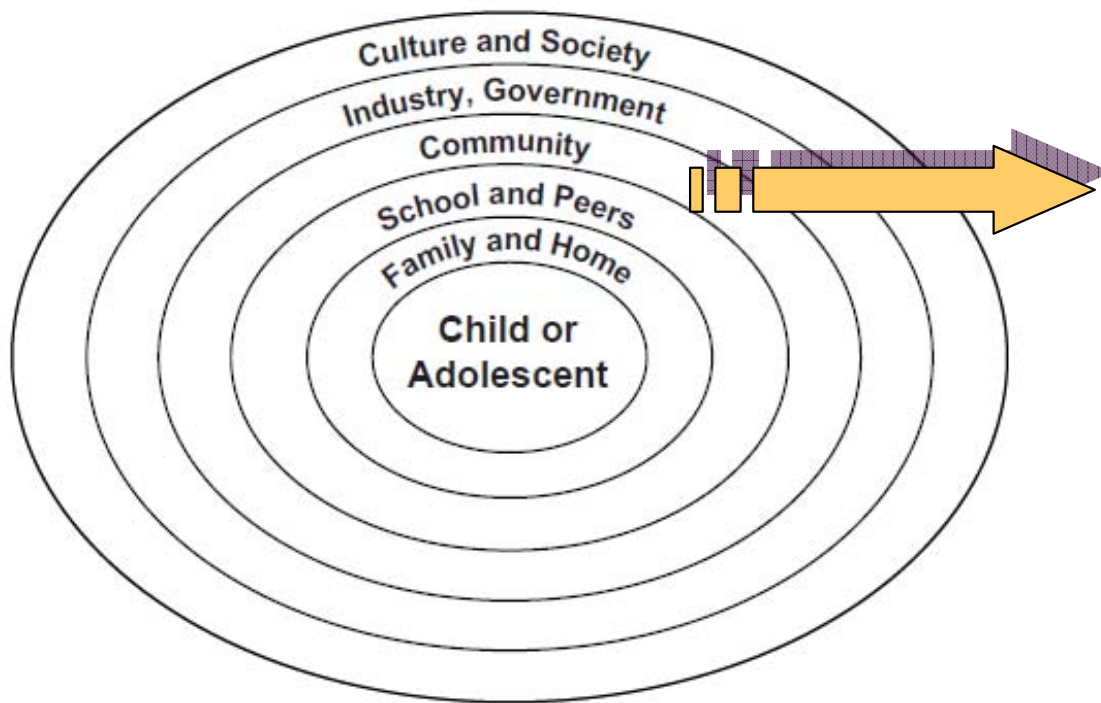


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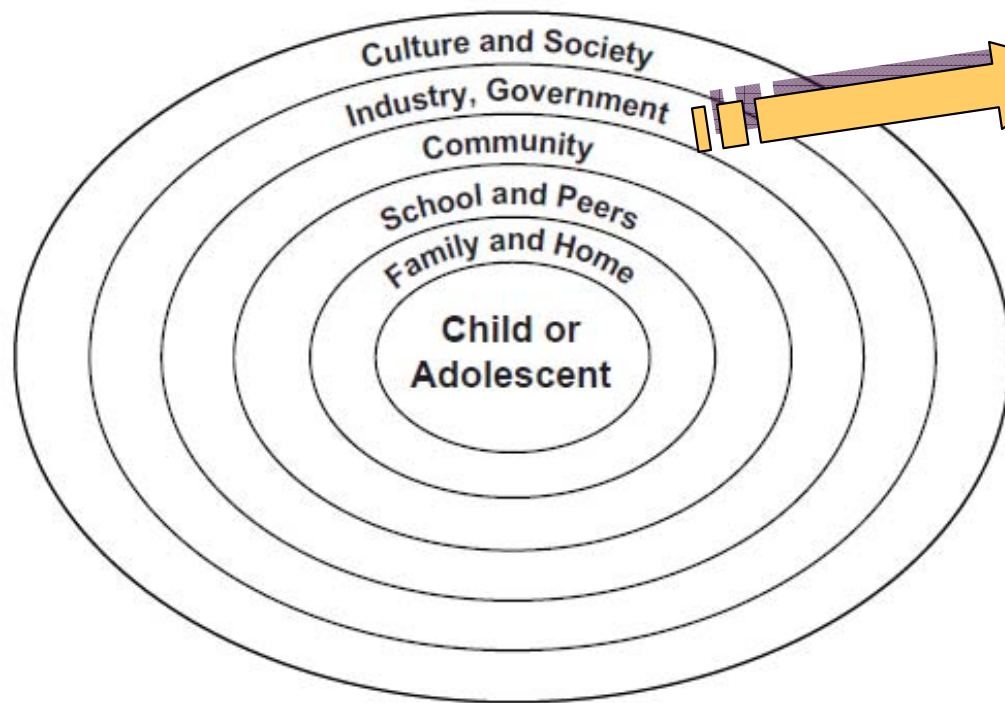
**Outdoor
advertising**

**After school
programs**

Figure is adapted from Figure 3.1 in *Preventing Childhood Obesity. Health in the Balance*. Institute of Medicine, 2005



Levels of influence for improving choice options, cues, and social norms related to food, activity, and weight



**Federal
nutrition
assistance
programs**

**Targeted
marketing of high
calorie foods and
beverages**

Figure is adapted from Figure 3.1 in *Preventing Childhood Obesity. Health in the Balance*. Institute of Medicine, 2005

Levels of influence for improving choice options, cues, and social norms related to food, activity, and weight

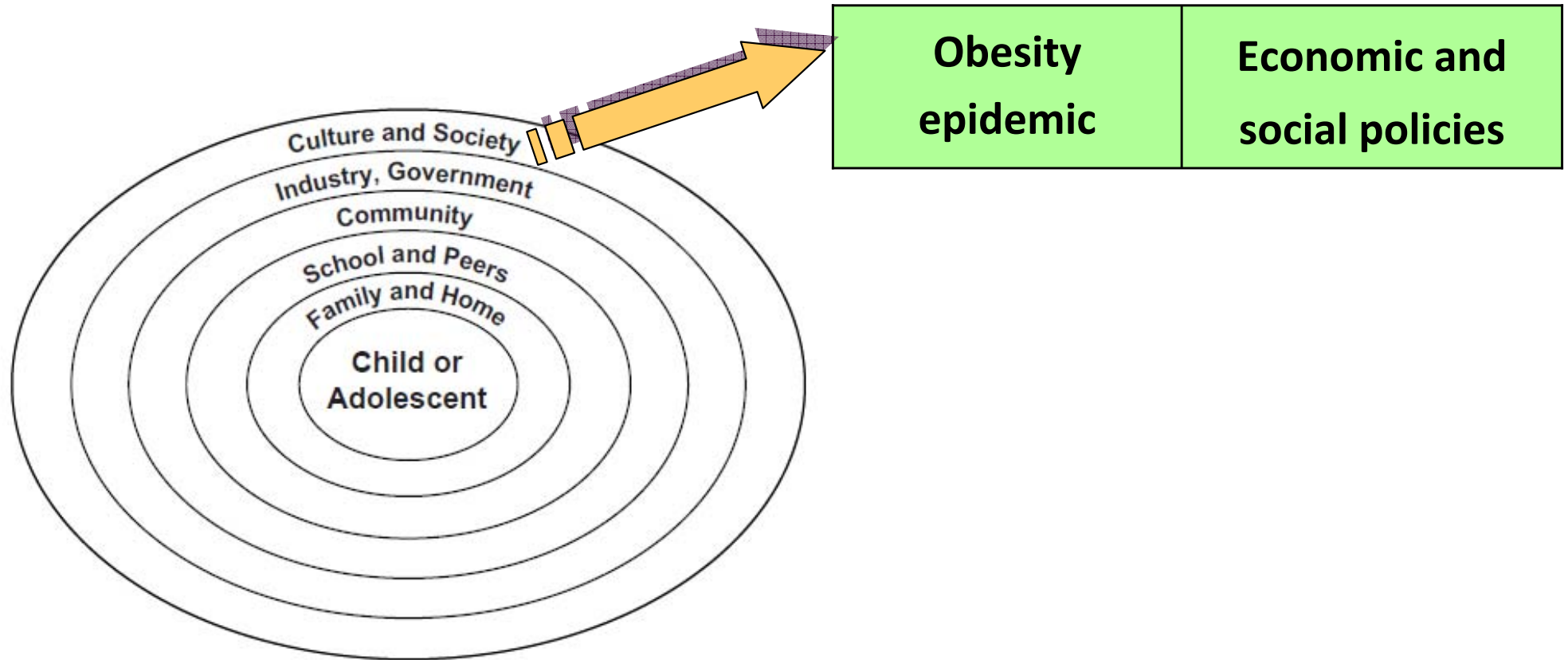
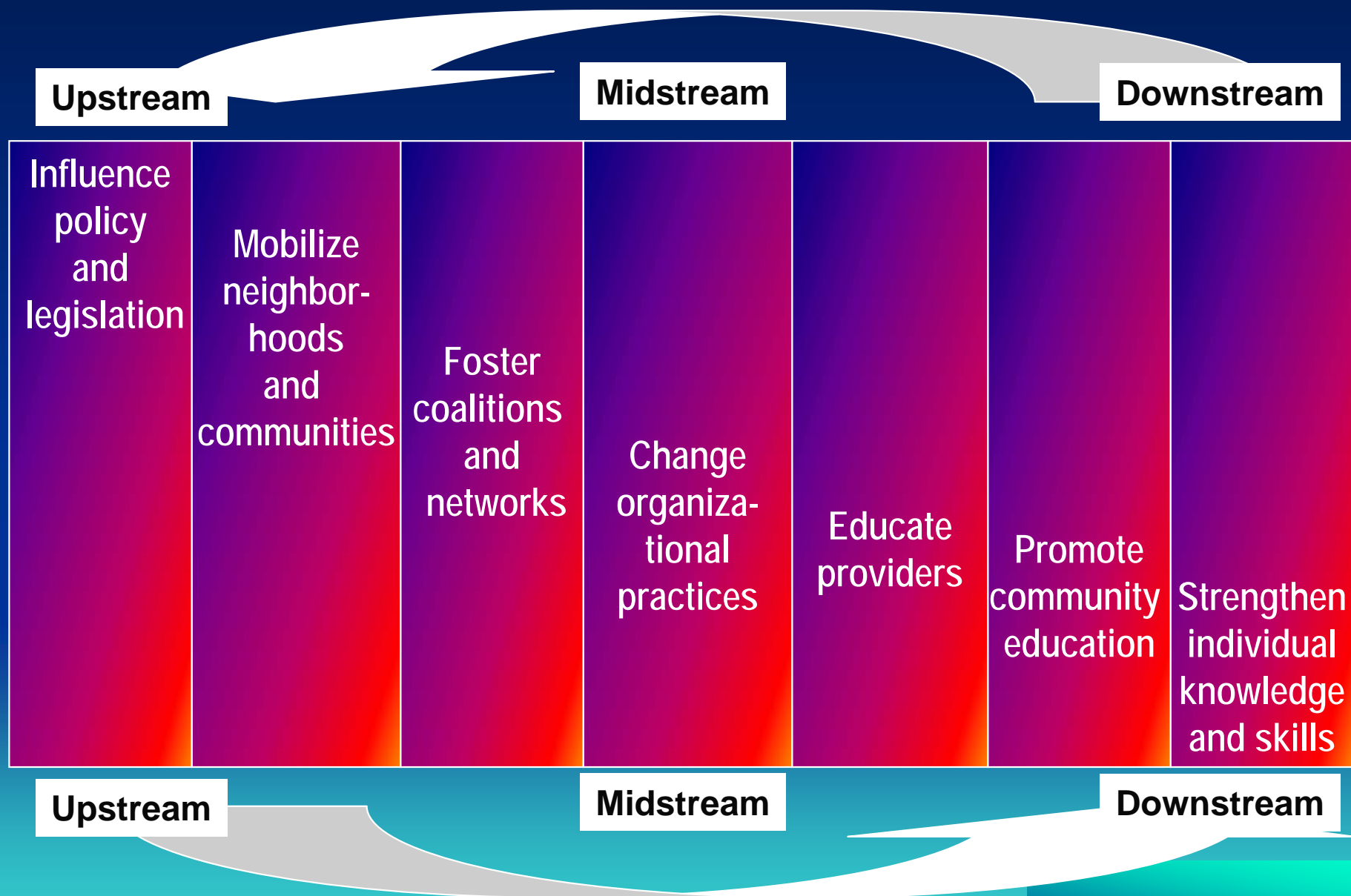


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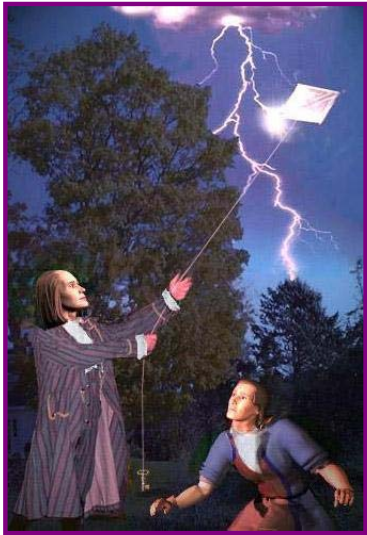
Spectrum of Coordinated Actions



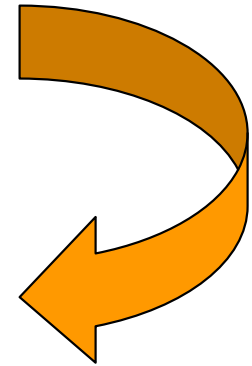
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Data needs



How do I decide what to do?
How do you know what works?
What programs should I fund?



*How do I test this
idea?*



How do I test this idea?

What is the difference between...?

Research

Evidence

Evaluation

Data

Information

“Solution-oriented” research

Pitfalls of not having evidence

- Uncertainty in the face of the need to act
- Educated guesswork
- Inability to obtain funding

Pitfalls of having evidence

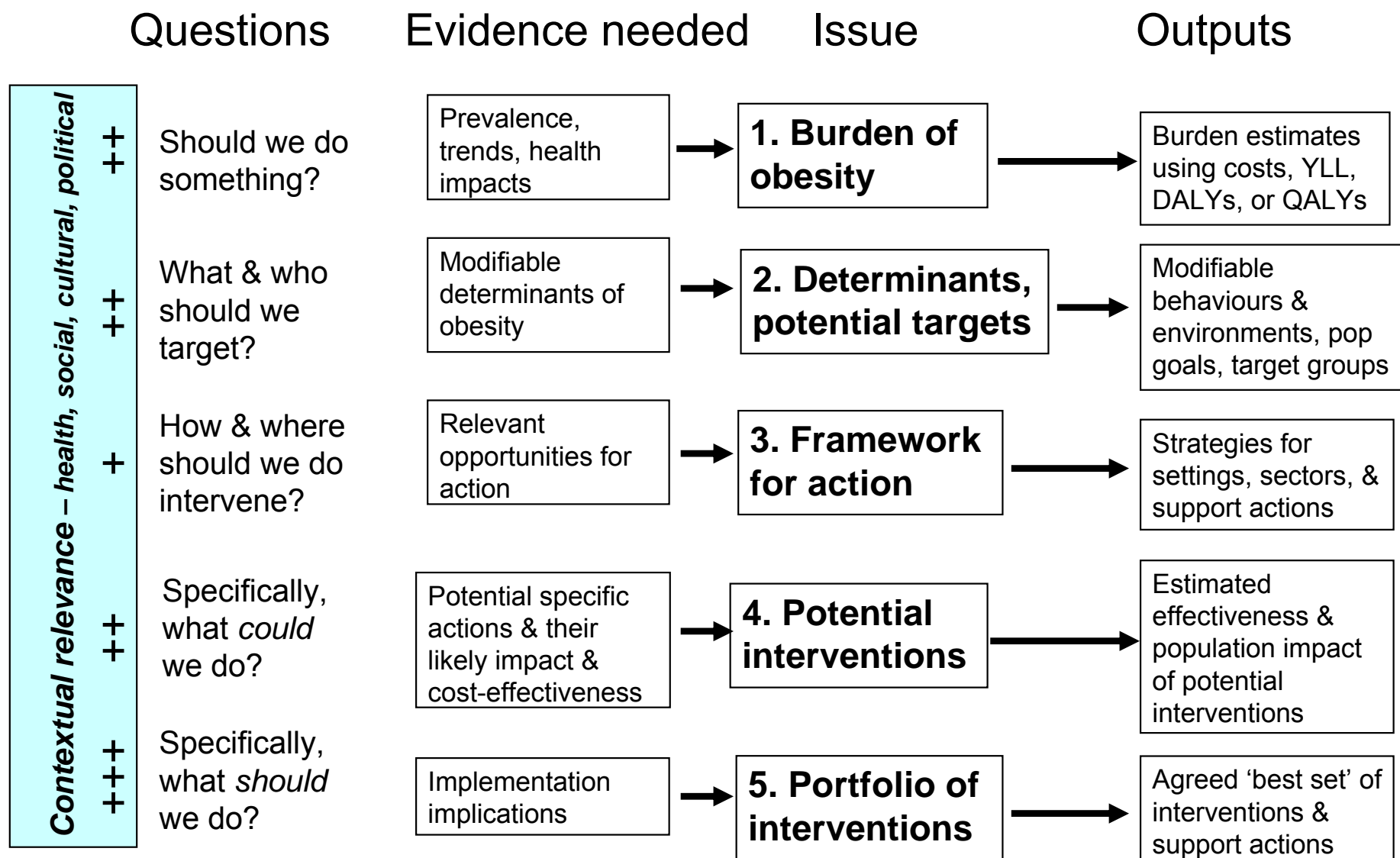
- The program or policy might not work in the real world
- The program or policy might not work
 - It might not work
 - Evidence may be inadequate or inappropriate
- The evidence might reveal unintended consequences
- Your opponents can attack the quality of your evidence

What does evidence-based mean?

Evidence-based obesity prevention

- Complex web of obesity causation
- Need for framework to:
 - Formalize decision making
 - Identify principles for decision making
 - Identify research needs
- Use of 'best evidence available, not the 'best evidence possible'
- Draft framework developed from literature and experience
- Overlaps with current work in Australia
- International workshop Melbourne 2004
- Results published in Obesity Reviews (2005; 6:23-33)

IOTF Framework



Admissible evidence

(Swinburn, Gill, Kumanyika. Obesity Rev 2005)

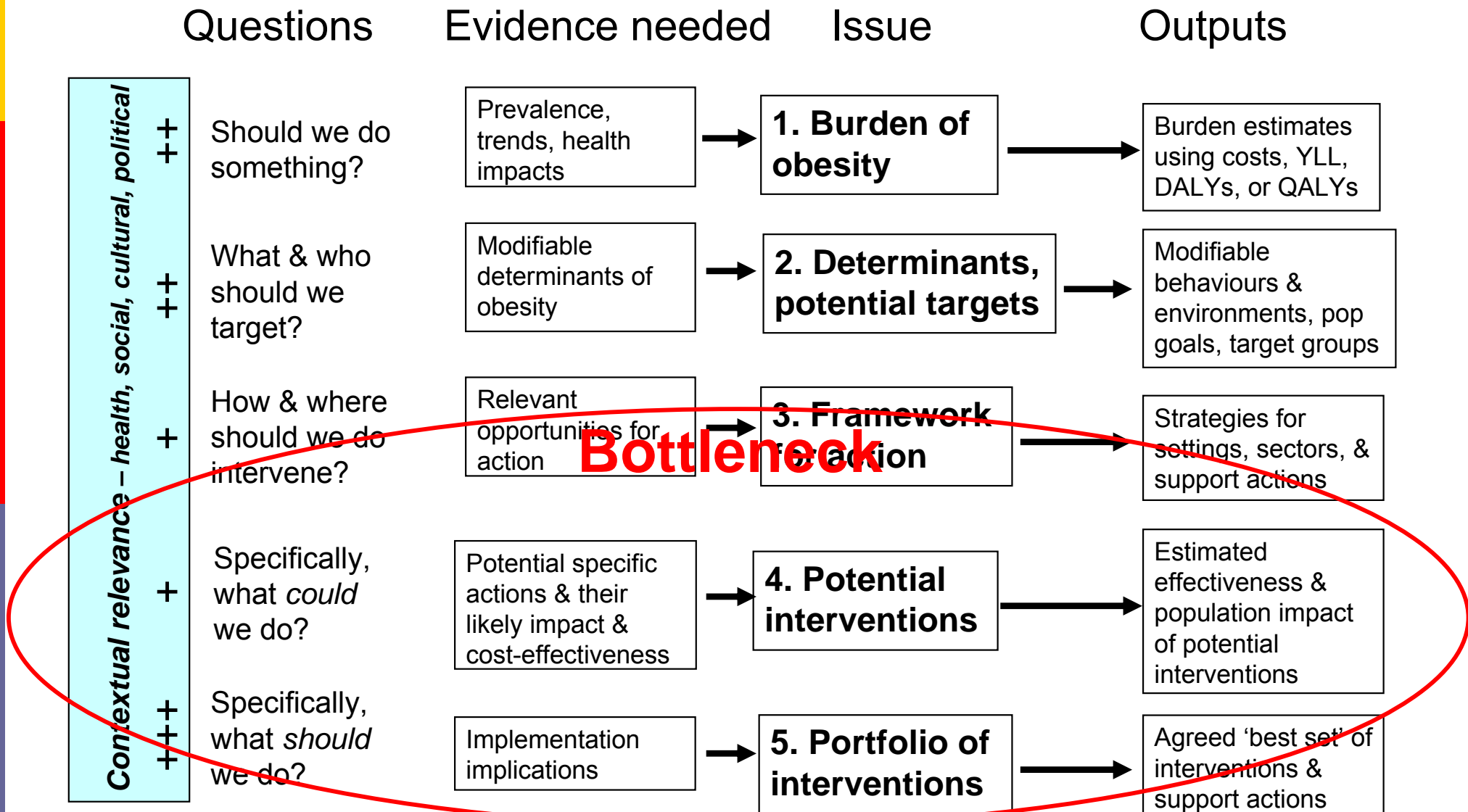
Evidence = Information that helps to give a level of certainty that a proposition is true or valid

- Observational
 - Obs epidemiology, monitoring/surveillance, qualitative
- Experimental
 - Trials, program evaluation
- Extrapolated
 - Modelled effectiveness, economic analyses, indirect evidence
- Experience
 - Parallel evidence, theory & program logic, informed opinion

Issues

- Many types of evidence including 'parallel' and 'indirect' evidence, theory and logic
- Use of modelling
- No 'hierarchy' is proposed because strengths and weakness play out differently depending on the questions being asked
- Acknowledgment of informed opinion in many areas
- Importance of context

IOTF Framework for evidence on obesity prevention



Intervention evidence needed

(i.e., the current bottlenecks)

	Intervention selection	Intervention evolution
Purpose	Prioritising many 'could dos' to a few 'will dos'	What works and what doesn't (& for other's intervention selection)
Involves	<ul style="list-style-type: none">□ Technical assessments□ Stakeholder processes	RE-AIM Formative, process, impact, outcome (CE)

Aims of intervention selection

To agree upon a balanced portfolio of specific, promising interventions that are likely to reduce the burden of obesity and improve health and quality of life

'Promise' Table

Increasing population impact



Increasing evidence certainty



Promising

More promising

Most promising

Less promising

Promising

More promising

Least promising

Less promising

Promising

Degrees of use of evidence

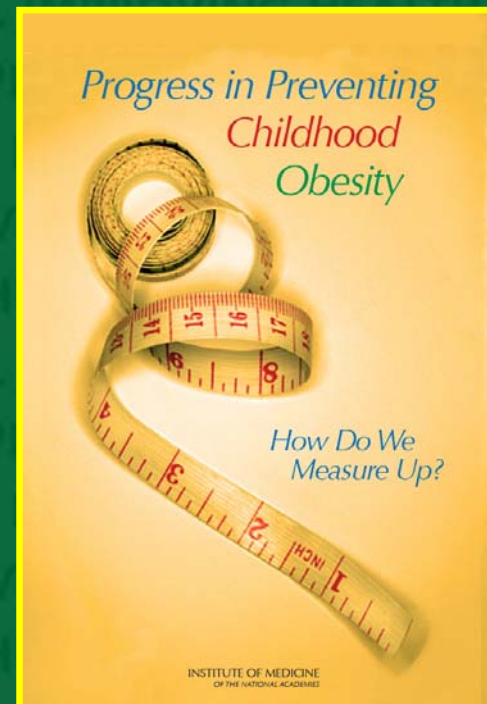
	Intervention selection	Intervention evolution
None	Politics, lobbying, costs, perceptions, photo ops	None
Basic <i>'ANGELO Process' → for CBIs</i>	Informed stakeholders <ul style="list-style-type: none">□ Importance ratings□ Changeability ratings	Process +/- some impact evaluation
Sophisticated <i>'ACE Obesity Project' → for national action</i>	Engaged stakeholders <ul style="list-style-type: none">□ 'Promise' table□ Implementation filters	Full evaluation

Will just any data do?

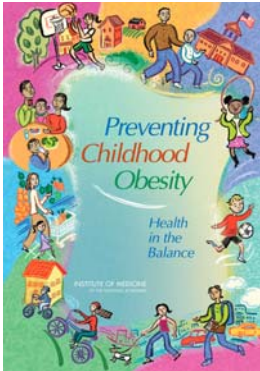
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Institute of Medicine Framework for Assessing Progress Preventing Childhood Obesity

Shiriki Kumanyika, PhD, MPH
Experimental Biology 2007
Washington, DC
May 1, 2007



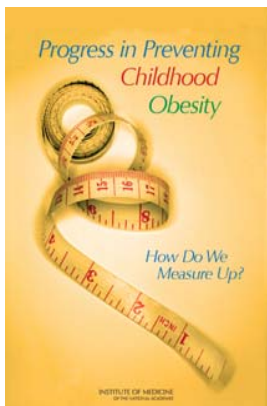
Background



2004 – IOM report released

Preventing Childhood Obesity: Health in the Balance

- Blueprint for comprehensive action plan



2005 – New IOM report released (Sept 13, 2006)

Progress in Preventing Childhood Obesity:

How Do We Measure Up?

- Sponsor - Robert Wood Johnson Foundation
- 21-month study
- Committee charge
 - Assess progress in preventing childhood obesity
 - Conduct 3 regional workshops



Evaluation Objectives

- Help **policy makers** make and **funders** make decisions and hold programmers accountable
- Help **program developers, researchers, and administrators** to understand what works and how
- Help **program managers** to improve programs
- Help programs to better serve **participants** equitably

Conclusions

- U.S. beginning to recognize childhood obesity as a **serious public health problem** that has substantial health, financial, and social costs
- Actions and interventions to reduce childhood obesity are **encouraging, vast, and dynamic but fragmented and small scale**
- Progress **is slow** in reducing childhood obesity
 - Marked **underinvestment in childhood obesity prevention interventions** - current investment does not match extent of problem

Evaluation Needed

- Robust evidence base needed to identify best practices
- Currently have promising practices – limited evaluation
- Evaluation identifies interventions that should be scaled up, refined, or replaced

Discussion Points

- How evaluations are used
- Key evaluation questions
- Evaluation framework and components
- Illustration
- Issues and challenges

Questions to Guide Childhood Obesity Prevention Policies and Interventions: Program Design and Setting

- ❑ How does the action contribute to preventing childhood obesity?
- ❑ What are the rationale and the supporting evidence for this particular action as a viable obesity prevention strategy, particularly in a specific context?
- ❑ How well is the planned action or intervention matched to the specific setting or population being served

Questions to Guide Childhood Obesity Prevention Policies and Interventions: Approach

- What are the quality and the reach or power of the action as designed?

Questions to Guide Childhood Obesity Prevention Policies and Interventions: Implementation

- How well is the action carried out? What are the quality and the reach or power of the action as implemented?

Questions to Guide Childhood Obesity Prevention Policies and Interventions: Outcomes

- ❑ **What difference did the action make** in terms of increasing the availability of foods and beverages that contribute to a healthful diet, opportunities for physical activity, other indicators of a healthful diet and physical activity, and improving health outcomes for children and youth?

-
- Evaluations should focus on achieving range of outcomes
 - Evaluation should be matched to the stage of development of the initiative

Government

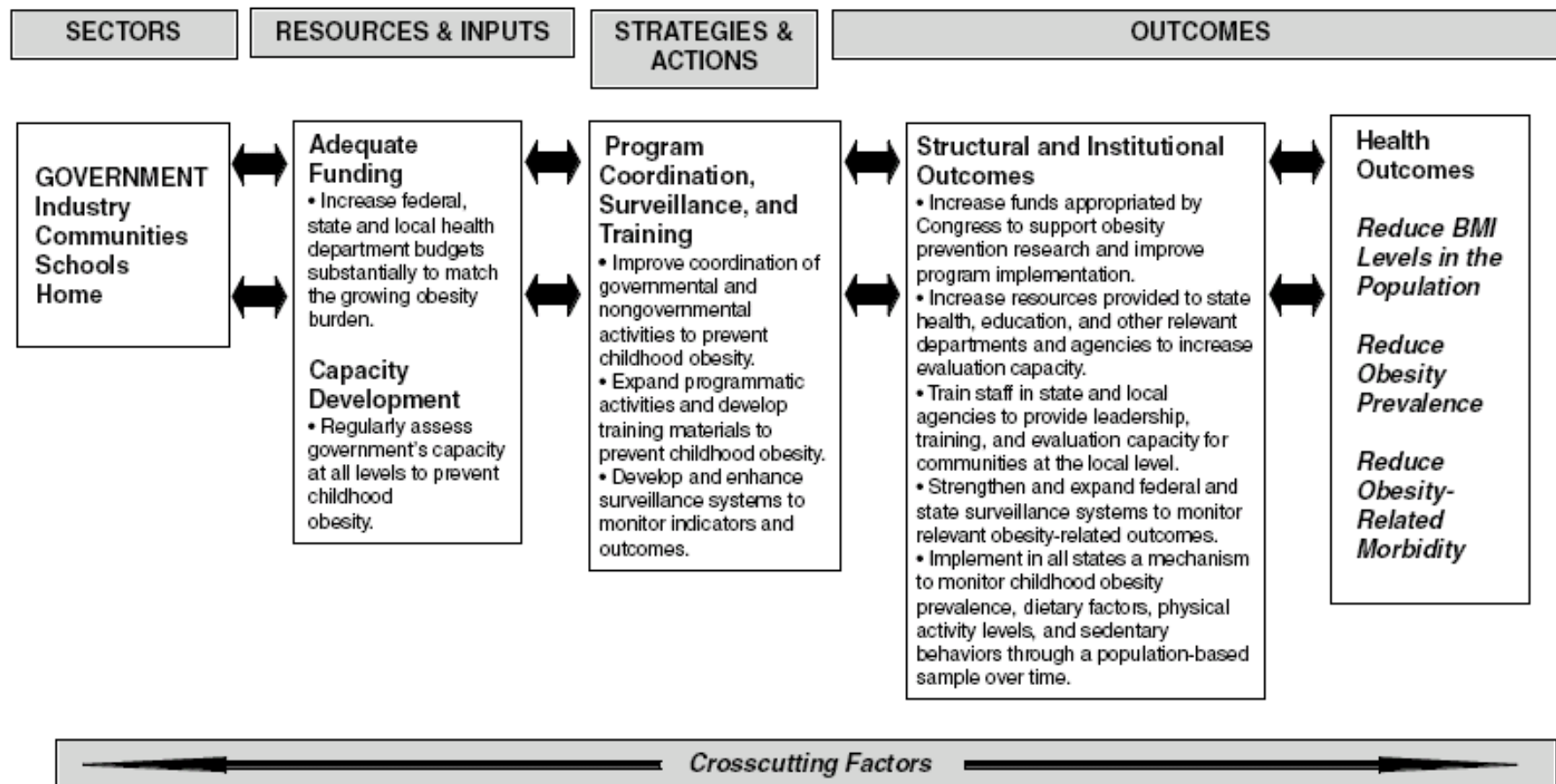


FIGURE 4-3 Evaluating government efforts to support capacity development for preventing childhood obesity.

Industry

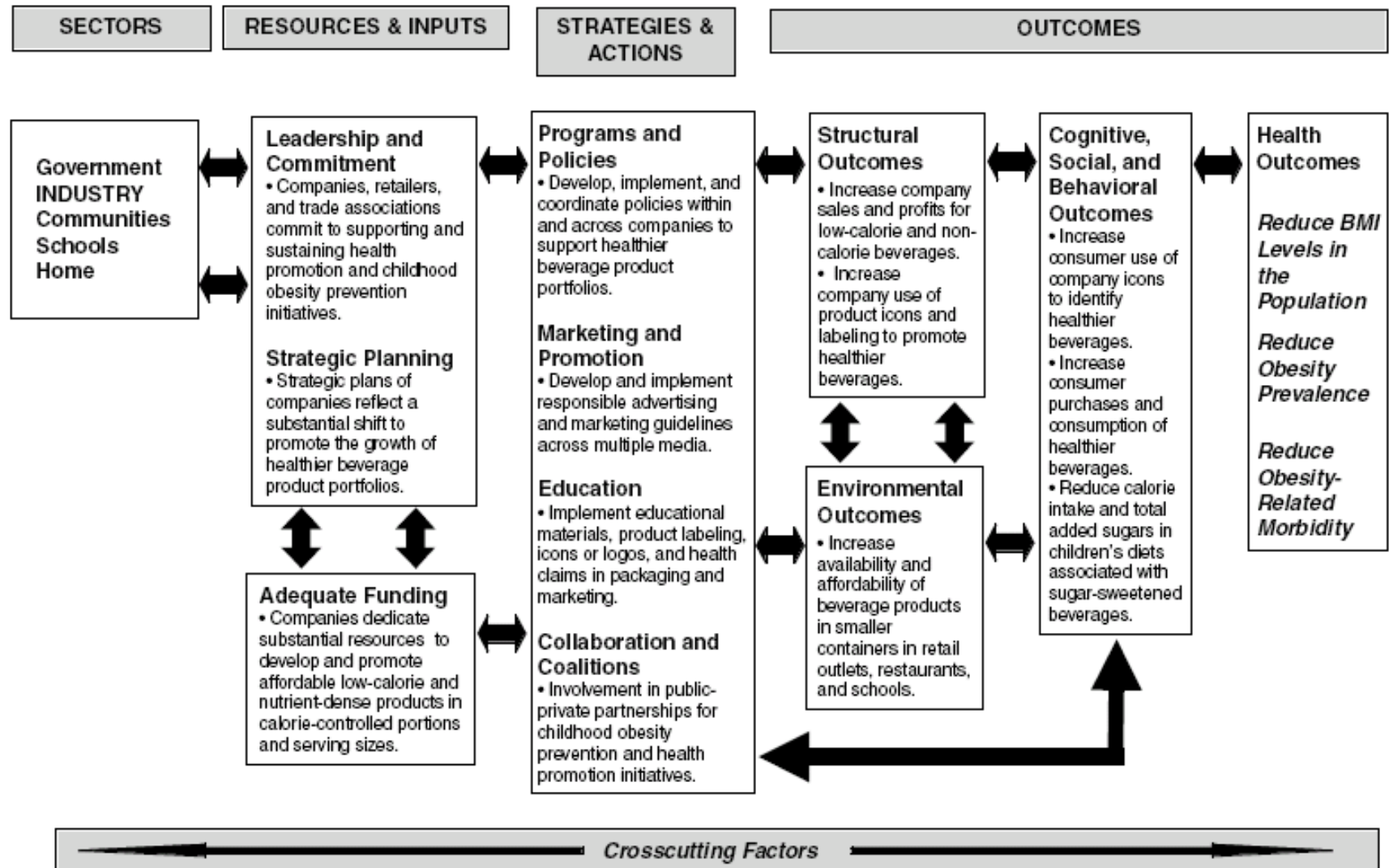


FIGURE 5-1 Evaluating industry efforts to develop low-calorie and nutrient-dense beverages and promote their consumption by children and youth.

Communities

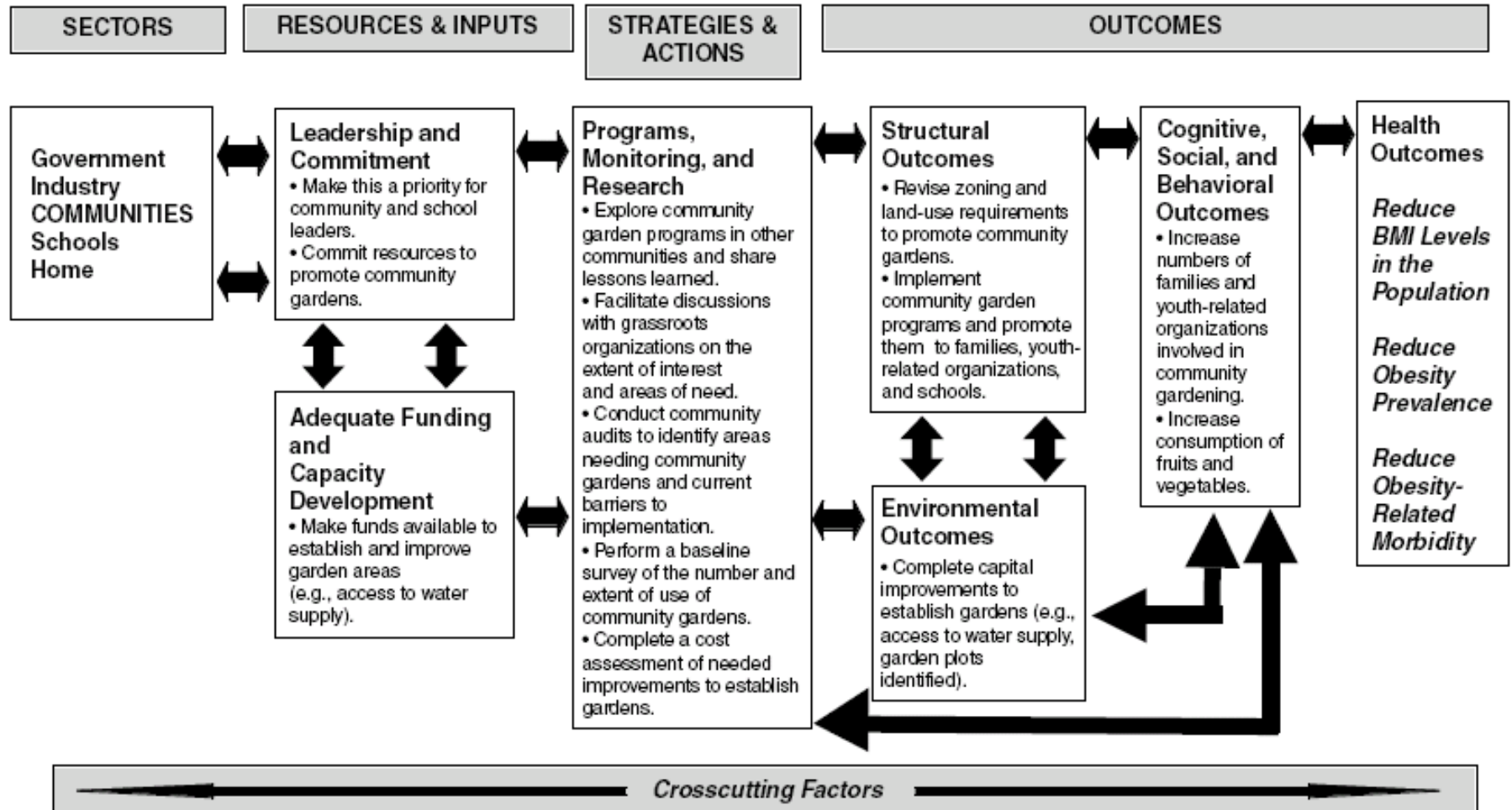
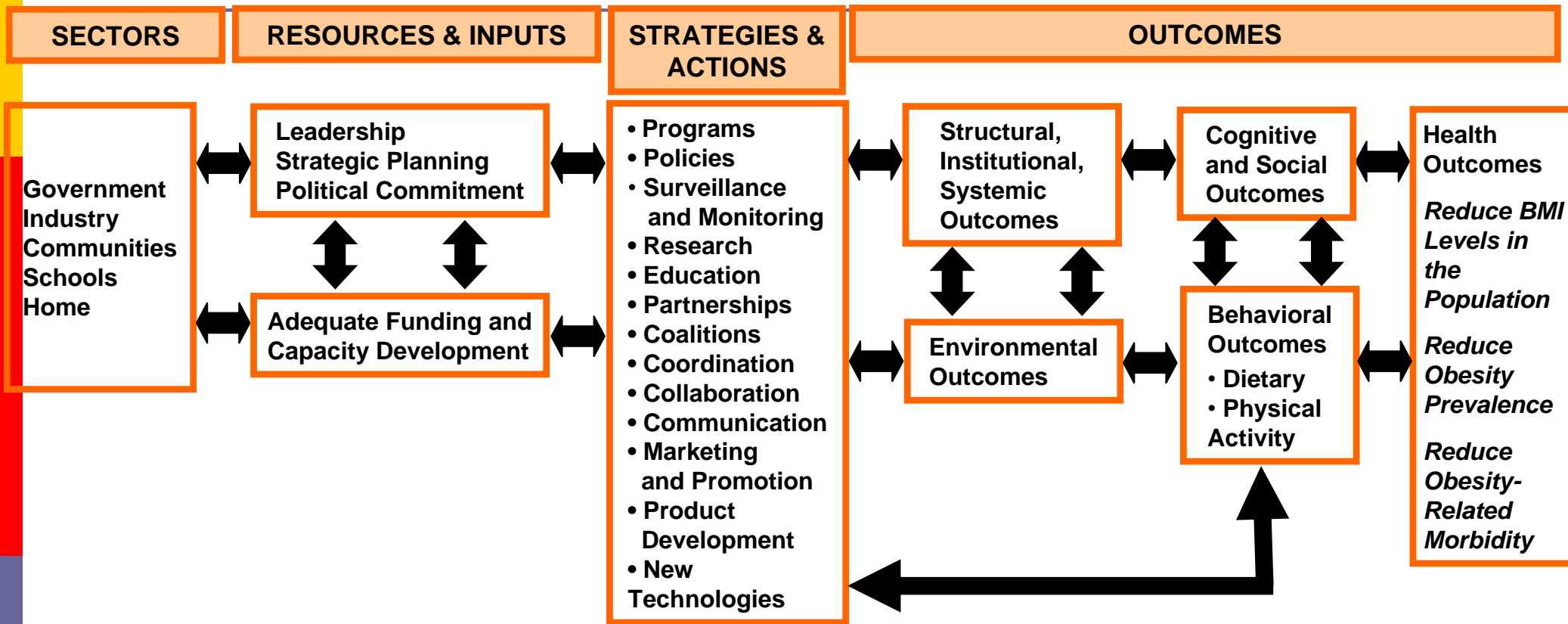


FIGURE 6-2 Evaluating community efforts to increase community gardening.

IOM Evaluation Framework for Obesity Prevention Policies and Interventions



Cross-Cutting Factors that Influence the Evaluation of Policies and Interventions

Age; sex; socioeconomic status; race and ethnicity; culture; immigration status and acculturation; biobehavioral and gene-environment interactions; psychosocial status; social, political, and historical contexts.

Opponents may appreciate the value of evidence more than do the scientists who create it



TOBACCO, LAWYERS, AND PUBLIC HEALTH

Turning Science Into Junk: The Tobacco Industry and Passive Smoking

In this issue, Glantz and Ong offer a powerful analysis of the tobacco industry's attempt to discredit the

Jonathan M. Samet, MD, MS, and Thomas A. Burke, PhD, MPH

TOBACCO, LAWYERS, AND PUBLIC HEALTH

Junking Science to Promote Tobacco

Despite the tobacco industry's claims that it has changed its practices, the toll of tobacco-related dis-

Derek Yach, MBChB, MPH, and Stella Aguinaga Bialous, DrPH, MScN, RN

Phillip Morris Sound Science Campaign

- ...one component of a multipronged attack that has included:
 - letters to journals written by industry consultants that are critical of peer-reviewed publications
 - sponsorship of targeted research apparently intended to cloud interpretation of the evidence;
 - attempts to discredit accepted research approaches, for example, meta-analysis and even epidemiology in general;
 - convening of meetings and expert panels to provide seemingly credible forums for highlighting scientific uncertainties.

Although the tobacco industry campaign failed to achieve its goal of undermining efforts to reduce ETS exposures, the terms “junk science” and “sound science” have stuck and continue to polarize the debates on many public health policy issues. Attacking the science underlying difficult public policy decisions with the label of “junk” has become a common ploy for those opposed to regulation.

“Although the tobacco industry’s
campaign attempted to create criteria that
could never be met by individual studies,
the criteria produced ...have much in
common with the principles that underlie
the conduct of good epidemiologic
research. It is their intended use that
warrants concern, not the content. The
EPA itself offers criteria for assessing the
quality.

Resistance from scientists

- ❑ May not be prepared for or comfortable with having a role in governmental or non-governmental venues where policy decisions are made
- ❑ May find that policy-makers are not sufficiently familiar with interpreting epidemiologic findings
- ❑ May encounter well-prepared critics who cite the inherent limitations of observational data and dismiss epidemiology as 'soft science'.

Samet JM, Lee NL. Bridging the gap: perspectives on translating epidemiologic evidence into policy. *Am J Epidemiol*. 2001 Dec 15;154(12 Suppl):S1-3.

Summary:

Evidence is needed for

- Creating the sense that there is a problem that will not go away
- Finding new angles to keep the problem on the agenda (worsening crisis, new sectors affected; documenting the costs of not acting)
- Documenting shifts in stakeholder attitudes

□ Supporting specific solutions

- Potentially modifiable determinants
- Identifying economic or societal benefits from addressing the problem to offset concerns about economic losses
- Providing evidence to help in choosing among solutions (e.g., feasibility of interventions; outcomes of interventions)