LEARNING GUIDE

OPUS Obesity-Related Policy, Systems, and Environmental Research in the US

Systems Approaches to Obesity Prevention

Ross Hammond, PhD • Brown School at Washington University in St. Louis and Economic Studies, The Brookings Institution

The OPUS learning guides are designed to help professors, students, and early career researchers easily access key takeaways from the OPUS workshop series and incorporate the lessons into the classroom and applied research projects.

In this presentation, Dr. Ross Hammond highlights three key challenges in obesity prevention: 1) the complex nature of obesity; 2) differences across contexts and settings; and 3) the number and diversity of players involved. He discusses the value of developing interventions that engage multiple sectors, are tailored to specific contexts, and track interactions with different players over time. Dr. Hammond also emphasizes the importance of using a systems approach that focuses on coordination and sustainability, as well as building stronger teams for more effective obesity prevention.

A Systems-Based Approach

A systems-based approach considers the many factors driving obesity, including biological, environmental, and social influences. By understanding how these factors connect, we can develop sustainable strategies that go beyond short-term fixes.

LEARNING OBJECTIVES

- Identify three main challenges in addressing obesity.
- Describe how a systems approach considering different contexts and influences can shape prevention strategies.
- Discuss the need for new scientific methods and team-building efforts to advance obesity prevention strategies.

Key Terms

Systems thinking: An approach to problem-solving and innovation that views problems as part of an interconnected system with various parts that dynamically interact with and influence each other.

Multi-level approach: Examining and addressing complex problems by considering factors operating at various levels of society, including individual characteristics, physical and social environments, and the broader policy landscape.

Multi-sectoral approach: Integrated efforts across sectors, agencies, and disciplines to address complex challenges, foster resource sharing, reduce redundancies, and enable innovative solutions.

Complexity of the Obesity System

Dr. Hammond highlights three fundamental challenges in addressing obesity:

1. **Variety of influences:** Diet, physical activity, economic conditions, food availability, marketing, urban design, and social norms all impact obesity rates.
2. **Differences between contexts:** Interventions that work in one geographical or social setting may not work in another setting because of variations in culture, infrastructure, and economic conditions.
3. **Diversity of players:** Many players—including government agencies, the food industry, health care providers, media, and community organizations—influence obesity outcomes.

WATCH THE KEYNOTE

View Video

View Slides

View Speaker Bio

Going Beyond a Multi-Sector Approach

Because obesity is driven by factors across many systems, we need an approach that not only engages multiple sectors but targets multiple levels. Dr. Hammond argues that interventions should:

- **Break down silos and coordinate efforts** across different sectors, including health, education, urban planning, business, and government.
- **Focus on sustainability**, so interventions are not only effective in the short term but also continue to work over time as the system changes.
- **Be tailored to specific contexts**, recognizing that what works in one setting may need to be adapted for another.
- **Reinforce each other** so they do not work in isolation but support and build on other interventions.
- **Engage communities** to ensure interventions are relevant to the culture and context where they are being delivered.

The Role of Science and Innovation

Dr. Hammond concludes by discussing the need for new scientific methods and improved collaboration to advance obesity prevention. Specifically, he calls for practitioners to develop:

- **A rigorous framework** that describes how different strategies connect and support one another across different settings and contexts
- **A new approach to community engagement**, which empowers local populations to drive systems change in their communities
- **New policy strategies** to overcome barriers to change

Reflection Questions

1. What are the three main challenges in obesity prevention, and how do they interact?
2. How can systems approaches go beyond multi-sector or multi-level interventions?
3. How can collaboration across systems and players improve obesity prevention strategies?

Dive Deeper: Additional Readings and Resources

Hennessy E, Economos CD, Hammond RA; SUS Systems Map Team and the COMPACT Team. **Integrating complex systems methods to advance obesity prevention intervention research**. Health Educ Behav. 2020 Apr;47(2):213-223.

Committee on Accelerating Progress in Obesity Prevention; Food and Nutrition Board; Institute of Medicine. **Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation.** Academies Press (US); 2012 May 8.

Institute of Medicine (US) Committee on an Evidence Framework for Obesity Prevention Decision Making. **Bridging the Evidence Gap in Obesity Prevention: A Framework to Inform Decision Making**. National Academies Press (US); 2010.

Paskett E, Thompson B, Ammerman AS, Ortega AN, Marsteller J, Richardson D. **Multilevel interventions to address health disparities show promise in improving population health**. Health Aff. 2016 Aug 1;35(8):1429-34.

Gillman MW, Hammond RA. **Precision treatment and precision prevention: Integrating "Below and Above the Skin."** JAMA Pediatr. 2016 Jan;170(1):9-10.

Institute of Medicine; National Research Council; Nesheim MC, Oria M, Yih PT. **A framework for assessing effects of the food system**. The National Academies Press. 2015.

National Academies of Sciences, Engineering, and Medicine. **Science breakthroughs to advance food and agricultural research by 2030**. The National Academies Press. 2019.

National Academies of Sciences, Engineering, and Medicine. **Evaluating the process to develop the dietary guidelines for Americans, 2020-2025: Final report**. The National Academies Press. 2023.

Swinburn BA, Kraak VI, Allender S, Atkins VJ, Baker PI, Bogard JR, Brinsden H, Calvillo A, De Schutter O, Devarajan R, Ezzati M, Friel S, Goenka S, Hammond RA, Hastings G, Hawkes C, Herrero M, Hovmand PS, Howden M, Jaacks LM, Kapetanaki AB, Kasman M, Kuhnlein HV, Kumanyika SK, Larijani B, Lobstein T, Long MW, Matsudo VKR, Mills SDH, Morgan G, Morshed A, Nece PM, Pan A, Patterson DW, Sacks G, Shekar M, Simmons GL, Smit W, Tootee A, Vandevijvere S, Waterlander WE, Wolfenden L, Dietz WH. **The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report.** Lancet. 2019 Feb 23;393(10173):791-846.