

Applying Systems Thinking in Community-Engaged, Participatory Research: Lessons Learned from the Amsterdam Healthy Weight Program

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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. Wilma Waterlander explores the benefits of using a **systems thinking** approach when addressing complex public health issues, like childhood obesity. Drawing from her work on the Amsterdam Healthy Weight Program and the LIKE program, she discusses the steps involved in developing a systems logic model, rather than a traditional logic model. This approach considers the complex, adaptive system that influences overweight and obesity in communities.

What Is Systems Thinking?

Although most public health challenges do not have a single cause or a simple solution, traditional research methods and public health interventions tend to focus on individual variables. In contrast, systems thinking explores how multiple variables intersect and influence health outcomes, rather than narrowly defining the problem. This innovative approach is useful when studying complex issues, like childhood obesity, that result from a broad range of factors, such as housing, food insecurity, and poverty.

LEARNING OBJECTIVES

- Identify the core components of systems thinking.
- Compare systems thinking to traditional logic model approaches.
- Describe how systems thinking concepts can be applied when designing public health interventions.

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



Community engagement: A participatory approach in which people and organizations in communities are not merely involved but truly empowered as experts and decision makers



Causal loop diagrams: A visual representation of how variables are related to and influence each other, frequently used in systems science

Applying a systems thinking approach to public health interventions involves a four-step process:

1. **Understand the (pre-existing) system:** Before launching a new intervention, take time to learn about the community. Engage community members in your research through participatory action groups and create causal loop diagrams using the evidence.
2. **Find leverage points in the system:** Identify multiple levels for interventions rather than focusing on a single solution.
3. **Develop an adaptive action program:** Be flexible and expect that action plans will continue to evolve based on new insights or other changes within the community.
4. **Measure the program outcome and impact:** Consider intended as well as unintended consequences when assessing impacts across the system.

In her presentation, Dr. Waterlander shares several academic resources and lessons learned from her experience implementing public health interventions. She explores why practitioners must regularly assess the broader context to ensure interventions are community-engaged and prioritize actions that have the most momentum and political support. View her OPUS presentation to learn more.

WATCH THE KEYNOTE



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Reflection Questions

1. How does systems thinking differ from traditional problem-solving approaches in public health?
2. Imagine you are designing a public health program for a complex issue in your community. What steps would you take to ensure it aligns with systems thinking?
3. Dr. Waterlander mentioned that policy inertia, food industry opposition, and government reluctance are barriers to progress in obesity prevention. How can systems thinking help overcome these challenges?

Dive Deeper: Additional Readings and Resources

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