Session 2 – Influencing Systems
Obesity-Related Opportunities for
Systems Change: Community change

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Disclosures

No conflicts of interest

Nutrition scientist

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1) EVENT  Individual/population outcome (Childhood obesity)

2) TRENDS  Poor diet, inactivity, stress...

3) STRUCTURE  Policies, practices, resource flows

4) MENTAL MODELS

SIX CONDITIONS OF SYSTEMS CHANGE

- Structural Change
- Relational change
- Transformative Change

Obesity-Related Opportunities for Systems Change: Community change
Opportunity #1
Whole-of-community interventions

• Multilevel, multifaceted, and implemented holistically throughout an entire community

• Targets multiple levels of influence and behaviors through policy, practice and resource flows

• Effective and equitable when focused on structural components, when intervention strategies target a variety of contexts, and when there is engagement with the community.
Opportunity #2
Leveraging community coalitions

- Groups of leaders and stakeholders from diverse organizations, settings, and sectors working collectively on a common objective are recommended as a strategic entity to amplify public health prevention efforts.

- Observed ability to collaborate, build relationships and community capacity, plan tailored interventions, and diffuse interventions throughout a community.

- Allow for sharing of critical information and resources specific to local contexts.
Shape Up Somerville Systems Map
Mapping the Dynamics of Community Change

Opportunity #3
Sharing and shifting mental models

- Community-based Systems Dynamics (CBSD): participatory method for involving communities in the process of understanding and changing systems
  - Allows members to better understand complex systems that influence problems of interest, and to take effective actions to address those problems
  - Helps to equalize power among group members, enabling input from all participants and promoting group cohesion

- Group model building (GMB): participatory methods grounded in CBSD
  - Trained facilitators follow scripted, group activities related to conversations about the structures of systems that yield patterns of behavior over time
  - Allows a group to:
    - Visualize a complex & dynamic system
    - Develop & prioritize action steps
    - Build connections across time & scale
    - Create a community-specific systems model
    - Allows for both qualitative and quantitative modeling

Ongoing research with 5 coalitions across the U.S.

Opportunity #4
Integrating systems science tools

• Systems mapping
  • drove initial hypothesis, expanded into a full mechanistic theory and operationalized using Agent-based Modeling (ABM)
  • gave initial insights into the potential role of social networks

• CBSD/GMB
  • engage coalition stakeholders to elicit and shift their mental models
  • build relationships and connections; equalize power dynamics
  • drive the creation and diffusion of policies, practices and resource flows

• ABM
  • “agents” as community stakeholders
  • situated within a social network that possess attributes such as knowledge (K), engagement (E), and network position (among other attributes)
  • outputs allow for a comparison in real-world trends in K&E over time

• SNA
  • central part of hypothesis – represents the pathway by which K&E diffuse

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Kania, J., Kramer, M., Senge, P. *The Water of Systems Change*. June, 2018
Six conditions of systems change must be addressed

- Obesity research and practice has predominantly focused on only 3 conditions: policies, practices and resource flows
- Research and practice must advance to focus on relationships & connections, power dynamics and mental models

Preventing obesity at the community level demands comprehensive, whole-of-community transformation

- Whole-of-community interventions offer promise especially those that utilize participatory engagement with coalitions

Specific systems modeling techniques are adept at eliciting mental models and building community capacity

- CBSD and GMB bring together cross-sector stakeholders in structured activities that surface diverse perspectives, build consensus, diffuse evidence, and drive coordinated, comprehensive action

Integrating complex systems techniques can yield novel insights

- Blending qualitative and quantitative complex systems methodologies offers novel insights above traditional epidemiological or health promotion approaches
- Allows for rigorous evaluation of the six conditions of systems change
Thank you

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