

Policy, systems, and environmental approaches to reduce obesity and cancer risk

David Berrigan, PhD, MPH
Jill Reedy, PhD, MPH, RDN

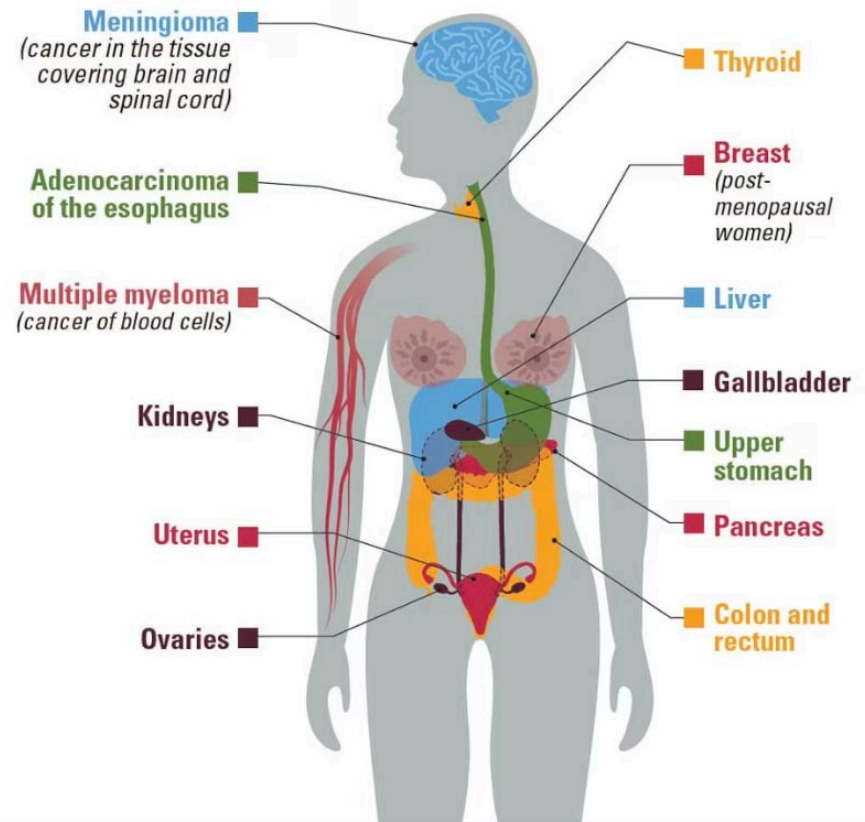
Division of Cancer Control and Population Sciences, National Cancer Institute

Topics

- Cancer and obesity
- Obesity prevalence and forecast - the latest
- Obesity treatment and cancer
- Need for broad policy, systems, and environmental (PSE) approaches
- Recent obesity-related PSE workshops
- Whole of Systems approach – combining PSE and treatment approaches
- Readiness
- Tough questions

A risk factor for at least 13 types of cancer

- **AICR/WCRF 1997; 2007; 2018** – Currently: bowel cancer, breast cancer (post-menopausal), gallbladder cancer, kidney cancer, liver cancer, mouth, pharynx and larynx cancer, oesophageal cancer (squamous), ovarian cancer, pancreatic cancer, prostate cancer (advanced), stomach cancer (cardia), womb cancer
- **IARC 2002-2018** - Cancers of the colon and rectum, pancreas, gallbladder, oesophagus (adenocarcinoma), gastric cardia, liver (hepatocellular carcinoma), kidney (renal cell carcinoma), ovary, endometrium of the uterus, breast in postmenopausal women, and thyroid, and meningioma and multiple myeloma
- **Sun 2024** - A further 15+ cancers linked to obesity from a cohort of 4 million Swedes

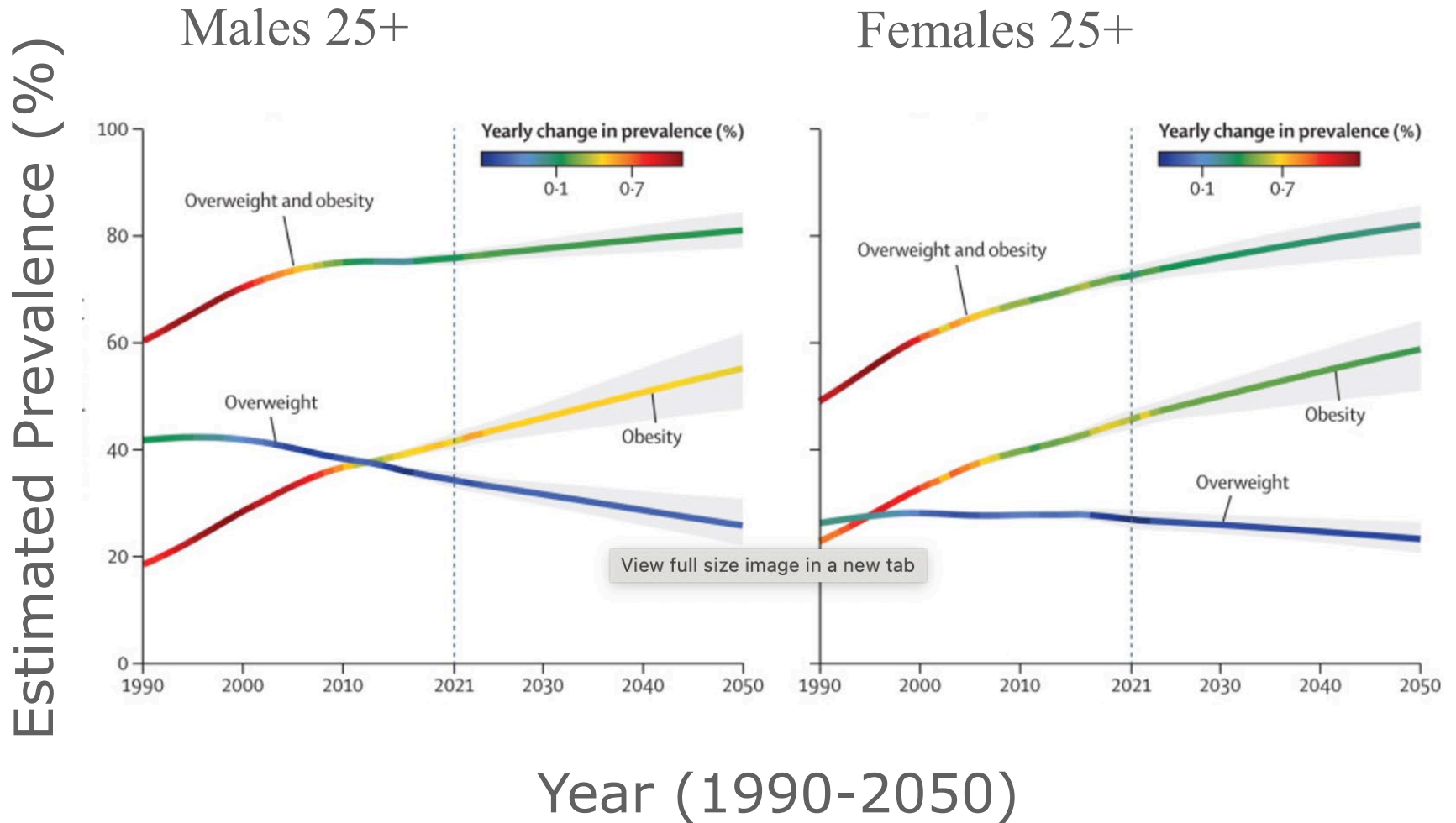


Obesity and its correlates are responsible for a large proportion of preventable cancers

Modifiable Risk Factor	Women	Men
Tobacco + secondhand smoke	16.1	23.1
Obesity	10.6	4.8
Alcohol	6.2	4.7
Other diet-related factors*	3.3	4.8
Physical inactivity	4.4	1.8
Total obesity-related factors	22.5	16.1

Islami 2024; *Processed/Red Meat, Low Fruits/Vegetables, Low Fiber, Low Calcium

Obesity prevalence predicted to continue increasing through 2050



Reducing obesity prevents cancer

Intervention¹	Hazard Ratio	Follow-up (Years)
Bariatric surgery	0.68	6.1
Intentional weight loss	0.88	12 ²
GLP-1RA for diabetes ³	0.35-0.74	15
Intensive lifestyle intervention	0.84 ⁴	11

¹ Aminiman 2022; Luo 2019; Wang 2024; LARG 2022

² Weight loss in first three years

³ Compared to people treated with insulin

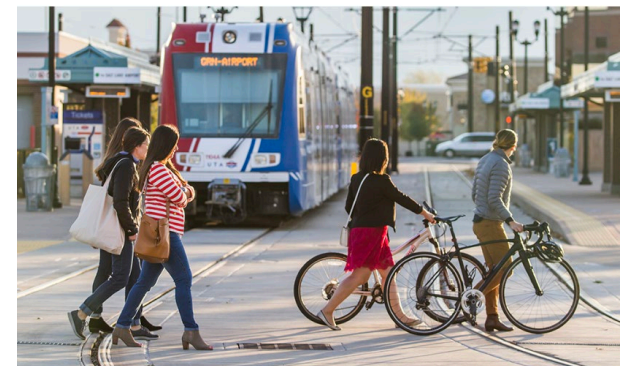
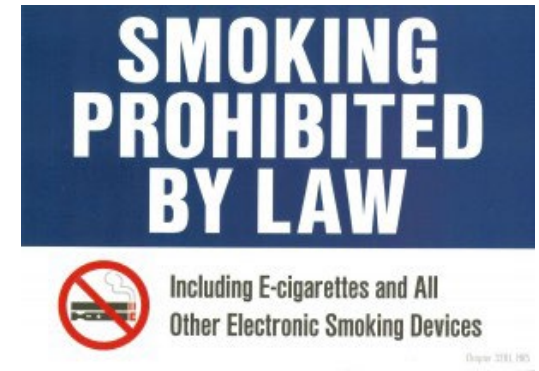
⁴ Not significant

Why not just treat people with obesity to prevent cancer?

1. **Enormous cost:** one study estimates \$260 billion per year in additional costs for obesity care
2. **Side effects** of pharmacological and surgical approaches
3. GLP-1 agonists unacceptable and/or unaffordable e.g., **2 of 3 people stop taking them in the first year** (Reuters 2023)
4. The Look Ahead Trial: 24 sessions in the first six months, 18 in the second, and 2x monthly contacts for the remaining nine years – **many sessions needed**
5. Less intensive and shorter behavioral interventions associated with **weight regain after treatment cessation**

Preventing unhealthy weight gain by changing the obesogenic environment

1. Build on the tobacco model
2. Change food and physical activity environments:
 - a. Active transportation
 - b. School-based nutrition
 - c. Parks and programming
 - d. Healthy food access
 - e. Labeling and taxation policies
3. Policy change in health care systems for equitable access
4. **But just one or a few of these interventions are inadequate to prevent obesity**



Obesity-Related Policy, Systems, and Environmental Research in the US (OPUS) Workshop Series

- **Two-part workshop series**
exploring how to advance progress toward designing and rigorously evaluating policy, systems, and environmental (PSE) interventions, including those targeting both proximal and distal factors
- **Goals**
 - Explore key learnings from past research and evaluation
 - Advance childhood obesity research and inform future directions for the field

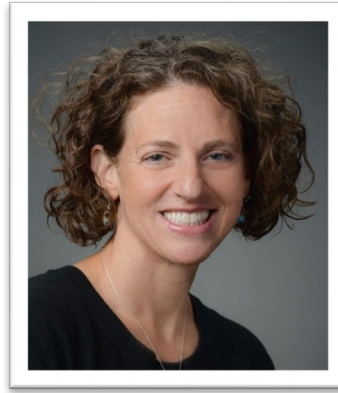


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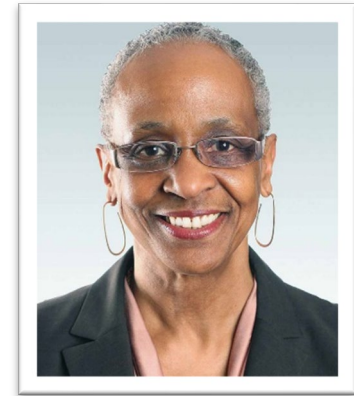
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University of Pittsburgh
Department of Epidemiology



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Drexel University
Emeritus Professor of Epidemiology
University of Pennsylvania Perelman School of Medicine

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CDC: Heidi Blanck, PhD; Sarah Sliwa, PhD; Amy Warnock, MPA

OPUS: Highlights

- Critical need to authentically engage community and other multisector partners
- Many successful policy, systems, and environmental (PSE) approaches but few Whole of Systems efforts
- Potential for complex systems models and design thinking to strengthen and improve design, implementation, and evaluation of PSE approaches
- Pressing need for demonstration projects addressing multiple influences on childhood obesity
- Importance of addressing both proximal and distal factors to have equitable impacts



It's time to test Whole of Systems approaches

“Until we address the broader determinants of obesity and barriers to its treatment in low income and minority populations, the current disparities in the prevalence of obesity and other chronic diseases will persist and may even increase.”

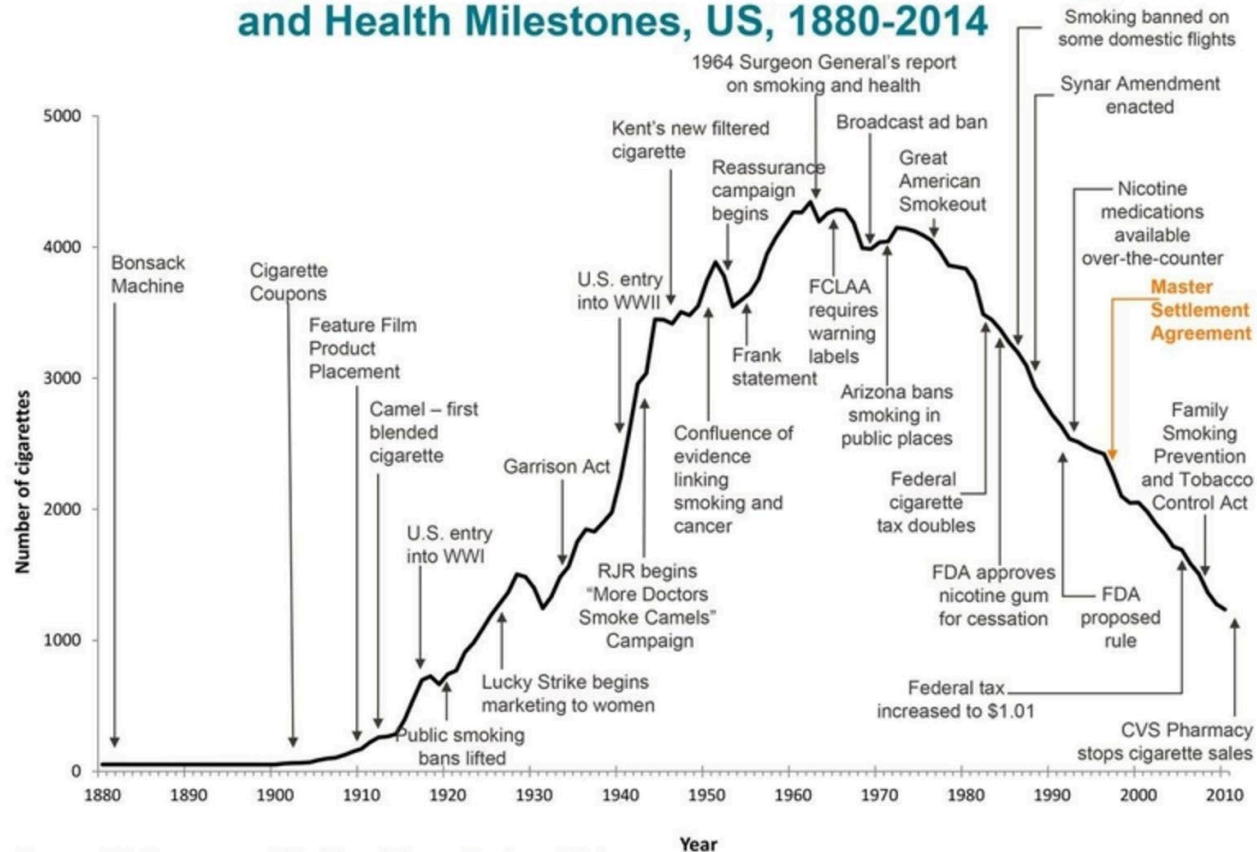
-- Dietz 2019

“The application of Whole of System Approaches to diet and healthy weight shows promise, yet the research is lagging behind their implementation. Further robust evidence for using WSA to address diet and healthy weight are required...”

-- Breslin 2024

Evidence that multiple PSEs are needed: Tobacco control

Adult Cigarette Consumption and Major Smoking and Health Milestones, US, 1880-2014

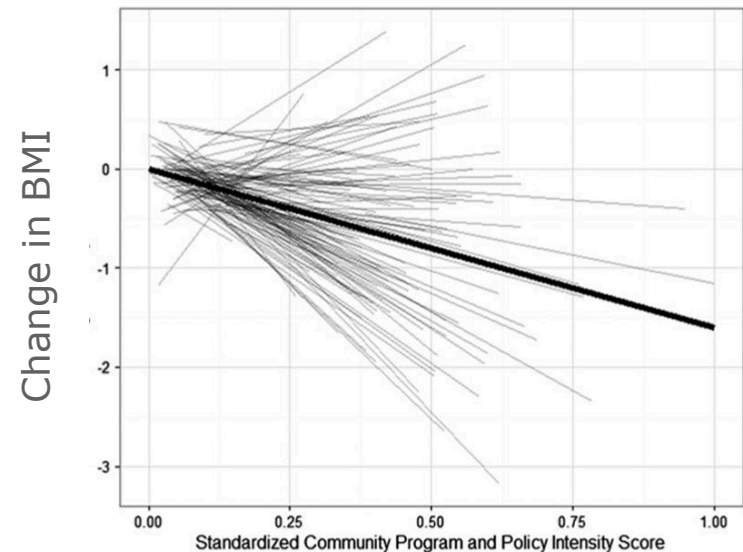
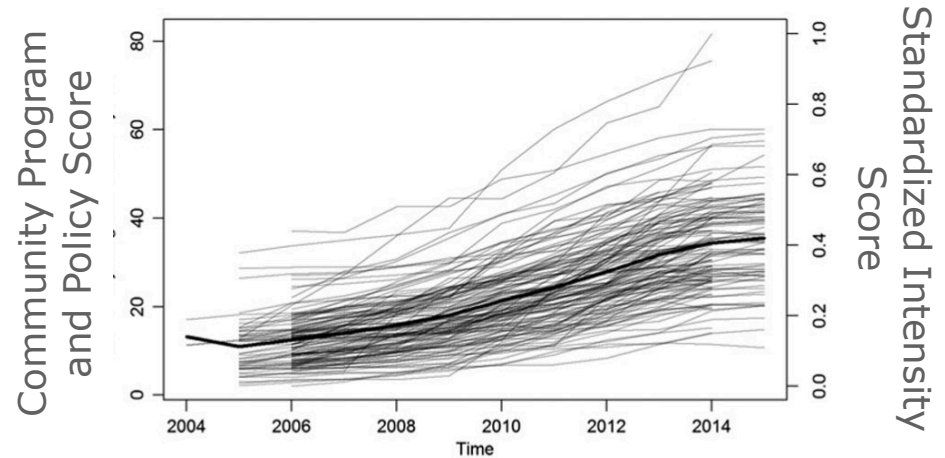


Source: U.S. Department of Health and Human Services, 2014

* Brand new Surgeon General's report: <https://www.cdc.gov/tobacco-surgeon-general-reports/about/2024-end-tobacco-disparities.html>

Evidence that multiple PSEs are needed: NHLBI-led Healthy Community Study

- 130 communities over six years
- Children
- EMR BMI data
- As more and more programs and policies were implemented, a greater effect on BMI



Evidence that multiple PSEs are needed: A few Whole of Systems efforts addressing children

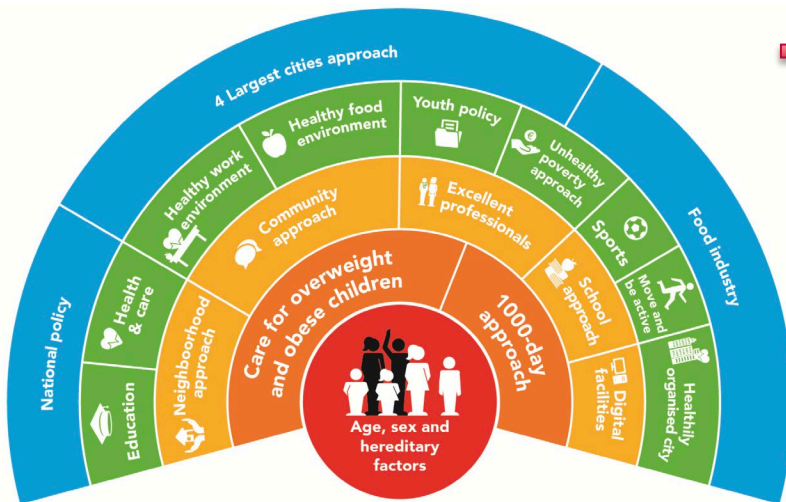
SHAPE UP SOMERVILLE: BUILDING AND SUSTAINING A HEALTHY COMMUNITY

Reflections over 15 years (1998-2013)



“Across the SUS phases key ingredients for success included: funding support, political will, and community partnerships”

Amsterdam Healthy Weight Program 2013-2033



Lifestyle

What goes well?

Children and young people drink sugary drinks less often

Babies are breastfed for longer

What can be done better?

Young people in secondary education more often spend two hours or more a day on TV or computer outside school hours

Children and young people are not physically active. For example, only half of primary school pupils exercise at least one hour a day

Efforts Supporting Readiness for a Whole of Systems Intervention Study

- NIH Obesity Research Task Force (ORTF)/National Collaborative on Childhood Obesity Research (NCCOR)
- Growing community of NIH funded policy evaluation researchers
- Advances in design and systems thinking for addressing obesity
- Pathways to Prevention workshop on Methods for Evaluating Natural Experiments in Obesity (**Emmons 2018**)
- Lessons from the Common Fund Community Partnerships to Advance Science for Society (ComPASS) program addressing health equity structural interventions

Notice of Special Interest (NOSI): **Administrative Supplements for Assessing Capacity to Address Obesity for Cancer Prevention and Control** NOT-CA-25-004

- **Goal:** to **build capacity and readiness for the development of whole of systems approaches to addressing obesity** for cancer prevention and control via policy, systems, and environmental approaches
- NCI is seeking supplement applications that **define the problem of obesity** a geographic area, **characterize current efforts to address obesity**, and **convene diverse partners** to explore the potential for integrating multiple policy, systems, and environmental approaches into Whole of Systems approaches to obesity
- Due date: Jan. 31, 2025; Total costs: \$100,000
- Eligibility: NCI grantees
- <https://grants.nih.gov/grants/guide/notice-files/NOT-CA-25-004.html>
- Pre-application webinar – held 11/18/2024
<https://nci.rev.vbrick.com/sharevideo/66f4e04d-9084-46d2-9757-dcb900018135>

Potential Next Steps

- OPUS workshop summaries for peer-reviewed journal
- Speakers for subcommittee and/or DCCPS
- Focused portfolio review
- Convening supplement awardees
- Further funding opportunities



Tough Questions and Challenges

- Policy, Systems, and Environments/Whole of Systems Approaches are likely to involve a mix of RCT's and "Natural Experiments" – **Is causal inference possible?**
- Engaging multiple sectors and communities takes a lot of time - **How can we support researchers and partners during these developmental stages?**
- Obesity stigma and other public health and social priorities create barriers to addressing obesity – **How can we mobilize different sectors and communities to prioritize obesity?**
- Rigorous evaluation of complex combinations of interventions will require measurement at multiple levels from biomarkers to policy implementation factors – **Can efficient teams be formed to achieve this goal?**

Discussion and Questions



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