NCCDPHP Social Determinants of Health Environmental Scan: Executive Summary

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Environmental Scan Executive Summary

The Burden of Chronic Disease

The leading causes of morbidity and mortality in the United States are heart disease, stroke, diabetes, and cancer. (CDC, 2022; Xu et al., 2020) The nation currently spends $3.8 trillion on health care, which can be attributed to chronic disease. (CDC, 2023; Martin et al., 2021) Additionally, there are several causes of chronic disease disparities, including racial, ethnic, and socioeconomic factors that can be further linked to differences in social determinants of health (SDOH). (Braveman et al., 2014; CDC, 2023; CDC, 2024; Cockerham et al., 2017; Healthy People, 2017) SDOH can be described as "conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of life risks and outcomes."(Healthy People, 2017)

Addressing SDOH

Addressing SDOH and ensuring that everyone has a fair and just opportunity to attain their highest level of health requires multi-level interventions, including policy-, systems-, and environmental changes that promote health. (CDC, 2024; Frieden, 2010) The Centers for Disease Control and Prevention's (CDC's) National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) has dedicated time and effort to addressing chronic diseases and advancing health equity through specific SDOH interventions. (CDC, 2024; Cockerham et al., 2017; NCCDPHP, 2022) NCCDPHP's SDOH framework focuses on five domains: (1) built environment, (2) community-clinical linkages, (3) food and nutrition security, (4) social connectedness, and (5) tobacco-free policies. These domains have been prioritized due to previous research that establishes their connection to chronic disease and NCCDPHP's unique position to advance this research, given its organizational expertise, capabilities, and congressional mandates. (Cockerham et al., 2017)

SDOH Environmental Scan

NCCDPHP collaborated with RTI International to conduct an environmental scan of evidence-based interventions (EBIs) that align with the Center's SDOH framework to help inform future research, program, and technical assistance investments. The environmental scan involved consulting with subject matter experts; reviewing and summarizing existing evidence reviews; conducting focused literature reviews related to evidence gaps; developing an EBI inventory; and drafting research priorities based on environmental scan findings (Figure ES-1).

Figure ES-1. SDOH Environmental Scan Methods at A Glance
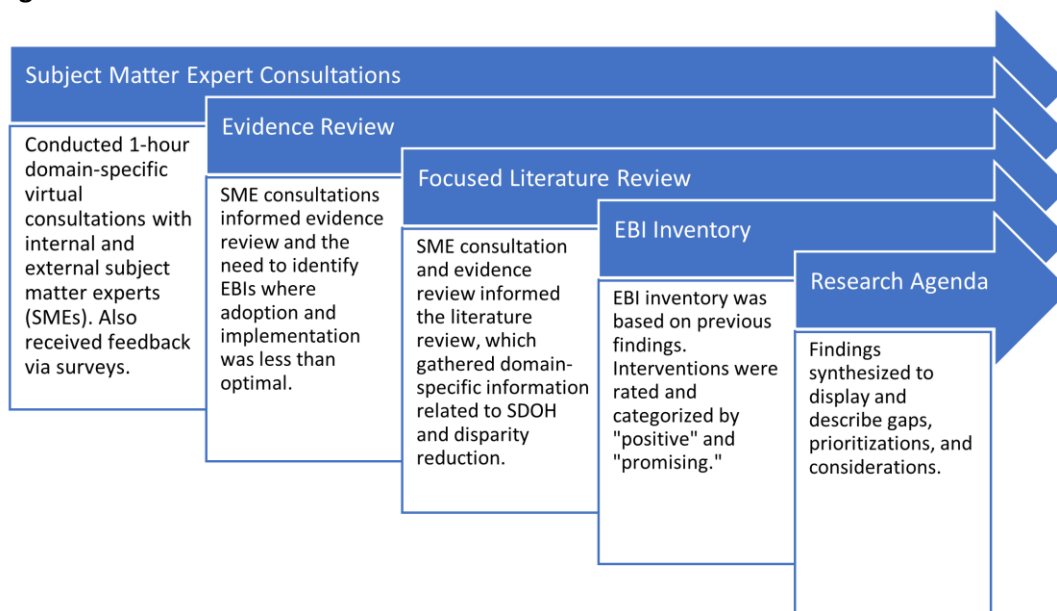
Findings from SME consultations, review of existing evidence and the focused literature review were used to develop a SDOH inventory of SDOH intervention types in each of the five domains. In most domains, evidence demonstrated that some types of interventions had positive effects on the reduction of chronic disease risk. For the inventory, SDOH interventions for each domain were categorized and rated based on the scan findings. Figure ES-2 highlights example interventions in each domain from the inventory and the evidence rating assigned to each.

Figure ES-2. Evidence-Based Interventions: Examples at a Glance

EBI by Domain	Description	Evidence Rating
Built Environment		
Housing	Safe and affordable housing interventions	▲ Promising
	Quality housing (e.g., green and healthy homes)	• Positive
Cross-domain intervention: Smoke-free housing	Housing and Urban Development (HUD) policy prohibiting smoking in public housing	▲ Promising
	Voluntary smoke-free rules in a household's home/car	• Positive
Community-Clinical Linkages		
Community health workers	Education and lifestyle changes	• Positive
	Increasing access to prevention and screening	• Positive
	Patient navigation and integration into larger multidisciplinary teams	• Positive
Service delivery interventions	Mobile clinics	▲ Promising
Social Connectedness		
Social support interventions	Improving health behaviors and outcomes	• Positive
	Social prescribing: Screening populations at risk for social isolation	▲ Promising
	Increasing social engagement	▲ Promising

Figure ES-2. Evidence-Based Interventions: Examples at a Glance

EBI by Domain	Description	Evidence Rating
Digital interventions	Increasing social engagement	● Positive
	Group-based support	● Positive
Food and Nutrition Security		
Food accessibility and healthcare systems	Food is Medicine	● Positive
	Medicaid waivers	● Positive
	Restrictions on marketing to children	● Positive
	Food pricing policies	● Positive
	School food initiatives	● Positive
Food banking system/food pantry	Increasing access	▲ Promising
	Improving food quality	● Positive
	Community gardens	▲ Promising
Tobacco-Free Policy		
Point-of-sale	Tobacco retailer restrictions (e.g., density caps, proximity of retailers to specific areas, such as near schools)	● Positive
	Tobacco price and taxes	● Positive
	Menthol and flavored tobacco bans	● Positive
	Tobacco product packaging and tobacco advertising policies	● Positive
Tobacco cessation coverage	Medicaid coverage for tobacco cessation treatment	▲ Promising

● Most studies list positive or strong evidence of efficacy. ▲ Most studies list promising evidence of efficacy.

Figure ES-3 provides domain-specific research priority examples to guide future research. These priorities were developed based on scan findings and the SDOH inventory and highlight gaps and key takeaways for each domain. Research questions for to fill evidence gaps is included in the full Research Agenda.

Figure ES-3. SDOH Environmental Scan Research Key Findings and Priority Examples

SDOH Domain	Research Priorities
Built Environment	• **Priority Recommendation 1:** Examine how changes in the availability of options for active transportation (e.g., new public transit lines, dedicated bike lanes, safe streets for walking) affect physical activity of individuals living in rural, suburban, and urban environments. • **Priority Recommendation 2:** Assess how housing and neighborhood quality are affected by structural and social determinants, including systemic racism and other inequalities. Next, examine how housing and neighborhood quality affect multiple dimensions of health, including mental health, substance use, and health behaviors.
Community-Clinical Linkages	• **Priority Recommendation 1:** Understand the impact of expanding services and support provided by health professionals, such as community health workers, to population groups and in settings with disparities in access to and quality of care. • **Priority Recommendation 2:** Understand how to optimize interventions integrating health-related social needs into clinical practice, including the pathways and characteristics that make the intervention effective.

Social Connectedness	• **Priority Recommendation 2:** Conduct comparative effectiveness research to understand which intervention strategies are most effective for promoting social engagement (e.g., one-on-one vs. group), and to identify the most-effective modes of delivery for interventions that promote social engagement component (e.g., in person vs. digital). • **Priority Recommendation 4:** Expand the knowledge base on social connectedness interventions that focus on prevention of mental and physical illness in youth and adolescents.
Food and Nutrition Security	• **Priority Recommendation 1:** Study the impact of environmental strategies intended to increase high-quality food access for priority populations. • **Priority Recommendation 2:** Improve the design of food and nutrition intervention studies by including factors such as long-term evaluation methods, strong control groups, preintervention measures, and intervention characteristics. Also consider interventions that use a population-specific approach that considers the historical and cultural trauma participants have experienced.
Tobacco-Free Policy	• **Priority Recommendation 3:** Eliminate gaps in research on tobacco point-of-sale policies and identify methods of equitable enforcement of these policies. Specifically, conduct research on the effects of removing tobacco products from retail pharmacies on tobacco use and cessation outcomes. • **Priority Recommendation 4:** Identify methods of improving utilization of evidence-based tobacco cessation services (including nicotine replacement therapy, counseling, and other cessation services). Specifically, this research should focus on states with expanded coverage of these services and population groups that have not accessed, been able to access, or benefited from sustained quits via existing cessation service models.

ES-4 provides examples of key takeaways regarding research gaps by domain.

Figure ES-4.   Key Takeaways Examples by Domain

Built Environment (BE)

- There is a lack of research with a specific equity focus or that considers how to engage communities in influencing the BE, specifically transportation infrastructure.
- More research about how new policies relate to the BE would shed light on existing changes and help increase understanding of positive and negative impacts of such changes.

Community-Clinical Linkages (CCL)

- Although data demonstrate interventions with health extenders, such as community health workers, are effective, it is unclear which pathways, processes, and characteristics lead to these impacts.
- CCL interventions imply a balance between the clinical realm and the community, but for certain interventions, such as addressing health-related social needs in clinical practice, the balance may swing in one direction. Future research should apply strategies for centering the community to improve intervention effectiveness.
  - There is a need for research examining the effectiveness of innovative service delivery interventions, such as delivering care through mobile units or at barber shops and beauty salons.

Social Connectedness (SC)

- Digital interventions have shown promising effects on health and social support outcomes, although these results were yielded from a limited number of studies. More research is needed to learn about the effect of different types of digital interventions and strategies on SC outcomes.
- Diversity considerations are also needed; research should be inclusive of population segments that have been identified as being disproportionately at risk for social isolation. These include individuals living wit: physical and mental disabilities, and chronic conditions, individuals who live in rural areas, those who have low income, LGBTQIA+ individuals, and members of population groups based on constructs of race and ethnicity that disproportionately experience risk factors for mental illness and trauma.

Food and Nutrition Security (FNS)

- Additional research is needed to fill the evidence gaps related to environmental strategies aimed at increasing high-quality food access for all populations.
- A population-specific approach for planning and implementing FNS interventions may be necessary, especially when considering individuals in Indigenous, remote, and rural communities and regions.

Tobacco-Free Policies (TFP)

- Research on expanded coverage of tobacco cessation services under Medicaid is promising, but additional research is needed to determine how to promote awareness and use of these services.
- Additional research is needed to support the equitable coverage and enforcement of flavored tobacco policies for all populations and all tobacco products.

Finally, synthesis of findings revealed common areas for future research across SDOH domains. These include research on how EBIs are implemented, understanding the context and how to adapt EBIs for settings and populations, more-rigorous studies of SDOH interventions and more research on long-term impacts of these interventions. Examples of these cross-cutting recommendations are included in Figure ES-5.

Figure ES-5.   Cross-Cutting Recommendations

BUILT ENVIRONMENT	COMMUNITY-CLINICAL LINKAGES	SOCIAL CONNECTEDNESS	FOOD AND NUTRITION SECURITY	TOBACCO-FREE POLICY
Research on EBI Implementation				
Assessing facilitators and challenges of implementing transportation initiatives	Examining factors influencing expanded use of community health workers	Studying implementation of network-based interventions	Studying strategies of programs (e.g., Healthy Meals for All) to understand potential policies for other food access programs	Identifying methods of improving the equitable enforcement of restrictions on flavored tobacco and the use of cessation services
Research on Context and How to Adapt Interventions				
Studying population-specific implementation of transportation interventions	Understanding community health worker–led interventions in rural settings	Examining effect of cultural considerations and tailoring social connectedness interventions for specific populations	Examining additional needs from rural or remote communities experiencing challenges related to the digital divide	Identifying the effects of point-of-sale policies on specific populations, particularly people who live in rural areas

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