

BEYOND DIRECT NUTRITION EDUCATION: THE GROWING IMPORTANCE OF POLICY, SYSTEMS, AND ENVIRONMENTAL CHANGE STRATEGIES IN THE USDA'S SNAP-ED PROGRAM

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SUMMARY

The Supplemental Nutrition Assistance Program Education (SNAP-Ed) in the United States has undergone a significant evolution in recent years, shifting from the singular focus on direct nutrition education to a more comprehensive approach that incorporates policy, systems, and environmental (PSE) change strategies. This transformation reflects a growing recognition of the need for a multi-level, multi-sector approach to effectively address the complex issues of food and nutrition insecurity in diverse communities across the nation. The 2025 SNAP-Ed Plan Guidance issued by the United States Department of Agriculture (USDA) underscores this shift by placing increased emphasis on PSE interventions and community engagement. These new priorities aim to promote nutrition security and health equity on a broader scale, moving beyond individual behavior change to create supportive environments that make healthy choices more accessible and sustainable for SNAP-eligible populations. Successful PSE interventions implemented through SNAP-Ed have demonstrated significant potential for creating lasting, population-level changes in food environments and dietary behaviors. These strategies have shown promise in improving access to healthy foods, enhancing nutrition environments in schools and communities, and fostering collaboration among various stakeholders to address systemic barriers to healthy eating. The authors observe that meaningful community engagement and participation are crucial for ensuring that interventions are culturally appropriate, relevant, and sustainable. As SNAP-Ed continues to evolve, ongoing research and evaluation will be essential to refine PSE strategies and maximize their impact on nutrition security and health equity across diverse populations.

Keywords: SNAP-Ed, policy, systems, and environmental change strategies, nutrition security, health equity, community engagement, USDA

INTRODUCTION

The Supplemental Nutrition Assistance Program Education (SNAP-Ed) promotes nutrition security and health equity among low-income individuals in the United States (USDA, 2022). While traditionally focused on direct nutrition education (Rivera et al., 2016), SNAP-Ed has shifted towards policy, systems, and environmental (PSE) change strategies (Burke et al., 2022; Elsaesser et al., 2022). Key milestones include the Healthy, Hunger-Free Kids Act of 2010, SNAP-Ed Plan Guidance documents, and the 2018 Farm Bill (USDA, 2022). This article examines the evidence base for PSE approaches, their potential to advance nutrition security and health equity, and offers recommendations for future research and practice.

Rationale for the Study

SNAP-Ed's shift toward PSE change strategies requires better understanding of their impact on social determinants of health and disparities (USDA, 2024). Food insecurity disproportionately affects low-income communities and communities of color, perpetuated by systemic inequities (Elsaesser et al., 2022) necessitates a comprehensive approach targeting policies, systems, and environments (Burke et al., 2022). The 2025 SNAP-Ed Plan Guidance emphasizes PSE strategies, which have potential for sustainable, population-level changes (USDA, 2022; Haynes-Maslow et al., 2019). However, more research is needed on effectiveness, challenges, and best practices (Burke et al., 2022). Success depends on

community engagement, cross-sector partnerships, and policy support (Haynes-Maslow et al., 2019). Examining these approaches is crucial for creating an equitable and sustainable food system supporting all communities' health and well-being.

Background

SNAP-Ed has evolved over four decades from a small-scale nutrition education effort to a comprehensive nationwide initiative promoting nutrition security and health equity. Key milestones include the Food Stamp Act of 1992 and the Healthy, Hunger-Free Kids Act of 2010, which introduced the Social-Ecological Model as a guiding framework. Subsequent guidance has prioritized policy, systems, and environmental (PSE) approaches alongside traditional education strategies, reflecting the need for comprehensive, population-level improvements. The 2018 Farm Bill expanded SNAP-Ed's scope to include physical activity promotion. SNAP-Ed's evolution balances top-down policy guidance with bottom-up innovation by state and local implementers. The upcoming 2025 SNAP-Ed Plan Guidance is expected to further emphasize PSE approaches, community engagement, and health equity, building on past successes while encouraging continued innovation in promoting nutrition security and health for all (USDA, 2024).

Table 1*A timeline of key milestones in the evolution of SNAP-Ed*

Year	Milestone
1981	USDA's Food and Nutrition Service (FNS) begins funding nutrition education programs for Food Stamp Program participants (the predecessor to SNAP)
1992	Food Stamp Act of 1992 establishes optional state nutrition education grants
1998	Kentucky launches one of the first state nutrition education programs funded by the Food Stamp Program
2000	FNS publishes the first guidance for states on nutrition education for the Food Stamp Program
2004	The Food Stamp Nutrition Education Systems Review report is released, providing recommendations for improving the effectiveness and accountability of nutrition education programs
2008	The Food, Conservation, and Energy Act of 2008 renames the Food Stamp Program as the Supplemental Nutrition Assistance Program (SNAP) and expands nutrition education funding
2010	The Healthy, Hunger-Free Kids Act of 2010 establishes SNAP-Ed as a nutrition education and obesity prevention grant program, and introduces the Social-Ecological Model as a framework for SNAP-Ed programming
2013	SNAP-Ed Guidance introduces the Interpretive Guide to the SNAP-Ed Evaluation Framework, providing standardized metrics for evaluating SNAP-Ed programs
2016	SNAP-Ed Guidance further prioritizes policy, systems, and environmental (PSE) approaches and provides additional resources and support for implementing these strategies
2018	The Agriculture Improvement Act of 2018 (Farm Bill) expands the scope of SNAP-Ed to include physical activity promotion and encourages the use of multi-level, community-based strategies
2021	USDA releases the SNAP-Ed Toolkit website, providing a comprehensive collection of resources and best practices for SNAP-Ed program planners and implementers
2024	USDA FNS releases the Fiscal Year 2025 SNAP-Ed Plan Guidance, further emphasizing the importance of PSE approaches and community engagement in SNAP-Ed programming

Source: A select list of milestones in the history of SNAP-Ed program.

Research demonstrates SNAP-Ed's effectiveness in enhancing food security and promoting healthy choices within limited budgets (Rivera et al., 2016). While successful, Long et al. (2012) propose policy measures to further boost its nutritional impact. Multi-level interventions are emphasized by Draper et al. (2021) and Burke et al. (2022), highlighting SNAP-Ed's role in fostering sustainable, population-level changes. Eicher-Miller et al. (2020) show SNAP-Ed's unique contribution to food security, while Haynes-Maslow et al. (2019) explore effective practices and barriers in implementing PSE change initiatives. Caldwell et al. (2022) underscore SNAP-Ed's impact on dietary outcomes and health equity, emphasizing evidence-based strategies. The program's adaptability is demonstrated through school-based implementations during the pandemic (Francis et al., 2021) and multi-level interventions improving dietary behaviors (Slagel et al., 2022). Kuo (2019) reflects on SNAP-Ed's role in addressing food insecurity in Los Angeles County.

Direct Nutrition Education Approaches

SNAP-Ed has traditionally focused on direct nutrition education strategies (Ventura et al., 2022; Vance et al., 2020), but these approaches have limitations in addressing systemic factors contributing to food insecurity (Haynes-Maslow et al., 2019). Social, economic, and physical environments significantly influence food choices and health outcomes, particularly affecting low-income communities and communities of color (Moore et al., 2023). Recognizing these limitations, SNAP-Ed has adopted a more comprehensive approach by integrating policy, systems, and environmental (PSE) change strategies (Tompkins et al., 2021). This shift reflects an understanding that promoting nutrition security requires a multi-level, multi-sectoral strategy beyond individual behavior change (Ventura & Whaley, 2022). Embracing this comprehensive approach can better tackle systemic factors contributing to food insecurity, leading to sustainable and equitable improvements in health outcomes (Holston et al., 2020).

The PSE Turn in SNAP-Ed

PSE change strategies in SNAP-Ed aim to create sustainable, population-level changes in environments shaping food and physical activity choices, recognizing that individual behavior is heavily influenced by living contexts (Fornaro et al., 2022). Examples include advocating for policies to increase healthy food access, collaborating with schools to establish healthy food procurement policies, and improving the built environment. The emphasis on PSE approaches has grown significantly, reflecting a broader shift towards addressing social determinants of health. Key milestones include the 2010 Healthy, Hunger-Free Kids Act, the 2013 and 2016 SNAP-Ed Guidance documents, and the 2018 Farm Bill. These milestones expanded SNAP-Ed's scope and emphasized multi-level interventions, PSE approaches, and innovative, community-based strategies.

The Social-Ecological Model (SEM): A Framework for PSE in SNAP-Ed

The Social-Ecological Model (SEM) can be a powerful theoretical frame for PSE approaches in SNAP-Ed, recognizing that behavior is influenced by multiple levels of factors (Naja-Riese, 2019). This framework emphasizes community-level interventions to create supportive environments for healthy choices (Slagel et al., 2022). Community engagement ensures interventions are responsive to local needs (Riviera et al., 2017). Organizing PSE approaches by SEM levels provides a comprehensive framework for SNAP-Ed interventions from individual to societal levels.

Table 2

The hierarchy and associated types of interventions, key objectives and limitations

Level of Social-Ecological Model	Type of Intervention	Key Findings	Limitations
Individual	Nutrition education and skill-building programs	Improvements in knowledge, attitudes, and self-efficacy related to healthy eating and physical activity	Limited evidence on long-term behavior changes and health outcomes
Interpersonal	Family-based interventions and peer support programs	Positive changes in family food environments and social support for healthy behaviors	Need for more research on the effectiveness of peer-led interventions and the role of social networks in behavior change
Organizational	School wellness policies and workplace health promotion programs	Increased availability of healthy food options and opportunities for physical activity; improvements in organizational practices and environments	Challenges in measuring the impact of organizational changes on individual behavior and health outcomes; limited evidence on the sustainability of interventions over time
Community	Healthy food retail initiatives and community-wide campaigns	Increased access to healthy foods in underserved neighborhoods; positive changes in community awareness and norms related to healthy eating and active living	Need for more rigorous evaluations of community-level interventions, including assessment of health and equity impacts; limited evidence on the cost-effectiveness of interventions
Societal	Advocacy for nutrition-related policies and systems changes	Successful passage and implementation of policies that support healthy eating and active living, such as sugar-sweetened beverage taxes and complete streets policies	Challenges in attributing policy and systems changes to specific interventions; need for more research on the long-term impact of policy changes on health outcomes and equity

Source: An SEM structuring of intervention in the SNAP-Ed program

As SNAP-Ed continues to evolve and expand its focus on PSE approaches, the SEM remains a valuable framework for guiding the development and implementation of comprehensive, community-driven strategies that promote nutrition security and health equity.

Table 3

The summarized comparison between the direct approaches and PSE based indirect approaches

Feature	Traditional Direct Education	Policy, Systems, and Environmental (PSE) Change
Focus	Individual behavior change	Changing the environments, policies, and systems that shape individual behavior
Target Audience	SNAP-Ed eligible individuals and families	Communities, organizations, and institutions that serve SNAP-Ed eligible populations
Intended Outcomes	Improved knowledge, skills, and behaviors related to healthy eating and physical activity	Increased access to healthy foods and opportunities for physical activity; improved nutrition and health-related policies and practices
Activities	Nutrition education classes, cooking demonstrations, grocery store tours, one-on-one counseling	Developing and advocating for policies that support healthy eating and active living; working with community partners to create healthier environments; implementing organizational wellness programs
Sustainability	Limited, as individual behavior changes may not be maintained without ongoing education and support	High, as changes to policies, systems, and environments can have a lasting impact on communities and populations
Reach	Limited to individuals who participate in direct education activities	Broader, as PSE changes can impact entire communities and populations, including those who may not participate in direct education
Evaluation Metrics	Short-term changes in knowledge, attitudes, and behaviors; participation rates in education activities	Long-term changes in health outcomes, food and physical activity environments, and nutrition-related policies and practices; reach and impact of PSE interventions
Evidence Base	Strong evidence for the effectiveness of direct education in improving individual-level knowledge and behaviors	Growing evidence for the effectiveness of PSE approaches in creating sustainable, population-level changes in nutrition and health outcomes
Equity Considerations	May not address the underlying social and environmental determinants of health that contribute to disparities	Can help to reduce disparities by addressing the structural barriers to healthy eating and active living in underserved communities
Examples	A series of nutrition education classes for SNAP-Ed eligible adults; a cooking demonstration at a local food pantry	Working with corner store owners to increase the availability of fresh produce in low-income neighborhoods; advocating for school wellness policies that promote healthy eating and physical activity

Source: Comparison of direct and PSE based SNAP-Ed interventions

Health Equity through PSE Changes

Health disparities, particularly affecting low-income communities and communities of color, are intricately linked to food and nutrition insecurity (Sa'aid et al., 2020). These disparities are exacerbated by limited access to healthy food options and higher prevalence of diet-related chronic diseases in marginalized populations (Troutman et al., 2012). PSE change strategies address these disparities by focusing on upstream factors shaping food and physical activity environments (Balis & Strayer, 2019). These strategies can reduce barriers to healthy eating and active living, promoting equitable access to health resources (Wippold et al., 2021). PSE approaches also facilitate equitable access to nutrition education in community-based settings (Frankish et al., 2017). Engaging community members in planning and implementing interventions ensures efforts are tailored to local needs, fostering sustainability,

and promoting health equity (Sirdenis et al., 2019). As SNAP-Ed expands its focus on PSE approaches, prioritizing health equity and community involvement will be crucial in addressing social determinants of health and promoting equitable access to nutrition security resources (Washburn et al., 2022).

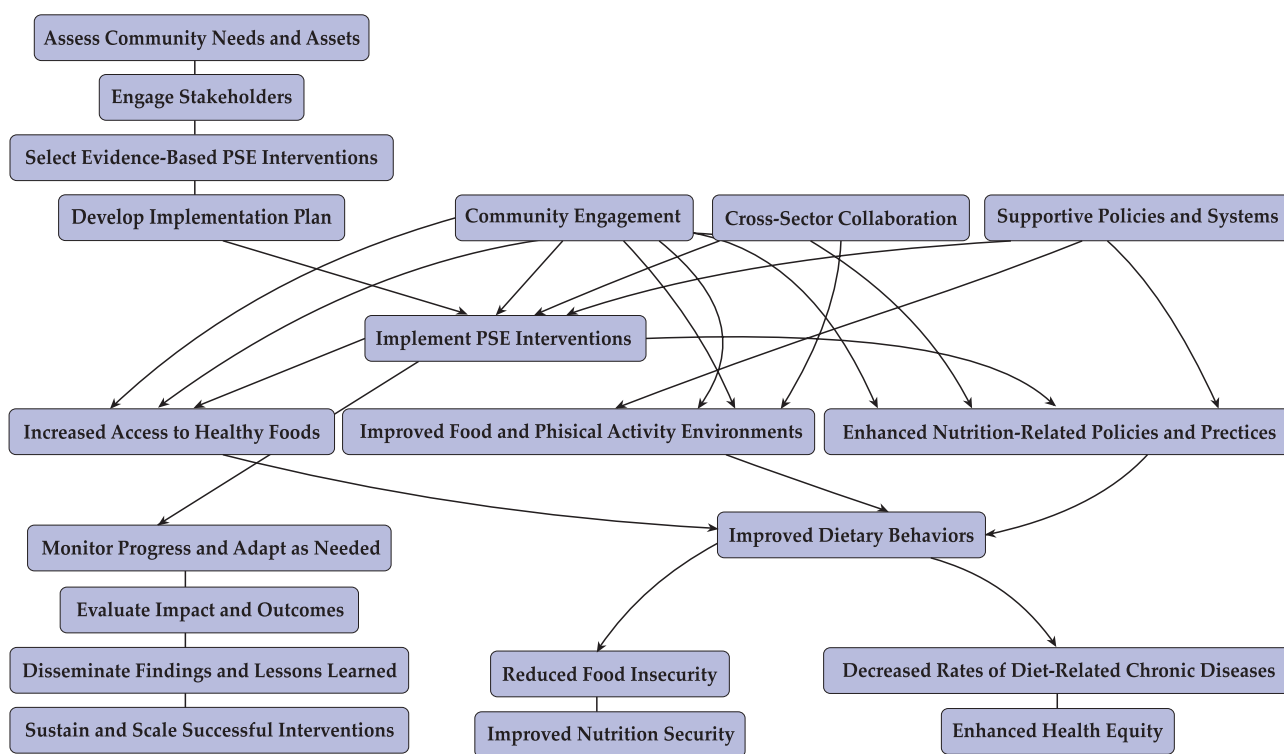
The “Healthy Corner Store Initiative” in Philadelphia, the “Healthy Food Financing Initiative” (HFFI) in New Orleans, and the “Workplace Wellness Initiative” in Iowa exemplify successful PSE interventions in SNAP-Ed. In Philadelphia, SNAP-Ed funding supported training for corner store owners to increase healthy food availability in low-income areas, resulting in improved food options and purchasing behaviors (Mayer et al., 2019). The

New Orleans HFFI used SNAP-Ed funding to advocate for and implement a program supporting healthy food retailers in underserved communities, leading to increased food access and positive economic impacts (Ulmer et al., 2012). In Iowa, the Workplace Wellness Initiative utilized SNAP-Ed funds to assist employers in creating healthier work environments, resulting in increased adoption of wellness policies and improved employee health behaviors (Stluka et al., 2019). These examples demonstrate how PSE interventions in SNAP-Ed can create sustainable, community-level changes that promote nutrition security and health equity by addressing environmental and policy factors influencing food access and health behaviors.

Implementing PSE Strategies: Challenge and Opportunities

Figure 1

A typical PSE intervention process and outcomes



PSE change approaches have the potential to significantly enhance nutrition security and health equity (Burke et al., 2022). A typical implementation process follows the general approach given in Figure 1.

The diagram illustrates how SNAP-Ed PSE interventions can contribute to nutrition security and health equity through various pathways. PSE interventions lead to intermediate outcomes such as increased healthy food access, improved food and physical activity environments, and enhanced nutrition-related policies. These contribute to long-term outcomes including improved dietary behaviors, reduced food insecurity, and decreased di-

et-related chronic diseases, supporting improved nutrition security and health equity. Moderating and mediating factors like community engagement, cross-sector collaboration, and supportive policies influence the interventions’ impact. Implementing PSE strategies faces challenges including limited resources, political opposition, and cross-sector collaboration needs (Ventura et al., 2022). Strategies to overcome these barriers include fostering diverse partnerships (Rohan et al., 2019), utilizing data and evidence (Holston et al., 2020), and engaging community members throughout the process (Moore et al., 2023). As SNAP-Ed expands its PSE focus,

prioritizing partnerships and collaboration is crucial for driving enduring, equitable changes in nutrition security and health outcomes (Vance et al., 2020).

It is clear from the diagram that partnerships and collaborations are crucial for successful PSE interventions, requiring coordination across sectors and stakeholders (Sreedhara et al., 2020). These partnerships, involving diverse stakeholders, can overcome barriers and drive sustainable changes in nutrition security and health equity (Washburn et al., 2022; Cunningham-Sabo et al., 2022). Effective partnerships are built on trust, shared vision, and mutual accountability (Tompkins et al.,

2021). Strategies for successful partnerships include clear goal setting, open communication, leveraging strengths, community engagement, and regular evaluation (Minkler et al., 2018; Tompkins et al., 2021). Examples like the “Farm to School” initiative (Joshi et al., 2019) and “Healthy Corner Store” initiative (Minkler et al., 2018) demonstrate the effectiveness of such collaborations. As SNAP-Ed expands its focus on PSE approaches, prioritizing partnerships will be crucial for driving enduring, equitable changes in policies, systems, and environments influencing nutrition security and health outcomes (Vance et al., 2020).

MAIN RESULTS AND DISCUSSION

The 2025 SNAP-Ed Plan Guidance emphasizes policy, systems, and environmental (PSE) change strategies as key components of SNAP-Ed programming. It prioritizes interventions that create sustainable, population-level changes in various environments, focusing on increasing access to healthy food options, improving the built environment for physical activity, and creating healthier school and workplace environments. The guidance stresses community engagement and partnerships in planning, implementing, and evaluating PSE interventions to ensure responsiveness to local needs and build sustainability. This emphasis on PSE approaches has significant implications for food and nutrition security efforts in the United States. By addressing upstream determinants of health, SNAP-Ed programs can create more equitable and sustainable access to healthy food options, aligning with the broader public

health shift towards addressing social determinants of health and promoting health equity. The success of these efforts depends on continued funding, support, leadership, and ongoing engagement with communities and stakeholders.

As the largest nutrition education program in the U.S., SNAP-Ed has the potential to lead in promoting comprehensive, systemic solutions to food and nutrition insecurity. By prioritizing PSE approaches and engaging diverse partners, SNAP-Ed can build evidence for creating sustainable, equitable changes in nutrition environments and outcomes, serving as a model for other public health initiatives. Realizing this potential requires ongoing investment, innovation, and leadership from SNAP-Ed programs and their partners, as well as adaptability to changing needs and evidence over time.

CONCLUSION

SNAP-Ed has evolved from focusing on direct nutrition education to a comprehensive approach incorporating PSE change strategies. The 2025 SNAP-Ed Plan Guidance emphasizes PSE interventions and community engagement, addressing social determinants of health and promoting equity. PSE approaches can create lasting improvements in nutrition security and health equity by targeting upstream factors shaping access to healthy food and physical activity opportunities. Their success

depends on continued support, investment, and cross-sector partnerships. Community engagement is critical in designing and implementing responsive, sustainable interventions. Realizing the guidance’s vision requires ongoing commitment from all stakeholders. By investing in PSE strategies and empowering communities, we can create a more equitable future where all have access to necessary resources. SNAP-Ed has the potential to lead this charge towards a healthier, more equitable society.

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