Promoting Healthy Food Consumption: A Review of State-Level Policies to Improve Access to Fruits and Vegetables

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ABSTRACT

Research indicates poor nutrition is a leading determinant of the development of chronic disease, and increasing fruit and vegetable consumption is one method for decreasing obesity. Many policies have focused on increasing the demand for fruits and vegetables through price reductions and coupons. However, without ensuring a stable supply, increased demand can continue to raise prices, crowding out individuals who may otherwise have purchased fruits and vegetables and ultimately leading to continued disparities in access. This paper presents a review of selected state-level policy options recently proposed or implemented in states across the United States, and provides an evidence-based lens through which food access policy can be shaped in the Midwest. This review and potential framework uses Wisconsin to illustrate the feasibility of different state-level decisions and their potential impact on particular populations. Future supply-side policies to consider include expanding Electronic Benefit Transfer to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC),program and farmers markets, incentivizing the purchase of locally grown produce, assisting local specialty farmers directly, and/or establishing a state-level food policy council. This review reveals that a food policy council would create a more sustainable policy analysis process to better ensure future policy adoption is truly comprehensive, encompassing the production, distribution and purchase of locally grown fruits and vegetables.

INTRODUCTION

One factor behind the high rate of obesity in the United States is that 86% of US adults and 91.5% of adolescents do not consume the 5 daily fruit and vegetable servings recommended for a healthy diet.[1] The implications of such poor dietary patterns extend beyond bad health outcomes. On a national scale, medical costs associated with treating preventable obesity-related diseases are estimated to increase by $48 billion to $66 billion per year, and the loss in economic productivity could be between $390 billion and $580 billion annually by 2030.[2]

While obesity rates are high for adults overall, some populations are disproportionately burdened with these higher costs than others. Obesity rates for African Americans are 49.5% compared to Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic whites (34.3%).[3] Research indicates race, income, and educational attainment all play a part in obesity,[3] highlighting the importance of interventions aimed at promoting equity. One objective in the national health plan—Healthy People 2020—is to reduce the proportion of all adults, adolescents, and children who are obese.[4] Increasing fruit and vegetable contribution and variety in the diets of all Americans by 2020[4]—a second national health plan objective—attempts to address the issue.

Various settings for interventions aimed at improving nutrition have been identified and proposed, including the home, child care and after school programs, work sites, restaurants and fast food outlets, and retail food stores.[5] The Social Ecological Model states that health behaviors may be influenced through changes at the individual, interpersonal, organizational, and community level, as well as changes in policies ranging from the local to federal levels.[6] According to this model, policy change may be one of the most effective strategies to increase access to fruits and vegetables at the population level.

Access to fruits and vegetables is the result of fluctuations in the economic market through both demand and supply. Demand is driven by income, prices, and consumer preferences. Supply is determined by the input costs to running a business, such as labor, land, equipment, transportation, stock-

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ing, and inventory. Many policies have focused on increasing the demand for fruits and vegetables through price reductions and coupons. However, without ensuring a stable supply, increased demand can continue to raise prices, crowding out individuals who may otherwise have purchased fruits and vegetables and ultimately leading to continued disparities in access. Failure to consider food access from the perspective of both consumers and suppliers may lead to inequalities in nutritional opportunities among populations.[7] Larger system and environmental policy change that supports increasing access to fruits and vegetables—from growth and production to purchasing and consumption—has the ability to empower all individuals to make healthier choices, reduce increasing rates of obesity and related chronic diseases, and promote health equity simultaneously. One example of such an approach, and the most sustainable method for continuing to analyze the connections between varying facets of the food system, is the establishment of a state-level food policy council.

Given the prevalence of obesity, increased state-level assistance is imperative in addressing inequitable access to fruits and vegetables. While some interventions operate at the local level, they are inherently more limited in reach[8] and potentially less cost effective than state- or federal-level policy change. This article presents an analysis of state-level policy alternatives recently proposed or implemented in states across the United States, and uses Wisconsin as a case study to provide an evidence-based lens through which food access policy can be shaped at the state level.

INFLUENCING DEMAND: USING FRUIT AND VEGETABLE VOUCHERS TO REDUCE PRICE BARRIERS

Economic theory assumes demand is determined by income, prices, and preferences. Multiple studies have shown that price reductions, be it through coupons, vouchers, discounts, or loans, can positively affect consumer demand for and consumption of healthy foods.[9] Comprehensive economic research estimates "a 10% reduction in the price of fruits and vegetables would increase purchases on average by 7.0% and 5.8%, respectively."[10] Furthermore, growing research on the way in which potential price changes improve dietary quality and obesity show particular implications for young people, lower income populations, and those most at risk for obesity.[11]

One example of an attempt to alter the level of income available for purchasing fruits and vegetables is Wisconsin's 2009 adoption of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), program's cash value vouchers. This program provides monthly supplementary checks of $6 (children) and $8 (women) solely for the purchase of fruits and vegetables at WIC participating stores.[12] It has been hypothesized that, given the WIC program serves over 9 million recipients, the voucher policy change has the potential to create significant new demand for foods that were previously lacking in the diets of low-income populations and in the stores that serve them.[13] While the impact of this intervention has not been fully evaluated, one study indicates 76.6% of eligible WIC participants in Wisconsin used their voucher checks at 18 months post implementation.[14] Additionally, participants noted the checks allowed them to buy a larger variety of fruits and vegetables than they would otherwise.[14]

Increasing the availability and variety of fruits and vegetables in food outlets serving a significant volume of WIC participants not only benefits WIC recipients, but increases access to non-WIC participants who shop in these outlets as well. In some locations across the country, 93% of WIC-certified retailers have reported adding new products in response to the WIC revisions.[13]

The voucher program's attempt to increase consumer demand of healthy foods is not without limitations. These include increased time required in processing WIC purchases,[13] difficulty and confusion for WIC participants in getting through the shopping and payment process, new redemption procedures requiring cashiers to monitor and enforce the program and its entitlements,[12] and difficulty for WIC stores in stocking requirements.[13]

The aforementioned program limitations have had little impact on the overall demand for healthy foods, however. In Wisconsin, one study noted more than 63% of WIC families using their vouchers purchased more fruits and vegetables than the maximum voucher value.[14] Several alternative policies, often implemented at the local level, have aimed to increase demand through disclosing nutritional content on menus or packaging or by educating individuals on the benefits of fruit and vegetable consumption. The results of such interventions have varied.[9] This review concentrates on one demand policy, the voucher program, which appears effective at the state level. Alternatives to increasing demand are not included, as economic models indicate that without also considering supply-side policies in the equation, demand policy may have potentially negative impacts for lower-income communities through increased prices, causing continued disparities in access.

INFLUENCING SUPPLY: AN ARRAY OF OPTIONS

Many supply-side policies for increasing access to fruits and vegetables have been suggested at the local, state, and federal levels. Those operating on the community level, while effective, may not have as broad an impact on a population as state or federal level policies. Others, implemented at the state level, can be restrained or made more complex by federal law and national regulation, such as creating healthy menu default options or zoning the development of chain restaurants.

Fortunately, unlike federal policies, state and local food policies benefit from the ability of communities and local officials to utilize institutions they have authority over, empowering them to take control. The following supply-side options are focused at the state level and have the potential to enhance the aforementioned demand-side policies, leading to more equitable access while at the same time assisting local fruit and vegetable producers.

Expanding Electronic Benefit Transfer to All Food Assistance Programs

One option is the subsidization and streamlining of Electronic Benefit Transfer (EBT) equipment for all food assistance programs in stores and farmers markets. EBT is an electronic system that replaces paper food checks or vouchers with a card for food benefit issuance and redemption.[15] In Wisconsin, the Department of Health Services declared as one of its state objectives that all people will have ready access to sufficient nutritious, high-quality, affordable foods and beverages.[16] Nationally, the use of EBT for Supplemental Nutrition Assistance Program (SNAP) benefits in stores has made leaps in obtaining this goal by improving program administration and creating better customer service for both retailers and participants.[17] Currently, the federal government supplies EBT equipment free of charge to SNAP retailers.[17] Streamlining the process to allow WIC participants to redeem benefits through EBT could have a large impact on the recipients of this food program as well. However, while the federal government subsidizes the cost of EBT equipment for retailers, it is not required to support wireless devices that could be used in farmers markets for either program.[17]

Due to large technical and financial costs associated with running EBT,[7] only 39 farmers markets in Wisconsin have capacity for these transactions.[18] The Food and Nutrition Service estimates that the cost to purchase and operate a wireless EBT terminal is roughly $1255 annually.[17] A University of Wisconsin-Extension and US Department of Agriculture pilot project on EBT use in 10 Wisconsin farmers markets has minimized this cost by using 1 terminal per market, increasing economies of scale and decreasing cost to each individual farmer. Preliminary results of this project indicate 87% of SNAP beneficiaries surveyed at Wisconsin farmers markets report that being able to use EBT at the market allowed them to purchase more fruits and vegetables (K. Krokowski, MS, e-mail communication, April 2012). Lack of EBT acceptance at farmers markets has been a substantial barrier to farmers market utilization by low-income residents eligible for food assistance nationwide.[7] As of 2011, California, Indiana, and Massachusetts had passed legislation mandating EBT use in farmers markets.[19]

Wisconsin has declared the proportion of farmers' markets that accept payment from EBT and WIC Farmers' Market Nutrition Program coupons as an indicator of the aforesaid Healthiest Wisconsin 2020 objective[16] and can be increased by creating grant programs and economic incentives to fund the establishment or renovation of farmers markets and roadside markets.[16] Expanding the ability and incentives for food assistance program recipients to redeem benefits in farmers markets and small stores has ramifications for the economy as well. One study found that every SNAP dollar spent generates $1.73 in real GDP increase and that expanding food stamps is the most effective way to "prime the economy's pump."[20] In neighboring Michigan, the Double Up Food Bucks program, which provides matched funds to food assistance beneficiaries for every dollar spent on Michigan grown fruits and vegetables at farmers markets, generated over $200,000 in 3 months with all of the money going directly into the pockets of Michigan growers and food businesses.[21]

Incentivize the Purchase of Locally Grown Fruits and Vegetables

A second supply-side alternative is to alter store and/or government agency stocking requirements to mandate or incentivize these establishments to stock a minimum percentage of locally produced fruits and vegetables. Current policy requires SNAP- and WIC-eligible stores to provide an allotted variety of foods. Expanding these requirements or more vigorously enforcing the existing requirements to ensure sufficient stocking of local fresh produce could improve the selection of healthy foods exactly where the populations most at need shop.[22] In Wisconsin, over half of WIC-eligible stores are small, and small stores are more likely to sell food of low nutritional value and little fresh produce[23] (C. Grover, e-mail communication, March 20, 2012). This suggests WIC participants are most likely to benefit from changes to WIC-eligible stores, and adapting store requirements to increase access to fruits and vegetables could have large ramifications in promoting healthy diets among the underserved. However, without concurrent demand-side programs to ensure increased sales of stocked fresh produce, such a policy might also make it harder for stores to operate profitably in low-income neighborhoods and make it difficult to sustain in the long run.[22]

In addition to stores, state agencies such as schools, work sites, hospitals, state government buildings, correctional facilities, colleges and universities, and group and family child care centers also can be critical in transforming the food system and helping minimize increased rates of obesity by modeling healthy nutrition practices. The Farm to School program is one program that promotes healthy eating and the reduction of childhood obesity by procuring locally grown produce from

farmers for use in school cafeterias, in-class educational cooking opportunities, and on-site school gardening activities.[24] In Wisconsin, over 100 public school districts purchase and serve locally grown fruits and vegetables through this initiative.[24] Expanding purchasing requirements to all state government agencies has the potential to improve the health of their employees as well as the citizens served by their agencies, at the same time ensuring that state-level spending benefits local citizens. Thirteen states have adopted procurement policies mandating that purchasing preferences be given to locally grown commodities.[19] The only Midwestern state to adopt this legislation was Iowa; however, as of 2006 this bill became inactive.[19]

Provide Assistance to Local Fruit and Vegetable Farmers

A third supply-side policy option is to assist local farmers directly. Agricultural business is extremely vulnerable to fluctuations in the market, weather and pests,[25] making financial assistance and insurance a lifeline for small farming ventures. However, federal funds do not currently support small and mid-sized growers of specialty crops such as fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops.[26] In 2010, 90% of federal subsidies in Wisconsin supported the production of corn and soybeans.[27] These products are grown largely for use as sugar additives and oil, which have increased in the United States food supply 158% and 38% respectively since 2000.[25] Policies that impact the health of a state's citizens, small farmer livelihood, and economy can be improved and expanded at the state level. Some states have developed programs to support their small farmers through varying methods that include providing funding to assist in increasing the number and operation of farmer's markets; helping farmers absorb costs associated with food production, such as organic certification, distribution of grown goods, and subsidizing crop insurance for higher value horticultural crops; and funding marketing and promotional efforts.[11] This farm assistance was at one time provided federally through the Federal Farm Bill's Emergency Agricultural Appropriations Act.[28] If the National Farm Bill is renewed for 2012, funding will support specialty crops with a block grant of $101 million.[29] However, the Bill expired as of September 30, 2012. Without Congressional support, this policy alternately could be implemented at the state level, giving individual states the opportunity to develop innovative programs to support their local specialty producers.

ECONOMIC IMPACT OF SUPPORTING SUPPLY-SIDE POLICIES

Research indicates assisting with the local production of fruit and vegetables for local markets, and the promotion of direct farm-to-consumer supply chains, would be a wise investment in addressing unhealthy eating, obesity and related diseases.[30] Supporting local farmers not only potentially increases access to healthy foods, but can benefit individual state economies as well. One study found that by converting conventional crop production to fruit and vegetable production at a level to meet the existing demand for those products, the Midwest would benefit from a $1 billon increase in related economic activity.[20] In 2007 Michigan approved a resolution encouraging Congress and the US Department of Agriculture to implement food policies that "promote healthy food, farms, and communities by encouraging local production of fruits and vegetables by specialty crop farmers."[19] As of 2009, 4 states had passed legislation directly supporting their local farmers.[19]

DESIGNING INTEGRATIVE FOOD POLICIES: ESTABLISHING A WISCONSIN FOOD-POLICY COUNCIL

A fourth, more encompassing policy option is the establishment of a state-level food policy council. A food policy council can be defined as an officially sanctioned body of representatives from various segments of a food system—including public, private, and nonprofit officials—tasked with examining the operation of the local food system and providing ideas or recommendations for how it can be improved on both the supply and demand sides.[28] The council's initiatives and strategies attempt to draw on input from individuals in every component of the food system—consumers, farmers, grocers, chefs, food processors, distributors, antihunger advocates, educators, government, and consumers—to support and advise residents and government in developing policies and programs that look at how the local food system works[28] and the methods to increase access and availability of fruits and vegetables.[31]

Councils may be formed voluntarily, by an executive order of the governor, or through independent legislation. One benefit to government-mandated councils is that they often have a steady stream of funding and paid, dedicated council members. However, appointed memberships like this may not be fully representative of the entire food system. Non-government based food policy councils are more likely to have knowledgeable and invested members, but may not be financially sustainable.[31]

Food policy councils have many benefits, including bringing a broader array of interests and voices to the table, providing space for the questions that often do not get asked when the parties normally involved in developing farming and agricultural policies meet, and employing a more comprehensive approach to analyzing food issues, which recognizes the relationship between different parts of the food system and the need for coordination of actions if policy goals are to be met.[28]

The state of Connecticut was the first to create a state food

policy council in 1997.[28] As of 2011, 13 states had developed state-level food policy councils, including Michigan and Illinois.[19] While the establishment of state-level food policy councils is relatively new and evidence of effectiveness is still forthcoming, existing state-level food councils have initiated food policy changes in many areas, including purchasing of local fruits and vegetables for school lunches, promotion of sustainable agriculture, increased ease of access to food assistance programs and healthy foods for low-income individuals and seniors, increased opportunities for locally produced farm products, creation of community and school gardens and farm-to-school program education, creation of new forms of insurance for small producers, and implementation of farm-to-cafeteria and farm-to-school programs.[31] Many states, including Wisconsin, currently have local food networks, but there often is no formal body that meets consistently and has the personnel and resources to direct attention to more comprehensive development of state-level food policy.

CONCLUSION

Food systems are complex, and intervening at their multiple levels is a complicated task. Policy changes at the state level have been successful in significantly improving public health issues, such as tobacco use[32] and seat belt use.[33] Increasingly, obesity is seen as a problem requiring multilevel interventions, including changes in policies at the local, state, and federal level to increase access to healthy foods. Research suggests price changes combined with other regulations affecting the food environment may have a multiplicative effect that could significantly improve diets, particularly among at-risk populations.[11] Wisconsin's adoption of vouchers to decrease the price of fruits and vegetables relative to other goods is an example of a state-level policy that has shown preliminary success in increasing demand. Future supply-side policies could replicate the previously mentioned initiatives, such as expanding EBT to the WIC program and farmers markets, incentivizing the purchase of locally grown produce, and/or assisting local specialty farmers directly.

State-level interventions take into account that federal law and policy are only one component of the discussion, and while the framework for action may be set at the national level, federal law itself cannot provide a localized response.[31] This article has used Wisconsin as a case study to review state-level fruit and vegetable access policies, but it is by no means exhaustive. Obesity policy is an important and newly emerging issue, so much so that every state has become a testing ground for new interventions. However, due to the difficulty in evaluating the effectiveness of these programs in the short run, one method for continuing to apply evidence-based research is the establishment of a state-level food policy council. Each designated body would be beneficial not only in considering how future policy influences health, but also policy's impact on the state's economy and, in particular, the sustainability of local farms and small business owners. State policies can and should incorporate strategies to create demand and supply, and span the entire food process from seed to mouth, in assessing the health and economic impact of increasing access to locally grown fruits and vegetables.

Financial Disclosures: None declared.

Funding/Support: This project was funded by a grant from the Wisconsin Partnership Program.

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