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# Best Practices for Nutrition Education in Wholesome Wave Georgia's Fruit and Vegetable Prescription Programs

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## **Best Practices for Nutrition Education in Wholesome Wave Georgia’s Fruit & Vegetable Prescription Programs**

### **Introduction**

Wholesome Wave Georgia’s Fruit & Vegetable Prescription (FVRx) Program promotes affordable access to fruits and vegetables and healthy eating in under-served communities through partnerships with healthcare providers, community organizations, and fresh produce retailers. Program participants attend nutrition education classes and receive prescriptions that can be spent on fruits and vegetables at participating farmers markets. Wholesome Wave Georgia currently has six FVRx sites providing different types of nutrition education. The purpose of this project is to develop recommendations for best practices for the nutrition education component of Wholesome Wave Georgia’s FVRx program.

### **Fruit and vegetable consumption and health**

The benefits of a balanced diet including fruits and vegetables are well documented. Research shows that fruit and vegetable intake is associated with a reduced risk of many chronic diseases including cardiovascular disease and may be protective against some cancers.<sup>1,2</sup> The 2015 U.S. Dietary Guidelines for America recommend that adults consume 2½ cup-equivalents of vegetables per day and 2 cup-equivalents of fruit per day.<sup>1</sup> However, according to national surveys conducted by the Centers for Disease Control and Prevention, in 2015, only 12.2% of adults met recommendations for fruit consumption, and only 9.3% met recommendations for the consumption of vegetables.<sup>3</sup>

Diet quality and health conditions associated with diet quality are not equally distributed across the population. Food insecurity, the inability to afford nutritionally adequate and safe foods, has been associated with characteristics of poor diet quality, including low intake of vegetables.<sup>4</sup> In 2015, 11.4 % of adults in the highest household income category met recommendations for vegetable intake as compared with 7.0% of adults below or close to the poverty level.<sup>3</sup> Not surprisingly, food insecurity is also associated with chronic disease including hypertension, hyperlipidemia, and diabetes among adults.<sup>5</sup> Racial and ethnic minority populations have high incidence, prevalence, and mortality from diet-related chronic diseases, and differences in dietary quality contribute to these disparities.<sup>6</sup> Factors contributing to these disparities are multi-faceted, with education and income as key contributors.<sup>6</sup> While overall diet quality in the U.S. improved from 1999 to 2010, improvements were greater for people of higher socioeconomic status, further increasing the disparities across income groups.<sup>7</sup>

### **Interventions to increase fruit and vegetable consumption**

Social ecological models of health behavior acknowledge the influence of individual, interpersonal, community, and environmental factors on behavior.<sup>8</sup> Individual factors include knowledge, beliefs, attitudes, and personal preferences, among others. Interpersonal factors include social networks and social support systems such as family, friends, and coworkers, as well as religious customs or traditions. Environmental factors include organizational and institutional policies as well as local, state, and federal laws and regulations.

Interventions to increase fruit and vegetable intake can target this range of influences on dietary behavior, and they can take place in a variety of settings including communities, schools, healthcare settings, and worksites. A review of the literature found that a variety of programs have been shown to be effective in increasing fruit and vegetable intake.<sup>9</sup> Successful strategies included individual and group counseling, computer-based counseling, social marketing techniques, culturally-sensitive interventions, worksite interventions, and interventions in healthcare settings.<sup>9</sup>

Strategies targeting environmental levels may also be successful in increasing fruit and vegetable intake. A review of environmental, policy, and pricing strategies for increasing consumption of fruits and vegetables found that interventions including point-of-purchase information, reduced prices and coupons, promotion and advertising, and increasing availability, variety and convenience showed moderate evidence of success.<sup>10</sup> Another review of state-level policy interventions suggests that reducing price barriers can increase demand for fruits and vegetables.<sup>11</sup> This review also suggested that supply-side policies such as expanding the use of Electronic Benefits Transfer to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and farmers markets, incentivizing the purchase of locally grown produce, and assisting local farmers could positively impact fruit and vegetable consumption.<sup>11</sup>

One strategy to increase fruit and vegetable consumption among participants of the Supplemental Nutrition Assistance Program (SNAP) is to provide financial incentives for shopping at farmers’ markets. Wholesome Wave’s Double Value Coupon Program (DVCP) provides participants an incentive that matches the amount spent in federal nutrition benefits (such as SNAP or WIC) towards purchases at participating farmers markets.<sup>12</sup> A study of the 2011 market season in New York, Boston, and San Diego found that DVCP participants’ fruit and vegetable consumption increased during market season, and their vegetable intake remained higher two months after the incentive program ended.<sup>12</sup> Other farmers market incentive programs have also reported positive results. Philly Food Bucks, a bonus incentive program tied to SNAP, was associated with self-reported increases in fruit and vegetable consumption and increased SNAP sales at participating farmers markets in low-income communities.<sup>13</sup> Participants in the Double-Up Food Bucks program in Utah received a dollar-per-dollar match up to \$10 per week when using SNAP benefits at selected farmers markets and reported experiencing fewer food insecurity–related behaviors following program participation.<sup>14</sup>

### **Nutrition education interventions**

Nutrition education has been defined as “any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food and nutrition-related behaviors conducive to health and well-being; nutrition education is delivered through multiple venues and involves activities at the individual, community, and policy levels.”<sup>15</sup> A common strategy to attempt to influence dietary behavior, nutrition education has been shown to be effective in contributing to healthy eating.

The effectiveness of nutrition education has been demonstrated in community settings, combined with cooking classes, and paired with incentive programs. In a study of dietary changes among participants of the Expanded Food and Nutrition Education Program (or EFNEP), a Federal

Extension outreach program in which paraprofessionals provide nutrition education in community settings, the mean number of servings of vegetables consumed per day increased from 2.8 to 3.7 servings.<sup>16</sup> The effects of group education and individual education were compared in this study, and no significant differences were found between the two approaches.<sup>16</sup>

Cooking Matters, a six-week nutrition education and hands-on cooking class, has demonstrated positive results in terms of knowledge, attitude, and behavior changes related to healthy eating across the various target audiences. In 2013, 88% of WIC parent graduates of a Cooking Matters course were very confident or completely confident in their ability to make the most of their WIC fruit and vegetable vouchers.<sup>17</sup> Participants in the family course reported a 75% average increase in how often they prepared meals together.<sup>17</sup> Seventy-one percent of adult course graduates reported eating more vegetables, and 66% of teen course graduates reported eating more fruit.<sup>17</sup> Behavior changes were maintained following Cooking Matters courses, with positive changes reported at three months and six months after the class series.<sup>18</sup>

Other programs have combined nutrition education with incentives. The Stellar Farmers Market provided free nutrition and cooking workshops to SNAP-eligible shoppers, along with \$2 coupons for free produce to be used at the farmers market after workshop completion.<sup>19</sup> Those who attended two or more classes consumed almost one-half cup more fruits and vegetables than those who attended only one or no classes.<sup>19</sup> After adjusting for potentially confounding factors, class attendance remained a significant predictor of the amount of fruits and vegetables consumed per day, with every additional class attended correlating to a 19% increase in total cups consumed per day.<sup>19</sup>

Other programs have tested the effects of nutrition education combined with incentives and have reported differing results. Researchers in Michigan studied the effects of an educational intervention and the distribution of farmers market coupons for fruits and vegetables.<sup>20</sup> Participants receiving either education or coupons reported increases in fruit and vegetable consumption, and participants receiving both education and coupons reported the greatest increases in consumption.<sup>20</sup> Another study of the effects of a 10-week nutrition education intervention, with and without the provision of fruits and vegetables, looked at changes in fruit and vegetable consumption among overweight and obese adults.<sup>21</sup> Results of this study showed significant increases in reported fruit and vegetable consumption among both groups receiving nutrition education, but not in the control group.<sup>21</sup> However, no additional increases were seen in the group receiving fruit and vegetables in addition to nutrition education.

### **Fruit and Vegetable Prescription Programs**

Fruit and vegetable prescription programs (also called produce prescription programs) aim to increase access to fruits and vegetables by providing patients with prescription vouchers for free produce. Healthcare providers typically deliver some form of nutrition education along with the prescriptions. As the authors of the study on Chicago’s Food Rx intervention noted, these programs “leverage the symbolic nature of the prescription, to communicate that healthy eating is ‘doctor’s orders,’ part of a treatment plan.”<sup>22</sup> Fruit and vegetable prescription programs differ in their implementation, but they typically target multiple levels of the social ecological model, providing individual education as part of provider visits, nutrition education and social support in group settings, and environmental change with increased access to fruits and vegetables in the

form of prescriptions.

Since 2010, the national Wholesome Wave program has supported Fruit and Vegetable Prescription (FVRx) programs across the country to increase access to fresh fruits and vegetables in under-served communities. Participants receive \$1/day per household member in produce prescriptions which can be redeemed for fresh produce at participating markets and grocery stores. Wholesome Wave has served over 11,000 people in 10 states, and they distributed over 1.2 million dollars’ worth of produce prescriptions between 2014 and 2017.<sup>23</sup>

Participation in fruit and vegetable prescription programs has been associated with increases in fruit and vegetable consumption and with positive health outcomes. In 2016, Wholesome Wave participants reported a 206% increase in individual fruit and vegetable consumption, and 93% of participants met recommendations for fruit and vegetable consumption.<sup>23</sup> In 2014, 47% of Wholesome Wave participants showed a decrease in body mass index (BMI).<sup>23</sup> Participation has also been associated with improvements in blood glucose control. A significantly significant decrease in A1c, a measure of blood glucose control over time, was seen among adults with uncontrolled type II diabetes participating in the Fresh Rx program in Detroit.<sup>24</sup> Participants in this program received up to \$40 (\$10 per week for up to four weeks) for the purchase of fresh fruits and vegetables at a local farmers market. Not all programs have demonstrated the same level of impact. For example, participants in a fruit and vegetable prescription program in the UK showed increases in knowledge of recommended servings of fruits and vegetables but did not show increases in purchasing or consumption.<sup>25</sup>

### **Wholesome Wave Georgia’s FVRx program**

Wholesome Wave Georgia’s FVRx program began in 2015 with just one site. In 2016, the program expanded to three sites, and in 2017, Wholesome Wave Georgia operated six FVRx sites. All sites provide produce prescriptions of \$1/day per household member, but nutrition education differs from site to site. The purpose of this project is to develop recommendations for best practices for the nutrition education component of Wholesome Wave Georgia’s FVRx program.

### **Best practices**

Those planning and implementing nutrition education clearly want to select the most effective programs, yet research on the effectiveness of these programs can be limited, particularly for interventions that target environmental, policy, or systems changes.<sup>26</sup> The U.S. Department of Health and Human Services, the World Health Organization, and many other organizations have identified the need for evidence-based practices to maximize the effectiveness and efficiency of health programs.<sup>27,28</sup>

A “best practice” is commonly defined as “a technique or methodology that, through experience and research, has proven reliably to lead to a desired result.”<sup>28</sup> The World Health Organization’s Regional Office for Africa provides this practical definition of a “best practice” in the context of health programs: “knowledge about what works in specific situations and contexts, without using

inordinate resources to achieve the desired results, and which can be used to develop and implement solutions adapted to similar health problems in other situations and contexts.”<sup>28</sup>

The Centers for Disease Control and Prevention convened a workgroup in 2013 to develop a working definition of “best practices” and a framework for planning and improving evidence-based practices for public health programs and strategies.<sup>29</sup> The workgroup defined the term “best practice” as “a practice supported by a rigorous process of peer review and evaluation indicating effectiveness in improving health outcomes, generally demonstrated through systematic reviews.”<sup>29</sup> Practices are evaluated in terms of public health impact (consisting of effectiveness, reach, feasibility, sustainability, and transferability) and quality of evidence.<sup>29</sup> Using this framework, best practices are practices evaluated by rigorous assessments that demonstrate evidence of effectiveness as well as growing evidence of reach, feasibility, sustainability, and transferability.<sup>29</sup>

### **Best practices for nutrition education**

A comprehensive review of studies in 1995 found that “nutrition education was more likely to be effective if it focused on specific food- and nutrition-related behaviors or community and social practices and used appropriate theory and research evidence for designing interventions.”<sup>30</sup> Following this review, many studies published in the *Journal of Nutrition Education and Behavior* used the social ecological model or other theoretical frameworks to emphasize the interactions between internal and external influences on nutrition behavior.<sup>30</sup>

While there are no definitive best practices for nutrition education, several groups of researchers have proposed guidelines, recommendations, or best practices with similar components and characteristics. These best practices can be used to improve consistency and efficacy of program development, implementation, and evaluation.

Dollahite, Fitch, and Carroll suggest evaluating the following domains when selecting an intervention: evidence, content, audience, and implementing agency.<sup>26</sup> Researchers should ask whether the intervention is effective, theory-driven, applicable to the program, and has an evaluation component. Content should be evaluated as to whether it supports a social ecological approach, is research-based, and has clear and measurable objectives. The target audience should be a good fit with the intervention, and practitioners should attempt to remove any potential barriers to success. The implementing agency should have adequate resources and qualified and capable staff.

The Washington State Department of Health created an assessment tool for selecting nutrition education curriculum based on the requirements of the Basic Food Nutrition Education Program/SNAP-Ed and supporting research.<sup>31</sup> Curricula are assessed according to criteria including: research support for the curriculum, adherence to the current Dietary Guidelines for Americans, use of a variety of teaching methods, inclusion of clear objectives and instructions, and inclusion of an evaluation tool and instructional resources.<sup>31</sup>

The National Institute of Food and Agriculture’s Nutrition and Health Planning and Guidance Committee developed a set of criteria to be used for the review and selection of Extension

curricula.<sup>32</sup> According to these criteria, content, readability, utility, and evaluation should be reviewed. Effective high-quality curricula should: be theory and research-based; have clear and measurable objectives; identify a target audience which is appropriate for the curriculum; build on strengths, needs, and interests of the audience and reflect the diversity of this audience; actively engage the audience; use language appropriate for the audience; include clear instructions and any relevant resources; and include evaluation methods linked to learning objectives.<sup>32</sup>

The most comprehensive of these recommendations may be from a group of Colorado State University researchers funded by the Food and Nutrition Service of the USDA to develop a set of best practices in nutrition education for low income audiences.<sup>33</sup> Twenty-eight best practices were grouped into five domains: program design, program delivery, educator characteristics, educator training, and evaluation.<sup>33</sup> Program design practices include: accurate and evidence-based nutrition content, inclusion of goal-setting, curriculum is appropriate for the audience, clearly stated goals and objectives that drive the intervention and the evaluation, and the curriculum has a theoretical basis and targets multiple levels of the social ecological model. Educator practices include: accommodation of a variety of learning styles, inclusion of experiential activities, and appropriate frequency and duration of activities to achieve objectives. Educator characteristics include relatability to target audience and expertise in content and teaching methods. Additionally, educators should be trained and observed regularly. Finally, evaluation of programs should include formative, process, outcome and impact evaluation; provide evidence of sustained behavior change; link evaluation measures to goals and objectives; and address all targeted levels of the social ecological model.<sup>33</sup>

For this study, best practices for nutrition education in the literature will be compared with components and characteristics of the nutrition education found in Wholesome Wave Georgia’s FVRx programs to determine best practices for future FVRx nutrition education.

## References

1. Office of Disease Prevention and Health Promotion. Dietary Guidelines for Americans 2015-2020. 2015; <https://health.gov/dietaryguidelines/2015/>.
2. World Health Organization. Increasing fruit and vegetable consumption to reduce the risk of noncommunicable disease. *e-Library of Evidence for Nutrition Actions (eLENA)* 2014; [http://www.who.int/elena/titles/bbc/fruit\\_vegetables\\_ncds/en/](http://www.who.int/elena/titles/bbc/fruit_vegetables_ncds/en/). Accessed October 29, 2017.
3. Lee-Kwan SH, Moore LV, Blanck HM, Harris DM, Galuska D. Disparities in State-Specific Adult Fruit and Vegetable Consumption — United States, 2015. *MMWR Morb Mortal Wkly Rep* 2017;66:1241-1247.
4. Leung CW, Epel ES, Ritchie LD, Crawford PB, Laraia BA. Food insecurity is inversely associated with diet quality of lower-income adults. *J Acad Nutr Diet*. 2014;114(12):1943-1953.
5. Seligman HK, Laraia BA, Kushel MB. Food insecurity is associated with chronic disease among low-income NHANES participants. *J Nutr*. 2010;140(2):304-310.
6. Satia JA. Diet-related disparities: understanding the problem and accelerating solutions. *J Am Diet Assoc*. 2009;109(4):610-615.
7. Wang DD, Leung CW, Li Y, et al. Trends in dietary quality among adults in the United States, 1999 through 2010. *JAMA Intern Med*. 2014;174(10):1587-1595.
8. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q*. 1988;15(4):351-377.
9. Pomerleau J, Lock K, Knai C, McKee M. Interventions designed to increase adult fruit and vegetable intake can be effective: a systematic review of the literature. *J Nutr*. 2005;135(10):2486-2495.
10. Glanz K, Yaroch AL. Strategies for increasing fruit and vegetable intake in grocery stores and communities: policy, pricing, and environmental change. *Prev Med*. 2004;39 Suppl 2:S75-80.
11. Hood C, Martinez-Donate A, Meinen A. Promoting healthy food consumption: a review of state-level policies to improve access to fruits and vegetables. *Wmj*. 2012;111(6):283-288.
12. Wholesome Wave. *Double Value Coupon Program - Diet and Shopping Behavior Study*. 2012.
13. Young CR, Aquilante JL, Solomon S, et al. Improving fruit and vegetable consumption among low-income customers at farmers markets: Philly Food Bucks, Philadelphia, Pennsylvania, 2011. *Prev Chronic Dis*. 2013;10:E166.
14. Savoie-Roskos M, Durward C, Jeweks M, LeBlanc H. Reducing Food Insecurity and Improving Fruit and Vegetable Intake Among Farmers' Market Incentive Program Participants. *J Nutr Educ Behav*. 2016;48(1):70-76.e71.
15. Contento IR. Nutrition education: linking research, theory, and practice. *Asia Pac J Clin Nutr*. 2008;17 Suppl 1:176-179.
16. Luccia BH KM, Cason KL. Dietary changes by Expanded Food and Nutrition Education Program (EFNEP) graduates are independent of program delivery methods. *J Extension*. 2003;41(3):1-7.

17. Share Our Strength's Cooking Matters. Cooking Matters 2013 Annual Review. 2013; [https://cookingmatters.org/sites/default/files/CookingMatters\\_2013\\_AnnualReview\\_FOR\\_WEB.pdf](https://cookingmatters.org/sites/default/files/CookingMatters_2013_AnnualReview_FOR_WEB.pdf). Accessed November 2, 2018.
18. Swindle S, Baker SS, Auld GW. Operation Frontline: assessment of longer-term curriculum effectiveness, evaluation strategies, and follow-up methods. *J Nutr Educ Behav*. 2007;39(4):205-213.
19. Dannefer R, Abrami A, Rapoport R, Sriphanlop P, Sacks R, Johns M. A Mixed-Methods Evaluation of a SNAP-Ed Farmers' Market-Based Nutrition Education Program. *J Nutr Educ Behav*. 2015;47(6):516-525.e511.
20. Anderson JV, Bybee DI, Brown RM, et al. 5 a day fruit and vegetable intervention improves consumption in a low income population. *J Am Diet Assoc*. 2001;101(2):195-202.
21. Wagner MG, Rhee Y, Honrath K, Blodgett Salafia EH, Terbizan D. Nutrition education effective in increasing fruit and vegetable consumption among overweight and obese adults. *Appetite*. 2016;100:94-101.
22. Goddu AP, Roberson TS, Raffel KE, Chin MH, Peek ME. Food Rx: A Community-University Partnership to Prescribe Healthy Eating on the South Side of Chicago. *J Prev Interv Community*. 2015;43(2):148-162.
23. Wholesome Wave. Fruit and Vegetable Prescription Program. 2017; <https://www.wholesomewave.org/how-we-work/produce-prescriptions>. Accessed October 31, 2017.
24. Bryce R, Guajardo C, Ilarraza D, et al. Participation in a farmers' market fruit and vegetable prescription program at a federally qualified health center improves hemoglobin A1C in low income uncontrolled diabetics. *Prev Med Rep*. 2017;7:176-179.
25. Buyuktuncer Z, Kearney M, Ryan CL, Thurston M, Ellahi B. Fruit and vegetables on prescription: a brief intervention in primary care. *J Hum Nutr Diet*. 2014;27 Suppl 2:186-193.
26. Dollahite JS, Fitch C, Carroll J. What Does Evidence-Based Mean for Nutrition Educators? Best Practices for Choosing Nutrition Education Interventions Based on the Strength of the Evidence. *J Nutr Educ Behav*. 2016;48(10):743-748.e741.
27. US Department of Health and Human Services. Strategic Plan FY 2014-2018. 2015; <https://www.hhs.gov/about/strategic-plan/index.html>. Accessed November 15, 2017.
28. World Health Organization's Regional Office for Africa. Guide for Documenting and Sharing “Best Practices” in Health Programmes. 2008; <http://afrolib.afro.who.int/documents/2009/en/GuideBestPractice.pdf>. Accessed November 15, 2017.
29. Spencer LM, Schooley MW, Anderson LA, et al. Seeking best practices: a conceptual framework for planning and improving evidence-based practices. *Prev Chronic Dis*. 2013;10:E207.
30. Contento I. Review of nutrition education research in the Journal of Nutrition Education and Behavior, 1998 to 2007. *J Nutr Educ Behav*. 2008;40(6):331-340.
31. Washington State Department of Health. Promising Practices in Nutrition Education. 2009; <https://www.doh.wa.gov/Portals/1/Documents/Pubs/345-250-PromisingPracticesNutritionEducation.pdf>. Accessed October 8, 2017.
32. Coleman G, Byrd-Bredbenner C, Baker S, Bowen E. Best Practices for Extension Curricula Review. *Journal of Extension*. 2011;49(2).

33. Baker S, Auld G, MacKinnon C, et al. Best Practices in Nutrition Education for Low-Income Audiences (2014).

Characteristic / component of nutrition education	Definition	Indicators	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Cohort 6
<b>Curriculum / program characteristics</b>								
Theory-based	Curriculum is based on behavior change theories that are used appropriately for the content and target audience.	Theoretical basis mentioned in curriculum description or by program staff	STRENGTHS: Curriculum description cites Health Belief Model and adult learning theories as foundation; lessons include modeling (through cooking demos) and social support (through group discussions)	STRENGTHS: Lessons include modeling (through cooking demos) and social support (through group discussions)  LIMITATIONS: No mention of theoretical basis, no planned nutrition education  RECOMMENDATIONS: Intentionally plan program and educational content based on theory; could base program approach on theory even if not using a structured curriculum	STRENGTHS: Lessons include modeling (through cooking demos) and social support (through group discussions)  LIMITATIONS: No mention of theoretical basis, did not use set curriculum  RECOMMENDATIONS: Intentionally plan program and educational content based on theory; could base program approach on theory even if not using a structured curriculum	STRENGTHS: Some lessons based on Healthy Living (which has theoretical basis); lessons include modeling (through cooking demos) and social support (through group discussions); pulled additional lessons and activities from other sources - unsure of theoretical basis for these	STRENGTHS: Lessons based on Healthy Living (which has theoretical basis), but deviated from curriculum; lessons include modeling (through cooking demos) and social support (through group discussions)	STRENGTHS: Lessons include modeling (through cooking demos) and social support (through group discussions)  LIMITATIONS: No mention of theoretical basis, did not use set curriculum  RECOMMENDATIONS: Intentionally plan program and educational content based on theory; could base program approach on theory even if not using a structured curriculum
Evidence-based	Core topics and content in curriculum are based on accurate, reliable, and current research. Intervention includes the current Dietary Guidelines for Americans.	Dietary guidelines and/or other research and evidence included in curriculum or lessons, OR this information mentioned by program staff	STRENGTHS: Curriculum description cites evidence base; program staff mentioned evidence base; based on DASH diet and other research	LIMITATIONS: No mention of research or evidence base; education not considered important component of cooking demos although some nutrition education may be delivered along with cooking demos  RECOMMENDATIONS: Select educational messages / content based on evidence, provide instructors with resources (outlines, handouts, etc.), and include educational content as talking points during cooking demos	STRENGTHS: Alzheimer's and heart-healthy diet speakers selected for knowledge and expertise in health topics  LIMITATIONS: No mention of evidence base for other lessons  RECOMMENDATIONS: Select educational content based on evidence; ensure that selected speakers base presentations on evidence	STRENGTHS: Healthy Living incorporates Dietary Guidelines, DASH diet and other evidence-based sources; selected and developed additional lessons based on resources commonly used by dietitians	STRENGTHS: Healthy Living incorporates Dietary Guidelines, DASH diet and other evidence-based sources	STRENGTHS: Included info on DASH diet, risk factors for CVD, exercise lesson based on NHLBI book
Targets various levels of SEM	Programs are strengthened by the inclusion of multiple levels of the Social- Ecological Model (SEM) and enhanced by the inclusion of policy, systems, and environmental supports.	All programs meet this characteristic since all include some form of individual or group education as well as distribution of Rx to increase access	YES	YES	YES	YES	YES	YES
Clear goals and objectives	Program has clearly stated goals and objectives that drive both the intervention and evaluation.	Goals and objectives for nutrition education are included in curriculum or lessons OR are mentioned by program staff	LIMITATIONS: Goals and objectives are not listed in curriculum description and were not mentioned by staff; however, they may be included in additional documents  RECOMMENDATIONS: Clearly state goals and objectives for each lesson, if not already included	LIMITATIONS: No goals and objectives mentioned.  RECOMMENDATIONS: Clearly state goals and objectives for lessons and cooking demos	LIMITATIONS: No goals and objectives mentioned.  RECOMMENDATIONS: Clearly state goals and objectives for lessons and cooking demos	STRENGTHS: Learning objectives included in Healthy Living curriculum  LIMITATIONS: Unsure whether other lessons included goals and objectives  RECOMMENDATIONS: Clearly state goals and objectives for all lessons	STRENGTHS: Learning objectives included in Healthy Living curriculum  LIMITATIONS: Actual classes deviated from planned lessons  RECOMMENDATIONS: Clearly state goals and objectives for all lessons	LIMITATIONS: No goals and objectives mentioned.  RECOMMENDATIONS: Clearly state goals and objectives for lessons and cooking demos
Appropriate for audience	Available in languages appropriate for the target audience, visuals and activities are appropriate for the target audience, and recipes are consistent with program goals and appeal to the target audience.	Program staff discusses appropriateness of curriculum or lessons for target audience	STRENGTHS: Curriculum developed for SNAP Ed and participants are SNAP Ed-eligible; focus on using resources wisely/ shopping and cooking on a budget; one cohort taught in Spanish	STRENGTHS: Cooking classes addressed budget and time constraints of participants; classes that started midway through program were well attended and met needs of participants (community building as well as teaching cooking)	STRENGTHS: Stated that learning how to cook with produce and how to substitute ingredients met needs of participants	STRENGTHS: Stated that program is appropriate for audience in terms of educational level, financial situation, and medical issues of patient population	STRENGTHS: Stated that program is patient-led to a degree, responds to their questions; appropriate for literacy levels	STRENGTHS: Stated that lessons included component on "culture" - related to participants' heritage

Accommodates various learning styles	Program delivery accommodates visual, auditory, and kinesthetic (hands-on) learning styles.	Curriculum or lessons include hands-on activities and/or written materials in addition to verbal instruction	STRENGTHS: Each session included recipe demo and "extenders" - take home items to encourage use at home	STRENGTHS: Hands-on cooking classes	STRENGTHS: Lessons on physical activity and gardening including active participation	STRENGTHS: Included grocery store tour, active participation during class, and handouts	STRENGTHS: Active participation during class and handouts or activities to take home	STRENGTHS: All sessions included cooking demos, most included hands-on cooking; one session included quiz
Fidelity	Program is implemented as designed to maintain the theoretical basis and is delivered in its entirety.	Program staff talk about following curriculum lessons / scripts	STRENGTHS: Curriculum is scripted so that it is implemented with fidelity	STRENGTHS: Took advantage of available resources and adapted program accordingly; cooking demos at farmers markets implemented as planned; additional cooking classes added when resources became available  LIMITATIONS: Program was not implemented with fidelity (for example, cooking classes were not well attended so were discontinued)  RECOMMENDATIONS: Follow selected curriculum / program while maintaining flexibility to add programming when resources become available	Not able to evaluate	STRENGTHS: Selected curriculum with lesson plans and handouts that would be easy to implement with fidelity  LIMITATIONS: Did not use Healthy Living curriculum in its entirety  RECOMMENDATIONS: Follow selected curriculum while maintaining flexibility to add lessons when needed	STRENGTHS: Selected curriculum with lesson plans and handouts that would be easy to implement with fidelity  LIMITATIONS: Repeatedly stated that implementation deviated from the curriculum to answer participants' questions and respond to their interests  RECOMMENDATIONS: Follow selected curriculum while maintaining flexibility to respond to participants' questions	STRENGTHS: Some lessons implemented as planned  LIMITATIONS: Needed to modify plans when one speaker did not show up, and another wasn't prepared to present  RECOMMENDATIONS: Follow selected curriculum while maintaining flexibility to substitute speakers / lessons if needed
Evaluation	Evaluation is designed to measure achievement of goals and objectives and to address each level of the Social-Ecological Model included within program.	Not able to evaluate	Not able to evaluate	Not able to evaluate	Not able to evaluate	Not able to evaluate	Not able to evaluate	Not able to evaluate
<b>Educator characteristics</b>								
Qualified / expertise in content	Educators have expertise in content prior to delivering intervention.	Taught by RD or other qualified professional	STRENGTHS: Taught by paraprofessionals who have been teaching this curriculum for 3 years; trained to not answer questions beyond their scope (consult with RDs and then follow up with answers)  LIMITATIONS: Paraprofessionals do not have expertise of RD and cannot answer some questions, but this model seems to work well with paraprofessionals consulting with RDs regularly	STRENGTHS: Cooking classes taught by skilled cooks; nutrition education delivered by dietetic interns at markets  LIMITATIONS: Nutrition education may have also been delivered by cooks and lay leaders who may not have expertise in nutrition content  RECOMMENDATIONS: Continue to provide nutrition education with dietetic interns; consider training lay leaders to provide basic nutrition education at cooking demos	STRENGTHS: Some lessons taught by health professionals (Alzheimer's and heart healthy nutrition)  LIMITATIONS: Those teaching meal prep and exercise were qualified in these areas, but may have also delivered nutrition education  RECOMMENDATIONS: Limit nutrition education at cooking demos and exercise classes, and/or review nutrition education to ensure that content is accurate	STRENGTHS: Taught by RD, qualified to teach nutrition content	STRENGTHS: Taught by MD, qualified to teach nutrition content	STRENGTHS: Taught by RDs, qualified to teach nutrition content; chef taught cooking portion
Qualified / expertise in teaching methods	Educators have expertise in teaching methods appropriate for the target audience prior to delivering intervention.	Program staff talk about qualifications or experience of instructor teaching similar classes or with this population	STRENGTHS: Taught by paraprofessionals who have been teaching this curriculum for 3 years	Not able to evaluate	Not able to evaluate	STRENGTHS: Taught by RD who has been working with this population for years	STRENGTHS: Taught by MD who has been teaching similar classes for many years	STRENGTHS: Taught by RDs who have been working with the population for years
Relates to audience	Educators possess the ability to relate well to the target audience.	Program staff talk about ability of instructor to relate to audience OR instructor is chosen because of status as peer / community member	STRENGTHS: Taught by paraprofessionals from the community, staff say they "resonate with audience"	STRENGTHS: Former graduate of program taught cooking classes and related well to audience as peer	STRENGTHS: Stated that speakers related well to audience, experience with this demographic	STRENGTHS: Stated that RD teaching classes has relationships with many of the participants from previous clinic visits	Unable to evaluate	STRENGTHS: Stated that lessons included component on "culture" - related to participants' heritage