Introduction

Background:
FNS guidance requires that SNAP-Ed conduct a comprehensive needs assessment every three years. This needs assessment should be used to identify the barriers and facilitators to program access for SNAP-Ed eligible residents, decide on appropriate programming, and help develop the state priority goals for the next 3-year plan.

For this needs assessment, Washington SNAP-Ed partnered with Washington WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children) to conduct a statewide needs assessment on the nutritional and health needs of low-income people throughout Washington state. Both programs have similar goals in promoting healthy individuals and families across the lifespan, and offer their own unique expertise in working with this population. The partnership between WIC and SNAP-Ed allowed Washington SNAP-Ed to address equity concerns and reimbursement for participation that otherwise would not have been possible for one program alone.

Purpose and Intended Use:
The purpose of this assessment is to gather state-level information on WIC and SNAP-eligible populations that will be used to guide program planning, to enhance program equity and for program improvement, especially in identifying statewide goals and objectives for the upcoming 2024-2026 3-year plan. More specifically, this assessment will investigate the nutrition, physical activity, and obesity prevention needs of Washington SNAP-eligible residents, while considering the diverse needs of our population. State-level trends from this report should be considered in conjunction with local level data and assessment information when tailoring local SNAP-Ed programs.

Evaluation Approaches and Timeline:
To have enough time to properly assess needs and assets from program-eligible people, staff, and partners, this assessment will be conducted in three phases. At the end of this cycle, the WIC and SNAP-Ed evaluation teams will assess whether to continue with the phased approach or switch to a more integrated needs assessment approach with narrower research questions. This initial three-phase plan allows the WIC and SNAP-Ed programs to gather more data from each group, as well as use data collected in previous years to inform the research questions in subsequent years.

- 2022-2023: WIC and SNAP eligible people of Washington, including those currently participating in either program.
- 2023: State and federal staff and policies. In SNAP-Ed, define core principles for principles-focused evaluation.
- 2024: WIC clinic staff and SNAP-Ed local agency staff.
- 2025: WIC vendors and SNAP-Ed partner organizations (schools, corner stores, low-income housing, etc.).

Research Questions:
Research questions are high-level questions that help guide the needs and assets assessment method and tool development. The following core questions, that we hope to answer through this multi-phased assessment, were designed considering SNAP-Ed and WIC priorities, the SNAP-Ed Evaluation Framework,
and the data equity framework from We All Count (an organization that teaches and promotes data equity):

1. What could SNAP-Ed and WIC do to reduce the environmental and systemic barriers to healthy eating and physical activity among eligible populations?
2. What are the barriers and facilitators for SNAP-Ed to successfully partner with existing community members?
3. How can WIC and SNAP-Ed make nutrition education valuable to participants?
4. What are the barriers and facilitators to fully utilizing WIC benefits?
   a. What changes could Washington WIC make to make it easier for participants to fully utilize their WIC benefits?
5. Why do or don’t people participate in both WIC and SNAP? For people who are enrolled in both programs, how does that impact their participation on WIC?
6. How can SNAP-Ed and WIC encourage meaningful participation in their programs? How do the eligible populations hear about SNAP-Ed and WIC, and decide if the program(s) are right for them?

Methods for Gathering Data from the Eligible Population
Multiple methods were used to collect data about and from SNAP-Ed eligible individuals. Population assessment approaches included a literature review and population-level assessment with secondary data sources. This information can provide context and help us understand where Washington State stands in comparison to national trends, as well as identifying common assets or barriers seen across the state. Participant assessment approaches include interviews and surveys to hear directly from SNAP-Ed eligible individuals in Washington State. This data offers in-depth information about priority populations.

Population Assessment Approaches:

Literature Review:
A literature review was conducted to learn about the efficacy and the long-term impact of direct education among different age groups. For this review, efficacy was defined as behavior change for the purposes of this assessment. Additional methods are available in the “nutrition education” section of this report.

Population-level Assessment using Secondary Data:
Secondary data sources like the Behavioral Risk Factor Surveillance System (BRFSS), American Community Survey (ACS), the WA FOOD survey, and the Healthy Youth Survey were used to incorporate population-level demographics and trends related to nutrition and physical activity into the needs assessment summary. Additional information on population level data is available throughout this report.

Participant Assessment Approaches:
Interviews and surveys are being conducted to capture the breadth and depth of experiences WIC and SNAP populations have with our programs. Additionally, the same assessment approaches are being taken with the eligible but not yet participating population to gather information on what would make them more likely to become participants. A brief review of similar studies was conducted in the
development of interview and survey protocol, questionnaires, and an analysis of population-level data sources.

There were several sub-populations prioritized for interviews and surveys. Rationale for prioritizing each sub-group is included below:

1. Young adults (ages 18-23). This age group has the lowest redemption rates for WIC benefits and may have a lot to gain from SNAP-Ed interventions.
2. Persons with limited English proficiency. Gathering additional information from these populations will help inform whether SNAP-Ed and WIC are meeting language and cultural needs. The top 3 non-English languages requested in SNAP-Ed classes and spoken by WIC families are Spanish, Russian, and Vietnamese.
3. East African population. Washington WIC wants to learn if adding more small ethnic vendors to their program might increase participation.
4. Native Hawai’ian and Pacific Islanders. This racial group has the lowest redemption rates in WIC and Washington WIC wants to learn how the program can better serve them.
5. Rural Washingtonians. SNAP-Ed and WIC evaluation teams want to include rural residents from various parts of the state as their needs will likely differ from urban residents.

Preliminary interview responses were used to guide survey development. The WIC and SNAP-Ed evaluation teams also utilized We All Count’s data equity framework in the development of both interview and survey questions. Survey data is linked to existing program data which allows the assessment to disaggregate data to address program equity without asking participants demographic questions.

All interview and survey respondents will receive questions about barriers and facilitators to healthy eating and physical activity. Most questions for the WIC-eligible population, SNAP participants, the SNAP-eligible population are the same, while some questions for active WIC participants were tailored to collect more specific information about program experience.

At the end of each interview and survey, all respondents will be asked if they are interested in reviewing the findings, and will be given a reimbursement for their time providing feedback. Once data collection for both the SNAP-Ed and WIC components of the participant-focused phase of the needs assessment is complete, a summary of the findings will be shared with interested participants. Findings will be distributed via a survey, which invites participants to affirm, correct, or add to the findings.

Recruitment:

Interviews:

The evaluation team used client lists made available by data sharing agreements with the Healthcare Authority and DSHS to identify potential interviewees based on the following criteria: 1) identify as part of priority population (listed above), 2) currently participating in SNAP and/or WIC, or 3) enrolled in Medicaid (eligible for SNAP and/or WIC, but not currently participating). Potential interviewees were randomly selected for calls based on these lists. Interview participants were offered a $50 Amazon gift card as a reimbursement for their time and other costs associated with a 45-minute interview.
Surveys:
Surveys will be conducted electronically in March 2023. Mailers with survey information will be distributed to 3,500 individuals using the same identification criteria noted above for interviews, but will not include people who were contacted for interviews. The surveys will be translated into Spanish, Russian, Ukrainian, Vietnamese, Somali, Amharic, and additional languages as needed. For SNAP-Ed and WIC-eligible audiences, survey participants may receive a $10 gift card or a small item, such as a SNAP-Ed tote bag or recipe card, as a reimbursement for their time and other costs associated with a 20-minute survey. One thousand (1,000) English-language mailers will be sent out, as well as 2,500 mailers in the other priority languages.

Population Data Analysis Methods and State-Level Demographics

Methods

Population level data for Washington State was collected from various, publicly sourced data sets, including the Behavioral Risk Factor Surveillance System (BRFSS) run by the CDC, the American Community Survey (ACS) run by the US Census Bureau, state population data from Washington State’s Office of Financial Management (OFM), and information about SNAP/Basic Food use from the Washington State Department of Social and Health Services (DSHS).

Much of this data was taken from existing reports from these different entities. However, for the BRFSS data, the publicly available data sets were used to calculate fruit and vegetable consumption in Washington State and nationwide. In the available and completed BRFSS data reports, daily fruit consumption includes both whole fruits and 100% fruit juice, while daily vegetable consumption includes salad greens, fried potatoes (including french fries, hash browns, or home fries), other potatoes (including sweet potatoes and baked potatoes), and other vegetables. For Washington state, we chose to exclude 100% fruit juice from the daily totals of fruit consumption and exclude fried potatoes from the daily totals of vegetable consumption.

State-Level Demographics

In 2021, the Federal Poverty Guidelines set by the Department of Health and Human Services (HHS)¹, set the 100% federal poverty level (FPL) for a household of one at $12,880 a year, and $26,500 a year for a family of four. Basic Foods (which includes SNAP and the Washington state Food Assistance Program for Legal Immigrants (FAP) who are not eligible for SNAP) and SNAP-Ed eligibility in Washington is set at 200% of the FPL, which would be $25,760 for a household of one, and $53,000 for a household of four. Of note, the median income in Washington state is estimated at $81,998, ranging from $47,213 to $102,903 across all 39 counties².

The American Community Survey (ACS), conducted by the US Census Bureau, estimated that in 2021 10.0% of individuals in Washington were living in poverty (at 100% FPL), and that 1,761,862 individuals in Washington (23.6% of the state’s population) were living at or below 200% of the FPL³. However, the number of individuals living at or below 200% FPL varies widely across the state, with some counties having less than 20% of their population at or below 200% FPL, and others having more than 40% of

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¹ Department of Health and Human Services Guidelines
² Washington State Office of Financial Management, Median household income estimates
³ US Census Bureau, 2021 American Community Survey 5-Year Estimates subject tables
their population experiencing the same 200% FPL. Image 1 below shows the percentage of individuals living at or below 200% FPL in Washington State counties – darker colors indicate a higher percentage of individuals living in poverty, while lighter colors indicate a lower percentage of individuals living in poverty.

**Image 1. Percent of Individuals Living At or Below 200% FPL – ACS 2021 5-Year Estimates**

Food security remains an ongoing issue, that was exacerbated by the COVID-19 pandemic. The Washington State Food Security Survey (WAFOOD) was launched by the University of Washington and Washington State University to track the impacts of COVID-19, particularly for low-income people, in the areas of well-being and food security. The most recent survey (WAFOOD4) ran from December 2022 through January 2023, eliciting 5,052 responses. This survey showed that almost half of respondents (49%) were experiencing issues with low food security or very low food security, and that food insecurity was higher in BIPOC (Black, Indian, and People of Color) households ((Graph 1), and in households with children (Graph 2)\(^4\).

Food insecurity was also much worse for low-income households who took the WAFOOD4 survey, compared to those with higher incomes (Graph 3). Among all respondents, 55% reported using some form of food assistance in the past month, with food assistance including SNAP or WIC benefits, food banks and food pantries, pandemic EBT (P-EBT), vouchers, and other forms of assistance.
In state fiscal year 2021, the Washington State Department of Social and Health Services\(^5\) served an average of 950,592 people a month through their Basic Foods program (12.2% of the state population), 35.3% of whom were children under the age of 18. This is slightly over half of potentially eligible people, as determined by the 2021 ACS estimates\(^6\) of people at or below 200% of the FPL. Image 2 below depicts Basic Food clients by zip code.

\(^{5}\) Washington State DSHS SFY 2022 Basic Food Briefing Book

\(^{6}\) American Community Survey, 2021 5-Year Estimates
Interview Methods and Demographics

Methods

Data collection for the interview phase of the SNAP-Ed Needs Assessment took place between November 4th, 2022 and January 4th, 2023. In total, 636 calls were placed, and 43 responses were collected. When called, potential interviewees were asked if they would be interested in participating in a 45-minute phone interview, and if they consented to participate and be recorded. They were offered a $50 Amazon gift card as reimbursement for their time. As shown in Table 1 below, about half of the interviews were conducted with English-speaking young adults aged 18-23 years (23 calls) and half were conducted with English-speaking people in rural areas (20 calls).

Table 1. Interview Outreach by Population Group

<table>
<thead>
<tr>
<th>Population Group</th>
<th># of Calls Placed</th>
<th># of Interviews Conducted</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNAP Young Adults (18-23 years)</td>
<td>372</td>
<td>23</td>
<td>6.2%</td>
</tr>
<tr>
<td>SNAP Rural</td>
<td>207</td>
<td>20</td>
<td>9.7%</td>
</tr>
<tr>
<td>Medicaid East African</td>
<td>57</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>636</td>
<td>43</td>
<td>6.8%</td>
</tr>
</tbody>
</table>
Several limitations are important to consider regarding these interviews: limited staff capacity for making calls, lack of notice about potential interview calls for SNAP participants, language barriers for reaching non-English participants, and time constraints. Our lessons-learned and recommendations for future phone interviews include providing advance notice to the SNAP participant population prior to interviews, accounting for language capabilities for non-English speaking populations, and increasing personnel.

The interview guide included both open-ended questions and closed-ended questions (e.g., multiple choice, checkbox, etc.), which generated different types of data. Answers to open-ended questions were transcribed by the interviewer during the call.

Qualitative interview data was analyzed using thematic analysis with a deductive approach. The coding framework was developed a priori based on research questions, with input from the interviewer and review by team members. The coding framework was then applied to interview data and revised slightly to include more specific codes for data exploration. For example, ‘typical diet’ was broken into sub-codes, such as ‘fruit’ and ‘vegetables’. After reviewing and coding the data, thematic analysis was used to explore research questions. This process included reviewing overarching code categories, sub-codes, and analyzing which codes occur together. Through this process, themes were identified – especially in the context of barriers and facilitators. Networks were created for key themes to visualize relationships between codes (see Appendix B).

Quantitative data from multiple choice and checkbox-style questions, including demographic questions, was analyzed to identify frequencies, as well as averages and ranges where appropriate. Comparable statistics about the overall population of Washington State were also reviewed and included to provide comparisons.

**Interview Respondent Demographics**

Respondents ranged in age from 19 to 42 years old, with a median age of 23 years. All respondents identified as women. Additional demographic information is shown below in Table 2. Most respondents identified as non-Hispanic/Latine (65%) and White (63%). Of note, the percentage of respondents who identified as Hispanic/Latine (33%) in our interview sample was twice as large as the percentage of Washington State residents who identify as Hispanic/Latine (14%).

About three-quarters of respondents had a child under the age of 5 years (77%), and the same number reported living with at least one other adult in the household (77%). A little over a third of respondents reported that they were not working or going to school currently (37%), while another third worked full time (33%), and just under a quarter attended school full-time (21%). Our interview question did not account for individuals who may be working in the home as full-time homemakers or caregivers. Finally, a little over a third respondents held one job (35%).
Table 2. Interview Participant Demographics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>WA State Percent(^7) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>2</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>22</td>
<td>51%</td>
<td>6%</td>
</tr>
<tr>
<td>25 to 29 years</td>
<td>6</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>30 to 34 years</td>
<td>6</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>35 to 39 years</td>
<td>5</td>
<td>12%</td>
<td>7%</td>
</tr>
<tr>
<td>40 to 44%</td>
<td>2</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latine</td>
<td>14</td>
<td>33%</td>
<td>14%</td>
</tr>
<tr>
<td>Non-Hispanic/Latine</td>
<td>28</td>
<td>65%</td>
<td>86%</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>1</td>
<td>2%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>2</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>5</td>
<td>12%</td>
<td>4%</td>
</tr>
<tr>
<td>Hispanic/Latine</td>
<td>5</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Native Hawaiian or Pacific Islander</td>
<td>1</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>White</td>
<td>27</td>
<td>63%</td>
<td>72%</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>2</td>
<td>5%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Household composition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children &lt;5 years</td>
<td>33</td>
<td>77%</td>
<td>29.0(^8)%</td>
</tr>
<tr>
<td>Youth 5-18 years</td>
<td>17</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>Another adult in HH</td>
<td>33</td>
<td>77%</td>
<td></td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not currently working and/or going to school</td>
<td>16</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Full-time job</td>
<td>14</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Full-time (at least 35 hours or more each week) school</td>
<td>9</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Part-time job</td>
<td>5</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Part-time school</td>
<td>4</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td><strong>Number of jobs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 job</td>
<td>15</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>2 jobs</td>
<td>2</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

\(^7\) Washington State Office of Financial Management 2022 Estimates
\(^8\) American Community Survey, 2021 1-Year Estimates
Respondents were asked to respond to two statements about food security, reporting whether the statement was ‘often true’, ‘sometimes true’, or ‘never true’ for their household (Graph 3). They could also choose not to respond. Over half of respondents reported that the statement, “We worried whether our food would run out before we got money to buy more” was often true (7%) or sometimes true (53%) for them. Similarly, over half of respondents said that the statement, “The food that we bought just didn’t last, and we didn’t have money to get more” was often true (9%) or sometimes true (49%).

Respondents also talked about use of food assistance programs within the last month (Graph 4). Just under half of respondents had accessed Pandemic-EBT (42%) in the last 30 days, while about a third had visited a local food pantry (35%) and about a quarter had received food from friends, family or neighbors (26%).
Graph 4. Have you used any of this help in the last 30 days? (n=43)

- Pandemic-EBT: 42%
- Local food pantry, food bank or religious organization: 35%
- Food from friends, family or neighbors: 26%
- School meals or school meal distribution site: 14%
- Summer Food Service Program: 2%
- FDPIR (Food Distribution Program on Indian Reservations): 2%
Nutrition Education

Literature Review on Efficacy of Nutrition Education for Various Age Groups

Basis for the Literature Review

Nutrition education is a key aspect of the SNAP-Ed program, with the goal of promoting healthy food choices and physically active lifestyles. In preparation for Washington’s FFY24-26 SNAP-Ed State Plan, the SNAP-Ed evaluation team was tasked with exploring whether nutrition education is more efficacious with certain age groups compared to others, as well as which age groups can benefit most from nutrition education. For the purpose of this review, ‘efficacy’ was defined as measurable positive changes in behavior, in line with FNS SNAP-Ed priority indicators. Age groups were categorized as follows: younger youth as children ages 5-13 years, older youth as children ages 12-18 years, and adults as individuals ages 18 years and older.

This review presents a combination of 41 research articles, feasibility studies, research briefs, multilevel analyses, systematic reviews, and meta-analyses. Search terms included the following: nutrition education, nutrition lesson(s), efficacious, effect, effective, adolescent, youth, younger youth, older youth, teens, young adults, and adults. Relevant articles were identified through PubMed, Science Direct, Google Scholar, and Google Search, and limited to articles published within the last decade. Literature was reviewed for each age group until similar findings were identified in multiple articles (saturation). This review suggests that nutrition education is most effective with older youth and adults, and works best in combination with multilevel policy, systems, and environmental (PSE) change efforts and cultural tailoring for all ages.

Nutrition Interventions by Age Group

Younger Youth

Twelve articles related to nutrition education for younger youth populations were reviewed. This included four education or curriculum-based interventions, four multilevel/multicomponent interventions, and four systematic reviews. Eight articles also had age-group overlapping content as parents/caregivers are frequently included in younger youth literature.

Three studies specifically focused on nutrition education interventions for younger youth and sought to increase children’s fruit and vegetable consumption (e.g. behavior), but measured children’s attitudes, knowledge, and/or beliefs about healthy foods and eating. For example, Schmitt et al. (2018) found second graders who participated in nutrition curriculum increased their preference for fruits and vegetables and improved health knowledge, but the study design did not measure fruit and vegetable consumption. Another study evaluated a community garden nutrition program and found significant improvements to children’s self-efficacy for requesting fruit and vegetables, and increases in gardening and MyPlate knowledge, but did not assess fruit and vegetable consumption. On the other hand, a quasi-experimental study conducted by Prelip et al. (2012) in the Los Angeles Unified School District (LAUSD) for 3rd – 5th graders measured fruit and vegetable consumption for youth participants, but did not observe significant effects on fruit and vegetable intake. However, authors did observe a “significant effect on students’ attitudes and beliefs toward the consumption of vegetables” (p. 313).

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Although positive changes in fruit and vegetable consumption for youth were not observed in the aforementioned studies, there are some studies and systematic reviews that showed promise in increasing fruit and vegetable intake for this age group. A chef-led cooking program held at a local farmers market was evaluated using follow-up focus groups with children and their caregivers, and “was perceived as effective in improving student food acceptance, dietary habits, and confidence in the kitchen” (p. 9). Dietary habits were measured by caregivers descriptions of how their child asked for more variety on their plate and observable decreases in their child’s consumption of snacks/prepackaged foods while participating in the program. Another chef-led cooking program implemented in a school setting showed a variety of positive outcomes, including increased vegetable and fruit consumption. Authors credit this behavior change to consistent reinforcement of the “importance of fruit and vegetable consumption at every lesson” (p. 703). Additionally, in their systematic review, Cotton et al. (2020) found supporting evidence that nutrition education delivered by classroom teachers provides modest to small effects for a reduction of ‘unhealthy foods’, fruit and vegetable consumption, and nutritional knowledge. The most substantial potential change is with a multifaceted school-based intervention, regular curriculum and engaged parents.

Further, many studies recommend combining direct education with PSE interventions as a strategy to increase fruit and vegetable consumption among younger youth. Most PSE recommendations focus on the school environment, including increasing exposure to new fruits and vegetables, creating changes in the school’s food environment (e.g. reducing marketing or availability of sugary drinks and snacks), garnering support from school leadership and policy makers, implementing policies that allow school gardens to be built and maintained, adding physical activity to nutrition programs, and/or providing opportunities for nutrition-focused professional development for teachers. For example, a multicomponent gardening, cooking, and nutrition education program called the TX Sprouts intervention was designed with the goal to expose children to fruits and vegetables, which resulted in increased intake. Through the program, researchers identified numerous ways that the interventions could have been improved with specific PSE changes. First, researchers point out that even with overwhelming buy-in from school administrators, there was permitted marketing throughout the school of foods and beverages that directly contradicted the program; second, policies should be in place to maintain school gardens for them to be most effective; and while the TX Sprouts intervention was implemented by outside nutrition and gardening educators, this practice may not be sustainable and could be improved with classroom teacher training and available curriculum to ensure continuity.

In addition to wrapping nutrition education into multifaceted policy and environmental efforts for youth, cultural tailoring can help ensure that education efforts are relevant to the target population and may contribute to positive outcomes. Hammons et al. (2019) implemented a culturally-tailored 6-week workshop for Hispanic families, which included a weekly nutrition education class. The implementation team found that intervention participants improved dietary quality compared to individuals in the control group who did not receive the same educational materials. Authors suggest that tailored interventions can be beneficial for participants and result in significant dietary improvements. In a study by Soltero and other researchers (2019), a culturally-tailored diabetes prevention program for high-risk Latino families (pre-adolescents and their parents) was implemented, focusing on three core values: familismo (familism), confianza (trust) and respeto (respect). Authors observed significant decreases in BMI percentile, waist circumference and percentage body fat among youth, as well as higher quality of
life post-intervention. Positive outcomes were observed for parents as well. As Hammons and Soltero suggest, cultural tailoring is key to developing impactful nutrition education interventions.

A final and critical element to younger children’s nutrition outcomes is understanding the role and influence of parents/caregivers and the home environment. Guerra et al.’s (2016) meta-analysis indicates that family and community variables influence children’s lifestyles through modeling; and recommend that school based interventions include parent involvement strategies. Black et al.’s (2017) systematic review suggests that the more direct and explicit parent engagement strategies are in nutrition programs, the more likely there could be positive dietary impact. Although, the review also concludes that there is insufficient evidence of the specific strategies that are effective, as parent involvement is not typically central to program design or consistently implemented.

For instance, parents displayed curiosity in a public housing community garden nutrition program by attending education lessons intended only for their children. Program facilitators noted that it was challenging to engage with both parents and children during lessons as parents would answer questions that were directed towards children or express their dislike of certain fruits and vegetables. Conversely, Jarpe-Ratner et al.’s (2016) school cooking course limited parents/caregivers’ involvement by capturing pre- and post-survey responses about their child’s at-home nutrition environment and behavior. Parents reported significant increases in family conversations about healthy food, how often children prepared dinner, and the importance they place on the family meal. These examples highlight the complex influence and importance parents/caregivers and the home environment can have for younger populations.

Nutrition education is an effective strategy for improving young children’s attitudes, knowledge, and/or beliefs about healthy foods and eating. Nutrition education and curriculum may also improve fruit and vegetable consumption with consistent nutritional knowledge reinforcement. However, the literature suggests that positive nutritional behavioral change is most effective when nutrition education is combined with cultural tailoring, strategic parent/caregiver engagement, and policy, system, and environmental changes.

**Older Youth**

There were few studies focused on nutrition education for older youth. In total, four individual intervention studies, one large survey analysis, and three meta-analyses were identified and reviewed for this age group.

Individual studies combined conventional nutrition education with systems or environmental changes, or with hands-on, experiential learning to reinforce nutrition education, instead of relying solely on lecture-style learning. Harrington et al.’s (2020) study provided nutrition education to low-income high school students participating in the USDA’s Summer Food Service Program along with their food options during the 5-week program. At the end of the intervention, students reported increased fruit and vegetable intake and increased knowledge of nutrition and healthy eating compared to pre-intervention. Another study conducted by Trude et al. (2019) in Baltimore focused on reaching youth through environmental changes, targeting corner stores and carry-out restaurants to increase healthy food options. This was paired with optional nutrition education at youth-centered recreation centers, as well as social media posts and texts about healthier eating and drinking. Youth in the targeted zones purchased an average of 1.4 more healthier food items and beverages per week than those not in the
targeted zones, and older youth decreased the percentage of kilocalories consumed per week from sweet snacks and desserts.

One study on the “Spice MyPlate” program compared outcomes between standard, lecture-based nutrition education and a hands-on, experiential version of the same curriculum. The experiential learning group included standard nutrition education lessons, as well as the addition of a grocery-store tour and cooking lessons with a professional chef. In post-intervention surveys and 4-week follow-up surveys, the experiential learning group reported eating more protein, fruit, and vegetables, as well as more positive attitudes and intentions towards eating healthy foods than the control group who received only lecture-based education. The positive impact from experiential learning was echoed in a study by Pierce et al. (2017). Their intervention combined work-experience with overall health and wellness lessons, including evidence-based nutrition education, cooking classes, physical activities, and yoga during a summer work program in Baltimore. Positive changes in healthy eating habits, especially increases in consumption of vegetables and whole-wheat foods, were observed for the 36 program participants, and those changes were sustained at the 8-week follow-up. Changes were even noted by their families, with Pierce et al. reporting “two mothers mentioned with surprise their sons' new desire to cook” (p. 9), as well as sharing that “[a] few participants described buying, or asking a mother to buy, healthier foods, and some said that they themselves were now cooking at home” (pg. 10). These findings suggest that experiential learning has a lasting impact outside the learning environment.

Two meta-analyses were also reviewed to supplement studies on specific interventions: one focused on youth ages 10-19 years, the other included youth ages 2-19 years. The meta-analysis by Bailey, Drummond, and Ward (2019) explored food literacy in secondary schools and found that improvements in nutrition knowledge generally had a positive impact on dietary intake. For example, significant increases in fruit and vegetable consumption were observed in four studies providing garden-based education. Further, six studies in the meta-analysis that paired experiential cooking and hands-on learning with nutrition education found that students increased fruit and vegetable consumption as well as food knowledge and cooking skills, while also decreasing saturated fat and sodium consumption. Students also expressed positive experiences and appreciation for the chance to learn food skills. However, the authors pointed out that one study found “a majority of students did not apply the food knowledge that they learned in home-economics classes due to low confidence in cooking skills and the food environment surrounding their school and home” (p. 19), suggesting that opportunities hands-on experience and the challenges of environmental factors should also be considered when delivering nutrition education.

Murimi et al’s (2018) meta-analysis reviewed nutrition education interventions for youth ages 2-19 years. In their section on nutrition education with secondary school-aged students, they noted that complementary environmental changes such as providing balanced breakfasts, replacing soft drinks and high-calorie snacks, and including healthy snacks in meals and student stores all led to decreased instances of overweight and obesity, decreased consumption of soft drinks, and increased fruit and vegetable intake. They also noted that age-appropriate activities, especially student-led activities like health fairs, research presentations, or games were associated with increased healthy food consumption, increased knowledge, and increased efficacy around healthy eating. The meta-analysis found mixed results from parental engagement with older youth – half of the eight studies showed positive effects, while the other half showed no or negative effects. This was reflected in findings by Ma and Hample (2018) that used results from the Family Life, Activity, Sun, Health, and Eating (FLASHE)
survey to model the impact of parental influence on teenagers’ food consumption. In their analysis, high parental control was associated with higher levels of teen fruit and vegetable consumption, as well as higher levels of sugar-sweetened beverage and high-calorie snack consumption, while parental modeling and co-decision making between teens and parents was associated with higher fruit and vegetable consumption and lower sugar-sweetened beverage and high-calorie snack consumption. Notably, teenagers’ self-efficacy was the highest predictor of healthy eating behaviors.

Most of the studies focused on older youth did not explore the impact of cultural tailoring. In fact, in Bailey, Drummond and Ward’s (2019) meta-analysis, they noted “there were some disagreements regarding the impression of how cooking skills are taught to students regarding culturally incompatible foods” (p.19). The only study that considered cultural tailoring for this age group was by D’adamo and team (2016), who relied on feedback from community stakeholders – including parents, students, and school faculty – to develop their “Spice MyPlate” program. The “Spice MyPlate” program was highly effective at changing food behaviors among older youth participants due to its focus on culturally-tailored flavors and food that would appeal to African-American youth, lecture-based education, and experiential learning.

Among older youth, nutrition education, combined with experiential, hands-on learning opportunities, is effective at changing food consumption behaviors, including increased fruit and vegetable consumption and decreased sugary-snack and sugar-sweetened beverage consumption, in the short and long-term. This age group responded best to learning opportunities in which they could try things on their own, rather than restriction, pressure, or control from the adults in their lives. The addition of environmental and systems supports that help make healthy choices easier amplifies the impact of nutrition education, especially when youth are allowed to participate and co-design those policy, system, and environmental supports.

Adolescents

Many studies explored the impact of nutrition education interventions for adult populations; a total of 17 articles were reviewed for this age group. This includes 11 studies providing education interventions or description of curriculum development, five studies that combined education and other multilevel efforts, and one meta-analysis.

Studies evaluating the effectiveness of adult nutrition education interventions tended to measure changes in behavior and body weight or measurements (anthropometry), in addition to changes in intention (e.g., knowledge or confidence). Measuring changes in behavior or anthropometry allows practitioners to better understand the impact of an intervention on participants, and may suggest longer-term changes. Research suggests that education for adult participants can result in positive changes in behavior and anthropometry. For example, Auld et al. (2015) looked at effectiveness of the Eating Smart Being Active (ESBA) curriculum, and found that adult participants who completed the education series showed improvements in fruit and vegetable consumption in some states based on a 24-hour dietary screener, as well as positive behavior changes around food resource management, food safety, nutrition and physical activity based on EFNEP behavior checklist questionnaire. Another team examined behavior changes among EFNEP participants by converting data from the National Cancer Institute (NCI) dietary screener to Healthy Eating Index (HEI) scores, and observed statistically significant improvements in HEI scores from pre- to post-intervention. In another study, Ryan-Ibarra et al. (2020) aggregated pre- and post-intervention survey data from participants in SNAP-Ed programs across several
states in the US Southeast using standard recoding guidelines\textsuperscript{24}. They found that participants were more likely to consume more than one kind of fruit and one kind of vegetable post-intervention; they also found that participants increased fruit (0.34 cups/day) and vegetable (0.22 cups/day) intake on average after the intervention. Another study by Auld et al. (2019) suggests that adult nutrition education may have longer-term impacts\textsuperscript{25}. In this study, researchers conducted focus groups 2-4 months after participants completed nutrition education; they found that participation was positively associated with participants’ quality of life. Participants talked about healthy behavior changes, as well as the positive influence of nutrition education on their family, such as cooking or exercising with their children. As these studies suggest, adult nutrition education can lead to improvements in healthy eating, which may have lasting impact and spillover effects for family members.

In addition to behavior change, studies exploring the impact of adult nutrition education on household food security and food resource management skills found positive results. For example, Matias et al. (2021) offered a 14-week education series focused on nutrition, meal-planning, and budgeting, as well as experiential learning including cooking, food preparation and storage\textsuperscript{26}. Researchers observed a significant decrease in low and very low food insecurity among participants post-intervention, as well as increased fruit consumption, frequency of cooking and reduced frequency of meal-skipping. Another study found that participation in a Cooking Matters for Adults curriculum was positively associated with improvements in food resource management and confidence, and that participants reported worrying less about food running out after completion of the intervention\textsuperscript{27}. A meta-analysis by Shimizu et al. (2021) looked at psychosocial nutrition interventions with young adult participants between the ages of 18 and 30, enrolled in university\textsuperscript{21}. Anticipatory nutrition interventions, which required some aspect of planning (e.g. “Write down what vegetable you will eat for dinner this week and when and where you will buy or get the vegetable for your dinners” [p.327]) or goal-setting had statistically significant differences in healthy food behaviors (ex. Cups of vegetables eaten, cups of fruit eaten) between the intervention groups and the controls. These studies suggest that nutrition education can help build new habits, which may lead to better health and more consistent food security, especially when experiential learning and goal-setting are included in the approach.

Cultural tailoring and community engagement are additional considerations for adult nutrition education. Studies suggest that culturally-tailored education programs lead to behavior change for adults and may be more effective than initiatives that have not engaged community members during development or delivery. Conlon et al. (2015) implemented a culturally-tailored diabetes prevention curriculum for cancer survivors, which focused on nutrition education and exercise, and found that participants of the 12-week program saw a significant decrease in mean waist circumference and improvements in perceived health\textsuperscript{28}. Greenlee and their team (2015) conducted a study that focused on Hispanic breast cancer survivors, and worked closely with a local nonprofit with ties to the community to develop and culturally adapt the curriculum\textsuperscript{29}. They found that intervention participants showed an increase in fruit and vegetable consumption and decrease in calories from fat, which was maintained at the 6-month follow-up, as well as a small decrease in waist circumference. In a pilot study focused on rural Latinas, Seguin et al. (2019) implemented as 12-week culturally adapted nutrition and exercise intervention\textsuperscript{30}. Sessions were led by bilingual community health workers who were well-known in the community. Researchers observed decreases in weight, BMI, and waist-circumference, as well as increases in fruit and vegetable consumption and physical activity efficacy at post-intervention.
Culturally tailored nutrition education carefully considers the unique perspectives and needs of the target population and can support participants in developing and maintaining healthy habits.

Community engagement to inform program development and delivery is a key consideration for SNAP-Ed practitioners and may differ depending on the program and the stage of development. Research by Jinan Banna and Andrea Bersamin (2019) suggests that community engagement is integral to intervention success. In their review, they found that more than half of the studies reporting significant outcomes used at least three strategies to engage community members during program planning and development. Several other studies offer concrete examples of engagement strategies that are relevant for SNAP-Ed. The study by Seguin et al. (2019) identified a curriculum through literature review, then developed and collaborated with a community advisory board of rural Latina women to systematically adapt the curriculum for their target population. Stotz et al. (2021) described an in-depth qualitative needs assessment to inform development of a diabetes prevention program for American Indian/Alaska Natives, including interviews and focus groups with community stakeholders, national experts and American Indian or Alaska Natives with Type II Diabetes. Lynch et al. (2014) developed an intervention targeting African American patients with Type II Diabetes, and incorporated use of peer mentors and a unique focus on facilitated social support groups. In a study on implementation of hypertension-related programs targeting Asian Americans, Gore et al. (2020) found success in leveraging the organizational commitments and social ties of intervention host sites. They note that “Diversity in cultural beliefs, language, and socioeconomic status among Asian Americans and inaccessibility to culturally and linguistically appropriate care and health information can impede successful implementation of [evidence-based PSE] strategies” (p.1526). Researchers found that sites were most successful when there was buy-in from site leaders to address hypertension, and when organizations had a history of engaging in health programs. In this study, host sites were able to deliver the core program, and make adaptations based on their knowledge of their communities, which ultimately enabled program success. Community engagement to better understand needs, strengths and interests of community members is a key aspect of program development and delivery and can ensure that interventions are culturally-relevant to target populations.

Several studies suggest that nutrition education as part of a larger multilevel effort can lead to behavior change, and broader impact that education alone. For example, Caldwell et al. (2021) attempted to assess the impact of SNAP-Ed Policy, Systems and Environmental (PSE) change projects and education in Los Angeles County by conducting intercept interviews at supermarkets and with SNAP-Ed education participants at two points in time over a 2-year period (data was collected in March and April in 2018 and 2019). Authors found a statistically significant increase in fruit and vegetable consumption among the supermarket sample (3.3 cups to 3.6 cups), as well as an increase in average number of days of vigorous physical activity (1.8 days to 2.0 days). Researchers saw an even larger increase in fruit and vegetable consumption and physical activity among SNAP-Ed class participants – participating in at least one class was associated with statistically significant improvements in fruit and vegetable consumption and physical activity. These findings suggest that PSE efforts can strengthen nutrition education messages, producing greater changes in behavior. Similarly, Fertig et al. (2021) found a statistically significant increase of fruit consumed (0.78 cups/day) among participants who received education paired with a financial incentive. In a randomized controlled trial, Gans et al. (2018) randomized low-income housing sites to receive education (DVD-based nutrition education and health promotion) and a mobile market and educational components or serve as a control. They found an increase of 0.44 cups...
of daily fruit and vegetable consumption among the intervention group compared to the control, and even larger increases in daily fruit and vegetable consumption among participants with more frequent market attendance. In a similar study, Seguin-Fowler et al. (2021) provided subsidized weekly Community Supported Agriculture (CSA) shares to participants along with education to explore impact on caregiver-child dyads. Compared to the delayed-intervention control group, they observed improvements in caregivers’ cooking attitudes, skills and self-efficacy, as well as fruit and vegetable intake and skin carotenoid levels, and household food security. Interestingly, they found that the number of weeks participants received CSA shares was positively associated with increased fruit and vegetable consumption and food security, whereas number of education sessions attended was not. Finally, in the three-arm randomized controlled trial described by Jarick-Metcalme and others (2022), researchers only observed statistically significant improvements in fruit and vegetable consumption among participants who received nutrition education and produce compared to the control group; improvements were not observed between participants who only received education compared to the control group. Addressing structural barriers may be key to the success of nutrition education, and efforts should be made to integrate multilevel PSE approaches into SNAP-Ed work.

Nutrition education interventions for adults tended to measure behavior change and anthropometry, with some studies also explored impact on quality of life measures, attitudes, and confidence. Cultural tailoring was an integral component of intervention development and delivery for this age group, and multiple strategies were used to adapt education interventions. Finally, adult education delivered as part of or combined with broader multilevel efforts may be more effective or have larger impact on target populations.

Recommendations

Four core recommendations were identified through this review. First, older youth and adults are the recommended age groups for conventional lecture-style nutrition education. Second, longer interventions were found to be more effective, and should be considered for all age groups. Third, integrating multilevel efforts that pair education and PSE approaches is recommended as this approach is effective for all age groups. Finally, integrating participatory approaches is suggested to develop culturally-relevant and age-appropriate interventions. These recommendations are outlined below with additional detail.

Recommended age groups for direct education

Nutrition education had the greatest impact on behavior change (e.g. increase in fruit and vegetable consumption, positive changes in anthropometry, decreases in unhealthy foods and beverages consumed, etc.) among older youth and adults. Nutrition education and efforts to improve food and health literacy were both effective in changing food behaviors for older youth and adults especially when approaches incorporated goal-setting and experiential learning with older youth. Compared to youth, adults showed the greatest behavior change from lecture-based nutrition education; however, adults also benefited from education paired with complementary activities and PSE efforts.

For older youth and young adults, incorporating hands-on experiential learning or other multi-level strategies with nutrition education is strongly recommended. D’Adamo et al. 2016 directly compared outcomes for students participating in lecture-based curriculum and experiential-learning, and found
that participants with the additional experiential components increased fruit, vegetable and protein intake, and also reported positive attitudes towards healthy eating16. Other studies reported similar findings16–18, using strategies like grocery store tours, cooking lessons, physical activity, garden-based education to reinforce learning. For many in this age group, the chance to try things in a learning environment made it easier to carry those lessons and behaviors out into their everyday lives.

Direct education can positively impact younger youth’s attitudes, knowledge, and beliefs, especially when paired with hands-on experiential activities1–3. While Jarpe-Ratner et al. (2016) found that nutrition education that repetitively reinforces specific food concepts can impact children’s consumption behaviors, most studies recommend pairing nutrition education with PSE for younger children4,5,8,9. Younger children generally have less autonomy in their food choices or food availability, so creating environments and systems that promote healthy eating and healthy choices helps set the groundwork for their future.

**Duration of Nutrition Education**

Nutrition education is more likely to have long-term impacts when it is of sufficient duration. To achieve lasting behavioral changes among youth, a meta-analysis by Guerra et al. (2016) suggested a minimum duration of 6-months12, and Murimi et al.’s 2018 analysis included a recommendation for interventions to take place over the course of the entire school year for school-aged students19. Conlon et al. (2015) delivered nutrition education and exercise content through a 4-week program and 12-week program, and observed positive outcomes among participants of the 12-week program27. Seguin et al. (2019) also implemented a nutrition and exercise intervention over 12-weeks, and observed positive changes in behavior and anthropometry29. While a precise recommendation for intervention duration was not established, these studies suggest that longer interventions may be more effective at achieving behavior changes for both youth and adults.

**Policy, Systems, and Environment Interventions**

Across all age groups, research points to the strength of PSE interventions that include an education component. Youth of all ages benefit from PSE interventions, especially in school settings. Ganann et al. (2014) conducted a systematic review for children’s nutrition environments, which concluded that the “most promising strategies [for creating better food environments] are local school food service policies,” (p. 11). Specifically, policies and environmental changes to vending machines, cafeterias, and afterschool food offerings had most encouraging results.9 Landry et al. (2021) recommend that policies at the administrative and district levels are necessary to creating effective and persistent healthy food environments8. Additionally, a few studies reinforce the importance of children’s exposure to new fresh fruit and vegetables4,3,8. In the review by Murimi et al. (2018), studies focused on secondary schools found that PSE changes combined with nutrition education were most effective in this age group19. PSE changes ranged from providing healthy breakfasts, removing sodas and sugar-sweetened beverages (SSBs) from campus vending machines, to changing what was offered in the school snack stores. Outside the school setting, Trude et al. (2019) found that changing the larger environment at corner stores in a city, along with health promotion messaging increased healthy food consumption while decreasing high-calorie snack and beverage consumption, even among youth who did not attend nutrition education classes15.
Studies focused on interventions for adults also found positive outcomes when education was paired with PSE efforts. Caldwell et al. (2021) found that education enhanced positive changes attributed to multilevel efforts in the broader community. Several studies explored combining education with healthy food access through a mobile market, a financial incentive or subsidized produce, and found positive impact on participant fruit and vegetable consumption. Finally, the randomized controlled trial headed by Jarick-Metcalme et al. (2022) suggests that education may be successful when paired with a structural change, such as providing produce; they saw improvements in fruit and vegetable consumption between the intervention and control arm, but no improvements between participants who received education and control.

Taken together, these studies suggest a strong need to address structural barriers and promote healthy environments in addition to providing education. While nutrition education participants may shift knowledge or intention to eat healthier or exercise more, behavior change is most feasible in environments where participants have the agency and option to choose.

**Participatory Strategies**

Participatory strategies, including cultural tailoring and youth involvement are important considerations for SNAP-Ed as well. Engaging community members to culturally-adapt nutrition education interventions is recommended for adults and families. Studies using culturally-tailored curricula found positive outcomes in fruit and vegetable consumption and other dietary improvements, anthropology and quality of life. Hammons et al. (2019) compared families in the intervention group for their culturally-adapted curriculum to a control group who did not receive nutrition educational materials (control group participants received DVDs with program material at the end of the intervention), and found that intervention participants showed positive improvements whereas individuals in the control group did not. As these studies suggest, culturally tailored education interventions can produce positive behavior change among adults and families.

Several articles described strategies for developing culturally tailored interventions. First, community engagement is essential. Jinan Banna and Andrea Bersamin’s 2018 review found that many of the studies reporting significant outcomes had used at least three community engagement strategies during the design and development of their programs. Specific suggestions from other research includes conducting needs assessments, especially focused on qualitative approaches such as focus groups and interviews, working with peer mentors or community health workers to deliver education material, providing social support to participants, and leveraging host sites’ social capital and connectedness to community members. These studies provide a menu of strategies that can support SNAP-Ed practitioners in developing culturally-relevant interventions.

While most interventions aimed at older youth did not specifically address cultural tailoring, establishing buy-in through youth involvement was essential. For example, goal-setting, social support, peer-led activities, and experiential learning contributed to the success of older youth incorporating healthy dietary and behavior changes. School- and community-based experiential learning opportunities for older youth are especially important, as one study pointed out “that adolescents are interested in developing food skills but have limited opportunities to develop these skills in school or the home environment” (p. 19). Further, Luesse and Contento (2019) found that nutrition curriculum can be effective if it is student-centered, conversation led (e.g. not didactic), and incorporates strategies to build social connections between adults and students and within student groups based on feedback.
from middle school teachers and after school staff. These articles provide specific participatory strategies to better engage older youth in nutrition interventions.

Conclusion

This review sought to explore the effectiveness of nutrition education for different age groups compared to others, as well as to identify which age groups can benefit most from nutrition education. The literature establishes that nutrition education can have many positive outcomes for all age groups, however, it most often leads to measurable positive behavior change for older youth and adults. Throughout the exploration of this topic, additional recommendations to strengthen nutrition education were brought forward. For younger youth, nutrition education combined with cultural tailoring, strategic parent/caregiver engagement, and PSE is more likely to result in behavioral changes. Older youth benefited most from nutrition education that focused on building self-efficacy and incorporated participatory strategies. Finally, adults showed greater behavior change from lecture-based nutrition education compared to youth – although adults also benefit from cultural tailoring and PSE approaches (see Appendix A for all works cited).

What experience do interview respondents have with nutrition education?

As shown in Graph 5, few interview respondents reported participating in nutrition education classes prior (7%), which matched with prior years of SNAP-Ed reporting on demographics of nutrition education participants. Historically, only a small percentage (7-10%) of direct nutrition education participants have been adults; the majority of education has focused on youth, especially of elementary school ages. When interview respondents were asked about potential interest in attending nutrition education, few expressed interest; in fact, several respondents specifically noted that they were not interested.

**Graph 5.** Have you participated in a nutrition class in the past 12 months? (n=43)
Some respondents shared thoughts on what might make nutrition education classes more appealing. The most frequently mentioned suggestion was around accessibility, including offering virtual options or classes that were available close to home. A few respondents talked about having time to attend or participate in a class, and one mentioned childcare. Some respondents described potential benefits that might interest them, including incentives for attendance, relevant material, and opportunities to discuss their specific needs or interests.

**What health and nutrition topics do interview respondents want to learn about?**

As shown in Graph 6, half of respondents were interested in learning more about how to shop for healthy food on a budget (56%), and just under half wanted to learn more about cooking healthy meals (47%). Almost two-thirds of respondents shared thoughts about other topics that might interest during interview conversations. Healthy foods and healthy eating were the most mentioned topic, especially suggestions on how to incorporate more healthy foods into meals. Many respondents mentioned an interest in learning new recipes or cooking approaches, especially meal ideas that their families might enjoy and recipes that were both quick and healthy. Some respondents specifically mentioned healthy eating in the context of their families, describing interest in getting family members to eat healthy or keep their family healthy.

![Graph 6. What nutrition topics would you be interested in learning about? (n=43) - Bar chart showing percentages of participants interested in learning about different nutrition topics.](graph.png)

**Nutrition Education: Perspectives from Surveys**

*This data is currently being collected. An updated version of this report will be released when all survey data has been collected and analyzed.*
Healthy Eating

Population Data
There are many ways to measure health and healthy eating; within Washington SNAP-Ed, a large focus is on daily consumption of fruits and vegetables, corresponding with indicators ST1 and MT1 in the SNAP-Ed Evaluation Framework. These variables are measured in the SNAP Happy surveys used with direct nutrition education and are the most commonly measured proxy for healthy eating in state and national population surveys.

The CDC’s annual BRFSS survey10 for adults asks all participants questions about their fruit and vegetable consumption. In 2021, 55.3% of the Washington state population ate fruit at least once a day, and 68.6% ate vegetables at least once per day. However, these percentages varied greatly by household income. As shown in Graph 7, there was over a 10 percentage point difference in how many people reported eating fruit at least once per day at the highest household income ($75,000 or more) compared to the lowest income (less than $25,000). This was a trend seen nationally, with a larger proportion of the population eating fruit at least once per day as household income rose.

Graph 7. Ate Fruit One or More Times per Day by Household Income
BRFSS 2021 - Washington State v. USA Overall

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income &lt;$25k</td>
<td>Washington State: 48.5% USA Overall: 43.3%</td>
</tr>
<tr>
<td>Income $25k to &lt;$50k</td>
<td>Washington State: 53.8% USA Overall: 47.5%</td>
</tr>
<tr>
<td>Income $50k to &lt;$75k</td>
<td>Washington State: 57.3% USA Overall: 50.4%</td>
</tr>
<tr>
<td>Income ≥$75k</td>
<td>Washington State: 60.0% USA Overall: 54.7%</td>
</tr>
</tbody>
</table>

10 CDC Behavioral Risk Factor Surveillance System
The same trend was seen around vegetables (Graph 8), with a difference of almost 15 percentage points in how many people ate vegetables at least once per day between the lowest income bracket and the highest income bracket.

National surveys like BRFSS give a snapshot of behavior in time and can tell us what populations report doing. However, this type of data does not answer the question of why – why are fewer people in low-income brackets reporting daily fruit and vegetable consumption? Why is there a large difference in those who eat fruit and vegetables daily between people with low incomes and high incomes? Our interview responses with SNAP and SNAP-eligible people in Washington were designed to help us understand the barriers and facilitators to healthy eating, providing guidance on what SNAP-Ed can do to help reduce that difference by income.

Healthy Eating: Perspectives from Interviews
Respondents were asked to share how important healthy eating is to them (Graph 9) – about two thirds of respondents (65%) reported that healthy eating was very important, while around a third (33%) felt it was somewhat important.
What do interview respondents’ typical diets look like?

In general, respondents’ typical diets were characterized by a variety of foods, and many highlighted fruits and vegetables in their descriptions. Fewer respondents mentioned processed foods or sugary drinks. The following quote is a good illustration of typical diets:

“Like a lot of fruit. Dinner’s - do a lot of spaghetti. Do a lot of chicken, steak, ground beef. Try to eat healthier but sometimes hard to make time. Kids like to shop at Costco - orange chicken and a vegetable. Try to stay away from boxed food. On weekends, cook breakfast.”

The most frequently occurring words for typical diet were chicken (30 mentions), followed by vegetable/veggie (23 mentions), fruit (21 mentions), meat (17 mentions), and eggs (14 mentions). However, after coding the data for broader food groups, pasta and grains were the most frequently occurring code. Many respondents talked about eating rice and some form of pasta, as well as bread and cereals for breakfast. A few respondents mentioned whole grains or gave examples of whole grains (e.g., brown rice, quinoa). For example, one respondent mentioned, “Pasta. Easy to cook and eat throughout the week.”

Protein, especially meat was the next most commonly occurring code. Many respondents talked about eating chicken in some form as part of their typical diet, but many also mentioned beef. Some respondents also mentioned seafood, including shrimp and salmon. Some respondents also described eggs as part of their typical diet. One respondent described their diet as, “Chicken and rice. Meats and a lot of veggies.”

Fruit and vegetables were the next most commonly occurring codes. Some respondents shared examples of specific fruits and vegetables they liked to eat, including berries, broccoli, bananas, apples. Many respondents mentioned fruit or vegetables more generally, especially including a salad or eating fruit for a snack.
How do interview respondents characterize ‘healthy eating’?

The phrase ‘healthy eating’ may have different meaning for different people, and our interview tool sought to better understand what ‘healthy eating’ means for respondents. Many respondents’ definition of healthy eating centered around vegetables (ST1b) and fruit (ST1a), especially fresh produce. Fewer respondents mentioned or described protein, although some mentioned examples of lean proteins (ST1c), like chicken, turkey, and beans. The quote below is a good illustration of awareness of what healthy eating looks like and the tension between healthy eating and less healthy choices. “Baked chicken - anything baked. Fruit and veggies on side. Water. Tend to like pop more in the family.”

A little over a third of respondents characterized healthy eating more holistically, describing the importance of balance or a healthy relationship with food. Some respondents referenced specific food groups, and efforts to balance those food categories with each meal or over the course of the day. Others talked more about trying to eat things that made them feel good. Some respondents also mentioned portion sizes and moderation. The following quotes help illustrate this concept:

“Eating foods that make us feel good - a cookie, not 10 cookies. Variety and rainbow of fruits and veggies. Really focused on healthy eating.”

“Healthy relationship with food (eating treats - doesn’t make your body feel bad afterwards), not restricting certain foods, every food is something that we should be eating in our diet (variety). Diet doesn’t revolve around sweets.”

Almost a quarter of respondents described healthy eating as limiting processed foods, junk foods, and fast food. For example, one respondent described it as, “Looks like nothing out of a box. Eating from the ground - fresh fruits and veggies. Nothing processed or added chemicals. Don’t make you sick.”

A few respondents talked about cooking or using specific approaches (e.g., baking, preparing in a “healthy” way) to prepare healthy food. As one respondent described, “Looks like limiting processed foods. Natural foods - staple foods, making my own sauces and not buying pre-packaged sauces, tastes better.”

What dietary changes do interview respondents want to make?

Most respondents’ comments centered around general healthy eating, including wanting to ‘eat healthy’ or find ‘things that are good for the kids’. A few respondents talked about learning or finding better cooking approaches. For example, “Like it to be healthier - less butter, healthier ways to cook the food I eat.”

About a quarter of respondents talked specifically about incorporating more vegetables into meals throughout the day. A couple respondents noted challenges around this, illustrated in the following quote: “Definitely more veggies and dishes that have them in it. Most of the time they go bad too fast. Or kids are picky.”

Fewer respondents talked about eating organic or eating fruit. A couple respondents mentioned cutting back on sugar and processed foods, and one respondent mentioned healthy weight. About a quarter of respondents said they did not want to make any changes right now. A couple of respondents seemed to express uncertainty around dietary goals.

11 SNAP-Ed Evaluation Framework
What barriers make it difficult for respondents to eat healthy?
The top barriers respondents mentioned directly were lack of time and energy to cook (23%) and healthy food being too expensive (19%). Open-ended responses provided additional information around these concepts. Respondents talked about **access** as a major barrier to healthy eating, including limited access to grocery stores or preferred grocery options (physical access) and the expense of healthy foods (financial access). As one respondent said, “Too expensive nearby stores - hard to access fruits and veggies at a decent price.” Another talked about financial tradeoffs, “Childcare or budget for food.” Several also mentioned easy access to fast food.

Respondents were asked to share travel time to the grocery store, and this ranged considerably (Graph 10). The largest proportion of respondents (40%) spent 10-30 minutes getting to the grocery store, while about a third were able to access the grocery store within 10 minutes and another third had to travel more than 30 minutes to reach a grocery store.

![Graph 10. How long does it take you to get to the grocery store? (n=42)](image)

Limited **time and work schedule constraints** was another major barrier to healthy eating. One respondent described the importance of time: “Time - having the time we need to get the food.” Many respondents talked about preparing food and eating at home as being important to healthy eating, and noted that this takes time which may or may not be available. Some respondents mentioned they did not get much help around the house, especially in preparing food. Childcare and work hours were another aspect of this challenge.

Some respondents talked about their **habits or food preferences** as a barrier to healthy eating. Children’s food preferences or 'pickiness' was also mentioned.

What makes it easier for interview respondents to eat healthy?
Just as limited time was mentioned as a challenge to eating healthy, **having time available** in one’s schedule was a major healthy eating facilitator for respondents. One respondent described prioritizing
healthy eating within their schedule, “Matter of making time for it - got to make the time.” Many respondents reported getting help around the house to prepare meals and explained that eating healthy often requires meal preparation which takes more time. Relatedly, some respondents talked about planning - when they would grocery shop, meal planning and specific recipes, or making healthy swaps.

Many respondents associated eating healthy with being positive role models for their children. They wanted their kids to eat well and learn what healthy eating looks like. Like one respondent said, “Having kids at home - higher motivation for them to eat balanced diet.” Some respondents also talked about including children in meal prep to encourage ownership. Respondents also talked about specific people who supported them in efforts to eat healthy, including upbringing and family members who emphasized healthy eating and partners.

Some respondents also linked healthy eating to disease prevention and weight loss, as well as general feelings of wellbeing when they ate more healthfully.

Some respondents also talked about access, including physical access to preferred grocery stores options and financial access to healthy food. A few respondents talked specifically about SNAP, enabling them to buy the foods they wanted to purchase. For example, one respondent said, “Just recently able to go on EBT - could now buy organic fruits and veggies. Not having to choose between items like before.”

Healthy Eating: Perspectives from Surveys
This data is currently being collected. An updated version of this report will be released when all survey data has been collected and analyzed.

Summary
Population data trends suggest that there are major differences in fruit and vegetable consumption by income level, with fruit and vegetable consumption decreasing as income levels decrease.

During interviews, many respondents mentioned healthy foods, especially vegetables and fruits, and gave specific examples of how they are incorporating healthy items in their typical diets. In general, respondents seem to have a strong understanding of what it means to eat healthy and are doing their best to reflect these principles in their diet. Barriers like limited time and limited access are deterrents, and efforts to address these barriers should be considered in SNAP-Ed programming.
Physical Activity

Population Data

For adults, the CDC recommends 150 minutes of moderate-intensity exercise physical activity per week accompanied by two days of muscle strengthening activities, or 75 minutes of vigorous-intensity exercise a week accompanied by two days of muscle strengthening activities.

In the 2021 BRFSS survey, 17.8% of adult respondents in Washington reported doing no physical activity or exercise other than their job in the last month. However, this varied greatly between people at lowest income levels (<$25,000 per year) and those at the highest income levels (≥$75,000 per year), with over 25% more people in the lowest-income bracket saying they did not do physical activity outside their jobs (Graph 11).

The 2019 BRFSS survey reported on the percentage of respondents who met federal physical activity guidelines. Overall, 25.9% of people in Washington reported getting their recommended amounts of moderate or vigorous physical activity and strength training in during the last month. But when looking at responses by annual household income, the percentage of people meeting those federal guidelines increased along with income, with a 10 percentage point difference in the highest income bracket meeting federal activity guidelines compared to those in the lowest income bracket (Graph 12). This
reinforces findings from the 2021 BRFSS survey, suggesting that individuals with lower income are less physically active.

**Graph 12.** Percentage of Adults Who Met the Federal Physical Activity Guidelines in the Past 30 Days, by Household Income
BRFSS 2019 - Washington State vs. US Overall

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Washington State</th>
<th>USA Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income &lt;$25k</td>
<td>19.1%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Income $25k to &lt;$50k</td>
<td>22.7%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Income $50k to &lt;$75k</td>
<td>24.6%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Income ≥$75k</td>
<td>29.9%</td>
<td>27.9%</td>
</tr>
</tbody>
</table>

**Physical Activity: Perspectives from Interviews**

Interview respondents were asked to share how important physical activity is to them (Graph 13) – just over two thirds of respondents (70%) reported that physical activity was very important, while around a quarter (21%) felt it was somewhat important.
What types of activities and locations do interview respondents prefer for physical activity?

Walking was the most frequently cited physical activity – many respondents described walking in their neighborhoods, including walks with kids or pets. One respondent talked about fitting walks in throughout their day: “Can walk to grocery store or walk to post office or walk to grandma’s house. Get a walk in everywhere.” About a third of respondents talked about different forms of exercise, describing workouts or specific types of exercise, such as yoga. About a third of respondents also highlighted ways they stayed active with their children by playing together or going to the park. For example, one respondent described physical activity as: “Chasing the kids around, do a lot of family activities to the park and in the yard with the dogs.” A few respondents noted hiking or specific sports they enjoyed.

Most respondents preferred exercising or doing physical activity at home, noting that this was a convenient option for busy days. Respondents also mentioned getting outdoors in general and highlighted local parks and their neighborhoods specifically. Fewer respondents mentioned the gym.

What makes it difficult for interview respondents to lead physically active lifestyles?

Respondents talked about time as the biggest barrier to physically active lifestyles, including general comments about time, work schedule and childcare access. Household responsibilities, especially taking care of kids, seemed to limit potential exercise opportunities. “Schedule and childcare - gym doesn’t offer daycare. Daycare expense.”

Weather was another major barrier that respondents mentioned - potentially because interviews took place during winter months. Many respondents mentioned that poor weather made it difficult for them to get outdoors and exercise/walk. A number of respondents also mentioned increased costs during winter/poor weather - instead of being able to go outdoors for a walk or go to the park with kids, they
now have to pay for gym membership and/or childcare to stay physically active. “Weather changes - will stop walking more.”

“During winter, the cost. Where we live, hard to pay for gym.”

Some respondents also talked about motivation to exercise as a barrier to physical activity.

**Safety** was mentioned a bit in contrasting ways - some respondents felt somewhat safe, others did not feel safe exercising in their neighborhoods. Again, this could play into concerns about cost to access a gym or somewhere that was considered safe too.

**What makes it easier for interview respondents to stay physically active?**

Although respondents didn't mention this specifically as something that made it easier to stay physically active, many reported **feeling safe in their neighborhood.** Many respondents also talked about walking as a preferred physical activity - there may be an association between feelings of safety and preference for walking. “I do feel safe...Cars don't speed by. Feel accessible for strollers, have community park nearby.”

Another physical activity facilitator that respondents talked about was being able to do and **enjoy physical activity with their children.** Respondents seemed to like the time together, as recognized that kids need to be active. In a similar vein, some respondents also talked about **setting a good example for their children** by staying physically active and fit. “When I get to do things that my kids enjoy too - running outside and throwing ball around.”

A few respondents mentioned more **general social support** as a facilitator for physical activity - one mentioned that this kind of accountability helps increase their motivation. “Having people to do it with - increase motivation.”

A few respondents also talked about **time** as a facilitator - several in a hypothetical sense (ie "if I had more time..."). This corresponds with many respondents noting lack of time as the biggest barrier to staying active.

A few respondents also mentioned having **easy access to exercise equipment** at home or being able to stay physically active at work.

**Physical Activity: Perspective from Surveys**

*This data is currently being collected. An updated version of this report will be released when all survey data has been collected and analyzed.*

**Summary**

Based on population data trends, few Washington State adults met the federal guidelines for physical activity, and even fewer low-income respondents reported exercising outside of their jobs or meeting the physical activity guidelines compared to higher-income respondents.

Many of the preferred activities and locations that interview respondents described were easily accessible, convenient, and free. Respondents who incorporated physical activity into their schedules did so in ways that worked for them – playing with children at the park, walking the dog, exercising at
home. SNAP-Ed should consider ways to make physical activity convenient and feasible for participants, especially as many participants may have limited time to dedicate to physical activity.
Promotion

Although population data about promotional efforts and communication channels for nutrition and physical activity was not available, data was collected from eligible individuals through interviews and surveys. This information is presented below.

What information channels do interview respondents use and why?

Interview respondents were asked to share level of satisfaction with their current information channels for nutrition and physical activity (Graph 14)—the vast majority reported they were either very satisfied (37%) or satisfied (51%) with their access to nutrition and physical activity information.

What information channels are interview respondents using?

Respondents were asked to share where they find information about nutrition and physical activity, including people they get this information from (Graph 15) as well as media sources (Graph 16). Just under a quarter of respondents said they preferred to access this type of information through professionals, like doctors and nutritionists (21%), while another section reported turning to family and friends (19%). Respondents also used a variety of media sources to access nutrition and physical activity information. The most frequently cited channels were Facebook (33%), Instagram (26%), TikTok (23%) and YouTube (21%).
**Graph 15.** Who do you go to for information on nutrition and physical activity? (n=43)

- Health care worker (doctor, nutritionist, etc.): 21%
- Family and friends: 19%
- Celebrities (influencer): 7%
- SNAP-Ed or nutrition education class: 2%

**Graph 16.** What media would you use for nutrition and physical activity information? (n=43)

- Facebook: 33%
- Instagram: 26%
- TikTok: 23%
- YouTube: 21%
- Website: 14%
- Books: 2%
Some respondents shared additional information around information channels through interviews. Websites were the most frequently mentioned information source during these conversations; there were a wide variety of website types, ranging from YouTube to government websites like Department of Social and Health Services or WIC, as well as Google searches. YouTube and Pinterest were both popular outlets for finding inspiration for both healthy eating (e.g., recipes and cooking approaches) and physical activity (e.g., workout routines).

Many respondents also talked about WIC frequently, including general comments about WIC as well as the WIC Shopper App. Others talked about social media, including Pinterest, TikTok and YouTube. Some respondents referenced experts, like pediatricians or other professionals, and some talked about going to family members or friends for information.

While included in the response list, few respondents mentioned referring to hardcopy materials, such as mail, flyers, and magazines.

Why are certain channels preferred?
Respondents overwhelmingly cited ease of access as the reason for selecting certain information channels over others. One respondent described, social media as “Easily accessible and already on [it] - might as well make it informative.” Respondents talked about being able to access media platforms through their phones, and a few respondents also mentioned convenience and minimal or no cost. Relatedly, a few people highlighted ways that a specific channel fit within time constraints, which made it easier for them to use.

A few respondents talked about community events or resources, and mentioned being able to be together and to interact or connect with others. A few respondents also described gaining useful information from their preferred channels - recipe inspiration or workout ideas, which could be applied right away.

Some respondents described concerns about misinformation or credibility, including wanting to verify sources and make sure that they were accessing correct information. On the flipside, a few respondents alluded to minimal trust in communication sources, preferring to have the option to do their own research and make their own conclusions. As one respondent explained they preferred this, “Just because I can do my own research and figure out what's best for myself.”

What information channels would interview respondents prefer?
As shown in Graph 17, respondents overwhelmingly preferred to access information about nutrition and physical activity through social media (47%). A smaller proportion of participants mentioned community events (21%), apps (16%), streaming online (14%) or websites (12%).
Survey Responses about Health Promotion

This data is currently being collected. An updated version of this report will be released when all survey data has been collected and analyzed.
Key Considerations

Recommendations for SNAP-Ed

Recommendations for SNAP-Ed projects and activities based on needs assessment findings are included below. Recommendations will be reviewed and revised or updated as necessary once survey data is available.

- Projects should utilize community engagement and cultural tailoring strategies to ensure they are acceptable and relevant to the community.
- Projects should incorporate elements of social support and build on social ties to enhance acceptability and effectiveness (e.g., peer mentorship, family-oriented strategies).
- Projects and activities should prioritize feasibility for community participation, accounting for time and schedule constraints.
- Projects should work towards improving both physical and financial access to healthy eating and physical activity.
- Activities should build on participant motivation, including desire to be a good role model for children and interest in chronic disease prevention.
- Nutrition education should focus on older youth and adult populations in combination with PSE strategies.

Limitations

Some limitations from this needs assessment are important to note. First, the original intent was to recruit interview respondents from all priority populations, including individuals with limited English proficiency. However, we were unable to conduct interviews in languages besides English during the November 2022 – January 2023 timeframe.

Another limitation is that survey data with SNAP-eligible populations, especially those with limited English proficiency, is not yet available. Survey mailers are slated to go out in March, and the survey is planned to close in early April. This report will be updated to include the additional information from surveys when it is available.

A final limitation is around compensation for respondent participation in interviews and surveys; currently SNAP-Ed funding cannot be used for these purposes, although it is best practice to compensate participants for their time and knowledge. Using blended funding by partnering with the WIC program made it possible to compensate interview and survey participants during this needs assessment, but it remains an issue for local needs assessments and future projects.

The evaluation team is documenting lessons learned throughout this process, so that future needs assessment phases and iterations can be improved.
Appendix A
Literature Review Works Cited


37. Seguin-Fowler RA, Hanson KL, Jilcott Pitts SB, et al. Community supported agriculture plus nutrition education improves skills, self-efficacy, and eating behaviors among low-income caregivers but not


Themes from Interviews: Barriers and Facilitators to Healthy Lifestyles

There were overlap between barriers and facilitators for healthy eating and physical activity, and it is helpful to look at overarching themes that may promote or deter healthy lifestyles. The visual networks shown in Appendix B can help illustrate how different barriers or facilitators either promote or detract from respondents’ ability to make healthy choices around nutrition and physical activity, and provide a tool for thinking more holistically.

In the visuals, black arrows link together concepts, and show how one concept might contribute to another. Red arrows show relationships that are contradictory or form barriers. Gray arrows show concepts that may be related or lead to other concepts.

Concepts are also color-coded. Green was used to represent healthy eating facilitators, and teal was used to represent physical activity facilitators. Yellow was used to depict barriers to healthy eating, and orange shows barriers to physical activity. Pink shows respondents’ preferred types of physical activity. Blue shows concepts related to nutrition education. Purple shows concepts related to information channels.
What makes it difficult for interview respondents to live healthy lifestyles?

Limited access is a top barrier to healthy lifestyles

The first identified theme is around access, including both physical and financial access. At the top of the visual, financial access and physical access to preferred grocery options, as well as living in a neighborhood that respondents characterized as ‘safe’ all contribute to a more accessible healthy lifestyle.

On the other hand, concepts related to lack of access – expensive healthy foods, limited access to preferred grocery options and locations to be physically active, unsafe neighborhoods, expenses associated with physical activity work to make a healthy lifestyle less accessible. Red arrows show where concepts are contradictory – for example, having time available or not having time. In addition, barriers like weather and an unsafe neighborhood may lead to physical activity being more expensive as respondents had to look for other places (e.g., gyms) to exercise if they wanted to be physically active.
Time and work schedule are top barriers to healthy lifestyles

The top of the visual depicts ways that limited time and work schedules made it difficult for respondents to eat healthfully or be physically active. Respondents also talked about household responsibilities and limited access to childcare as a challenge. Together, these concepts form a web of barriers that make it more difficult to achieve or maintain healthy lifestyles.

At the bottom of the visual, concepts related to available time, including time to plan for healthy eating, work together to make healthy choices more accessible.
What makes it easier for interview respondents to live healthy lifestyles?

_Social ties and support can promote healthy lifestyles_

Additional themes around facilitators were also identified. The network above depicts how social ties and social support can promote healthy lifestyles. Children played a major role in this theme—respondents talked about wanting to be positive role models for their children in terms of healthy eating and physical activity, and many also mentioned how much they enjoyed getting to play together. Social support from family and friends in the form of encouragement, accountability, childcare, and recipe ideas also helped respondents make healthy choices.

Relatedly, some respondents also talked about family or friends as key information sources for nutrition or physical activity, and others talked about the social experience being a benefit of nutrition education—both of which could help promote healthy eating or exercise. Food culture didn’t come a lot, but a few respondents mentioned learning about healthy eating or healthy cooking approaches from their families or their family background, and this could also play into healthy eating.

SNAP-Ed should consider ways to foster social ties and social support through projects and programming in order to further promote healthy lifestyles.
The final theme that was identified is around motivation—respondents are motivated to achieve or maintain healthy lifestyles. Motivation can be seen in several forms in the network above. To begin with, children are a significant motivator, especially wanting to be a positive role model for children. Social support also plays a key role in motivating respondents. An additional motivator is chronic disease prevention—a number of respondents referenced a family history of chronic disease or described the link between healthy eating or exercise and healthy weight.

Health and nutrition topics of interest are shown in bright blue in the network above, including family health and ways to promote healthy eating for family members, healthy foods, and recipe inspiration, which are associated with chronic disease prevention, as well as being a positive role model for children.

A couple barriers or contradictory concepts are shown in orange and yellow—a handful of respondents talked about unhealthy eating habits and not feeling very motivated to exercise.

As SNAP-Ed moves forward with planning, it’s important to acknowledge respondents’ motivation for healthy living, especially motivation from their families and children and efforts to prevent chronic disease.