SNAP-Ed Pennsylvania

Healthy Food. Healthy Moves. Healthy YOU.

Fiscal Year 2022

Pennsylvania SNAP-Ed

***

Annual Report

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PENNSTATE COLLEGE OF HEALTH AND HUMAN DEVELOPMENT

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FY 2022 PA SNAP-ED ANNUAL REPORT

APPENDICES

1. SNAP-Ed Program Overview

- **Progress in Achieving Overarching Goals:**

Pennsylvania Supplemental Nutrition Assistance Program Education (PA SNAP-Ed) Fiscal Year (FY) 2022 Plan included five statewide goals that address federal directives, state priorities, and community needs. In PA, the State Agency is the Department of Human Services (DHS), and the Implementing Agency is the Pennsylvania State University (PSU) Management Entity (ME).

Goal 1: **Conduct Statewide Evaluation efforts in the context of assessing SNAP-Ed Evaluation Framework Priority Indicators.**

To capture outcome data effectively, and to work to ensure generalizability to other states' SNAP-Ed programming results, current approved, evidence-based curricula continued to be reviewed according to the SNAP-Ed Evaluation Framework Indicators by identifying and documenting indicators for each planned lesson. The indicators were then mapped to appropriate statewide evaluation tools for the School-age and Adult/Senior Projects. This process will continue as Partners request additional curricula to be added to the approved curricula list. As a continuous quality assurance process, ME staff will continue to update curriculum maps to reflect revisions to education content and ensure alignment with the evaluation outcome indicators outlined in the SNAP-Ed Toolkit curriculum description. (Read more in *Section 4, SNAP-Ed Planned Improvements.)*

Goal 2: **Assess and improve program effectiveness through formative, process, outcome, and impact evaluation activities and develop strategic approaches to determine overall plan's impact using appropriate measures and indicators.**

PA SNAP-Ed continues to utilize the STARtracks online reporting system to collect process evaluation data related to direct education and indirect channels, and the Program Evaluation and Reporting System (PEARS) to collect data about policy, systems and environmental interventions. PA SNAP-Ed uses both systems to meet the requirements of EARS reporting.

A modified version of the School Physical Activity and Nutrition Survey (SPAN) which has established validity and reproducibility reported in the literature,[1,2] was administered according to a pre/post protocol as a statewide outcome assessment for 4th – 6th grade students. The SPAN tool assesses nutrition (MT1) and physical activity behavior changes (MT3) in elementary school students.

An abbreviated version of the Youth Risk Behavior Surveillance (YRBS), named The Nutrition and Physical Activity Survey, was administered to 8th -12th grade students according to a pre/post protocol to monitor nutrition (MT1) and physical activity behaviors (MT3) of middle and high school students. Data from this assessment were compared to Philadelphia, Pennsylvania and national data sets, most recently conducted in 2019, to assess possible differences in dietary and physical activity behavior changes.

[1] Thiagarajah K, Fly AD, Hoelscher DM, et al. Validating the Food Behavior Questions from the Elementary School SPAN Questionnaire. *J Nutr Educ Behav*. 2008;40(5):305–310.
[2] Penkilo M, George GC, Hoelscher DM. Reproducibility of the School-based Nutrition Monitoring Questionnaire among Fourth-grade Students in Texas. *J Nutr Educ Behav*. 2008;40(1):20–27.

Adult/Senior evaluation projects were conducted utilizing the University of California (UC) Davis Food Behavior Checklist[3] to assess nutrition-related behavior changes (MT1), the UC Davis Expanded Food and Nutrition Education Program (EFNEP) Checklist to assess food resource management behavior changes (MT2), and the EFNEP Adult Questionnaire to assess multiple Framework indicators (MT1-MT4) in adults and senior program participants.

Goal 3: **Expand reach by identifying methods to notify eligible individuals of SNAP-Ed and exploring opportunities for web-based SNAP-Ed.**

The ME worked closely with a new PA SNAP-Ed Partner, Feeding PA, in FY 2021 to target a few un- and under-served Counties. In FY 2022, the ME continued to monitor approved program delivery sites that were not receiving SNAP-Ed programming and worked with corresponding Partners to determine why and how programming might be implemented successfully. If a resolution could not be achieved, Partners were encouraged to seek opportunities for programming elsewhere.

Opportunities remain to collaborate to market PA SNAP-Ed to eligible Pennsylvanians, and the goal to implement web-based SNAP-Ed continues to be a goal in FY 2023.

Goal 4: **Employ technology to maximize efficiency and effectiveness of PA SNAP-Ed programming and evaluation activities.**

Collection of program delivery and process evaluation data via the web-based STARtracks and PEARS reporting systems informs program management, evaluation efforts, and target audience considerations for both the ME and Partners. STARtracks system updates continued in FY 2022 to enhance the user experience, improve data accuracy, and minimize reporting burden. (Read more in the section labeled '*Major Achievements.')*

PA SNAP-Ed maintains Partner resources and information on a SharePoint site, known as the *Partner Portal*. The portal provides secure access to Partner users with varying access levels. For domain users, the portal serves as a comprehensive repository of PA SNAP-Ed resources, including policies & procedures, memos, forms, training videos and more. For plan development users, the portal also serves as a workspace for uploading, tracking and editing proposal documents.

PA SNAP-Ed maintains a website (https://sites.psu.edu/pasnaped/) for publicly accessible information about PA SNAP-Ed, evaluation reports, and the annual Request for Partners (RFP.)

In response to the ongoing COVID-19 pandemic and the shift to virtual education strategies, the ME is exploring opportunities to continue to pilot test the use of online evaluation tools. Beginning in FY 2022, online versions of validated evaluation tools for adults and seniors were used to evaluate PA SNAP-Ed programming in the Adult/Senior Project.

Goal 5: **Develop new, and strengthen existing, partnerships with agencies providing related public health services to support coordination of efforts, prevent duplication of services, and build community/public health approaches recommended in Federal SNAP-Ed Guidance.**

[3] Townsend, M. S. Improving Readability of an Evaluation Tool for Low-Income Clients Using Visual Information Processing Theories. at http://www.sciencedirect.com/science/article/pii/S1499404607008263

Federal SNAP-Ed Guidance expects implementation of a variety of approaches, including multi-level interventions and community and public health approaches, in addition to individual or group-based nutrition education. To assess PA SNAP-Ed efforts with these approaches to date, and to assist Partners with these efforts, a number of activities were conducted in FY 2022.

PA SNAP-Ed Partners were asked to complete a section of the FY 2022 Statement of Work on Coordination of Efforts to identify and describe existing efforts to coordinate and complement nutrition education and obesity prevention with other United States Department of Agriculture (USDA) nutrition assistance programs as well as partnerships with national, State and local initiatives to implement multi-level interventions and public health approaches. Partners use the PEARS system to report on Policy, Systems, and Environmental (PSE) initiatives.

- **Number of Ongoing Projects Operational during the Reporting Year:**

Three ongoing statewide projects operated throughout the year for key target audiences: preschool children, school-age children, and adults/seniors. Projects consist of behaviorally focused objectives, age-specific teaching strategies, evidence-based curricula and outcome evaluation plans, with direct education and policy, systems and environmental approaches.

In FY 2020, PA SNAP-Ed began reporting process evaluation data on six statewide interventions: K-12 schools, early childhood, food assistance, food retail, community and social marketing (Be Healthy PA). Except for social marketing, these interventions are defined by applicable EARS intervention settings. In FY 2021, a new intervention was added for a VeggieBook smartphone app pilot.

Be Healthy PA is a social marketing campaign designed to improve nutrition and boost physical activity among SNAP-Ed eligible Pennsylvanians through a core message: healthy food, healthy moves, healthy you. Be Healthy PA is primarily an online campaign focused on connecting with people via social media. In FY 2022, PA Nutrition Education Network (NEN) continued to provide messages via social media even when participants were practicing social distancing and unable to take part in face-to-face PA SNAP-Ed events. NEN posted three to five times per week on topics related to nutrition, free or low-cost movement opportunities, and obesity prevention. Messages encouraged participants to go to NEN's website which highlights current, credible, and evidence-based information related to nutrition and physical activity. See attached NEN Year-End Report (*Appendix 17*) for more information.

At the start of FY 2022, NEN continued to work with the Salvation Army of Harrisburg (SAH) to promote the PA VeggieBook app during nutrition education classes. Due to technical difficulties beyond their control, NEN had to pause app implementation shortly after FY 2022 Quarter 1. NEN spent the remainder of FY 2022 conducting a recipe app rebuild which includes upgrades based on feedback from end-users, SNAP-Ed Partners, user interface specialists, and designers. The upgrades improve app functionality and customization while adding features to make the overall app experience easier and more useful. The original VeggieBook app was designed, tested and implemented by the University of Southern California and is included in the SNAP-Ed Toolkit. The app helps families make decisions about cooking healthy meals at home, connecting people to effective nutrition education resources, and increasing digital engagement. See attached NEN Year-End Report for more information.

- **Major Achievements:**

STARtracks Reporting System. Major improvements for FY 2022 included: Updated all FY 2021 reports for FY 2022; enabled direct access from STARtracks to ad hoc reporting system; implemented Community Eligibility Provision (CEP) method for establishing school eligibility; onboarded new developer and support specialist for STARtracks and the PA SNAP-Ed Partner Portal; upgraded from Team Foundation Server to Azure DevOps to improve release management and bug-tracking efforts; improved the efficiency of importing PSE data from PEARS into STARtracks; updated curriculum codebook to specify approval requirements.

Policy, Systems, and Environmental Change Intervention Reporting. In FY 2022, the ME and Partners continued to utilize the PEARS system to track, document, and report results of approved PSE activities. The PEARS system is aligned with SNAP-Ed Guidance and EARS, with the goal of providing standardized data collection among SNAP-Ed programs nationwide. PEARS provides Partners with a more comprehensive means to report on the breadth and depth of PSE activities implemented within the scope of their SNAP-Ed work. In FY 2022, the fourth year of using the PEARS system, Partners implemented and documented PSE activities at 978 program delivery sites and audiences across Pennsylvania.

In FY 2022, the ME continued to streamline its method for importing PSE data from PEARS into STARtracks and enhanced reports combining direct education, PSE activities, and indirect channel data. These reports continue to provide ME staff with powerful tools for ensuring data quality, monitoring program delivery efforts, and approving expenditures.

Other Evaluation Projects. The PA SNAP-Ed ME and Partners conducted a variety of evaluation activities that yielded useful, relevant data to inform program delivery and provide tested initiatives to expand program reach. These activities are documented in *Appendices 5-22*.

- **Unanticipated Challenges:**

Due to the continuing effects of the COVID-19 pandemic, in-person direct education and PSE activities continue to be modified to ensure the safety of participants and SNAP-Ed staff. In FY 2022 Partners reported the occasional inability to conduct in-person direct education due to site restrictions, staffing constraints, and other limitations. As reported in PEARS, 58.3% of planned PSE activities were impacted by the COVID-19 restrictions and resulted in modifications, postponements, or cancellations of planned initiatives.

The ME experienced significant staffing issues due to vacancies in the grant accountant, nutritionist, and evaluation coordinator positions. While challenging for ME staff, essential functions of PA SNAP-Ed management and oversight continued. During FY 2022, the ME continued to monitor programming implementation and compliance via a virtual site review process, although staffing issues delayed sending Site Review Reports to Partners and DHS. On-site reviews of Partner programs are planned to resume in FY 2023. The ME also monitored Partner fiscal processes via Partner invoice review (at least quarterly) and internal Partner monthly budget reports, while programming implementation, reporting, and related costs continued to be monitored via a quarterly monitoring process.

Statewide evaluation projects directly impacted by the suspension of in-person programming due to the COVID-19 pandemic in FY 2020 and FY 2021 were restarted in FY 2022. While in-person direct education

programs resumed, obtaining matched pre/post tests for analysis of statewide data sets presented a challenge. In numerous cases, participant attrition or site closures limited the ability to administer surveys to SNAP-Ed participants. In other cases, staffing challenges of Partners limited the implementation of planned evaluation projects.

2. SNAP-Ed Administrative Expenditures: $7,946,817.75

Type of Administrative Expense:	Penn State University Management Entity	
	% Values	$ Values
Administrative Salary	71.82%	5,707,317.82
Administrative Training Functions	.43%	34,161.47
Reporting Costs	.10%	7,633.16
Equipment/Office Supplies	2.56%	203,167.09
Operating Costs	2.64%	210,095.22
Indirect Costs	15.65%	1,243,448.06
Building/Space Lease or Rental	6.74%	535,515.76
Cost of Publicly Owned Building Space	0.0%	0
Institutional Memberships and Subscriptions	.06%	5,479.17

3a. SNAP-Ed Evaluation Reports for Reporting Year 2022:

Project Name	Key Objectives	Target Audience	Evaluation Type(s)
Statewide Evaluation Projects			
PA SNAP-Ed Statewide Evaluation Summary (*Appendix 5*)	Summary report of statewide evaluation projects conducted in FY 2022	Preschool children, school-age children, adults/seniors	**OE, IE**
	Framework Indicators Assessed: MT1, MT2, MT3, MT4, MT5, MT6, ST7		
Partner Evaluation Projects			
CCOR Research Article: Feasibility of Using Facebook to Engage SNAP-Ed Eligible Parents and Provide Education on Eating Well on a Budget (*Appendix 6)*	Assess the feasibility of using Facebook to provide nutrition education to parents	Parents of preschool aged children	**FE**
	Framework Indicators Assessed: ST1, ST2		

Project Name	Key Objectives	Target Audience	Evaluation Type(s)
DRX FY 2022 DRAGON Project Pilot Study Report *(Appendix 7)*	Describe and evaluate the development of the DRX DRAGON nutrition education curriculum	High school students	**FE, OE**
	Framework Indicators Assessed: ST6, MT1, MT2, MT3, MT5, MT6		
DRX Examination of Data Analysis Methods on Behavioral Changes in the PA SNAP-Ed/Eat Right Philly Program *(Appendix 8)*	Retrospective evaluation of YRBS data trends from 2013 through 2021	High school students	**OE**
	Framework Indicators Assessed: MT1		
DRX PA SNAP-Ed/ EAT RIGHT PHILLY 2022 Annual Report *(Appendix 9)*	Overview of nutrition education and evaluation projects completed by the DRX/ERP SNAP-Ed program in FY 2022	K-12 students, adults	**PE, OE**
	Framework Indicators Assessed: ST5, ST6, ST7, MT1, MT2, MT5, MT6		
DRX Drexel University PA SNAP-Ed/Eat Right Philly 2021 to 2022 Teacher Survey Summary. *(Appendix 10)*	Summary of teacher feedback of SNAP-Ed programming that occurred in FY 2022	Teachers of classrooms taking part in SNAP-Ed programs	**FE, PE**
	Framework Indicators Assessed: ST5, ST7		
DRX Evaluating the Effect of COVID-19 on PA SNAP-Ed Employees' Perceived Technology Competency *(Appendix 11)*	Evaluation of technology competency on virtual program delivery by SNAP-Ed educators	SNAP-Ed educators	**FE, PE**
	Framework Indicators Assessed: ST5		
HPC Effectiveness of a Training and Technical Assistance Model for Food Service Departments *(Appendix 12)*	Evaluation of a training and technical assistance PSE initiative for food service and kitchen department staff at locations serving meals to SNAP-eligible populations	Food service staff serving SNAP-eligible populations	**PE, OE**
	Framework Indicators Assessed: ST5, ST6, ST7, ST8, ST1		
HPC FY 2022 Curriculum-Specific Evaluation *(Appendix 13)*	Evaluation of *A Taste of African Heritage, Cooking Matters at the Store,* and *Seniors Eating Well* education curricula	Adults, seniors	**PE, OE**
	Framework Indicators Assessed: ST1, ST3, MT1		

Project Name	Key Objectives	Target Audience	Evaluation Type(s)
HPC FY 2022 Partnership Assessment Results *(Appendix 14)*	Results of HPC's Partnership Assessment Survey conducted in FY 2022	SNAP-Ed program delivery sites partnering with HPC	**FE, PE**
	Framework Indicators Assessed: ST5, ST7		
HPC FY 2022 PSE Evaluations *(Appendix 15)*	Summary report of the Healthy Pantry Snapshot Assessment Tool, Lactation Support Goal Setting Tool, Breastfeeding Champions Pre/Post-test, Health Center Baseline Assessment, and School Health Index as related to HPC PSE initiatives	SNAP-Ed program delivery sites partnering with HPC	**FE, PE**
	Framework Indicators Assessed: ST5, ST6, ST7, MT5		
LAF Healthy Bodies Project at Penn State 2022 Annual Report *(Appendix 16)*	Summary report of SNAP-Ed projects implemented during FY 2023	Preschool children, K-12 students, parents/caregivers	**PE**
	Framework Indicators Assessed: ST1, ST7		
NEN PA NEN 2022 Annual Report *(Appendix 17)*	Overview of progress on the NEN social marketing campaign, professional development opportunities and smartphone app development in FY 2022	SNAP-eligible Pennsylvanians, nutrition educators working with SNAP-eligible populations	**FE, PE**
	Framework Indicators Assessed: ST5, MT12		
SAH Cooking Matters for Adults Compiled 2021-2022 Survey Data Results *(Appendix 18)*	Summary of behavior change findings related to Cooking Matters for Adults curriculum implementation	Adults, seniors	**OE**
	Framework Indicators Assessed: MT1, MT2		
SDP Research Article: Key determinants to school breakfast program implementation in Philadelphia public schools: Implications for the role of SNAP-Ed *(Appendix 19)*	Evaluation of the determinants of implementing two different school breakfast programs and pragmatic strategies for serving breakfast in ways that maximize student participation	School principals and kitchen staff	**PE**
	Framework Indicators Assessed: ST5, ST7, ST8		

Project Name	Key Objectives	Target Audience	Evaluation Type(s)
TFT Kindergarten Initiative for Families: Cooking Beyond the Classroom *(Appendix 20)*	Summary of participant feedback in the development of a multi-generational cooking education curriculum	Students in grades K-2, parents/caregivers	**FE**
	Framework Indicators Assessed: N/A		
TFT The Food Trust 2022 Annual SNAP-Ed Evaluation Report (*Appendix 21)*	Summary of Heart Smarts, Farmers Markets, and Community-Based Participatory Research Approach projects conducted in FY 2022	Adults/seniors, sites partnering with TFT in FY 2022	**PE, OE**
	Framework Indicators Assessed: ST1, ST2, ST6, ST7, ST8, MT1		
VCP Program Monitoring Project *(Appendix 22)*	Overview of VCP direct education and PSE projects conducted in FY 2022	K-12 students	**PE**
	Framework Indicators Assessed: ST1, ST7, MT5		

* FE = Formative Evaluation, PE = Process Evaluation, OE = Outcomes Evaluation, IE = Impact Evaluation

3b. Impact Evaluation:

See *Appendix 5*.

4. SNAP-Ed Planned Improvements:

SNAP-Ed Evaluation Framework Linked to Direct Education Curricula. Beyond FY 2022, the ME will continue efforts to refine Statewide Evaluation protocols in the context of aligning tools and data analysis techniques with the SNAP-Ed Evaluation Framework. Direct education curricula will continue to be mapped to applicable Framework indicators, as the approved curricula list is updated, and curricula revised or added with the re-opening of SNAP-Ed Toolkit submission periods. Mapping outcome measures will be valuable for planning data analysis strategies and allowing for exploration of variance in observed versus expected outcomes when interpreting evaluation results. It will also be valuable for understanding and documenting outcome measures as part of the program integrity process and will strengthen SNAP-Ed outcome evaluation results.

A replacement of the current photo-based evaluation tools for Adults/Seniors is planned for FY 2023 and beyond. To align with SNAP-Ed Guidance and reduce the participant burden of completing survey tools, the Food Behavior Checklist and Food Resource Management Checklist tools will be retired and replaced with the EFNEP Adult Questionnaire. This change will allow for data collection related to multiple Framework indicators (MT1-MT4) using a single assessment tool.

Additional evaluation tools may be identified, pilot-tested, and added to the Statewide Evaluation assessment tool list to evaluate more thoroughly the SNAP-Ed Framework Priority Indicators. Due to the ongoing COVID-19 pandemic and subsequent introduction of virtual methods of delivering nutrition education programming, additional tools for evaluation of virtual learning in the Adult/Senior audience may be explored.

PEARS Data Fidelity. The ME will continue to develop and implement standard procedures for monitoring and improving the quality of PSE data in the PEARS system. This process will ensure high-quality data is available for PA SNAP-Ed project reporting by providing technical assistance as needed to Partners. ME staff including nutritionists, evaluation staff, and informatics will collaborate on this initiative. A statewide PEARS Workgroup was convened in FY 2021 and will continue into FY 2023. This workgroup has been developing best practices for data entry and fidelity to ensure consistent data entry for PSE projects statewide.

STARtracks Improvements. Improvements planned for FY 2023 include: Updating data collection methods in order to conform to new reporting requirements outlined in the SNAP-Ed National Program Evaluation and Reporting System (N-PEARS) that relate to direct education (e.g., stages, languages, reach, modes of delivery, outcome indicator results, etc.), indirect channels, site eligibility, and partnerships; updating existing reports and develop new reports that will present project results in a manner consistent with N-PEARS; implement measures that will enable PA SNAP-Ed applicants to complete application materials more efficiently and enable ME staff to review application materials more expediently.

Partner Portal Improvements. The Partner Portal will be upgraded and migrated to new cloud servers in FY 2023, with many planned enhancements (e.g., improved versioning, workflows, collaboration, user management, etc.).

PA VeggieBook App. The app received positive feedback and in October 2021, NEN made the app available for free download in the Apple and Google online stores. During FY 2022, NEN upgraded the app based on feedback from end-users, PA SNAP-Ed Partners, and user interface specialists. These upgrades will improve functionality and customization while adding features that make the overall experience easier and more useful. NEN will work with other Partners and their approved program delivery sites on marketing and promotion efforts for the upgraded app in FY 2023.

Appendix 1. Partner Trainings

Training	Date(s)	Format
FY 2022 RFP Training	1/21/2021	Training video posted on FY 2022 RFP Website
FY 2022 PA SNAP-Ed 101 Training	9/24/2021	Recording and handout slides posted on the Partner Portal, Trainings
FY 2022 Fall Partner Meeting	10/7/2021	Virtual; Slides and Handouts are posted on the Partner Portal, Meetings Archive
FY 2022 Adult/Senior Evaluation Training	10/15/2021	Recording posted on the Partner Portal, Trainings
FY 2022 School-Age Evaluation Training	10/15/2021	Recording posted on the Partner Portal, Trainings
FY 2023 RFP Training	1/20/2022	Training video posted on FY 2023 RFP Website

Appendix 2. Conference Presentations and Journal Publications

Presentations

Belazaris, K., Bender, R. The Nutrition Education/Farm to School Connection and How SNAP-Ed Can Help. Presented at the PA Farm to Child Nutrition Summit. June 23, 2022.

Bender, R., Porter, K. Growing SNAP-Ed with Farm to School. Presented at the PA Nutrition Education Network Annual Conference. June 9, 2022.

Bullock, M., Ensslin, J. PMP perspectives on PA SNAP-Ed PSE: Celebrating Eat Right Philly's Hydration Project. Presented at the PA Nutrition Education Network Annual Conference. June 9, 2022.

McCrossan, E., Nocito, L. Something's Got to Give: How lack of shared understandings and priorities in SNAP-Ed school-community partnerships challenges sustainability. Presented at the ASNNA Annual Meeting. February 9, 2022.

Moran, I., Moore, A., Gorniok, H. Ensuring the Success of PA SNAP-Ed Initiatives through Stronger Networks, Community Engagement and Asset-based Approaches. Presented at the PA Nutrition Education Network Annual Conference. June 9, 2022.

Santella, M., Rarick, J. A SNAP-Ed Exploration on the Impact of Clinical -Community Based Food Cupboards on Food Insecurity. Presented at the PA Nutrition Education Network Annual Conference. June 9, 2022.

Schofield, K. The DRAGON Project: The Development of an Emerging Intervention for High School Students in PA SNAP-Ed. Presented at the ASNNA Annual Meeting. February 8, 2022.

Schofield, K. The Drexel University PA SNAP-Ed Program: Evolving Curriculums to Address Gaps in Nutrition Education Among High Schoolers. Presented at the Drexel University Emerging Graduate Scholars Conference. April 13, 2022.

Schofield, K., Ensslin, J. Evaluating the Effect of COVID-19 on PA SNAP-Ed Employees' Perceived Technology Competency. Presented at the PA Nutrition Education Network Annual Conference. June 9, 2022.

Schofield, K., Ensslin, J., Quinlin, J., Bruneau, M. Examination of Data Analysis Methods on Behavioral Changes in the PA SNAP Ed/Eat Right Philly Program: Eight years of Data and Analysis Techniques. Poster presented at the Food & Nutrition Conference & Expo. October 8-11, 2022.

Journal Publications

Fornaro, E.G., McCrossan, E., Hawes, P., Erdem, E. McLoughlin, G.M. Key determinants to school breakfast program implementation in public schools: Implications for the role of SNAP-Ed. Article published in *Frontiers in Public Health* in October 2022 (included as *Appendix 19* of this Report).

Lawton, K., Hess, L., McCarthy, H., Marini, M., McNitt, K., Savage, J.S. Feasibility of Using Facebook to Engage SNAP-Ed Eligible Parents and Provide Education on Eating Well on a Budget. Article published in *International Journal of Environmental Research and Public Health* in January 2022 (included as *Appendix 6* of this Report).

Appendix 3. Summary of Policy, Systems and Environmental Approaches

Partner	Project Title	Type	Domain	Intervention
AHI	School Wellness	Policy, Systems, Environment	Learn	K-12 Schools
AHI	Get Growing Schools	Systems, Environment	Learn	K-12 Schools
AHI	Growing Up with Power Up	Systems, Environment	Learn	Early Childhood
AHI	GPCFB Healthy Pantry Initiative	Policy, Systems, Environment	Shop	Food Assistance
AHI	Summer Food Program	Systems	Shop	Food Assistance
AHI	Food Insecurity Screening in Clinical & Community Settings	Systems	Live	Community
AHI	Farm Fresh – FMNP Promotion	Environment	Shop	Food Retail
AHI	ParksRX	Policy, Systems, Environment	Play	Community
AHI	Senior Wellness	Policy, Systems, Environment	Play	Community
AHI	Gardening – Get Growing Communities	Policy, Systems, Environment	Play	Community
CAP	Oregon Food Bank Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
CCOR	Early Childhood Policy, Systems and Environmental Work	Policy, Systems, Environment	Learn	Early Childhood
CEO	School Wellness	Policy, Systems, Environment	Learn	K-12 Schools
CEO	Healthy Start	Policy, Systems, Environment	Learn	Early Childhood
CEO	Healthy Pantries Initiative	Policy, Systems, Environment	Shop	Food Assistance
CEO	Produce Market Expansion	Systems, Environment	Shop	Food Assistance

Partner	Project Title	Type	Domain	Intervention
CEO	Healthy Options at the Soup Kitchen	Policy, Systems, Environment	Shop	Food Assistance
CEO	Farmers Markets	Systems	Shop	Food Retail
CEO	Corner Store Initiative	Environment	Shop	Food Retail
CEO	Food Policy Councils	Systems, Environment	Shop	Food Assistance
COM	Healthy Out of School Time Initiative	Policy, Systems, Environment	Play	Community
DRX	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
DRX	School Wellness Collaboration in Charter Schools	Policy, Systems, Environment	Learn	K-12 Schools
DRX	Gardening - Schools	Systems, Environment	Play	K-12 Schools
DRX	Collaborative Efforts of Food Assistance Partners and SNAP-Ed in SDP Schools	Systems, Environment	Shop	Food Assistance
DRX	Increasing Food Access through Food Pantries or Food Distribution Programs	Systems, Environment	Shop	Food Retail
DRX	Improving Healthy Food Access, Outreach, and Engagement	Systems, Environment	Shop	Food Retail
DRX	Increasing Food Access through Produce/Farm Stands	Systems, Environment	Shop	Food Retail
DRX	Community Wellness	Policy, Systems, Environment	Live	Community
DRX	Gardening - Community	Systems, Environment	Play	Community
FAY	Oregon Food Bank Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
FPA	Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
FUL	Produce Access for Schools	Policy, Systems	Shop	Food Assistance

Partner	Project Title	Type	Domain	Intervention
FUL	Oregon Food Bank Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
FUL	Grazing with Marty Moose	Environment	Learn	K-12 Schools
FUN	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
FUN	SEPA Preschool Initiative	Systems, Environment	Learn	Early Childhood
FUN	Healthy Food Pantry Initiative	Environment	Shop	Food Assistance
FUN	Collaborative Efforts of Food Assistance Partners and SNAP-Ed in Schools	Systems, Environment	Shop	Food Assistance
FUN	Faith Based Initiative	Systems, Environment	Live	Community
FUN	Improving Health Food Access, Outreach, and Engagement	Systems, Environment	Shop	Food Retail
FUN	AEMC Healthy Community	Environment	Shop	Food Retail
FUN	Libraries	Environment	Learn	Community
HPA	Oregon Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
HPA	Heart Smarts – Derry Supermarket	Environment	Shop	Food Retail
HPC	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
HPC	School Wellness Initiative	Policy, Systems, Environment	Learn	K-12 Schools
HPC	Healthy Food Pantry Initiative	Systems, Environment	Shop	Food Assistance
HPC	Health Center Wellness Initiative	Policy, Systems, Environment	Live	Community
HPC	Lactation Support in Family Shelters	Policy	Live	Community
HPC	Healthy Out of School Time Initiative	Policy, Systems, Environment	Live	Community

Partner	Project Title	Type	Domain	Intervention
LAF	Modifying the Preschool Food Environment	Systems, Environment	Learn	Early Childhood
LAF	Smarter Lunchroom Initiative	Environment	Learn	K-12 Schools
NKC	Healthy Community Food Distribution	Policy, Systems, Environment	Shop	Food Assistance
NKC	Healthy Corner Stores	Policy, Systems, Environment	Shop	Food Retail
NKC	Gardening – Vacant Land	Environment	Play	Community
NKC	Community-Based Learning	Environment	Learn	Community
NKC	Low-Income Residential Community Learning	Environment	Live	Community
NLA	Smarter Lunchrooms	Environment	Learn	K-12 Schools
NLA	NLA Healthy Pantry Initiative	Systems, Environment	Shop	Food Assistance
SAH	Choice Food Pantry	Environment	Shop	Food Assistance
SDP	Collaborative Efforts of Food Assistance Partners and SNAP-Ed in Schools	Systems, Environment	Shop	Food Assistance
SDP	Gardening - Schools	Environment	Learn	K-12 Schools
SDP	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
SDP	Improving Healthy Food Access, Outreach, and Engagement	Systems, Environment	Shop	Food Retail
TFT	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
TFT	Gardening - Schools	Environment	Learn	K-12 Schools
TFT	Ready Set Grow	Policy, Systems, Environment	Learn	Early Childhood
TFT	Food Distribution	Systems, Environment	Shop	Food Assistance

Partner	Project Title	Type	Domain	Intervention
TFT	Improving Healthy Food Access, Outreach, and Engagement	Systems, Environment	Shop	Food Retail
TFT	Heart Smarts/Health Screening at the Store	Policy, Systems, Environment	Shop	Food Retail
TFT	Financial Incentives Programs	Systems, Environment	Shop	Food Retail
TFT	Community Based Participatory Approach	Policy, Systems, Environment	Live	Community
TFT	Gardening – Community, ECE	Systems, Environment	Live	Community
UNI	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
UNI	School Champions of Change	Policy, Systems, Environment	Learn	K-12 Schools
UNI	Gardening - Schools	Environment	Learn	K-12 Schools
UNI	Food Pantry Technical Assistance	Policy, Systems, Environment	Shop	Food Assistance
UNI	Collaborative Efforts of Food Assistance Partners and SNAP-Ed in Schools	Systems, Environment	Shop	Food Assistance
UNI	Good Food Bag	Systems, Environment	Learn	Community
UNI	Community Healthcare Linkages	Policy, Systems, Environment	Live	Community
UNI	Summer Sowing Sustenance	Systems, Environment	Live	Community
UNI	Senior Center Wellness	Policy, Systems, Environment	Live	Community
UNI	Summer Champions of Change	Policy, Systems, Environment	Live	Community
UNI	ASNP Ambassadors	Systems, Environment	Live	Community
VCP	Overall School Wellness	Policy, Systems, Environment	Learn	K-12 Schools

Partner	Project Title	Type	Domain	Intervention
VCP	Gardening - Schools	Environment	Learn	K-12 Schools
VCP	Building District & School Capacity for Sustained PSE Change	Policy, Systems, Environment	Learn	K-12 Schools
VCP	Summer Program Site Needs and Readiness	Policy, Systems, Environment	Play	Community

Appendix 4. Partnership Activities

The Governor's Food Security Partnership is a partnership between the Pennsylvania Departments of Aging, Agriculture, Community & Economic Development, Education, Health, and Human Services. SNAP-Ed involvement in the Partnership continues, however, no meetings occurred in FY 2022. The outgoing Governor's Administration released an FY 2022 Food Security Partnership Report in December of 2022. The report is organized by each goal from the Blueprint for a Hunger-free PA.

The following are synergies between PA SNAP-Ed and successes noted in the 2022 Food Security Partnership Report for the Blueprint goal: "Pennsylvania will improve access to healthy, nutritious food."

The Pennsylvania Department of Health partner, Feeding PA, was able to expand the work of the Pennsylvania Healthy Pantry Initiative with SNAP-Ed funding to reach an additional 50 pantries. Feeding PA became a PA SNAP-Ed Partner in FY 2021.

Pennsylvania Department of Health manages Pennsylvania's access to UNC's GO NAPSACC online intervention. A few PA SNAP-Ed partners have obtained GO NAPSACC access through DOH and are working with PA SNAP-Ed program delivery sites on completing needs assessments, developing action plans, providing technical assistance, etc.

Pennsylvania Department of Education (PDE) Division of Food and Nutrition partner, Project PA, developed PA Harvest of the Month materials funded through a farm-to-school grant. PA SNAP-Ed Partners use these Pennsylvania-specific resources to support direct education and PSE activities.

Project PA hosted the Pennsylvania Farm to Child Nutrition Summit on June 23, 2022. The summit included a session titled "The Nutrition Education/Farm to School Connection and How SNAP-Ed Can Help" presented by staff from PA SNAP-Ed Partners, Adagio Health and The Food Trust.

Blueprint for a Hunger-free PA Goals	**PA SNAP-Ed Synergies**
Every county and/or region in Pennsylvania will have a local food alliance to combat hunger in their local communities.	Representation in local food alliance groups.
The SNAP participation rate will increase from 90 percent to 98 percent or higher.	Communicate with relevant SNAP outreach partners.
The number of children benefiting from free and reduced-price meals during the school year (linked to nutrition programs in summer) will increase from 20 percent to 30 percent.	Partnering with SNAP-Ed eligible schools (CEP designated schools and schools with >50% free/reduced) and summer meal programs to provide evidence-based nutrition education and school food environment interventions.
Sixty percent of students benefiting from free and reduced priced school meals will participate in school breakfast. This is an increase from 47 percent in 2014-15.	Partnering with SNAP-Ed eligible schools to provide evidence-based nutrition education and breakfast policy interventions.
The Women, Infants, and Children (WIC) Farmers' Market Nutrition Program redemption rate will increase from 308,000 to 340,000 checks annually.	Marketing SNAP-Ed farmers' market nutrition education to WIC audiences.

Double SNAP Bucks will be available at all highly accessible, high-need farmers' markets, and additional SNAP recipients will have access to SNAP employment and training and SNAP education.	Farmers' market nutrition education and PSE interventions, such as food demonstrations, tastings, and recipes.
Pennsylvanians will have streamlined access to food security information and benefits.	Streamlined access to SNAP benefits for seniors; partnering with Area Agency on Aging to expand SNAP-Ed at senior centers.
Pennsylvania will improve access to healthy, nutritious food.	Partnering with corner stores to provide evidence-based nutrition education and PSE interventions

SNAP-Ed Pennsylvania

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Fiscal Year 2022

Pennsylvania SNAP-Ed

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Statewide Evaluation Summary

FY 2022 Pennsylvania SNAP-Ed Evaluation Summary

This document was developed to report on SNAP-Ed Evaluation Framework Indicators for the Fiscal Year 2022 (FY 2022) PA SNAP-Ed Annual Report. The data sets used for analyses were collected from participant self-reported survey responses. Results presented herein assume that participants provided truthful responses to the best of their knowledge and ability. Participant survey responses that resulted in biologically implausible data or outliers were removed from data sets on a case-by-case basis.

Statewide Evaluation Projects

In FY 2022, Pennsylvania SNAP-Ed conducted statewide evaluation activities that assessed nutrition and physical activity behavior changes related to direct education programming provided to school-age and adult/senior participants.

School-age participants were planned to be assessed using two evaluation tools:

Modified SPAN (n=1,978) – a modified version of the School Physical Activity & Nutrition survey (SPAN). This assessment was to be administered to students in 4th-6th grade in a pre/post format and indicates nutrition and physical activity behavior changes resulting from a series of direct education classes. In FY 2022, 939 participants completed both pre- and post-tests for a matched sample rate of 50.2%.

In FY 2022, use of this tool did not indicate statistically significant nutrition-related behavior changes based on question/item content. In previous years, the SPAN tool has indicated increased consumption frequency of red/orange vegetables, green and leafy vegetables, total vegetable intake (times/week), and increased low-fat dairy intake. It is unclear whether other sources of variance (time between pre/post-tests, education curricula used, COVID-19 related factors, etc.) impacted the statewide data set in FY 2022.

- SNAP-Ed Evaluation Framework Indicators measured: MT1, MT3

Modified YRBS (n=828)– a subset of nutrition and physical activity-related survey questions from the nationally-administered Youth Risk Behavior Survey (YRBS). This assessment was to be administered to students in 8th-12th grade in a pre/post format and indicates nutrition and physical activity behavior changes resulting from a series of direct education classes. In FY 2022, 340 participants completed both pre- and post-tests for a matched sample rate of 41.1%.

- SNAP-Ed Evaluation Framework Indicators measured: MT1, MT3

Adult/senior participants were planned to be assessed using the following evaluation tools:

UC Davis Food Behavior Checklist (n=466) – a photo-based assessment tool that was to be administered in a pre/post format to assess nutrition-related behavior changes after a series of direct education classes. Starting in FY 2020, Pennsylvania SNAP-Ed included additional survey items to assess sodium and whole grain intake (MT1), as well as measures of physical activity (MT3) as an addendum to this

tool. In FY 2022, 229 participants completed both pre- and post-tests for a matched sample rate of 49.1%.

- SNAP-Ed Evaluation Framework Indicators measured: MT1, MT2, MT3

EFNEP Food Resource Management Checklist (n=79) – a photo-based assessment tool that was to be administered in a pre/post format to assess nutrition-related and food resource management behavior change(s) after a series of direct education classes that included outcome objectives related to food resource management behaviors. Starting in FY 2020, Pennsylvania SNAP-Ed included additional survey items to assess sodium and whole grain intake (MT1), as well as measures of physical activity (MT3) as an addendum to this tool. In FY 2022, 40 participants completed both pre- and post-tests for a matched sample rate of 50.6%.

- SNAP-Ed Evaluation Framework Indicators measured: MT1, MT2, MT3

EFNEP Adult Questionnaire (n=342) – a text-based assessment tool that was to be administered in a pre/post format to assess nutrition, food resource management, physical activity, and food safety behavior change(s) after a series of direct education classes. In FY 2022, 202 participants completed both pre- and post-tests for a matched sample rate of 59.1%.

- SNAP-Ed Evaluation Framework Indicators measured: MT1, MT2, MT3, MT4

Challenges to Statewide Evaluation in FY 2022

Statewide evaluation projects directly impacted by the suspension of in-person programming due to the COVID-19 pandemic in FY 2020 and FY 2021 were restarted in FY 2022. While in-person direct education programs resumed, obtaining matched pre/post tests for analysis of statewide data sets presented a challenge. In numerous cases, participant attrition or site closures limited the ability to administer surveys to SNAP-Ed participants. In other cases, staffing challenges of Partners limited the implementation of planned evaluation projects.

Evaluation Improvement for FY 2022 and Future Years

Priority Indicator Alignment – Statewide evaluation activities in FY 2023 will continue to be refined to more closely align with evaluation goals related to the priority SNAP-Ed Evaluation Framework Indicators: ST7 - Partnerships; ST8 - Multi-sector Partnerships and Planning; MT1 - Healthy Eating Behaviors; MT2 - Food Resource Management; MT3 - Physical Activity and Reduced Sedentary Behaviors; MT5 - Nutrition Supports Adopted in Environmental Settings; and R2 - Fruits and Vegetables.

Beginning in FY 2022, the EFNEP Adult Questionnaire was added as a statewide tool for evaluation of adult/senior healthy eating, food resource management, and physical activity behavior change assessment. The goal of this tool addition was to phase out older versions of statewide adult/senior tools while evaluating additional Evaluation Framework indicators with a single assessment tool beginning in FY 2023.

Other evaluation tools may be identified, and pilot tested with selected partners for assessment of adult/senior programming in FY 2023.

Direct Education and PSE Data Integration – Integrations of the two data reporting systems used by PA SNAP-Ed: STARtracks for direct education and program management and PEARS for policy, systems and environmental (PSE) activities is planned to continue in FY 2023. This integration will allow for increased data quality related to PSE evaluation as well as providing added context for evaluation results related to direct education programming, especially at locations where PSE initiatives and direct education may be delivered as complementary approaches.

Evaluation of Virtual SNAP-Ed Programming – Opportunities to evaluate outcomes associated with virtual delivery of direct education programming will continue to be explored in FY 2023 including evaluating virtual lessons at the partner-level and identifying tools and survey platforms that may be used to conduct a statewide-level online assessment.

Highlighted Evaluation Results FY 2022 PA SNAP-Ed

Statewide evaluation results that achieved statistical significance indicating positive nutrition and physical activity related behavior changes after participation in PA SNAP-Ed direct education programs:

- **After direct education series programming, adults and seniors reported they were more likely to:**
    - Eat more than one kind of vegetable each day (MT1)
    - Eat more servings of fruit per day (MT1)
    - Eat more servings of vegetables per day (MT1)
    - Consume low-fat or fat-free milk (MT1)
    - Eat dark green vegetables (MT1)
    - Eat beans and peas (MT1)
    - Eat whole-grain foods (MT1)
    - Drink fewer sugar-sweetened beverages (MT1)
    - Reduce the amount of sodium in foods they consume (MT1)
    - Choose healthy foods for their family on a budget (MT2)
    - Use food labels while shopping (MT2)
    - Compare food prices when shopping (MT2)
    - Identify foods on sale or use coupons to save money (MT2)
    - Shop with a list (MT2)
    - Budget enough money for food purchases (MT2)
    - Engage in physical activity on more days of the week (MT3)
    - Engage in physical activity to build muscular strength on more days of the week (MT3)
    - Use a food thermometer to check temperatures (MT4)

- **After direct education series programming, adults and seniors reported they were less likely to:**
    - Run out of food before the end of the month (MT2)

Summary of Statewide Evaluation Results

SNAP-Ed Evaluation Framework Medium-Term Indicators – Changes; Behavioral Changes

MT1: Healthy Eating – Changes in individual and family healthy eating behaviors on the pathway to achieving the current *Dietary Guidelines for Americans* recommendations.	
Throughout the days of week:	
MT1d. Ate more than one kind of vegetable.	Following direct education series programming, adults and seniors reported they were more likely to eat more than one kind of vegetable each day. (Food Behavior Checklist; n=213, p=.044), (EFNEP Adult Questionnaire; n=198, p=.003). Following direct education series programming, adults and seniors reported they were more likely to eat dark green vegetables (EFNEP Adult Questionnaire; n=199, p=.026) and beans/peas each day (n=196, p=.026).
Frequency:	
MT1h. Drinking fewer sugar-sweetened beverages (e.g., regular soda or sports drinks).	Following direct education series programming, the proportion of adults and seniors who reported drinking regular soda decreased (Food Behavior Checklist; n=218 p=.004).
MT1i. Consuming low-fat or fat-free milk, milk products, or fortified soy beverages	Following direct education series programming, adults and seniors reported they were more likely to consume low-fat or fat-free milk each day (EFNEP Adult Questionnaire; n=198, p=.006).
MT1j. Eating fewer refined grains (e.g., spaghetti, white rice, white tortilla).	Following direct education series programming, a higher proportion of adults and seniors reported consuming whole grain foods during the past week (Food Behavior Checklist; n=204 p=.049), (Food Resource Management Checklist; n=31, p=.013).
Servings:	
MT1l. Cups of fruit consumed per day.	Following direct education series programming, adults and seniors reported consuming more total cups of fruit per day (Food Behavior Checklist; n=216, p=.013), (EFNEP Adult Questionnaire; n=199, p=<.001).

MT1m. Cups of vegetables consumed per day.	Following direct education series programming, adults and seniors reported consuming more total cups of vegetables per day (Food Behavior Checklist; n=212, p=.004), (EFNEP Adult Questionnaire; n=196, p=<.001)

MT2: Food Resource Management – Changes in individual and family behaviors that reflect smarter shopping and food resource management strategies, enabling participants to stretch their food resource dollars to support a healthier diet.	
MT2a. Choose healthy foods for my family on a budget.	Following direct education series programming, the proportion of adults who report they can choose healthy foods while staying on-budget when shopping increased compared to before participating in SNAP-Ed programming (Food Resource Management Checklist; n=37, p=.006).
MT2b. Read nutrition facts labels or nutrition ingredient lists.	Following direct education series programming, adults reported reading food labels more often than prior to receiving direct education (Food Behavior Checklist; n=219, p=.003), (Food Resource Management Checklist; n=40, p=.041).
MT2g. Not run out of food before month's end.	Following direct education series programming, adults and seniors reported they more often budget enough money for food purchases (EFNEP Adult Questionnaire; n=185, p=.005).
MT2h. Compare prices before buying foods.	Following direct education series programming, more adults reported that they compare food prices to save money (EFNEP Adult Questionnaire; n=182, p=.008).
MT2i. Identify foods on sale or use coupons to save money.	Following direct education series programming, more adults reported that they use coupons for food purchases (EFNEP Adult Questionnaire; n=183, p=<.001) and check for food items on sale while at the store (EFNEP Adult Questionnaire; n=185, p=.008).
MT2j. Shop with a list.	Following direct education series programming, the proportion of adults who report they use a list when shopping increased compared to before participating in SNAP-Ed programming (Food Resource Management Checklist; n=40, p=.041).

MT3: Physical Activity and Reduced Sedentary Behavior – Two-part indicator measuring behavioral changes to increase physical activity and/or reduce sedentary behavior. Physical activity is defined as any body movement that works muscles and requires more energy than resting. Sedentary behavior is defined as too much sitting or lying down at work, at home, in social settings, and during leisure time. Both increasing physical activity and decreasing sedentary behaviors are important for overall health.	
Increased Physical Activity, Fitness, and Leisure Sport. Increases in duration, intensity, and frequency of exercise, physical activity, or leisure sport appropriate for the population of interest, and types of activities.	
MT3a. Physical activity and leisure sport (general physical activity or leisure sport).	Following direct education series programming, adults/seniors reported engaging in physical activity on more days of the week (EFNEP Adult Questionnaire; n=196, p=.024). Following direct education series programming, students in grades 8-12th did not report an increase in physical activity on more days of the week (mYRBS; n=303, p=.463). Students reported engaging in at least 60 minutes of vigorous activity on average 3.84 days per week.
MT3c. Physical activity to make your muscles stronger (muscular strength)	Following direct education series programming, adults/seniors reported engaging in muscle strengthening activities on more days of the week (EFNEP Adult Questionnaire; n=196, p=.001).
Reduced Sedentary Behavior. Decreases in time spent in sedentary behavior (computers, desk sitting, television watching) during the period assessed.	
MT3g. Television viewing.	Following direct education series programming, students in grades 8-12th did not report viewing less TV per day (mYRBS; n=305, p=.970). Mean viewing time per day was 2.01 hours after participating in programming.
MT3h. Computer and video games.	Following direct education series programming, students in grades 8-12th did not report viewing less other screen time per day (mYRBS; n=303, p=.956). Mean other screen time per day was 2.91 hours after participating in programming.
MT4: Food Safety – Changes in individual and group behaviors that reflect MyPlate principles and are on the pathway to achieving the current *Dietary Guidelines for Americans* recommendations.	
MT4c. Cook: cook to proper temperatures.	Following direct education series programming, adults/seniors reported an increased frequency of using a thermometer to check meat temperature (EFNEP Adult Questionnaire; n=185, p=<.001)

SNAP-Ed Evaluation Framework Population Results – Trends and Reduction in Disparities

Data used to describe trends in nutrition and physical activity behaviors were gathered from the Youth Risk Behavior Surveillance assessment tool. This national-level youth behavior assessment tool is administered in odd-numbered calendar years, with 2019 data being the most recent available. PA SNAP-Ed uses a modified version of this assessment tool to measure behavior changes in healthy eating habits and physical activity in students in grades 8-12. The nutrition behavior and physical activity content items are identical between the two tools, preserving the ability to compare data sets. Administration of this assessment allows for direct comparison of students who had just participated in PA SNAP-Ed direct education programs to students in Pennsylvania and nationwide.

The most recent national-level data were collected in FY 2019 and made available to the public in Q4 of FY 2020. In some instances, 2017 national and state-level data are used to maintain question content validity for comparison to the FY 2022 PA SNAP-Ed tool version.

Beginning in FY 2022, YRBS data for Philadelphia; School District of Philadelphia was added for comparison to PA SNAP-Ed data. Philadelphia is the largest city in Pennsylvania and the School District of Philadelphia (SDP) includes 57 public high schools. A significant portion of YRBS data collected by PA SNAP-Ed Partners for the statewide data set each year is collected from SDP high schools. Using Philadelphia YRBS data as a comparison gives context to PA SNAP-Ed data. Environmental factors outside of the influence of SNAP-Ed, such as access to public recreation spaces, access to sidewalks, and neighborhood safety should be considered when interpreting physical activity and sedentary behavior data from the YRBS.

It is notable that the PA-SNAP Ed assessment post-tests were usually administered during the late fall and winter seasons when more time is spent indoors. This may explain some of the variance observed in physical activity and sedentary activity behavior reporting compared to other 2019 YRBS data sets. Time of year of survey administration for Pennsylvania and Philadelphia data sets was not available.

R2: Fruits and Vegetables – This indicator represents changes in fruit and vegetable consumption, including subgroups of under-consumed vegetables, over time, from year to year, among the low-income population of the state**.**

	FY 2022 PA SNAP-Ed*	**National 2019***	**Pennsylvania 2019***	**Philadelphia***
Did not eat **fruit or drink 100% fruit juices** in the past 7 days	4.5% n=467	6.3% n=12,529	6.4% n=2,284	5.5% n=1,091
Reported eating **fruit or drank 100% fruit juices** 2 or more times/day in the past 7 days	31.5% n=467	31.3% (2017 data)	28.5% (2017 data)	25.3% (2017 data)
Did not eat **vegetables** in the past 7 days	9.6% n=460	7.9% n=11,757	7.9% n=2,258	10.9% n=1,067
Reported eating **vegetables** 2 or more times/day in the past 7 days	24.8% n=460	26.6% (2017 data)	23.9% (2017 data)	20.7% (2017 data)

Reported eating **vegetables** 3 or more times/day in the past 7 days	17.2% n=460	13.9% (2017 data)	11.9% (2017 data)	10.1% (2017 data)

*Question-specific sample sizes vary due to missing responses.

R7: Physical Activity and Reduced Sedentary Behaviors - Achievement of the Physical Activity Guidelines for Americans, 2008 for adults and children.

	FY 2022 PA SNAP-Ed*	National 2019*	Pennsylvania 2019*	Philadelphia 2019*
Did not participate in at least 60 minutes of **physical activity** on at least 1 day during the past 7 days	8.7% n=378	17.0% n=13,220	12.6% n=2,257	24.4% n=1,071
Did not participate in 60 minutes of **physical activity** on five or more days in the past 7 days	57.8% n=378	55.9% n=13,220	51.9% n=2,257	71.7% n=1,071
Did not participate in 60 minutes of **physical activity** on all 7 days before the survey	81.8% n=378	76.8% n=13,220	74.6% n=2,257	85.9% n=1,071
Watched **television 3 or more hours** per day on an average school day	37.2% n=452	19.8% n=12,796	19.4% n=2,250	26.9% n=1,065
Played video or computer games or used a **computer 3 or more hours** per day during an average school day	59.0% n=454	46.1% n=13,177	49.4% n=2,254	56.1% n=1,071

*Question-specific sample sizes vary due to missing responses.

Evaluation PA SNAP-Ed Policy, Systems, and Environmental Approaches and Partnerships

Medium-Term Indicators – Changes; Organizational Adoption and Promotion

MT5: Nutrition Supports - Sites and organizations that adopt PSE changes and complementary promotion often including favorable procurement, meal preparation activities, or other interventions that expand access and promote healthy eating.

PA SNAP-Ed partners reported PSE activities in the Program Evaluation and Reporting System (PEARS) PSE module. FY 2022 data compiled from those reports, statewide, is presented in the table below:

Nutrition Supports Adopted - Description	Change Level	Times Implemented
Created or enhanced healthy check out areas	Environmental	3
Decreased space/amount/variety of unhealthy options (includes shelf space, number of booths, options on menus)	Environmental	12
Eliminated or reduced amount of competitive foods/beverages	Environmental	2
Establish or improve a practice that encourages meal service staff to prompt healthy choices	Environmental	1
Established a new food bank, pantry or emergency food distribution site	Environmental	28
Established a new healthy retail outlet	Environmental	14
Established healthy food/beverage defaults (whole wheat bread, salad, or fruit instead of fries, water instead of soda, etc.)	Environmental	3
Established or improved salad bar	Environmental	1
Expanded, improved, or implemented storage for fresh produce and other perishable foods	Environmental	32
Improved appeal, layout or display of snack or competitive foods to encourage healthier selections	Environmental	36
Improved appeal, layout or display of meal food/beverages to encourage healthy and discourage unhealthy selections	Environmental	35
Improved or expanded cafeteria/dining/serving areas or facilities	Environmental	1
Improved or expanded kitchen/food preparation facilities that allow for healthier or more appealing options (e.g. refrigeration, appliances that allow for scratch cooking, etc.)	Environmental	3
Increased space/amount/variety of healthy options (includes shelf space, number of booths, options on menus)	Environmental	31
Initiated or expanded price manipulation/coupons/discounts to encourage healthy choices	Environmental	39
Initiated or expanded the use of digital platforms (websites, social media, text messages, etc.) to improve convenience of/access to healthy food (i.e. by promoting food distribution site, retail, cafeteria, community garden, etc.)	Environmental	36
Initiated or expanded use of onsite garden produce for meals/snacks provided onsite	Environmental	8
Initiated or expanded use of the garden for nutrition education	Environmental	65

Nutrition Supports Adopted - Description	Change Level	Times Implemented
Initiated, improved, expanded, reinvigorated, or maintained edible gardens	Environmental	16
Initiated or improved nutrient labeling (e.g. calories, fat, sodium, added sugar counts, traffic light color-coding) on menus, vending machines, etc.	Environmental	2
Used interactive educational display (that will stay at the site), other visual displays, posters, taste testing, live demonstrations, audiovisuals, celebrities, etc. to prompt healthy eating behavior choices close to the point of decision	Environmental	430
Developed policies that encourage the establishment of new food distribution sites, food banks, food pantries, etc.	Policy	4
Established or improved food/beverage or nutrition related policy (childcare wellness, school wellness, workplace wellness, etc.)	Policy	3
Food safety policy	Policy	1
Policy for increasing nutrition education or cooking activities	Policy	22
Policy increasing healthy foods and beverages	Policy	4
Policy limiting unhealthy foods	Policy	4
Policy related to improved child feeding practices (e.g. served family style, adults role model healthy behaviors, staff sit with children, children decide when they are full, etc.)	Policy	2
Policy to improve hours of operation of food distribution sites, food bank, retail, cafeteria, etc. to improve convenience of/access to healthy food	Policy	1
Began, expanded, or promoted acceptance and use of SNAP/EBT/WIC	Systems	12
Clients have the opportunity to choose at least some foods they would like to take from food pantries, food banks, or soup kitchens (i.e. a client-choice model)	Systems	52
Implemented improvements in hours of operation for food distribution site, food bank, retail, cafeteria, etc. to improve convenience of/access to healthy food	Systems	10
Implemented new or improved standards for healthier eating across the organization	Systems	1
Implemented novel distribution systems to reach high-risk populations, such as home delivery for elderly, backpack programs, etc.	Systems	36
Implemented nutrition standards for foods distributed (at food pantries)	Systems	6
Implemented, improved or expanded healthy fundraisers	Systems	3
Improved child feeding practices (e.g. served family style, adults role model healthy behaviors, staff sit with children, children decide when they are full, etc.)	Systems	53
Improved food purchasing/donation specifications or vendor agreements towards healthier food(s)/beverages	Systems	12

Nutrition Supports Adopted - Description	Change Level	Times Implemented
Improved free water access, taste, quality, smell, or temperature	Systems	81
Improved menus/recipes (variety, quality, etc.)	Systems	2
Improved or increased healthy beverage options	Systems	31
Initiated or enhanced limits on marketing/promotion of less healthy options	Systems	1
Initiated or expanded a mechanism for distributing produce to families or communities (e.g. gardens, or farmer's markets)	Systems	25
Initiated or expanded farm-to-table/use of fresh or local produce	Systems	68
Initiated or expanded mechanism for distributing seedlings and/or other materials to families or communities for home gardening	Systems	25
Initiated or expanded the collection or gleaning of excess healthy foods for distribution to clients, needy individuals, or charitable organizations	Systems	4
Initiated, improved, or expanded a food system/policy council	Systems	2
Initiated, improved, or expanded food safety practices	Systems	11
Initiated, improved or expanded implementation of guidelines for healthier snack options	Systems	7
Initiated, improved or expanded implementation of guidelines on use of food as rewards or during celebrations	Systems	6
Initiated, improved or expanded opportunities for parents/students/community to access fruits and vegetables from the garden	Systems	8
Initiated, improved, or expanded opportunities for parents or youth to participate in decision making through a wellness committee or other process	Systems	3
Initiated, improved or expanded opportunities for parents/students/community to work in the garden	Systems	15
Initiated, improved or expanded professional development opportunities on nutrition (e.g. nutrition standards, gardening, breastfeeding, etc.)	Systems	79
Initiated, improved or expanded use of a clinical screening tool for food insecurity and/or a referral system to nutrition or healthy food access resources (e.g. direct education, food bag, resource list, produce prescription, etc.)	Systems	24
Initiated, improved or expanded use of food programs (CACFP, TEFAP, summer meals, emergency food, NSLBP, etc.) including improvements in referral and enrollment procedures	Systems	89
Initiated, improved or expanded use of standardized, healthy recipes	Systems	16
Integrate culturally relevant, healthy, traditional foods at food service or distribution sites	Systems	11
Partners adopt or improve use of a system to monitor implementation of food/beverage or wellness related policy	Systems	11
Total Number of Nutrition Supports Adopted		**1,543**

MT6: Physical Activity and Reduced Sedentary Behavior Supports – Sites and organizations that adopt PSE changes and complementary promotion that expand access and promote physical activity and reduce time spent being sedentary.

PA SNAP-Ed partners reported PSE activities in the PEARS PSE module. Data compiled from those reports, statewide, is presented in the table below:

Physical Activity and Reduced Sedentary Behavior Supports Adopted - Description	Change Level	Times Implemented
Added bike racks/storage	Environmental	1
Implemented complete streets environmental change (e.g. street trees, accessibility, buffer/barrier between sidewalk and street, crosswalks, intersection improvements)	Environmental	1
Improved or expanded physical activity facilities, equipment structures or outdoor space	Environmental	19
Improved quality of structured physical activity (non-PE)	Environmental	13
Improvements in access to exercise or recreation facilities	Environmental	5
Increased access or safety of walking or bicycling paths	Environmental	2
Increased or improved opportunities for physical activity during recess	Environmental	17
Increased or improved opportunities for structured physical activity	Environmental	49
Increased, improved, or incorporated physical activity/reduced sitting during usual, on-going site activities and functions	Environmental	31
Initiated or improved playground markings/stencils to encourage physical activity	Environmental	11
Used interactive educational display (that will stay at the site), other visual displays, posters, live demonstrations, audiovisuals, celebrities, etc. to prompt physical activity choices close to the point of decision	Environmental	55
Established or improved facility shared use agreement to for physical activity policy	Policy	5
Established or improved physical activity policy (childcare wellness, school wellness, workplace wellness, etc.)	Policy	1
Established or improved physical activities to incorporate more culturally relevant practices	Systems	6
Improved quality of physical education	Systems	26
Incorporated physical activity into the school day or during classroom-based instructions (not recess/free play or PE)	Systems	61
Increased or improved opportunities for unstructured physical activity time/free play	Systems	35
Initiated, improved or expanded professional development opportunities on physical activity	Systems	18
Implemented, improved or expanded physical activity related fundraisers (e.g. Walk-a-thon)	Systems	1

Physical Activity and Reduced Sedentary Behavior Supports Adopted - Description	Change Level	Times Implemented
Partners adopt or improve use of a system to monitor implementation of physical activity policies	Systems	1
Total Number of Physical Activity and Reduced Sedentary Behavior Supports Adopted		**358**

Short Term Indicators **-** Readiness and Capacity; Organizational Motivators

ST7: Organizational Partnerships – Partnerships with service providers, organizational leaders, and SNAP-Ed representatives in settings where people eat, learn, live, play, shop, and work.

PA SNAP-Ed partners engage in partnerships with many different public and private organizations to provide SNAP-Ed direct education programming, PSE approaches, and social marketing projects. The ME continues to explore best practices to document the scope and depth of partnership activities that contribute to the strengths and successes of PA SNAP-Ed. PA SNAP-Ed partnerships in FY 2022, compiled from STARtracks data, are presented in the table below:

Entity Type	Number of Community Partnerships	Number of PA SNAP-Ed Partners
Agricultural organizations (includes farmers markets)	11	3
City and regional planning groups	2	2
Colleges and Universities	4	3
Early care and education facilities (includes childcare centers and day care homes as well as Head Start, preschool, and pre-kindergarten programs)	80	7
Faith-based groups	51	11
Food Banks/Food Pantries	19	8
Food stores (convenience stores, grocery stores, supermarkets, etc.)	53	6
Foundations/philanthropy organizations/nonprofits	42	11
Government program/agency (Federal, State, Local, etc.)	68	11
Hospitals/healthcare organizations (includes health insurance companies)	19	11
Human services organizations	97	14
Labor/workforce development groups	2	3
Parks and recreation centers	26	8
Public health organizations	4	3
Schools (preschools, K-12, elementary, middle, and high)	134	12
Total	**613**	

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International Journal of
Environmental Research and Public Health

MDPI

Article

Feasibility of Using Facebook to Engage SNAP-Ed Eligible Parents and Provide Education on Eating Well on a Budget

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Abstract: This study examined the use of Facebook to provide education on food resource management and healthy eating on a budget to parents of preschool aged children participating in Head Start. A convenience sample of 25 parents participated in a Facebook group based on Sesame Street's Food for Thought: Eating Well on a Budget curriculum over a 3-week period. Parent engagement was assessed by examining views, likes, and comments on posts. Qualitative data were used to assess knowledge, attitudes, and barriers experienced related to healthy eating on a budget. The results suggest that parents were engaged throughout the intervention, as evidenced by views, likes, and comments on Facebook posts, as well as by study retention (90%). Interactions with the intervention materials varied by post content, with discussion questions having the highest level of interaction. Facebook was found to be a feasible platform for delivering the intervention, and the Facebook-adapted version of the Sesame Street curriculum was shown to engage Head Start parents living in rural areas. Further research should explore the use of social media platforms for delivering nutrition education interventions to rural populations that are otherwise difficult to reach.

Keywords: Facebook; social media; low-income; nutrition education; food resource management

Citation: Lawton, K.; Hess, L.; McCarthy, H.; Marini, M.; McNitt, K.; Savage, J.S. Feasibility of Using Facebook to Engage SNAP-Ed Eligible Parents and Provide Education on Eating Well on a Budget. *Int. J. Environ. Res. Public Health* **2022**, *19*, 1457. https://doi.org/10.3390/ijerph19031457

Academic Editors: Jylana L. Sheats and Elvin Thomaseo Burton

Received: 16 December 2021
Accepted: 22 January 2022
Published: 27 January 2022

1. Introduction

Early nutrition predicts a number of positive health, social, and cognitive outcomes [1]; however, many low-income children under the age of five years do not meet the daily nutrition recommendations [2]. Caregivers shape their child's food preferences, eating behaviors, and food intake by serving as "gatekeepers" to what food is brought into the home. What is purchased is influenced by economic determinants [3]. The purchase of nutrient rich foods, such as fruits and vegetables, whole grains, and lean proteins, is partially influenced by food cost, especially among lower income, economically disadvantaged households [4,5]. Together, these data suggest a critical need for nutrition education related to food budgeting, resource management, and meal preparation strategies that support low-income caregivers to choose, provide, and prepare healthy, nutrient-dense foods to their families [6].

Head Start is a federally funded program of the United States Department of Health and Human Services that provides comprehensive early childhood education, health, and nutrition services to low-income children and their families [7]. The program serves nearly 1 million low-income (≤100% of poverty) children and families nationwide and plays an integral role in supporting the development of healthy eating and positive behaviors for children 3–5 years. Head Start aims to equip and educate caregivers with tools to better care for their children through the provision of nutrition services and education. Despite the focus on caregiver engagement and nutrition education, many low-income caregivers face barriers toward attending in-person interventions, and participation in these efforts is low [8]. In rural areas, these barriers include limited transportation access, time constraints, tight work schedules, and personal health challenges [9–11].

Due to the aforementioned barriers, there is a need to explore innovative and cost-efficient methods to engage low-income caregivers. Technology is one potential solution to common barriers, due to the low cost and generally high accessibility [12]. According to social learning theory, interventions may be more effective if provided in shorter doses and when available "on-demand" to accommodate the lifestyles of low-income persons [13]. Modern communication channels (e.g., social media) allow intervention doses to be provided with greater frequency and in shorter durations, and they provide an effective way to disseminate nutrition education and engage low-income parents [14]. Facebook is the biggest social network worldwide, with 2.85 billion monthly active users [15], and it is the most frequently used social media site among 18–49 year olds [16]. Mothers, in particular, are heavily engaged in social media, both receiving and providing support to others [17]. Facebook provides a platform where users can motivate each other to reach their health goals and is a source of health information [18].

The aim of the current study was to examine the feasibility of using Facebook as a platform to (1) increase the engagement of caregivers with children enrolled in Head Start and (2) provide nutrition education related to food resource management and healthy eating on a budget. In an effort to improve dietary quality and to address common barriers experienced with reaching Head Start caregivers, we examined the feasibility of using a Facebook adaptation of Sesame Street's online curriculum, Food for Thought: Eating Well on a Budget.

2. Materials and Methods

2.1. Participants

Participants were caregivers (herein after, parents) enrolled from a convenience sample of 363 Head Start families in 4 Head Start agencies throughout 7 rural Pennsylvania counties. Of those 363 families, 214 indicated interest in participating in future studies. Interested families were mailed letters to provide information about the study and later received a phone call and/or email to provide further information. The goal was to obtain the consent of a total of 30 parents for a single Facebook group in order to support interactions and bonding among participants in the group, based on similar studies using social media for group interventions [19]. Once 30 eligible participants were identified, recruitment stopped. Participants viewed the informed consent online and completed an online screener to determine eligibility. Eligible parents were $\geq$18 years of age, were the primary caregiver of a child enrolled in Head Start within the last 18 months, ate at least one meal per day with that child, regularly did the grocery shopping for their family, had reliable internet access at home, regularly used an email account, and were willing to use Facebook daily for 3 weeks during the study period.

2.2. Protocol

At baseline, 30 participants completed an online survey to assess parent demographics on race/ethnicity, education, income, age, and participation in federal food assistance programs. Next, participants received an invitation to a closed Facebook group (e.g., membership is by invitation only and the group is private in that posts are only viewable by group members) by research staff. The initial post from a research assistant welcomed participants to the group and outlined group rules (e.g., prohibition of strong language/cursing, not selling goods and services, and keeping the content of posts relevant to the discussion).

Participants were encouraged to log in to Facebook daily and interact with posts by liking, commenting, and voting in polls. The research staff monitored the group daily. Protocol was developed in advance to handle rule violations. Participants who violated rules received one warning via email from the group facilitator and, after a second violation, were notified and removed from the group. Other than monitoring for misconduct, participant discussions were not monitored and curated for content. Upon completion of the intervention, participants completed an online post-survey, which was identical to the baseline survey except for the removal of demographic questions and the addition of

acceptability questions. Acceptability questions were adapted from a survey used in the previous evaluation of the Food for Thought curriculum [20]. Participants were mailed a $10 and $25 gift card for completion of the baseline and post-surveys, respectively. Surveys were developed using REDCap, and all data were housed on the REDCap secure server (REDCap v 8.1.19; Vanderbilt University Medical Center, Nashville, TN, USA) [21]. The study was approved by the Institutional Review Board of The Pennsylvania State University (Protocol code 00009331, approved on 1 February 2019). Informed consent was obtained from all subjects involved in the study.

2.3. Intervention

The Facebook intervention spanned 3-weeks. Buffer (2018), a social media management application, was used to prepare and schedule posts ahead of time. Intervention posts were shared 5 days a week (Monday through Friday) and 2 to 3 times per day. Intervention posts were adapted from Sesame Street's Food for Thought: Eating Well on a Budget multimedia curriculum that was designed to support and educate parents of children between the ages of 2–8 years who may have limited access to affordable and nutritious food [22]. Food for Thought is available for free online and provides videos, reading materials, and resources (e.g., tip sheets, grocery shopping list templates, etc.) related to making healthy food choices on a budget. Prior evaluation of the curriculum revealed that participants found the Food for Thought materials to be useful, appealing, and easy to understand and also showed an impact on participants' knowledge, attitudes, and behaviors regarding how to cope with food insecurity and how to develop and maintain healthy habits [20].

Adaptation of the curriculum to a Facebook platform was accomplished through a number of strategies. First, content was rephrased from declarative nutrition education messages to discussion questions in an effort to engage parents in conversation. Videos, recipes, and resources were provided as stand-alone posts. Finally, polls (posts that allowed participants to vote) were created to engage participants with the content. There were a total of 31 posts: 27 intervention posts and 4 non-intervention posts (e.g., welcome post and survey completion reminders). Among the intervention posts, many were interactive in nature. Seven posts included videos, three involved polls that prompted participants to vote, and nine provided links that gave participants the ability to access tip sheets, shopping lists, and handouts that they could print out at home. The remaining eight posts were informative in nature (e.g., making a shopping list, stretching your food dollars, eating well on a budget, budget-friendly cooking tips and recipes) and prompted discussion by asking questions about the content. Examples of materials provided to participants from the curriculum are shown in Figure 1.

Figure 1. Materials provided to participants in the Facebook group.

2.4. Data Analysis

Descriptive statistics were calculated for demographic variables using SAS version 9.4 (SAS Institute Inc., Cary, NC, USA). Feasibility outcomes included retention, engagement, and acceptability of the intervention. Engagement was assessed using Sociograph, a Facebook analytic tool, which summed all interactions with posts (e.g., reactions/likes, comments, and votes). Sociograph provides a sample-specific rating for each post to determine the level of engagement by using a formula that considered the number of likes, comments, and shares (Rating formula = Likes × 2 + Comments × 3 + Shares × 5). Higher ratings indicated relatively greater influence and engagement of the post. Two research staff independently logged the number of views, comments, and likes for all posts. Double-entered data were compared by a third research staff for any inconsistencies. Sustained engagement was evaluated by assessing the percentage of participants who interacted with the last post of the intervention. Self-reported participant engagement with the posts was also assessed using multiple choice questions on the post-survey about how often participants viewed group content. The retention rate was calculated as the rate of completion of the follow-up assessment. Acceptability was assessed by examining participant responses to questions on the post-survey that asked participants to rate the intervention and answer whether or not they would suggest a similar group for parents of Head Start children.

Open-ended survey responses were analyzed using a thematic analysis that involved six phases: familiarization with the data, generation of initial codes, construction of themes, reviewing themes, naming themes, and producing a final report [23]. After familiarization with the data, a researcher with graduate training in qualitative data analysis coded the data to identify potential themes. Analysis was inductive and followed the constant comparative method until themes were generated and defined [24]. The content of the three open-ended questions was developed to gain insight into anything the participant learned, what (if anything) they found most useful, and to elucidate whether they would recommend a similar group to other Head Start parents. The questions included:

- "What is the most useful thing that you learned from the Food for Thought Facebook group?"
- "Are you doing anything new with your family that you were not doing before you joined the Facebook group? Please explain."
- "Would you recommend joining a similar group for other caregivers of Head Start preschoolers? Why or why not?"

3. Results

Thirty participants completed the baseline survey and were granted access to the Facebook group. Among these 30 participants, 25 participated in the Facebook group. A majority of participants were female (n = 25, 100%), white and Non-Hispanic (n = 21, 84%), and parents of the Head Start child (n = 22, 88%). The average age was 31 years (SD ± 4.47 years). A majority (n = 20, 80%) received SNAP (Supplemental Nutrition Assistance Program) benefits and 48% (n = 12) participated in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Additional demographic data can be found in Table 1.

3.1. Participant Engagement

Among the 25 participants in the Facebook group, 23 completed the post-survey, indicating a 92% retention rate. One participant was removed during the study period due to noncompliance with group rules. An additional participant was lost to follow-up. Engagement as assessed by Sociograph was sustained through the end of the intervention, with 22 (88%) participants interacting with the last post of the intervention. Participants interacted with every post by commenting, liking, or voting in the polls. Over the 3-week intervention period, the mean (SD) number of likes, comments, and votes per post were 9.6 (10.8), 6.6 (8.3), and 1.8 (1.2), respectively (Sociograph). About half of the participants

(n = 12, 48%) reported visiting the Facebook group at least once a day, 8 (32%) reported that they visited multiple times per day, and 3 (12%) responded that they visited every other day. The total number of interactions varied by participant. A majority (44%) of participants had 20 or more interactions, 28% had 8–20 interactions, and another 28% only had 0–8 interactions with the posts. Of the 7 participants who had the fewest interactions with posts (0–8 interactions), three of these participants solely viewed the posts and did not actively engage by liking, commenting, or participating in polls. Discussion question posts were the most viewed post-type, followed by polls, videos, informative posts, and links. Videos received the most likes, followed by informative posts, links, discussion questions, and polls. Multiple engagements by all members of the group were also examined by post type, as shown in Table 2.

Table 1. Participant Characteristics.

Characteristic	n (%)
Employment Status	
Full time	4 (16 %)
Part-time	3 (12%)
Stay-at-home parent	12 (48%)
Unemployed	2 (8%)
Did not answer	4 (16%)
Annual Household Income	
<$10,000	4 (16%)
$10,000–$19,999	3 (12%)
$20,000–$29,999	8 (32%)
$30,000–$39,999	4 (16%)
$40,000–$49,999	1 (4%)
Did not answer	5 (20%)
SNAP Benefits	20 (80%)
WIC	12 (48%)
TANF	5 (20%)
Relationship to the Child	
Parent	22 (88%)
Foster parent	1 (4%)
Did not answer	2 (8 %)
Caregiver's Race	
White, Non-Hispanic	21 (84%)
White, Hispanic or Latino	1 (4%)
Did not answer	3 (12%)
Education	
Some high school	1 (4%)
High school graduate	9 (36%)
Some college/technical school	12 (48%)
Completed college	1 (4%)
Did not answer	2 (8%)

Table 2. Engagement by Intervention Post-Type.

Post Type	Number of Posts	Likes (Mean)	Comments (Mean)	Seen by (Mean)
Informative	3	9	3	24
Link (Handout or Printable Materials)	5	8.6	1	22.8
Video	6	10.5	2.7	24.5
Poll	3	2	3.3	25
Question	9	4.9	9.9	25.8

Rating data from Sociograph revealed that seven posts had a rating of "40" or higher, indicating that those posts had the greatest influence. Five of the seven posts were discussion questions that prompted participants to answer, one was a video, and the post with the greatest influence was initiated by a participant (i.e., "What is the age of your child?"). Sixteen participants commented on that post, defining it as the post with the greatest influence. In total, there were four posts that were initiated by participants (i.e., "Happy Mother's Day", "What is good for a pregnant woman to eat with twins?", "My 7-year-old tried snap peas last night and he said he wasn't too fond of them, but his reaction to trying something new was incredible").

3.2. Acceptability & Feasibility

All participants (n = 25, 100%) answered that they would recommend a similar Facebook group to other parents with preschool children. Twenty-three participants reported that the Facebook group was easy to use, and one answered that it was a little difficult. A majority (n = 21, 91%) reported that the intervention was useful, and 17 (74%) reported that materials were easy to understand. Fifteen (65%) answered that they used the recipes from the intervention, and a majority (n = 22, 96%) watched the videos one or more times. On a scale of 1–5 with "1" indicating they loved the group and "5" meaning they disliked the group, nine (39%) answered "1", and the mean (SD) was 1.7 (0.63). When asked how much they learned, 21 (91%) reported that they learned a lot or some things from the group, and two responded that they didn't learn much. When asked if they would recommend joining a similar group to other caregivers of Head Start preschoolers, all 25 answered "yes". All comments from the participants were positive.

Regarding feasibility, the implementation process went as planned, and the established protocols were successful. Six full-time research staff members monitored the group. For each day of the intervention, one staff member reviewed the page approximately every hour to monitor posts and watch for any violations of group rules. Staff members also received notifications when group members posted or commented on the Facebook page, which prompted the staff members to review the page. A back-up person was available in case of incident. The point-person checked the page regularly from approximately 7 AM until 10 PM for a total of about 1 h of staff time daily (about 21 total staff hours for the 3-week intervention). If an incident occurred, the point-person contacted the back-up staff person to review protocol and determine action steps. During this intervention, two incidents occurred, which were both flagged within 1 h of occurrence, indicating that the protocol to monitor discussions and page activity worked as intended.

3.3. Responses to Open-Ended Questions

Three main themes emerged from the participant responses to the open-ended questions: (1) strategies to help children try new foods, (2) meal planning and budgeting, and (3) support from peers.

When asked about the most useful thing they learned, the most common theme was how to get their child to try new foods, especially related to picky eating. Eight parents (35%) mentioned that advice for addressing picky eating was the most useful thing they

learned, with one parent saying that they learned "how to dress up foods for their picky eater to try". When asked if they were doing anything new with their family as a result of the intervention, the top theme was trying new methods of getting their child to taste new foods. Eleven parents (48%) mentioned that they were encouraging their children to try new and healthier foods. One parent said, "Trying different healthier foods and recipes for my family. Trying to limit certain foods and instill healthier eating for my family".

Parents expressed that the intervention taught them how to better budget and plan for meals. When asked about the most useful information they learned, eight parents (36%) mentioned that they learned more about meal planning and budgeting. One parent said, "It helped me to better budget, plan, spend more time with my kids, and got my kids eating better. I think every parent should be a part of something like this if they are not already." When asked if they were doing anything new as a result of the intervention, five parents (22%) responded that they were taking more time to plan meals. One participant responded, " . . . it really does make a difference to meal plan for the upcoming week and stick to that plan when at the grocery store. Saves you not only time but also money".

Parents mentioned that they appreciated the support, encouragement, and information from other parents who were in a similar life stage as they were, with seven (30%) commenting that they appreciated the support. One parent said, "It was helpful to see other parents offer their suggestions, so that I could try them as well". Another parent said, "I would recommend a group like this, just for the support aspect alone. It's good to hear how other moms do things with no judgement". Table 3 includes additional responses from the open-ended responses.

Table 3. Select Participant Responses to Open-Ended Questions.

Question 1. Would you recommend joining a similar group to other caregivers of Head Start Preschoolers? Why or why not?
• "I would recommend a group like this, just for the support aspect alone. It's good to hear how other moms do things with no judgement".
• "I think that parents can greatly benefit from being connected to other parents with similar issues".
• "If I heard someone struggling with a picky eater, or where to find a farmers market, I would recommend Food for thoughts. Lots of info on there, and peers to answer questions".
• "This group is friendly and it has amazing info for the parents that struggle to get their kids to try new food".
• "It helped me to better budget, plan, spend more time with my kids, and got my kids eating better. I think every parent should be a part of something like this if they are not already".
Question 2. What was the most useful thing you learned?
• "That it really does make a difference to meal plan for the upcoming week and stick to that plan when at the grocery store. Saves you not only time but also money".
• "I learned a few tips from the other parents on how to get my picky eater to try new foods".
• "About the different farmers markets in different areas as well as other parent's ideas on getting kids to try new foods".
• "How to better budget while meal planning and making multiple meals from one meal".
• "Ways to involve the kids in meal planning".
Question 3. Are you doing anything new with your family that you were not doing before you joined the secret Facebook group? Please explain.
• " . . . I plan to start making a 'menu' or meal plan for the week or maybe two and buy what is needed. I do plan to go back and look at the recipes the group has provided and try at least one but hopefully more".
• "Trying new recipes and new ways to try to get them to eat new foods".
• "Trying different healthier foods and recipes for my family. Trying to limit certain foods and instill healthier eating for my family".
• "I am trying to get all my children to eat anytime foods rather than sometime foods".
• "Kids are helping more with cooking and preparing meals".

4. Discussion

This study explored the feasibility of using Facebook to engage low-income parents and to provide nutrition education related to healthy eating on a budget. The results suggest that a majority of parents remained engaged throughout the 3-week intervention, as indicated by a 90% interaction rate with the last post. Participant retention over the study period was also high. Acceptability data indicated that the Facebook-adapted version of the Sesame Street curriculum was well-received by low-income parents. Parents gained knowledge from the content and from fellow peers participating in the Facebook group, as indicated by the responses to the open-ended questions. The majority of participants indicated that they would recommend joining a similar Facebook group to other parents in a similar life-stage.

Data from the current study show that Facebook can connect parents, particularly those living in rural areas, by fostering interactivity among users. Parents expressed that they appreciated the support they received from their peers and that this was a highlight of the Facebook group. They shared similar experiences, tips, and suggestions with each other related to eating healthy on a budget. Head Start parents are interested in being more involved and receiving more social support; however, they are often unable to overcome common barriers, such as time and transportation constraints [25]. Social support is important for the well-being of low-income parents because it increases overall parental functioning and psychological well-being [26]. Social media provides a means of support for parents who may otherwise have limited opportunities to discuss their child's eating behaviors, and it provides opportunities for parents to identify helpful feeding strategies for their young children [27]. In the current study, the support among parents was fostered by the provision of evidence-based resources and the presence of a moderator to facilitate conversations within the group.

An analysis of open-ended responses indicated that parents were interested in learning about eating healthy on a budget. Parents reported that they learned a lot from participation in the Facebook group, and they found posts about picky eating as one the most useful types of information presented. Although definitions and measures of picky eating vary, between 14–50% of parents identify their preschool-aged child as a picky eater [28–30]. Picky eating can also increase mealtime stress and impact meal preparation [31]; therefore, it is not surprising that picky eating tips were found to be the most helpful in the current study. Together, these data suggest that it is advantageous to teach parents, especially parents who perceive their child to be a "picky eater", that healthy food like fruits and vegetables can be low-cost, convenient, and liked by children [32].

Despite the Facebook group being well-liked by participants, there were individual differences in the rates of participant engagement. This may be due to individual differences in Facebook familiarity and typical frequency of use [33]. In addition, we did not assess the device used to access the Facebook group, and differences may have been seen between participants using a mobile device versus a computer at a library due to differing levels of accessibility. In the current study, a majority of participants reported logging into Facebook daily, while 32 percent reported that they visited the Facebook group multiple times per day. Because our intervention dosage was limited to 2–3 posts/day, participants who only logged on once may have missed multiple posts. We did not assess familiarity with Facebook prior to the study, so it is plausible that some participants were not familiar with using and navigating the platform. Future studies should investigate why some parents were more engaged than others to better inform how to increase parent engagement in social media behavioral interventions.

The results suggested that participant engagement, as defined by the number of interactions, varied by post type and content. Posts including discussion questions had the highest number of comments, and posts including videos received the highest number of likes. Similarly, Swindle et al. found that views and interactions with posts varied based on the type and content of posts, with posts containing links having the highest number of interactions [34]. Another study that examined whether different types of posts

differentially affected participant engagement in a behavioral weight loss intervention found that posts that contained polls and encouraged votes resulted in the most participant engagement [35]. The current study and others did not report the time participants spent viewing the videos and posts; therefore, it is unknown whether participants truly engaged with the content as intended. More advanced web analytics should be used to gain more insight into the level of participant engagement. Future studies should examine whether post type engagement varies by content type, which would inform which types of posts are most impactful before designing interventions to be delivered on Facebook.

Posts initiated by participants received a high number of likes and comments, suggesting that parents want to hear and learn from each other. In addition, participants mentioned that they appreciated hearing from other parents and that they liked the support they received from others who were in a similar life stage. Peer led discussions may be beneficial for prompting participant engagement and promoting learning. A study examining the peer-based Grow2Gether Facebook group (a social media parenting group) found that peers tended to provide information that was sound and helpful when mothers posed direct questions regarding infant health and that mothers were eager to both ask and answer questions in the Facebook setting [36]. Although peer groups may have utility for delivering intervention comments, one challenge is the need for constant monitoring [37]. In the current study, one participant was removed for posting inappropriate content, so a system for monitoring appears to be necessary. Our monitoring protocol worked as intended and was feasible to use with this study. However, the protocol was labor intensive, so automated monitoring of social media groups should be explored as an alternative. Future research should further examine the utility of peer led groups for delivering intervention content.

This study had a number of limitations. First, the sample was small and homogenous, and the findings therefore may not be generalizable to diverse populations. Study participants were part of a convenience sample, which may have led to selection bias. Another limitation was the study length. Due to the relatively short length, little is known regarding whether or not engagement would be impacted with a longer intervention period. Additionally, the findings are specific to Facebook and may not be generalizable to other social media platforms. Finally, due to the limitations of using Sociograph with a closed group, some of the features were not available to us and limited our understanding of the data. However, for the research purposes of this group, a closed group was required to protect the identities of the participants.

5. Conclusions

In summary, the data from this study indicate that social media platforms such as Facebook provide a feasible mode for delivering nutrition education and engaging low-income families living in rural areas. Facebook shows promise as a tool to engage parents, and it allows messages to be tailored based on the needs of the community members participating in the program. As new interventions are developed to reach low-income populations, social media should be explored as a platform to provide education and conduct interventions with this population.

Author Contributions: Conceptualization, all authors; Methodology, M.M.; Formal analysis, M.M. and K.L.; Writing—original draft preparation, K.L. and J.S.S.; Writing—review and editing, all authors; Project administration, K.L., L.H., H.M., M.M. and K.M. All authors have read and agreed to the published version of the manuscript.

Funding: Funded by USDA's Supplemental Nutrition Program (SNAP) through the PA Department of Human Services (DHS). Publication funds were received from the Hershey Company endowment, Department of Nutritional Sciences.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Institutional Review Board of The Pennsylvania State University (Protocol code 00009331, approved on 1 February 2019).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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FY22 DRAGON Project Pilot Study Report

Introduction and Background

The Drexel University Eat Right Philly Nutrition Education Program (DRX ERP), a Pennsylvania Supplemental Nutrition Assistance Program Education (PA SNAP-Ed) partner, funded by the United States Department of Agriculture (USDA), provides nutrition education programming in schools and community sites. The DRAGON Project is an intervention developed by DRX ERP to address gaps in current programming. For several years, teachers in the School District of Philadelphia have expressed a need for a curriculum that is more challenging and provides relevant lessons that prepare students for life after high school. Some have also suggested project–based learning opportunities. As a response, Drexel University has created an intervention called The DRAGON Project which aims to teach students in grades 9th through 12th practical and relevant nutrition topics through direct nutrition education combined with policy, system and environmental change approaches. The intervention requires approximately 10 – 15 student lesson/session periods that combine curriculum lessons and project sessions. The curriculum's five-lesson series focuses on topics that build on the principles of MyPlate and includes an exploration into food choices, food resources, managing a food budget, sustainability and sustainable diets. A student-led wellness project, which includes an environmental assessment, assessment analysis, project development, planning, implementation, and project evaluation, makes up the remainder of the sessions (also titled project sessions). The DRAGON project carries two major themes throughout the curriculum: (1) mindfulness and (2) individual and group goalsetting. Through these two themes, students are taught to use mindfulness to guide decision making as they learn how to make healthy adult food choices. Students also practice thoughtfully developing realistic health or wellness goals. The "10-15" session format is designed to provide flexibility and the number of sessions is dependent on the complexity of the student-led project

with input from the teacher. In FY22, DRX ERP completed a pilot study to evaluate students' nutrition-related behavior changes and to collect the thoughts and opinions of teachers, school staff and students involved with the DRAGON Project through post-intervention feedback on the process, content, activities, and overall suggestions for improvement.

Methodology

The DRAGON Project pilot study planned to recruit up to ten high school classrooms to participate in this evaluation. For a high school to be eligible for this evaluation, it must have had no more than 25 students in a classroom. DRX ERP had 39 SNAP-Ed eligible high schools. A maximum of 250 students and approximately 10 total teachers/school staff would be involved in the study. Classrooms were selected based on teacher interest in participation and principal approval. Prior to implementation, the DRX ERP staff trained classroom staff on the intervention and established a schedule for implementation to fit the needs of the school.

At least two weeks prior to the planned start of the evaluation, each principal in the selected high school was given a Principal Support to Conduct Research in Schools form, describing the evaluation and seeking his/her approval (Appendix A). Upon receipt of the approval and at least one week prior to the start of the intervention, an Intervention Information Sheet was provided to the teachers in each intervention class (Appendix B). Teachers were asked to distribute this information sheet to students and caregivers via email. The information included the purpose of the intervention, a description of the intervention, and information about the planned focus group. Caregivers were asked to contact the EAT RIGHT PHILLY program if they did not wish to have the student participate in the focus group. These students were not asked to participate. Assent information was also provided verbally to students before the focus group so that students had an additional opportunity to opt out.

In the first session, as a part of the intervention, students were asked to complete the "Starting the Conversation: Diet" survey, an eight-question simplified food frequency questionnaire and validated assessment tool that is approved for use in SNAP-Ed (Appendix C). The survey responses were used to lead students through a goal-setting activity within the intervention. After completing the curriculum lessons, students were asked to take the survey again, as part of a planned intervention activity to teach students to re-evaluate their intake and assess progress towards accomplishing goals. Students were asked to note their student identification number on both baseline and post-intervention surveys. Student identifiers were only used to match baseline and post-intervention data. No other identifying information was collected or used in the analysis of survey data. Researchers used the "Starting the Conversation: Diet" survey data to evaluate changes in students' reported intake from baseline to post-intervention.

Students also participated in a focus group discussion at the completion of the entire intervention to collect student thoughts regarding lesson content, activities, and suggestions for improvement. In addition, SNAP-Ed and classroom staff were interviewed for their comments on the process, content, activities, and suggestions for improvement. Data obtained will be used to guide revisions and improvements to the planned intervention so that a larger impact evaluation can be conducted in the future.

Baseline and post-testing data collection was completed by DRX ERP appointed and trained staff. The lesson/session intervention was administered by DRX ERP nutrition coordinators and consisted of the following DRAGON Project lessons and sessions: (1) Introduction: The DRAGON Project, (2) Exploring Food Choices: Why Did I Eat That?, (3) Where to Find Our Food, (4) Shop Right to Eat Right, (5) Understanding the Food Web, (6) Sustainability: The Attainable Choice, (7) Assess the School, (8) Survey

Analysis, (9) Prioritizing Areas, (10) Plan and Implement the Project and (11) Evaluate and Celebrate Project Completion.

Study Design

DRX ERP recruited five schools with seven total classrooms participating in the pilot intervention. A total of 97 students participated in the intervention from February 2022 through May 2022. Prior to the implementation of the study, DRX ERP researchers were given training on the DRAGON project, as well as a facilitator's guide that provided details about the project. Drexel researchers worked with the nutrition coordinators to train and obtain principal letters of support. Nutrition Coordinators, with guidance from the school principal, selected classrooms that would have teacher support for the intervention. Teachers were provided with assent documentation to distribute to students and caregivers prior to participation in the intervention (Appendix B). Any student, or caregiver, who opted out was not included in data collection. Students were given the "Starting the Conversation: Diet" survey prior to the administration of session one, and again as a post measure in session two, after the five lessons were delivered (Appendix C). For the project-based learning piece, students completed the "Take the Pulse" survey to identify the health of the school environment and assist with project ideas and development (Appendix D). Nutrition Coordinators guided the students through the process of project implementation. Nutrition Coordinators kept detailed logs providing information on each lesson/session. At the completion of the intervention, a research staff member guided the student group to obtain feedback on the intervention through a reflection worksheet (Appendix E).

Data Analysis and Results

DRX ERP researchers input the data into IBM SPSS version 28. Data collected consisted of n=76 students who completed the pre survey, and n=75 students who completed the post survey. Of the total 97 surveys returned, researchers were able to match 54 surveys in SPSS. A paired samples T-test was conducted for the 54 matched surveys where data did not show significant results.

As an alternative method of data measurement, effect size parameters were also assessed for change. Effect size can assist in identifying behavioral trends in smaller sample sizes. Using the Pearson's *r* method, researchers can measure analysis on the strength of the relationship between the two variables, where in this instance pre and post scores for each question were measured. This inferential statistical method can provide a more detailed way of examining how researchers study behavior change. It also provides practical significance over statistical significance, which can show meaningful results in SNAP-Ed populations. While statistical significance is often used, practical significance allows researchers to look at the actual size of the significance, which can often show a better correlation in real life samples, especially in those studies that do not have a large sample size. Differences in practical significance often indicate a stronger meaning in real life data measurement. Using effect size, significance is calculated using the Pearson's *r* method, which is measured by: (a) Between .1 and .3 – Small effect size, (b) .3 - .5 – Medium effect size and (c) .5 or greater – Large effect size. When a small, medium, or large effect size is calculated, this indicates that there is practical significance, even if results from the p-value do not show statistical significance. Table one indicates that all measurements increased in effect size; when measuring for effect size, it is necessary to look at what the question is asking. Although all effect sizes appear to show a positive increase, in certain questions this can indicate a negative practical significance. As an example, although no significance was found under traditional p-

value measurements, question Q2 asks “How many servings of fruit did you eat each day?” The result provides a large effect size, where students made a large practical shift towards consuming more fruit daily. However, question Q4 asks "How many regular sodas or glasses of sweet tea did you drink each day?" When analyzed, its measurement, although large, indicates a larger consumption of sugar sweetened beverages. Although the shift moves upward, the analysis would indicate an increase in consumption of sugar sweetened beverages. For sugar sweetened beverages, a negative effect size would indicate a reduction in daily consumption because the student would answer with a higher number pre survey, and would answer with a lower number post survey, indicating a reduction in daily consumption. Researchers cannot explain specific reasons behind each behavior change. It could be due to actual behavior changing or could indicate an increased thoughtfulness by the students when completing the post survey. Post survey student answers may reflect the mindfulness and goalsetting themes that carry through the DRAGON project, where students might have answered with more awareness of their own individual habits when completing the post survey.

Table 1: Pearson's R Effect Size Measurement

Variable Frequency/Day	Pearson’s Value	Total Count	Effect Size	Effect Size
Q1: Fast Food	5.499	54	0.32	Medium
Q2: Fruit	21.267	54	0.63	Large
Q3: Vegetables	24.33	54	0.67	Large
Q4: Sugar Sweetened Beverages	30.416	54	0.75	Large
Q5: Protein	22.489	54	0.65	Large
Q6: Snacks	20.482	53	0.62	Large
Q7: Desserts	19.623	53	0.61	Large
Q8: Fats	14.373	53	0.52	Large

Qualitative data showed positive feedback from students and teachers. Positive comments received by students and teachers about the DRAGON intervention included:

- I feel like everything went well. We discussed meaningful topics about our health and made some changes.
- My favorite part of the project was when we all brainstormed ideas together.
- My favorite part was probably deciding what the project was going to be in the end.
- My favorite part of the project is helping to try to make a change in our school environment.
- It helped me put my sleep schedule in check and eat a little bit healthier.
- I see better health impacts because before I eat anything I check for its nutrition facts.
- A huge impact. We can reduce food waste while potentially offering students a voice for what they can and want to eat.
- I could see a big change in our lunchroom due to this project.
- Teacher: Expressed enthusiastic feedback about the curriculum, especially the PSE student led portion of the project. He would love to see it back again next year.
- Initial Introduction of Dragon project to Principals: Loved the hands-on group type of initiatives that the project was able to provide as it is a cornerstone of the work that they have the students complete.
- One High School has already asked for DRX ERP to teach the Dragon project again next year. In this school some students did not get a chance to complete senior projects and instead the school allowed the Dragon project to serve as the senior project.
- One teacher was so excited to implement the project because he had been looking for a project-based learning opportunity to use in his classroom. He even made a video to document the process for his 12th grade class to showcase what can be done with the greens they grow, encourage students to eat more farm to table, and encourage more healthy celebrations and future healthy fundraising.
- Identification of several schools who would like the curriculum back next year.

Students were also asked to share any changes that they would make to the project. Responses included:

- More hands-on work
- What I would do differently is have more time to learn
- I would’ve brought in healthy snacks
- I wouldn’t change anything to be honest
- Nothing, I thought this was cool

Finally in-depth interviews were conducted by researchers with the Nutrition Coordinators to assess the overall success of the project. Some of the following project outcomes were observed in the pilot project:

- Food Access – In one classroom, a student stayed after the lesson in which students learn where to get their food. In this lesson we speak about food access. The student was highly interested in getting involved with assisting at a food bank and expressed further interest in how he might want to make this into something relating to his career or future volunteer work opportunities.
- Food Choices - One coordinator learned from her student that in African American cuisine, food is highly seasoned due to the historical nature of slaves getting scraps. This has been carried down culturally. This was something that the coordinator had never heard from a student, and the first time the coordinator was able to make a cultural connection in that capacity. The student later brought in some of her favorite seasonings to share and the coordinator was able to provide education supporting seasoned foods, sodium intake and other nutrition related concepts.
- One school's Environmental class realized that spaces reserved for students to "calm down" and "take a breather" had been removed and they made it a goal to work on finding and creating safe spaces that students can utilize.
- A student realized he was not getting enough sleep and made his personal smart goal to go to bed earlier and wake up earlier. He was enthusiastic to share that it was working, and he even got up earlier on a weekend to clean his room.
- When students assessed the issues in the school using the HYPE survey, they decided to extend the survey to the entire school so that the school could also give feedback on what changes they would like to see. The students learned about the process of surveying, tallying results and refining issues to address.
- One classroom wanted to have open gym during lunch so that students could have the opportunity to have extra movement time. The administration of the school is working to enact that for the next school year.

Limitations

Several limitations occurred during the FY22 pilot process of the DRAGON project. The DRAGON project pilot was not fully approved for implementation until January, causing time constraints on the actual implementation timelines. In the School District of Philadelphia, academic testing typically occurs in Spring, and educators are unable to teach during these times. This issue impacted some scheduling,

and two classrooms were unable to complete the entire series due to this limitation. Student engagement was also impacted by the impact of COVID-19 and the first year of returning to in-person school. Teachers reported issues with attendance and behavior. Additionally, some schools did not allow Drexel Nutrition Coordinators to teach in-person in the schools, limiting the scope of schools that researchers could utilize. Lastly, although effect size measurement can provide valuable information for interventions with a smaller sample size, researchers question what factors could play into these changes. For example, student attention could have changed due to the intervention's emphasis on mindfulness practices, thus challenging the students to think more in depth about their responses to the survey questions. This thoughtfulness could have increased awareness among students, causing post surveys to be answered more thoughtfully than the pre-survey responses.

Conclusions

Implications from this pilot review process allowed DRX ERP researchers to understand the strengths and limitations of the project. It provided researchers with an opportunity to assess the full implementation of the intervention and make modifications as issues came to light. The entirety of the project was received by teachers, staff, and administration with enthusiasm, with schools already asking for the DRAGON project to be implemented in the 2022-2023 school year. Teachers expressed that the lessons assisted them in creating an atmosphere of teamwork, which teachers had struggled to implement at times in their own classrooms. They also enjoyed the hands-on nature of the project as it is the cornerstone of the school-day work that occurs with students. DRX ERP is planning on extending a full program evaluation of the DRAGON project in the 2022–2023 school year.

Appendix A - Principal Support to Conduct Research in Schools

Dear Principal:

The Researcher identified below has submitted a proposal to the Institutional Review Board (IRB) at Drexel University and requested that your school serve as a site for his/her research. While the IRB evaluates the proposal in terms of research design, methodology, and compliance with federal regulations, the Researchers must secure your support and permission to conduct the study in your school.

Researchers should clearly describe the project and provide you with a detailed description of the research activities that will take place in your school. Please complete this form and return it to the Researcher so that he/she can submit it to the Institutional Review Board at Drexel University. Forms must be completed and on file prior to the initiation of the study.

All researchers having contact with students in schools must have child abuse and criminal clearances on file

_____

Researcher/Principal Investigator: Jennifer Quinlan, PhD_____

Title of Study: The Drexel University's Pennsylvania Supplemental N0utrition Assistance Program – Education (SNAP-Ed)/Eat Right Philly Nutrition Program - DRAGON Project Progress Monitoring Proposal

Proposal #:____#2021-08-929**_____**

Research Will Involve:

Cooperating School: _____

Grade(s): _____ # Classes: _____

 # Students: _____ # Staff: _____

Data collection start date: _____ Data collection end date: _____

This study has been explained to my satisfaction: _Yes _No

This study may be conducted in my school: _Yes _No

Principal Name (print): _____

Signature: _____ Date: _____

Appendix B - Intervention Information Sheet

EAT RIGHT PHILLY
Inspiring health, wellness, and better learning.

Dear Parent/Guardian:

EAT.RIGHT.PHILLY is the official Pennsylvania Supplemental Nutrition Assistance Program – Education (PA SNAP-Ed) Program of the School District of Philadelphia. Drexel University's PA SNAP-Ed/EAT RIGHT PHILLY Program provides nutrition education to your child during school and in after-school programs. Nutrition lessons and activities promote healthy eating and physical activity. This year, we will be working with your school's teachers to help them provide nutrition lessons and activities to your children. The nutrition lessons will be taught in your child's regular class and will be conducted over the school year.

EAT.RIGHT.PHILLY is conducting an impact evaluation called the DRAGON project that aims to teach students in 9th through 12th grades topics that build on the principles of MyPlate including, the impact of food choices, making healthy food choices, managing a food budget, and sustainable diets. A student-led wellness project, which will include an assessment, planning, implementation, and evaluation of the chosen project, will make up the reminder of the sessions. To determine if this education is useful, we will conduct pre and post testing to ask students about their learning experience through the DRAGON project, and reflection forms to assess student perception.

Student input can help us improve our nutrition education programs. All information provided by students will be strictly confidential, and feedback will not impact school grades. Feedback will be anonymous; names will not be attached to the response. Your child's participation is voluntary. Your child may choose not to answer certain

Dear Student:

We will be asking you some questions about your learning experience in the DRAGON project to help us improve lessons that teach students about healthy eating. This is a Drexel University EAT.RIGHT.PHILLY research study. The study will be conducted during your regular class. Participating in the study is voluntary and you may stop at any time. Your answers will be kept anonymous and private. Your answers will not affect your school grades. Your parents/guardians know you are involved in this research study. If you choose to opt-out of the research study, you will still be included in the nutrition lessons provided to the rest of your class. However, you will not have to participate in the focus group at the end of the study.

If you have questions about this study, please contact your Nutrition Educator or Judy Ensslin at: jae58@drexel.edu or 215-895-0596. If you wish to contact Drexel University's Institutional Review Board for more information about research conduct, please call 215-762-3944.

Thank you for taking part in this study!

Appendix C – Starting the Conversation: Diet Survey

Student ID # _____

Starting the Conversation: Diet Survey

This survey asks some questions about your nutrition related behaviors. The questions are part of the DRAGON project project-led sessions and will allow you to understand the tools needed to conduct a survey and analyze the results. All your answers will be kept private. Please answer all questions.

Read each question. Fill in the circles completely to indicate your answers.

Over the past few months:

1. How many times a week did you eat fast food meals or snacks?
   - O Less than 1 time
   - O 1-3 times
   - O 4 or more

2. How many servings of fruit did you eat each day?
   - O 5 or more
   - O 3-4 times
   - O 2 or less

3. How many servings of vegetables did you eat each day?
   - O 5 or more
   - O 3-4 times
   - O 2 or less

4. How many regular sodas or glasses of sweet tea did you drink each day?
   - O Less than 1
   - O 1-2 times
   - O 3 or more

5. How many times a week did you eat beans (like pinto or black beans), chicken or fish?
   - O 3 or more times

- O 1-2 times
- O Less than 1 time

6. How many times a week did you eat regular snack chips or crackers (not low-fat)?
   - O 1 time or less
   - O 2-3 times
   - O 4 or more

7. How many times a week did you eat desserts and other sweets (not the low-fat kind)?
   - O 1 time or less
   - O 2-3 times
   - O 4 or more

8. How much butter or margarine (or meat fat) do you use to season or puton vegetables, potatoes, or bread?
   - O Very Little
   - O Some
   - O A lot

Thank you for completing this survey!

Appendix D – Take the Pulse Survey

Meeting 5

HYPE
HEALTHY YOU. POSITIVE ENERGY.

Take the Pulse

High School Edition—How Healthy is Your School?

Read the questions below and check either "yes" or "no."

	Healthy Eating	YES	NO
1	Are you served lots of different healthy foods (eg. fruits, vegetables, non-fried food, whole grains, low-fat milk) for school breakfast and lunch?		
2	Are you and your classmates given enough time to eat breakfast and lunch?		
3	Can you buy healthy snacks in vending machines or the school store?		
4	Are there drinking fountains throughout your school?		
5	Are you able to drink water throughout the day?		
6	When your class or school has celebrations or students are being rewarded, do you receive non-food items or healthy snacks?		
7	Do your school fundraisers use healthy foods?		
8	Do you see your peers bringing in healthy snacks from home or the corner store?		

	Active Living	YES	NO
9	Are enough gym classes being offered?		
10	Are there opportunities to be physically active outside of P.E.?		
11	Do you think there is enough athletic equipment and safe places to play sports?.		
12	Does your class take movement breaks throughout the day?		
13	Do you see many students walk or ride their bike to and from school?		
14	Does your school offer sports or fitness clubs before or after school?		

	Mental Health	YES	NO
15	Are students are your school experiencing overwhelming amounts of stress due to academic expectations?		
16	Do you have a garden at your school?		
17	Do you have a wellness council at your school? (You can ask your teacher or your principal if you're not sure!)		
18	Are there resources at your school to support students' mental health?		
19	Are there spaces where students can go to decompress if they're feeling angry or sad?		
20	Does your school have counselors who are accessible and easy to see?		
21	Do you know what your school's discipline policies are?		
22			

HYPE: Healthy You. Positive Energy.

Appendix – E: Reflection Worksheet

REFLECTION

After completing a project, taking time to reflect on the project can provide insight into successes, challenges, and opportunities to improve on the work that was done.

Use the following questions to guide an evaluation of the project.

1. What went well?

2. What was your favorite part of the project?

3. What were some challenges?

4. What would you do differently?

5. How did this project help other people make healthy choices?

6. How did you work with your peers?

7. How did you solve any disagreements that came up in your group?

8. What impact do you see from the project?

9. Any additional thoughts?

Examination of Data Analysis Methods on Behavioral Changes in the PA SNAP-Ed/Eat Right Philly Program: Eight Years of Data and Analysis Techniques

Introduction and Background

The Drexel University Eat Right Philly Nutrition Education Program (DRX ERP), a Pennsylvania Supplemental Nutrition Assistance Program Education (PA SNAP-Ed) partner, funded by the United States Department of Agriculture (USDA), provides nutrition education programming in schools and community sites. The objective of this research was to examine the data and results of the Modified Youth Risk Behavior Surveillance System (Modified YRBS) (Appendix A) from 2013 through 2021.

The goal of SNAP-Ed is to provide nutrition education to SNAP-eligible individuals to increase the likelihood that participants will make healthy food choices and choose physically active lifestyles within their budget. DRX ERP programming uses evidence-based, comprehensive, and multilevel interventions, including direct nutrition education and other interventions that influence policy, systems or environmental changes which improve wellness opportunities for participants. As a part of annual, statewide, PA SNAP-Ed evaluation plan, DRX ERP Nutrition Coordinators collect up to 150 matched Modified YRBS surveys to measure the impact of direct education programming on student behavior change. Surveys are sent to the Management Entity, Penn State University PA-SNAP-ED, for statewide analysis. The DRX ERP program has also used the Modified YRBS, with slight changes, mandated by the School District of Philadelphia, to conduct internal pre and post examination of the DRX ERP High School Curriculum. This research uses Drexel's internal, Modified YRBS data and the data from the Penn State Modified YRBS from 2013 through 2021 to examine trends in PA SNAP-Ed evaluation results.

Between 2013 and 2015, a three-year impact evaluation study was conducted by DRX ERP. Published results using pre and post behavior analysis, showed significant positive changes in adolescent nutrition behavior ($p<.05$) (Gilman et al, 2021). SNAP-Ed data analysis techniques have historically measured statistical significance for behavior change through dependent sample t-testing. Statistical significance (also called null hypothesis significance testing) tells researchers that the effect is not big enough to be found, not that there is zero effect (Field,

2005). An emerging method is to use the analysis of practical significance, utilizing effect size metrics, to measure behavior change in SNAP-Ed evaluation. Published studies in SNAP-Ed are limited; data that present statistical significance is preferred in publications to provide concrete proof of change. Data from interventions in SNAP-Ed typically are limited regarding statistical findings. Additional methods of data analysis, like effect size, may benefit the strength of the findings in SNAP-Ed interventions. Effect size provides a more sensitive measurement of practical behavior change that traditional p-values do not show.

Research Objectives

The objectives of this study were:

1. Conduct a retrospective analysis of data from 2016 –2021 Modified YRBS data using the same analysis methods used in the 2013 –2015 impact evaluation study.
2. Examine the use of effect size to determine behavior change in data collected from 2013 –2021 as a measure of practical significance.

Methodology and Data Analysis

This study is designed as a retrospective examination of survey data that was collected over eight years. Subjects included students who attended high schools in the School District of Philadelphia from 9th through 12th grades, during the years 2013 through 2021 and received the Drexel University High School Nutrition Curriculum. The curriculum primarily uses a five-lesson series. Lessons are administered in the following sequence: (1) MyPlate: Build a Healthy Plate, (2) Fast Food: Figuring Out the Facts, (3) Choosing Healthy Beverages: Rethink Your Drink, (4) Calcium and Vitamin D: Strong Bones and (5) Energy Balance: Understanding Energy Balance. Some students received an extended eight-lesson series which included the five-lesson series with the addition of the following lessons: (1) Breakfast: Choose a Healthy Breakfast, (2) Snacks and Label Reading and (3) Fruit and Vegetables: Fear Factor.

Survey Tool

The Modified YRBS is a validated survey tool, created by the Centers for Disease Control and Prevention to measure health outcomes and behaviors. In addition to using the Modified YRBS, in 2016 and 2020, DRX ERP utilized a further modified version of this tool when

completing internal evaluation projects. This version was modified by the School District of Philadelphia (SDP Modified YRBS) (Appendix B) to change the questionnaire responses to times per day, where the Statewide Modified YRBS uses times per week. Data analysis of the statewide YRBS provided by the management entity, Penn State PA SNAP-Ed, transforms the variables during the statistical analysis phase so that they are broken down by both times per week and times per day. For survey consistency, data from both YRBS versions was re-coded so that all results asked how many times "yesterday" the participant consumed various foods or food groups.

DRX ERP employees administered the Modified YRBS to students. Students completed a baseline survey before receiving the high school nutrition curriculum and again after the last lesson was completed, to measure rates of behavior change. Initial primary data analysis ran a paired samples t-test to evaluate the change in students' self-perception of nutrition behaviors. Results were measured for significance at $p<.05$.

To meet the goals of the second aim, using effect size, significance was calculated using the Pearson's r method (known also as the Pearson's coalition coefficient). This method is measured by: (a) Between .1 and .3 – Small effect size, (b) .3 - .5 – Medium effect size and (c) .5 or greater – Large effect size. A small, medium, or large effect size indicates that there is practical significance, even if results from the p-value do not show statistical significance. $\sqrt{\frac{Pearsons\ Value}{Total\ Count}}$. Data were analyzed through IBM SPSS version 26.

Results of the eight years of retrospective analysis for both p-value and effect size metrics are shown below (Table 1).

Results

Results from Table 1 show that statistical significance was found in all years but two: 2017 – 2018 (FY18) and 2019 – 2020 (FY20). Previously published research using pre and post behavior found significant positive changes in youth behavior between 2013 – 2015 ($p<.05$) (Gilman et al, 2021). To substantiate the effects of DRX ERP in the research presented here, researchers ran paired samples t-tests, for data collected between 2016 – 2021, which showed

improvements in youth health behaviors. Students increased vegetable consumption between 2016-2017 (p=<0.001), 2018-2019 (p=0.011) and 2020-2021 (p=0.032). Students showed significant positive behavior change in fruit (p=<0.001), and fruit juice consumption (p=<0.001), during 2016-2017.

All years showed effect sizes ranging from small to large, with some variables showing no effect size. If a t-test does not show statistical significance, that does not mean that the effect of the change is not important (Field, 2005). Both statistical significance (p-value) and practical significance (effect size) are important to measure, they simply tell the researchers different data results. Table one shows us that across the 42 variables measured during the eight-year window, 30 variables did show an effect size, whereas only 8 of the 42 variables showed statistical significance measured at a p<.05. In this instance, it is important to note that there is a practical significance in behavior change that has been measured each year by students who receive the DRX ERP High School Nutrition Curriculum. Effect size demonstrates small, medium and large measures which indicates behavior change despite no statistical significance. Effect size positively shows more meaningful real-world relevance.

Year	Variable	Pearson's Value	Total Count	Effect Size	Effect Size	P-Value
2013 - 2015	Fruit Juice	17.223	829	0.14	Small	0.026
	Fruit	4.591	829	0.07	x	x
	Green Salad	6.275	830	0.09	x	x
	Potato	9.925	829	0.11	Small	0.016
	Carrots	4.386	827	0.07	x	x
	Other Vegetables	1.786	823	0.05	x	x
	Sugar Sweetened Beverages	4.44	826	0.07	x	0.023
2016 - 2017	Fruit Juice	5.489	175	0.18	Small	<0.001
	Fruit	4.529	176	0.16	Small	<0.001
	Green Salad	3.636	175	0.14	Small	x
	Potato	3.224	176	0.14	Small	x
	Carrots	1.471	175	0.09	Small	x
	Other Vegetables	7.039	176	0.2	Small - Med	<0.001
	Sugar Sweetened Beverages	2.854	175	0.13	Small	x
2017 - 2018	Fruit Juice	8.852	349	0.16	Small	x
	Fruit	1.148	347	0.06	x	x
	Green Salad	2.803	348	0.09	x	x
	Potato	5.843	349	0.13	Small	x
	Carrots	6.347	349	0.13	Small	x
	Other Vegetables	2.845	348	0.09	x	x
	Sugar Sweetened Beverages	2.487	348	0.08	x	x
2018 - 2019	Fruit Juice	1.866	191	0.1	Small	x
	Fruit	5.4	192	0.17	Small	x
	Green Salad	2.055	191	0.1	Small	x
	Potato	6.168	188	0.18	Small	x
	Carrots	2.019	191	0.1	Small	x
	Other Vegetables	0.313	191	0.04	x	0.011
	Sugar Sweetened Beverages	7.583	191	0.2	Small - Med	x
2019 - 2020	Fruit Juice	52.409	42	1.12	Large	x
	Fruit	31.708	43	0.88	Large	x
	Green Salad	15.097	43	0.59	Large	x
	Potato	4.932	43	0.39	Medium	x
	Carrots	8.108	43	0.43	Small-Medium	x
	Other Vegetables	21.921	43	0.71	Large	x
	Sugar Sweetened Beverages	10.29	43	0.49	Med-Large	x
2020 - 2021	Fruit Juice	0.682	15	0.21	Small	x
	Fruit	2.744	10	0.52	Large	x
	Green Salad	0	6	0	None	0.032
	Potato	1.333	4	0.58	Large	x
	Carrots	x	3	0	None	x
	Other Vegetables	0.686	12	0.24	Small	x
	Sugar Sweetened Beverages	0.833	5	0.41	Medium	x

Table 1: P-Value and Effect Size Metrics

Challenges and Limitations

Limitations in this study include the onset of the Covid-19 pandemic which, when compared to previous years, had a smaller, total participant count than was seen in FY20 and FY21. In addition, students did not answer all the questions on matched surveys, thereby further limiting the sample size for each survey question. When measuring effect size, only questions that students have answered are counted. If a student answers four of the eight questions, the total student count will only reflect in the four questions answered. The student will not be counted in the unanswered pre/post variable questions. This level of sensitivity provides a higher measure of practical significance because it measures only the variables or questions that have been answered. These smaller samples were not a surprise considering the onset of virtual learning, the closing of schools, and the efforts to navigate virtual learning. Issues with virtual learning included lack of student participation, students with no cameras on, making them less likely to be present, as well as overall student and teacher burnout.

SNAP-Ed intervention studies can face barriers because collected data do not always provide an analysis that shows statistical significance (p-values), which is the traditional measurement of significance. The American Psychological Association recommends that researchers step back from null hypothesis testing (statistical significance) and include more testing that rely on Confidence Intervals or effect size so there is not complete reliance on null hypothesis testing (Field, p. 221). Effect size measures real world impact, which could allow SNAP-Ed researchers to analyze data to show that the programming has provided meaningful, practically relevant results. SNAP-Ed researchers work in varying environments. Relying on hypothesis testing does not always provide measurable behavioral change but the sensitivity measured in effect size can provide researchers with behavior change results that are not always identified in traditional methods.

Additional limitations include difficulties in interpreting results. Effect size tells the researcher that a change has occurred. Effect size does not measure details that may deal with how the behavior changed, and in what capacity. For example, if a small effect size is calculated, we can measure this as a supporting result, but we cannot always tell what the small change is. As an example, a student is surveyed, and a small effect size is measured in “How

many servings of fruit did you eat this week." The student might have added one serving of fruit that week, where normally they already eat four servings. Alternatively, the student could have only had one serving of fruit per week and added an additional serving. There are varying ways to measure behavior change data, where paired samples t-tests could be used to isolate serving size, as from the previous example. In general, a student who eats one serving and increases it by one additional serving has most likely made a positive impact in health-based behavior change. This limitation may continue to be a barrier unless comprehensive statistical analysis is used to observe multiple outcomes as a standard in intervention methods. Researchers acknowledge that limitations occur due to the inability to examine these results on an individual level, where personal factors may come into play.

Conclusions

In this study, when calculated for effect size, measurements that had no statistical significance showed small, medium and large effect sizes which indicate a level of practical significance that is not always found in statistically significant measures, such as those shown by a traditional t-test and p-value measurement. This factor is important; results that continue to show little to no change with statistical significance, like p-values, can be analyzed in ways that measure a more sensitive practical change in results.

Chi-Square/Crosstabulation analyses (effect size) identified meaningful changes pre and post survey during DRX ERP High School Lessons. During the years 2017-2018, no significant p values were measured, but effect size showed changes ranging from small to large impacts for some measured variables. No significant p-value measured behavior changes were found in 2019-2020, but effect size metrics for this time showed changes for measured variables (results ranged from small to large in all categories).

The results of this study intended to examine what information can be provided by using alternative analysis methods. Examination of data should revolve around a multi-prong approach. Researchers Petrie et al (2020), utilized effect size metrics to measure aggregated data from direct education and policy, system and environmental data. This was combined with statistical analysis to improve overall analysis that State Implementing Agencies could use as a standard of measurement. Researchers believed that this would improve overall research

framework methods which would fall more in line with reporting requirements, tie more towards requirements in the Farm Bill and Evidence Act, and more thoroughly align with the SNAP-Ed toolkit evaluation indicators (Petrie, et al, 2020).

SNAP-Ed programming requires continued evaluation, with robust results that match the goals of the program. This study helps to justify the efforts of nutrition education programming, as well as examining how programming meets state evaluation goals. Examining various ways to measure behavior change statistically provides SNAP-Ed researchers with a potential for more realistic measurement methods, and the potential for streamlined data analysis measures.

References

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Appendix A - Modified YRBS

Nutrition and Physical Activity Survey

This survey asks some questions about your nutrition and physical activity related behaviors. The questions are part of a study to learn how to teach students about health. Completing this survey is voluntary and you may stop at any time. If you don't feel comfortable answering a question, just leave it blank. Your answers won't affect your school grades. All your answers will be kept private. The questions about your background will only be used to describe the students completing this survey.

Read each question. Fill in the circles completely to indicate your answers.

1. How old are you today?
   - O 12 years old or younger
   - O 13 years old
   - O 14 years old
   - O 15 years old
   - O 16 years old
   - O 17 years old
   - O 18 years old or older

2. What is your sex? O Female O Male

3. What grade are you in now?
   - O 8th grade
   - O 9th grade
   - O 10th grade
   - O 11th grade
   - O 12th grade
   - O Ungraded or other grade

4. Are you Hispanic or Latino? O Yes O No

5. What is your race? (You may select more than one.)
   - O American Indian or Alaska Native
   - O Asian
   - O Black or African American
   - O Native Hawaiian or Other Pacific Islander
   - O White

6. Do you connect to the Internet from home? O Yes O No

7. Do you connect to the Internet from a location other than home? O Yes O No

8. Do you connect to the Internet using a cell phone or other mobile device? O Yes O No

   8a. **If YES**, would you use an app to learn about nutrition and health? O Yes O No

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The next questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else. Read all answer choices and select <u>one</u> for each question.

9. During the past 7 days, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
   - O I did not drink 100% fruit juice during the past 7 days
   - O 1 to 3 times during the past 7 days
   - O 4 to 6 times during the past 7 days
   - O 1 time per day
   - O 2 times per day
   - O 3 times per day
   - O 4 or more times per day

10. During the past 7 days, how many times did you eat **fruit**? (Do **not** count fruit juice.)
   - O I did not eat fruit during the past 7 days
   - O 1 to 3 times during the past 7 days
   - O 4 to 6 times during the past 7 days
   - O 1 time per day
   - O 2 times per day
   - O 3 times per day
   - O 4 or more times per day

11. During the past 7 days, how many times did you eat **green salad**?
   - O I did not eat green salad during the past 7 days
   - O 1 to 3 times during the past 7 days
   - O 4 to 6 times during the past 7 days
   - O 1 time per day
   - O 2 times per day
   - O 3 times per day
   - O 4 or more times per day

12. During the past 7 days, how many times did you eat **potatoes**? (Do **not** count French fries, fried potatoes, or potato chips.)
    - O I did not eat potatoes during the past 7 days
    - O 1 to 3 times during the past 7 days
    - O 4 to 6 times during the past 7 days
    - O 1 time per day
    - O 2 times per day
    - O 3 times per day
    - O 4 or more times per day

13. During the past 7 days, how many times did you eat **carrots**?
    - O I did not eat carrots during the past 7 days
    - O 1 to 3 times during the past 7 days
    - O 4 to 6 times during the past 7 days
    - O 1 time per day
    - O 2 times per day
    - O 3 times per day
    - O 4 or more times per day

14. During the past 7 days, how many times did you eat **other vegetables**. (Do **not** count green salad, potatoes, or carrots.)
    - O I did not eat other vegetables during the past 7 days
    - O 1 to 3 times during the past 7 days
    - O 4 to 6 times during the past 7 days
    - O 1 time per day
    - O 2 times per day
    - O 3 times per day
    - O 4 or more times per day

15. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do **not** include diet soda or diet pop.)
    - O I did not drink soda or pop during the past 7 days
    - O 1 to 3 times during the past 7 days
    - O 4 to 6 times during the past 7 days
    - O 1 time per day
    - O 2 times per day
    - O 3 times per day
    - O 4 or more times per day

16. How often do you drink **milk** as a beverage (NOT in cereal)?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 17**
O 1-3 times per week
O 4-6 times per week
O 1 time per day
O 2 times per day
O 3 or more times per day

16a. Each time you drink **milk**, how much do you usually drink?
O Less than 1 cup
O 1 cup (8 ounces)
O More than 1 cup

16b. What kind of **milk** do you usually drink?
O Don't know
O Whole milk
O 2% fat milk
O 1% fat milk
O Skim or nonfat milk
O Chocolate milk
O Soy or rice milk or another milk alternative

17. How often do you eat **yogurt** or drink a **yogurt drink**?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 18**
O 1-3 times per week
O 4-6 times per week
O 1 or more times per day

17a. Each time you have **yogurt** or a **yogurt drink**, how much do you usually have?
O Less than 1 cup
O 1 cup (8 ounces)
O More than 1 cup

18. How often do you eat **cold cereal**?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 19**
O 1-3 times per week
O 4-6 times per week
O 1 time per day
O 2 or more times per day

18a. Each time you eat **cold cereal**, how much do you usually eat?
O Less than 2 cups
O 2 cups
O More than 2 cups

19. How often do you eat **Mexican foods** such as tacos, tostados, burritos, tamales, fajitas, enchiladas, quesadillas, or chimichangas?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 20**
O 1-3 times per week
O 4-6 times per week
O 1 or more times per day

19a. Each time you eat **Mexican foods**, how much do you usually eat?
O Less than 1 taco or burrito
O 1 taco or burrito
O More than 1 taco or burrito

20. How often do you eat **pizza**?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 21**
O 1-3 times per week
O 4-6 times per week
O 1 time per day
O 2 or more times per day

20a. Each time you eat **pizza**, how much do you usually eat?
O 1 slice
O 2 slices or one mini pizza
O 3 or more slices

21. How often do you eat **macaroni and cheese**?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 22**
O 1-3 times per week
O 4-6 times per week
O 1 or more times per day

21a. Each time you eat **macaroni and cheese**, how much do you usually eat?
O Less than 1 cup
O 1 cup
O More than 1 cup

22. How often do you eat **ice cream**, **ice cream bars**, **milk shakes**, or **frozen yogurt**?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 23**
O 1-3 times per week
O 4-6 times per week
O 1 time per day
O 2 or more times per day

22a. Each time you eat **ice cream**, **ice cream bars**, **milkshakes**, or **frozen yogurt**, how much do you usually eat?
O Less than 1 cup
O 1 cup (2 scoops)
O More than 1 cup

23. How often do you eat **cheese** (including on salads or in sandwiches or subs)?

O Never or less than 1 time per week ⇨ **GO TO QUESTION 24**
O 1-3 times per week
O 4-6 times per week
O 1 or more times per day

23a. Each time you eat **cheese**, how much do you usually eat?
O Less than 1 slice or 1 stick
O 1 slice or stick
O More than 1 slice or stick

The next questions ask about physical activity. Read all answer choices and select one.

24. During the past 7 days, on how many days were you physically active for a total of **at least 60 minutes per day**? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)

O 0 days O 4 days
O 1 day O 5 days
O 2 days O 6 days
O 3 days O 7 days

25. On an average school day, how many hours do you watch TV?

O I do not watch TV on an average school day
O Less than 1 hour per day
O 1 hour per day
O 2 hours per day
O 3 hours per day
O 4 hours per day
O 5 or more hours per day

26. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod Touch, Facebook and the Internet.)

O I do not play video or computer games or use a computer for something that is not school work
O Less than 1 hour per day
O 1 hour per day
O 2 hours per day
O 3 hours per day
O 4 hours per day
O 5 or more hours per day

27. How tall are you without your shoes on? Write your height in the blank boxes.

For example, if you are 5 feet, 7 inches, you would fill it in like this:

Height	
Feet	Inches
5	0 7

Write your height here:

Height	
Feet	Inches

28. How much do you weigh without your shoes on? Write your weight in the blank boxes.

For example, if you weigh 152 pounds, you would fill it in like this:

Weight
Pounds
1 5 2

Write your weight here:

Weight
Pounds

Do not write in this box ME Internal Use Only
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Appendix C – SDP Modified YRBS

Nutrition and Physical Activity Survey

This survey asks some questions about your nutritional and physical activity related behaviors. The questions are part of a study to learn how to teach students about health. Completing this survey is voluntary and you may stop at any time. Your answers won't affect your school grades. All your answers will be kept private. The questions about your background will only be used to describe the students completing this survey. Please answer all questions.

Read each question. Fill in the circles completely to indicate your answers.

1. What is your age?
   - 13 years old
   - 14 years old
   - 15 years old
   - 16 years old
   - 17 years old
   - 18 years old or older

2. What is your gender?
   - Female
   - Male

3. In what grade are you?
   - 9th grade
   - 10th grade
   - 11th grade
   - 12th grade
   - Ungraded or other grade

4. What is your race/ethnicity? **(You may select more than one response.)**
   - o American Indian or Alaska Native
   - o Asian
   - o Black or African American
   - o Hispanic or Latino
   - o Native Hawaiian or Other Pacific Islander
   - o White

The following questions ask you about the food you ate or drank <u>yesterday</u> only. Choose only one answer.

5. Yesterday, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **NOT** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
   - o I did not drink 100% fruit juice yesterday
   - o 1 time per day
   - o 2 times per day
   - o 3 times per day
   - o 4 or more times per day
6. Yesterday, how many times did you eat **fruit**? (Do **not** count fruit juice.)
   - o I did not eat fruit yesterday
   - o 1 time per day
   - o 2 times per day
   - o 3 times per day
   - o 4 or more times per day

7. Yesterday, how many times did you eat **green salad**?
   - o I did not eat green salad yesterday
   - o 1 time per day
   - o 2 times per day
   - o 3 times per day
   - o 4 or more times per day

8. Yesterday, how many times did you eat **potatoes**? (Do **NOT** count french fries, fried potatoes, or potato chips.)
   - o I did not eat potatoes yesterday
   - o 1 time per day
   - o 2 times per day
   - o 3 times per day
   - o 4 or more times per day

9. Yesterday, how many times did you eat **carrots**?
   - o I did not eat carrots yesterday
   - o 1 time per day
   - o 2 times per day
   - o 3 times per day
   - o 4 or more times per day

10. Yesterday, how many times did you eat **other vegetables**? (Do **NOT** count green salad, potatoes, or carrots.)
    - o I did not eat other vegetables yesterday
    - o 1 time per day
    - o 2 times per day
    - o 3 times per day
    - o 4 or more times per day

11. Yesterday, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **NOT** count diet soda or diet pop.)
    - o I did not drink soda yesterday
    - o 1 time per day
    - o 2 times per day
    - o 3 times per day
    - o 4 or more times per day

12. Yesterday, how many **glasses of milk** did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)
    - o I did not drink milk yesterday
    - o 1 glass per day
    - o 2 glasses per day
    - o 3 glasses per day
    - o 4 or more glasses per day

13. Yesterday, did you eat <u>breakfast</u>?
    - o No
    - o Yes

The following questions ask about your physical activity <u>for the last week</u>. Chooses only one answer per question

14. During the past 7 days, on how many days were you physically active for a total of **<u>at least 60 minutes per day</u>**? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
    - o 0 days
    - o 1 day
    - o 2 days
    - o 3 days

15. During the past 7 days, on how many days did you do exercises to strengthen of tone your muscles, such as push-ups, sit-ups, or weight lifting?
    - o 0 days
    - o 1 day
    - o 2 days
    - o 3 days
    - o 4 days
    - o 5 days
    - o 6 days
    - o 7 days

Thank you for completing this survey!

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PA SNAP-Ed/ EAT RIGHT PHILLY 2022 Annual Report

EAT RIGHT PHILLY PA SNAP-Ed

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Drexel UNIVERSITY

From the Desk of the PI....

Happy 20th Anniversary to EAT RIGHT PHILLY! The original form of ERP started teaching nutrition education to students in the School District of Philadelphia in October of 2002. Over the past 20 years, the program has reached thousands of students and SNAP-eligible families in Philadelphia. It has brought in over $28 million dollars in federal funding and become a valued community partner to many K-12 schools and community sites in Philadelphia. The program has evolved over the years from an after-school activity, to being integrated into the school curriculum, and most recently to developing and assessing new curriculum that can be used by SNAP-Ed partners throughout the country.

A major accomplishment in this evolution is the piloting this year of the DRAGON Project, a curriculum and project-based learning intervention. This novel intervention encourages high school students to not only make healthy choices themselves, but also evaluate their own surroundings and develop projects to either educate their community or identify changes that can be made to help promote healthier lifestyle choices.

The ERP program is not just about nutrition education anymore but promotes overall healthier lifestyle choices around movement, mindfulness, hydration, and overall well-being. This year the program presented their work regrarding assessing and improving this type of education, as well as lessons learned through the pandemic, at two national and two regional meetings. This work will allow lessons learned to be transferred to other SNAP-Ed partners and nutrition educators.

The ERP staff adapted brilliantly to the challenge of slowly returning to in-person education, but always needing the virtual option over the past year! While the team was eager to get back into classrooms in fall of 2021, they had to balance the concerns of some schools to resume in-person education and food tastings with those schools that were eager to return to in-person interactions. After a year of transition, the team is now well skilled in hybrid and virtual education when needed but still loves the in-person interactions with students and teachers.

It is an honor and a pleasure to work with the hardworking EAT RIGHT PHILLY team to promote healthier lifestyles among SNAP-eligible children and their families in Philadelphia! Please read on to see all of their hard work and accomplishments over the past year.

Congratulations and thank you to the EAT RIGHT PHILLY Team!

Jennifer J. Quinlan, Ph.D.

Professor

Department of Nutrition Sciences

Goal of Nutrition Education in SNAP-Ed

To provide experiences that will "improve the likelihood that persons eligible for SNAP will make healthy food choices within a limited budget and choose physically active lifestyles consistent with the current Dietary Guidelines for Americans and the USDA food guidance". **USDA SNAP-Ed Plan Guidance FY2019**

Program Overview

Drexel University's EAT RIGHT PHILLY Program is a Pennsylvania Supplemental Nutrition Assistance Program-Education (PA SNAP-Ed) partner which provides free nutrition outreach programs and services to SNAP-eligible participants. Funding is through the United States Department of Agriculture Supplemental Nutrition Assistance Program through the Pennsylvania Department of Human Services. Drexel's team is one of six partners to the School District of Philadelphia (SDP) EAT RIGHT PHILLY Program, the official nutrition education program of the SDP. This program provides interactive nutrition lessons, as well as interventions that engage and support students, families, staff, and the community in the quest to make the healthy choice the easy choice.

The COVID -19 pandemic continued to impact Drexel's EAT RIGHT PHILLY program this year. At the start of the school year, a little more than half of the program sites requested a return to in-person programming, while the remaining sites preferred to utilize virtual nutrition programming. Throughout the year, nutrition coordinators adapted nutrition programs as needed for each site. By the end of the 2021-2022 school year, most schools returned to in-person programming, but virtual implementation remained an option.

Strategies and interventions used to promote healthy behaviors include:

- In-Person and virtual nutrition lessons
- In-Person and virtual food demonstrations
- Recipe videos

- Gardening projects
- Hydration promotions
- Physical activity and movement break promotions
- Fruit and vegetable promotions
- Breakfast promotions
- Food access support
- Social media

By the Numbers....

$1,840,820 *Total Grant Award for 2021 to 2022*

74 *Schools and Charter Schools*

4 *Community Sites*

2,739 *Nutrition lessons conducted with students and adults*

10,562 *Students and adults who participated in direct education*

51,718 *Students and adult contacts through direct education*

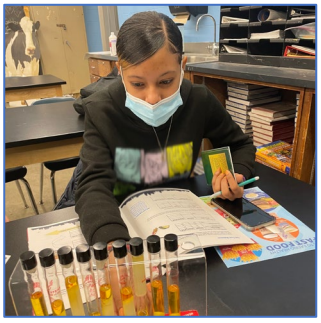
35,300 *Participants reached through Policy, Systems, and Environmental (PSE) change strategies*

60,515 *Food Tastings were provided during programming*

Year in Review

Program Highlights

Building Skills: Nutrition Education



"It's a great program that broadens many of my students' horizons."

Drexel's EAT RIGHT PHILLY Team delivers interactive nutrition lessons to SNAP-Ed eligible kindergarten through twelfth grade students and adults. In-person and virtual lessons with interactive activities and food demonstrations are used to engage students, spark interest in wellness, and develop knowledge in nutrition and physical activity. Hands-on cooking activities were suspended for the first half of the 2021-2022 program year due to the COVID-19 pandemic. Eventually, restrictions were eased and hands-on cooking resumed at some sites.

Another transition this year was the gradual return of food tastings. Traditionally, EAT RIGHT PHILLY has provided food tastings with most lessons. Tastings offer students the opportunity to explore new

flavors, gain exposure to new foods or recipes, or to try a familiar food in a different form. Food tastings resumed in sites upon the approval of the site administration.

Drexel's EAT RIGHT PHILLY team taught single and series lessons in:

- 218 Kindergarten through fifth grade classrooms
- 116 Middle school classrooms
- 217 High school classrooms

Building Skills: Gardening

Teachers, students, and nutrition coordinators were eager to resume in-person gardening projects this year. Working with SDP and charter school teachers, EAT RIGHT PHILLY supported classes with lessons, hands-on support in the garden, soil, seeds, and other gardening materials. Many of the students had never grown food from a seed and were engaged in learning how to plant seeds, nurture them in the classroom, and then transplant them in an outdoor garden. Other students especially enjoyed cooking activities where they learned how to cook with herbs that they grew. One student mentioned to the coordinator that the gardening time was her favorite part of the week. EAT RIGHT PHILLY worked with eleven schools to conduct gardening activities this year.

School Wellness Initiatives

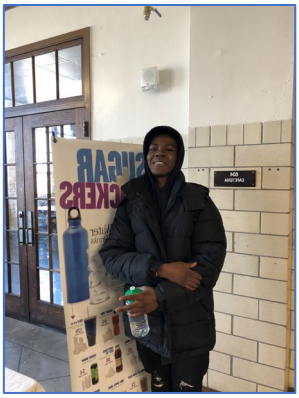
Promoting student health and school wellness continues to be a priority for the EAT RIGHT PHILLY team. Nutrition coordinators continued to promote healthy hydration, physical activity, fruit and vegetable consumption, breakfast consumption, and wellness in school and community sites. Working with district teachers and community partners, students participated in wellness events and activities that were woven into education programming and highlighted on social media.

Healthy Hydration

EAT RIGHT PHILLY has partnered with SDP's Green Futures sustainability plan, the Philadelphia Department of Public Health's Get Healthy Philly team, the Philadelphia Water Department, the City of Philadelphia's Office of Children and Families, Fairmount Water Works, and the West Philadelphia Promise Neighborhood to promote healthy hydration to the Philadelphia community. Students and staff are encouraged to carry water with them and drink throughout the day. Teachers have noted that more students are in the habit of having water with them and students use the hydration stations to refill bottles throughout the school day. In addition, the SDP has increased the number of hydration stations in schools, striving to meet the goal of one station for every 150 students.

Nutrition coordinators led hydration promotions in 33 schools using a variety of interventions which included:

- Lessons on hydration and importance of water
- Promoting healthy hydration with posters, bulletin boards and student-created posters & social media posts
- Encouraging students to carry water with them and take a sip throughout the day
- Hosting "Hydration Challenges" where students show they had water with them during classes
- Providing over 20,000 reusable water bottles to participants
- Hosting events where students decorated their reusable water bottle
- Hosting information tables at Back-to-School events featuring information, infused-water recipes with samples, and EAT RIGHT PHILLY reusable cups
- Daily school announcements that remind students and staff to "drink water throughout the day"

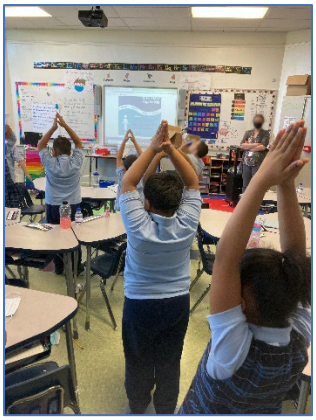


A few weeks after getting a lesson on hydration, one student thanked the coordinator for a reusable water bottle and exclaimed that now that she is drinking more water each day, her skin glows!

- Ben Franklin High School student

Physical Activity Promotions

Being physically active is an important part of wellness. EAT RIGHT PHILLY encourages participants and partners to take time throughout each day to get up, move, and refocus for better learning. Nutrition coordinators conduct movement breaks during nutrition programming and provide tools, resources, and training for teachers to develop their movement break skills. Younger students enjoy participating in active movement breaks that use their energy, while older students enjoy mindfulness and stretching activities that refocus the mind. This year, physical activity promotions were conducted in twenty-two schools.



Increasing Fruit and Vegetable Consumption

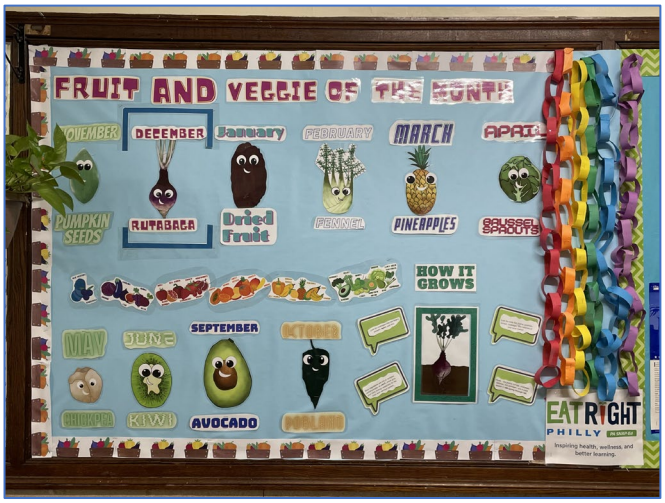
Eating fruits and vegetables every day is a great way to fuel the body with energy, antioxidants, fiber, vitamins, and minerals. To support consumption of fruits and vegetables, EAT RIGHT PHILLY conducts a Fruit and Vegetable of the Month Promotion, providing students to learn about and sample a different food each month. Nutrition coordinators returned to classrooms and cafeterias in 33 schools to provide nutrition information, videos, activities, a recipe and a food tasting of the selected fruit or vegetable.

"Some of my students have very selective food choices, and this encouraged them to try new foods and let them know the benefits of the new choices."

Some classrooms sampled the food item and others sampled a recipe featuring the selected fruit or vegetable. In five schools, where in-person tastings were not possible, coordinators continued with a virtual option, providing the informational video, recipe and activities without the tasting.

Students were excited to try new foods, as well as, familiar foods served in a different form. Coordinators loved seeing the students' faces as they tried new foods. After tasting a poblano pepper, one student asked, "Where do I get these delicious peppers?", while others could not wait to tell their parents about the new vegetable

they tried that day. This year, the most favored recipe was the Green Pineapple Smoothie. Several students shared that they made the recipe at home to share with their family.



"Staff and students truly enjoyed the return of in-person tastings."

"Students loved the food sampling portion of the lesson. It was easy for them to sample new and healthier food options than they normally get at the local stores."

School Breakfast Promotions

Fueling with a healthy breakfast is one of the easiest ways to energize our brains for the day. The EAT RIGHT PHILLY team continued to promote breakfast consumption to start the day. Nutrition coordinators led students through interactive, breakfast-themed nutrition lessons to teach the importance of starting each day with the fuel needed to learn. During National School Breakfast Week, some classrooms participated in a breakfast challenge to encourage students to start the day with breakfast, while others did “Breakfast Selfies” or made social media posts to show themselves eating breakfast. At one school, the assistant principal began announcing breakfast menu options the day before, letting students know what would be served. After Breakfast Week and into the 2022-2023 school year, the breakfast menu for the next day is still included in the afternoon announcements!

Food Assistance

Drexel's EAT RIGHT PHILLY team, in collaboration with the SDP's EAT RIGHT PHILLY program, participated in food assistance programs at several schools. Working with the SHARE Food Program, Philabundance, and the Food and Wellness Network (FAWN), Drexel assisted with a variety of food distributions and pantries. SHARE's Meaningful Meals program served three schools, while four other schools received SHARE produce boxes. Seven schools received monthly food distributions from Philabundance, and five schools received food distributions that were held over specific school breaks. These distributions provided students and families with food while schools were closed.

Drexel's EAT RIGHT PHILLY staff also worked with FAWN at two schools to re-open school -based food pantries, South Philadelphia High School to reopen their school pantry, and with Mantua Haverford Community Center to aid in their food pantry distribution. Due to COVID-19 protocols and other limitations, direct education was not possible this year and food tastings were limited. Participants did appreciate recipe suggestions and nutrition information on the various foods they received.

Community Partnership Highlights

West Philadelphia Promise Neighborhood

Drexel's EAT RIGHT PHILLY team partnered with schools and sites in the West Philadelphia Promise Neighborhood to provide a variety of nutrition education programming. Nutrition coordinators conducted nutrition lessons and coordinated wellness initiatives focusing on hydration, physical activity, and consumption of fruits and vegetables. Students received reusable water bottles, infused water tastings, participated in movement breaks, and tasted the featured fruit or vegetable of the month.

The EAT RIGHT PHILLY team also coordinated with Drexel's West Philadelphia Promise Neighborhood team to support food distributions at sites in the neighborhood. Working with the SHARE Food Program, the teams worked together to promote and distribute monthly produce boxes to families at four Promise Neighborhood schools. Philabundance also provided food distribution events at one school.

Dornsife Center for Neighborhood Partnerships

Throughout the year, Drexel's EAT RIGHT PHILLY team has continued to work with participants at Drexel's Dornsife Center for Neighborhood Partnerships. Nutrition lessons were held in both virtual and in-person formats. All lessons included a food demonstration. EAT RIGHT PHILLY also contributed to the monthly Dornsife Newsletter with nutrition information, recipes, and tips.

A participant who attended several lessons, both in-person and virtual, shared how his diet has changed and he lost 15#, eating more fruits and vegetables and less added sugars.

Stephen and Sandra Sheller 11th Street Family Health Services

Drexel's EAT RIGHT PHILLY team continued to collaborate with the team at Drexel's Stephen and Sandra Sheller 11th Street Family Health Services. EAT RIGHT PHILLY conducted lessons with two groups throughout the year. Lessons were done in-person, virtually and via conference call to meet the needs of the participants.

For five years, EAT RIGHT PHILLY has been partnering with the Supporting Older Women Network (SOWN) at 11th Street, a group of grandparents who are raising their grandchildren. This group used a conference call method for some lessons, but were thrilled to resume in-person programming again. This group particularly enjoys the lesson content, recipes, food tastings, and sharing their successes. From cutting back on sugar-sweetened beverages to getting their families to eat more fruits and vegetables, this group is committed to promoting a healthy lifestyle.

When asked their favorite part of the lessons, some said the lessons because they learn so much! Others say the food tasting because they get to try new foods which they incorporate into their cooking at home.

When preparing Apple Skillet Chicken, participants were hesitant to try it because of the spice variety in the recipe, but after tasting it, they took the recipe home, noting it was "Delicious!"

Community Schools

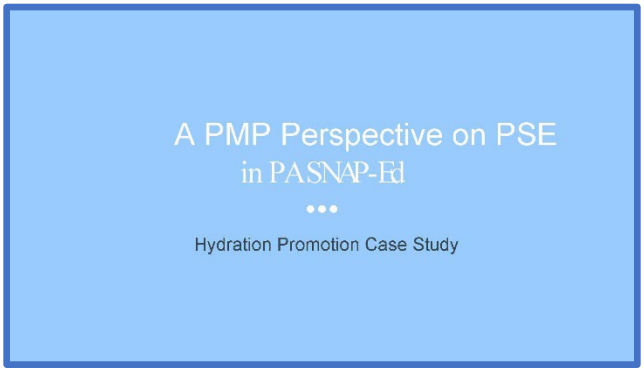
Through the City of Philadelphia's Office of Children and Families (OCF), the EAT RIGHT PHILLY team continued to partner with eight Community Schools to collaborate on projects meant to promote wellness for the school community. Each Community School has a designated Community School Coordinator who brings community partners together to address the community's needs. The EAT RIGHT PHILLY program supports these coordinators by providing nutrition lessons, food demonstrations, and a variety of wellness promotions, depending on the needs of the school. This year, programming was provided to the following community schools:

- Alain Locke School
- George Washington High School
- Kensington Health Sciences Academy

- Murrell Dobbins CTE High School
- Overbrook Educational Center
- Samuel Gompers School
- South Philadelphia High School
- Tilden Middle School

Partnering at the PA NEN Annual Conference 2022

Judy Ensslin, Program Director collaborated with Mary Bullock from Vetri Community Partnership's PA SNAP-Ed program to conduct a presentation at the 2022 Pennsylvania Nutrition Education Network (PANEN) Annual Conference. The presentation, "A PMP Perspective on PSE in PA SNAP-Ed: Hydration Promotion Case Study," explored how project management principles were used in the Hydration Promotion that EAT RIGHT PHILLY partners across Philadelphia have been conducting for the past several years. The presentation demonstrated the effectiveness of these principles in successfully implementing a Policy, Systems and Environmental Project to promote the consumption of water.



Program Recognition

2022 President's Award

The PA SNAP-Ed/EAT RIGHT PHILLY program was nominated for the 2022 President's Award by Principal Investigator, Dr. Jennifer Quinlan. This award recognizes excellence and innovation that enables fulfillment of the mission and goals of Drexel University. The entire team was nominated for the Civic Engagement Award, which recognizes an outstanding personal commitment to community engagement, an integral component of Drexel's mission to serve its students and society.

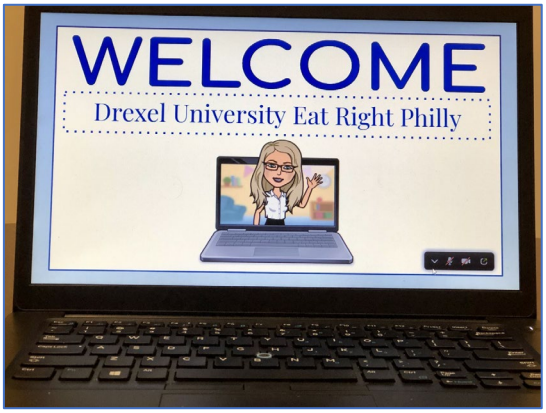
Program Evaluation

COVID-19 and Educator Technology Competency

In 2020, the COVID-19 pandemic forced EAT RIGHT PHILLY to transition to a fully virtual format for nutrition education activities. The team worked hard to create online resources and continue providing interactive lessons and cooking demonstrations. To evaluate the new technology-based skills which the coordinators developed, Drexel EAT RIGHT PHILLY conducted a study to assess the change in coordinator self-reported technology skills. The study used the Technology Proficiency Self-Assessment to compare coordinator reported technology-related skills before the pandemic to their skills one year into virtual learning. The study also asked coordinators for their thoughts on challenges, resources and training, lessons learned, and opinions about the future of SNAP-Ed programming.

Results showed significant increases in confidence in email, world wide web, integrated applications and teaching with technology. While most of the increases in confidence were expected, there were a few specific areas that were beneficial, yet surprising. Qualitative data shed light on future training opportunities, training for new staff, and opportunities to use new skills to enhance in-person learning, as well as future virtual learning.

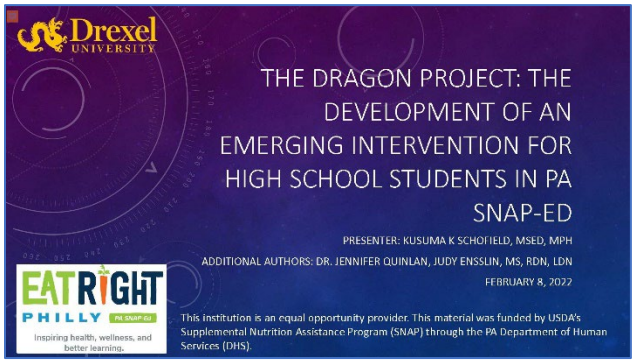
Judy Ensslin, MS, RDN, LDN and Kusuma Schofield, MSEd, MPH presented this evaluation project, "Evaluating the Effect of COVID-19 on PA SNAP-Ed Employees' Perceived Technology Competency," at the 2022 PANEN Annual Conference. Co-Authors on this presentation included Jennifer Quinlan, PhD and Danika Hoffman, MS, RD.



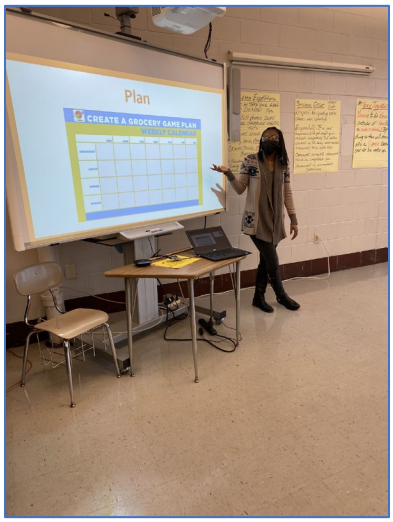
The DRAGON Project

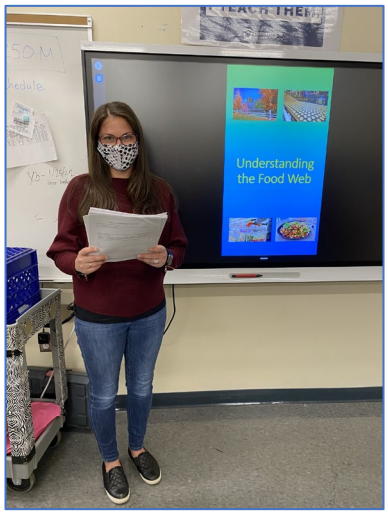
The EAT RIGHT PHILLY team continued their work on the creation of the DRAGON Project, an intervention that combines nutrition curriculum with project-based learning. The five-lesson nutrition curriculum incorporates the concept of mindfulness in making choices while teaching students about personal food choices, the availability of foods and sustainability. Students are then guided through a process to assess the health of their school environment and to create and implement a student–led wellness project. This year, the EAT RIGHT PHILLY team conducted a pilot study to determine the feasibility of the project and look at the effect of its implementation.

Seven classrooms in five schools were recruited for this study. A total of 97 students participated in the intervention. Students and teachers participated in focus group discussions about the intervention. Overall, students and teachers enjoyed the lessons which provide new and relevant content. It teaches students skills that they can use every day to help them make personal wellness goals and thoughtful daily choices to achieve their goals. In addition, the project-based learning resulted in several positive outcomes. One group created a cafeteria survey which the school administration plans to use with the student body in the upcoming school year. Another group educated their fellow students on healthy snacking. A third group piloted a method to distribute fruits and vegetables to their peers. The Drexel team plans to expand this research into an impact evaluation in the 2022-2023 school year.



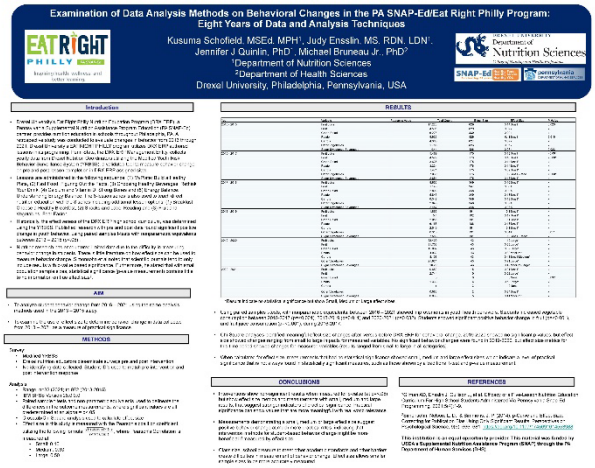
Kusuma Schofield, MSEd, MPH presented "The Development of an Emerging Intervention for High School Students in PA SNAP-Ed" at the 2022 Association of SNAP Nutrition Education Administrators (ASNNA) Conference. This presentation described the iterative process of developing an emerging intervention in SNAP-Ed. Co-Authors on this presentation included Jennifer Quinlan, PhD and Judy Ensslin, MS, RDN, LDN





Analysis of Eight Years of Data

Every year, Drexel's EAT RIGHT PHILLY Team participates in the PA SNAP-Ed statewide evaluation plan activities. Drexel's team completes required evaluation activities with adult, high school and elementary school students. This year, Drexel took eight years of collective data which Drexel has collected for the statewide high school evaluation and data collected from internal studies, and analyzed it for behavior changes. The evaluation utilizes the Modified Youth Risk Behavior Surveillance System (YRBS) data that Penn State, the management entity for PA SNAP-Ed, has collected over the past eight years plus data collected for EAT RIGHT PHILLY evaluations. The data were analyzed for behavior changes using p values to measure statistical significance, but additionally, an alternate analysis technique was used to examine practical significance. Using effect size to measure practical significance, data showed areas where there was evidence of improvements in food group intake, though the data may not have met the threshold for statistical significance. This analysis, "Examination of Data Analysis Methods on Behavioral Changes in the PA SNAP-Ed/Eat Right Philly Program: Eight Years of Data and Analysis Techniques," was accepted as a poster presentation at the 2022 Food & Nutrition Conference & Expo™ in October 2022. Authors on this presentation included Kusuma Schofield, MSEd, MPH, Judy Ensslin, MS, RDN, LDN, Jennifer Quinlan, PhD and Michael Burneau Jr, PhD, who represents the Department of Health Sciences.


Examination of Data Analysis Methods on Behavioral Changes in the PA SNAP-Ed/Eat Right Philly Program: Eight Years of Data and Analysis Techniques

Kusuma Schofield, MSEd, MPH[1], Judy Ensslin, MS, RDN, LDN[1], Jennifer J Quinlin, PhD[1], Michael Bruneau Jr., PhD[2]
[1]Department of Nutrition Sciences
[2]Department of Health Sciences
Drexel University, Philadelphia, Pennsylvania, USA

Introduction

METHODS

RESULTS

CONCLUSIONS

REFERENCES

Student Opportunities

EAT RIGHT PHILLY proudly offers Drexel undergraduate and graduate students support for various academic requirements. This year, student work included the following academic projects to support the program's research initiatives:

Danika Hoffman, MS, RD, provided assistance with the "Evaluating the Effect of COVID-19 on PA SNAP-Ed Employees' Perceived Technology Competency" survey creation and academic research.

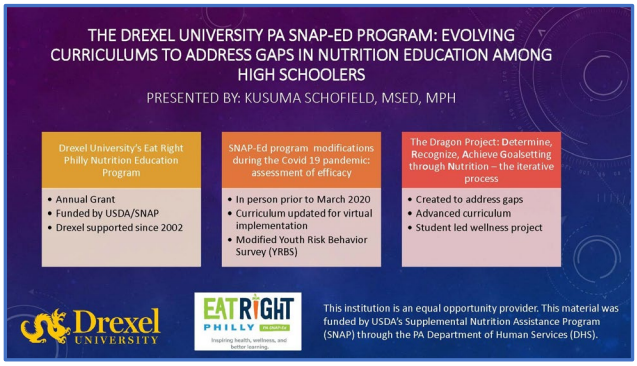
Constantina Nicholes completed her Applied Practical Experience Learning Agreement, a project requirement for all MPH students.

Dietetic Interns

To support the Department of Nutrition Sciences, the EAT RIGHT PHILLY team serves as a site for Dietetic Interns to gain valuable professional experience. Students in the Master of Science in Nutrition and Dietetics Program spend time with EAT RIGHT PHILLY learning and practicing the various skills needed to provide nutrition education in the community. Interns conduct lessons and food demonstrations, participate in program events, and learn about the management of a community nutrition program. This year, EAT RIGHT PHILLY hosted eleven interns for three weeks each.

PhD Student's Three-Minute Thesis Presentation

Kusuma Schofield, MSEd, MPH, was accepted to participate in the Drexel Emerging Graduate Scholars conference for her PhD candidacy work, supporting the EAT RIGHT PHILLY program. She presented her *Three-Minute Thesis*, entitled "The Drexel University PA SNAP-Ed Program: Evolving Curriculums to Address Gaps in Nutrition Education Among High Schoolers." Additional authors on this presentation included Judy Ensslin, MS, RDN, LDN, and Jennifer Quinlan, PhD.



Student Nutrition Educators

Drexel's EAT RIGHT PHILLY Team proudly supports our Drexel Dragon students. This year, EAT RIGHT PHILLY employed the following students:

Danika Hoffman, Graduate Assistant, Nutrition Sciences

Jason Brodo, Graduate Student, Nutrition Sciences

Karishma Patel, Undergraduate Student, Major: Biology, Minor: Nutrition Sciences

Constantina Nicoles, Graduate Student, Public Health

Priyani Sharma, Undergraduate Student, Public Health

Madalyn Campbell, Undergraduate Student, Psychology

Social Media

In order to promote healthy lifestyles to participants, the Drexel EAT RIGHT PHILLY team uses social media to share tips, recipes, and program updates. Through Twitter, Instagram, Facebook and YouTube, content reached over 11,000 users, and YouTube videos had approximately 3,534 views. Practical nutrition information, recipes, physical activity and brain breaks, fruit or vegetable of the month information, as well as, hydration and gardening highlights were shared on social media.

Access all of EAT RIGHT PHILLY's social media accounts at https://linktr.ee/eatrightphilly_drx.

What the Teachers are Saying…

Drexel's EAT RIGHT PHILLY Program conducts an annual Teacher Survey which asks SDP teachers and staff their opinions of the programming. The feedback was reviewed and analyzed for improvement

opportunities. The survey focuses on nutrition education programming, food tastings, hydration and the use of movement breaks. The feedback helps to identify challenges, trends, and successes. Highlights include:

- This program is an asset to our class and students!
- The food tastings were very successful. The students were always wiling to try new recipes and interested in learning more about the food items.
- Students loved the food sampling portion of the lesson. It was easy for them to sample new and healthier food options than they normally get at the local stores.
- Ms. Rozz was amazing coming in once a month! She was very engaging with our students and really got the students involved!
- Students really do learn about nutrition, especially with what they are eating. This is very valuable for my students.
- Love Ms. Tori! She is wonderful, always prepared and the students love her.
- My clients are grandparents raising grandchildren. They loved working with Danielle whose expertise and enthusiasm was catching!
- Miss Ally is a great teacher and advocate for the Eat Right Philly program, she does a nice job with the students.
- The students in my class love Mr. Jim and this program. He is enthusiastic, encouraging and a positive role model for the students. My kids can't wait till he comes to class.
- It has been a pleasure working with your program all of these years!!!
- Vanessa is an amazing educator. She is extremely knowledgeable and personable. She is a perfect fit for the position!
- Thank you so much for providing such as awesome program!

Special Thanks to the EAT RIGHT PHILLY Team

The Team

Principal Investigator: Jennifer Quinlan, PhD

Program Director: Judy Ensslin, MS, RDN, LDN

Assistant Directors: Jessica Cullison, MS, RDN, LDN, Melissa Matsumura, MS, RD, LDN

Administrative Coordinator: Kusuma Schofield, MSEd, MPH

Program Managers:

James DiDomenico, MS

Kristin Prendergast, MS

Administrative Assistant: Alina Marhefka

Project Coordinator: Becky Ippolito, NDTR

Nutrition Coordinators:

Victoria Sutton

Danielle Juritsch

Allysandra Kubik

Vanessa R. Altidor, MBA

Christina Branton-McMillon, MPH

Miranda Rowe

Roselyn Zeyl, MS, RDN

Joshua McIntyre

Student Employees:

Jason Brodo

Madalyn Campbell

Danika Hoffman, MS, RD

Constantina Nicoles

Karishma Patel

Priyani Sharma

Looking to reach out? There are several ways to get in touch!

For a general program overview: drexel.edu/cnhp/eatrightphilly

For curriculum and programming materials: https://sites.google.com/view/nutred4philly/home

Via Email: nep@drexel.edu

Via Phone: 215-895-2422

Via Mail: Drexel University 1601 Cherry Street, Suite 110 Philadelphia, PA 19102

We would love to hear from you!

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

Drexel University PA SNAP-Ed/Eat Right Philly 2021 to 2022 Teacher Survey Summary

The Drexel University PA-SNAP-Ed Eat Right Philly Nutrition education program (DRX ERP) conducted a year end survey, in June 2022, to collect teacher feedback of the programing that occurred in the School District of Philadelphia and various community sites during fiscal year 2022. The Qualtrics survey program was used to collect the data through an email link. The link was sent to teachers, principals, and staff (Non-SNAP-Ed Staff) in schools and sites with whom programming was conducted. Response data were as follows:

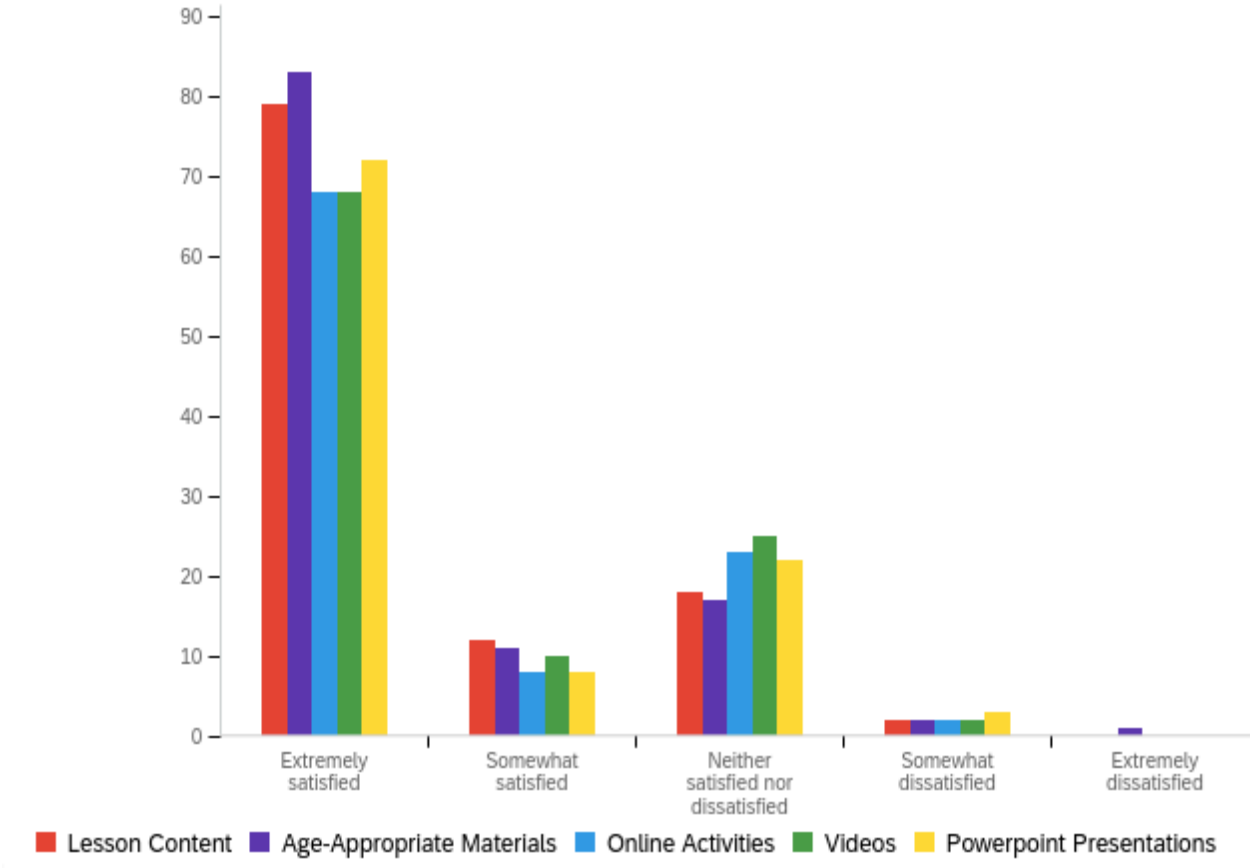
- 588 Non-SNAP-Ed Staff received the **email link**
- 195 Non-SNAP-Ed Staff **began** the survey
- 154 Surveys were completed, a **completion rate** of 79%
- 26.2% **Survey participation rate**

Teachers were asked to note the type of DRX ERP programming they received in the current year. Respondents reported:

- 83.0% received I**n-person Nutrition Lesson**
- 21.6% received **Virtual Nutrition Lessons**
- 8.5% received **After-school Programs (virtual or in-person)**
- 26.8% received **Fruit and Vegetable of the Month promotion**
- 5.2% received **Gardening Promotion**
- 14.4% received **Online Resources**
- 17.7% received **Movement Breaks/Physical Activity Promotion**
- 15.0% received **School Wellness Initiatives**
- 7.2% received **other programming** such as The Dragon Project, flyers in the mailbox, nutritional posters for bulletin board, and assistance with Philabundance meal distributions.

Respondents were asked to rate their **satisfaction** on **lesson content, age-appropriateness of materials, online activities, videos, and PowerPoint presentations.** The data shows that 68% to 83% of respondents were **extremely satisfied** in these areas, 8% to 12% were **somewhat satisfied**, 17% to 25% were **neither satisfied nor dissatisfied**, and 2% to 3% were **somewhat dissatisfied**. Only one respondent reported **extreme dissatisfaction** with age-appropriate materials (Figure 1).

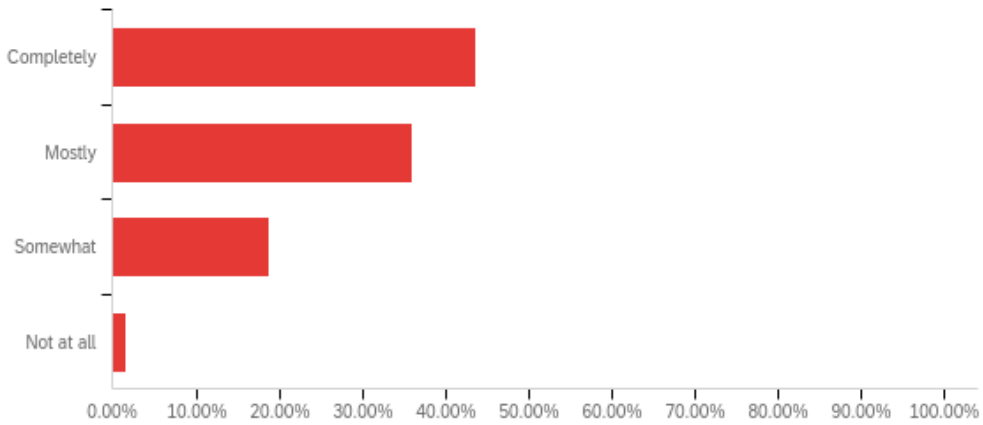
Figure 1: Teacher Satisfaction of Virtual Nutritional Lessons



The survey also asked teachers to rate their **nutritional coordinator.** 95.9% of respondents reported that their nutrition coordinators were **punctual,** 98% reported that they were **prepared,** and 98.7% reported that they were **enthusiastic.** 96.6% reported that their nutritional coordinators were communicative.

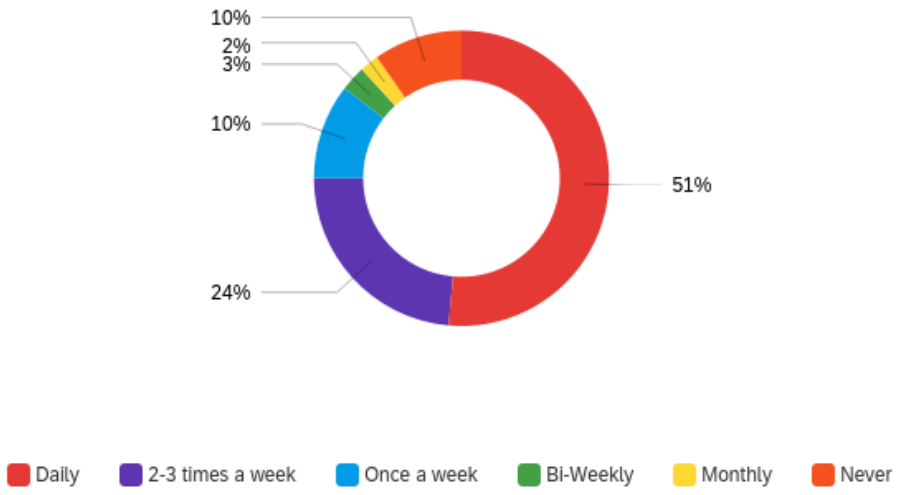
Participation engagement is a key metric in assessing the program's successes. 79.7% of respondents reported that their participants were **completely or mostly engaged** in the programming provided to participants. 18.8% of respondents reported that their participants were **somewhat engaged.** Only one respondent reported that their participants were **not at all engaged** (Figure 2).

Figure 2: The percentage of teachers who reported on the level of student engagement in programming



Movement/Brain Breaks allow for physical and mental release during the school day. DRX ERP Nutritional Coordinators bring Movement/Brain Breaks into programming and encourage teachers to use them as part of their typical day. When asked, "Do you use movement/brain breaks with your students?" 51% reported that they use them **daily** with their students, 24% reported that they used them **two to three times a week,** 10% reported using them **once a week,** 3% reported using them **bi-weekly,** and 2% reported **monthly** use. 10% reported that they **never** used movement breaks with their students (Figure 3).

Figure 3: The percentage of teachers/staff who use Movement/Brain Breaks with their students

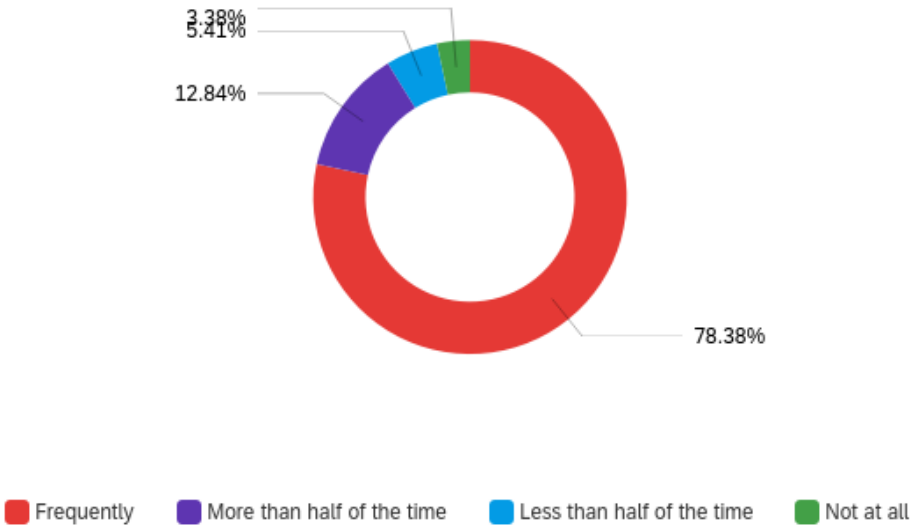


Respondents also noted that 58% of nutrition coordinators used **Movement/Brain Breaks** in the classroom during in-person or virtual programming during **most lessons,** 23.8% used them

during a **few lessons,** and 18.2% **never used movement breaks** during lessons. When asked "Are your students interested in participating in movement breaks?", 95.3% of respondents reported that their students are **mostly or sometimes interested** in participating in Movement/Brain Breaks.

Promoting Healthy Hydration continues to a priority for the DRX ERP team. Throughout the year, nutrition coordinators encouraged students to drink water throughout the school day, provided many students with reusable water bottles, and held promotional events that further encouraged students to hydrate with water. To assess teacher participation in this intervention, survey respondents were asked "Do you encourage students to drink water throughout the school day?" The results show that 78.4% of respondents **frequently encourage** their students to drink water **daily**. 12.8% encourage water consumption **more than half of the time** and 5.4% **less than half the time.** 3.4% reported that they **do not encourage** their students to drink water throughout the school day (Figure 4)

Figure 4: The percentage of teachers/staff who reported that they encourage students to drink water during the school day



Program Successes – Teachers noted a variety of aspects as the **most successful part** of the DRX ERP program. **Cooking demonstrations, food tastings, student exposure to nutritious foods, student engagement, and quality of lessons** were all noted as successes this year. Many teachers noted that the most **successful part** of their involvement with EAT RIGHT PHILLY could be attributed to DRX ERP **Nutrition Coordinators.**

- "Rozz was very interactive with my students and allowed them to connect to the material."

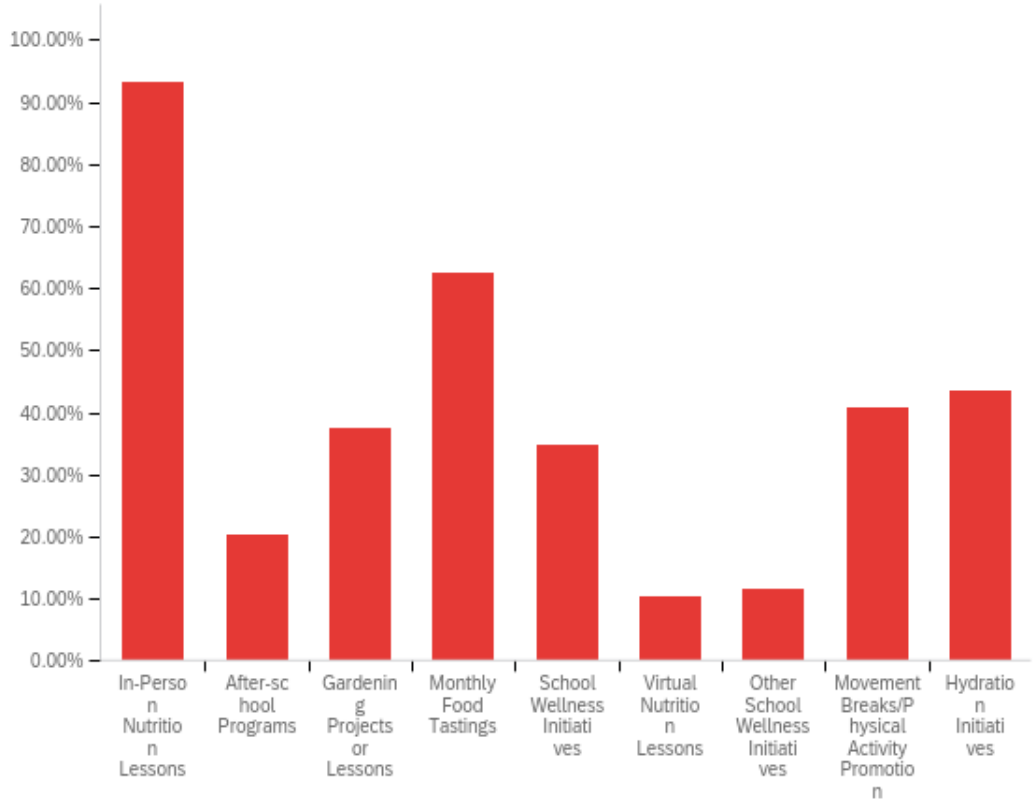
- "Danielle is an absolute dreamboat to work with, she truly is a partner and is willing to tailor lessons to specific needs or student interests. She is genuine and knows her content and my juniors really enjoy her visits."
- "Ms. Danielle was always enthusiastic. We loved having her come to our class."
- "Tori Sutton is amazing with my special education students. Even though my students have significant disabilities, she is always respectful of the fact that they are 18+ year old adults and treats them accordingly. We look forward to our monthly lessons!"
- "MS. Tori is the best!!"
- "My clients are grandparents raising grandchildren. They loved working with Danielle whose expertise and enthusiasm was catching!"
- "Kristin Prendegast always provided quality lessons to our students. They were engaged throughout the class, and always had a great time when Kristin was in class!"

Program Challenges – A common theme throughout the free responses focuses on **virtual learnin**g as being the **most challenging** aspect of the program this year. There was difficulty keeping students interested and engaged virtually. **Food demonstrations** were challenging as students were virtual or COVID restrictions limited students' active participation in live food demonstrations, and students missed having hands-on cooking lessons. Another significant challenge was **scheduling**. Teachers have noted that it can be hard to find a time that works for both the teacher and nutrition coordinator and flexibility is required in rescheduling throughout the school year**. Coordinating** with teachers and finding a day for lessons has shown to be a challenge.

Suggestions for improvement – Teachers' primary suggestion was to return to in-person programming. Teachers and students miss interacting with the nutrition coordinators, being part of live demonstrations, and food tastings. Another suggestion for improvement was to have more frequent programming, and hands-on materials.

Opportunities – In preparing for the next fiscal year, we asked respondents "What type of programming would you be interested in receiving from your nutrition coordinator during the 2022-2023 school year?" **In-person nutritional lessons, monthly food tastings, and hydration initiatives** were the top three requested programming items (Figure 5).

Figure 5: Teacher Requested Programming for the 2022-2023 School Year



DRX ERP is always looking for feedback and comments. Here are some **highlights** from our wonderful teachers and staff members:

- “Excellent Program.”
- “Great program and facilitator.”
- “Love Ms. Tori. She is wonderful, always prepared and the students love her.”
- “This program is an asset to our class and students!”
- “I love your programming and we have nothing but the best times with Ms. Miranda”
- “The students and I at FLC are very appreciative of the time and commitment that Kristin gave during our lessons. Thanks again, and we look forward to working with you in the fall!”
- “It's a great program that broadens many of my students' horizons.”
- “EAT RIGHT PHILLY was a wonderful resource for our grandparents. Thank you!”

Evaluating the Effect of COVID-19 on PA SNAP-Ed Employees' Perceived Technology Competency

Introduction and Background

The Drexel University Eat Right Philly Nutrition Education Program (DRX ERP), a Pennsylvania Supplemental Nutrition Assistance Program Education (PA SNAP-Ed) partner, funded by the United States Department of Agriculture (USDA), provides nutrition education programming in schools and community sites. In the 2020-2021 school year, DRX ERP served 79 schools and community sites. The objective of this research was to determine the impact of programming during the COVID-19 pandemic on Nutrition Coordinators' and Program Managers' (NC/M) confidence regarding technological competency.

The goal of SNAP-Ed is to provide nutrition education to SNAP-eligible individuals to increase the likelihood that participants will make healthy food choices and choose physically active lifestyles within their budget. DRX ERP programming uses evidence-based, comprehensive, and multilevel interventions, including direct nutrition education and other interventions that influence policy, systems or environmental changes which improve wellness opportunities for participants. DRX ERP NC/M typically conduct nutrition education programming in-person, within the classroom, but due to the COVID-19 pandemic, PA SNAP-Ed ceased in-person programming in March 2020 and DRX ERP programming transitioned to a 100% virtual format as of May 2020. To support virtual learning, all School District of Philadelphia school children were provided Chromebooks during the COVID-19 pandemic.

Virtual learning continued through the 2020-2021 academic year. PA SNAP-Ed programming was approved to return to in-person programming in July 2021. As of September 2021, though the COVID-19 pandemic continued, DRX ERP received approval from approximately 53% of DRX ERP school sites to return to in-person programming. Virtual programming in SNAP-Ed continued as some sites did not allow in-person programming and as others temporarily closed due to classroom or school-wide COVID-19 outbreaks. Continued use of virtual delivery methods post-pandemic as a supplement to traditional face-to-face programming continues to be an option.

Study Design

Despite use of virtual programming and the future potential applications, no literature exists on technology competency in SNAP-Ed or other similar direct nutrition education providers. Nor is there literature addressing how perceived technological competency affects virtual program delivery. The COVID-19 pandemic provided a unique opportunity to evaluate NC/M technology competency and its effect on programming. Thus, the goal of this study was to address the following research question:

1. How do Nutrition Coordinators and Program Managers perceive their self-reported technology competency to have changed from before the COVID-19 pandemic to approximately one year into the pandemic?

Self-reported technology competency was evaluated using the Technology Proficiency Self-Assessment (TPSA), a 34-item Likert scale instrument validated to measure fundamental technology proficiencies in educators. The TPSA was administered as one survey to assess two time points: perceived competency before the COVID-19 pandemic as a baseline, and again, during the COVID-19 pandemic. Baseline and mid-pandemic TPSA scores were compared for each Nutrition Coordinator and Program Manager to evaluate change in technology self-competency over the pandemic.

Methodology

Study subjects included DRX ERP team members who were in the Nutrition Coordinator and Program Manager positions during both the pre-pandemic baseline quarter (October 2019 through December 2019) and the mid-pandemic quarter (October 2020 through December 2020) and provided direct nutrition education as a core component of their job duties. The DRX ERP team consisted of eleven NC/M during this time. The NC/M were recruited via e-mail that notified them of the study intent, procedures, and self-assessment information. Participation in the study was voluntary, and participants could refuse to be in the study or stop the study at any time without any negative effect on their position with the DRX ERP PA SNAP-Ed team. All eleven NC/M were asked to participate in the study. The survey was administered in November 2021, which was twenty months after the start of the pandemic.

Survey Tool

Self-reported technology competency was evaluated using the Technology Proficiency Self-Assessment (TPSA). The TPSA has been validated for use in measuring teacher self-efficacy as it relates to fundamental use of technology and its integration in the classroom learning environment (Christensen & Knezek, 2015). It asks educators to rate their ability to perform various technology related tasks in six established areas: E-mail, World Wide Web, Integrated Applications, Teaching with Technology, Technology Usage, and Emerging Technologies for Student Learning. Answers for each section are averaged to find a mean score for that section. The TPSA has consistency reliabilities from .81 to .93 for each section (Christensen & Knezek, 2015).

The TPSA was adapted to reflect relevant technology and technology usage by NC/M and for study time frames. It was administered once with two sets of questions referencing the two-time frames: to assess perceived competency before the COVID-19 pandemic as a baseline, and then during the COVID-19 pandemic. The survey also included open ended questions on the educators' experiences of transitioning to remote instruction due to COVID-19 and thoughts on future technology usage. These open-ended questions were not scored. The adapted baseline TPSA with the open-ended questions can be found in Appendix A.

DRX ERP NC/M were invited to complete the adapted TPSA administered virtually through Qualtrics®. The eleven NC/M were asked to complete the TPSA through an emailed link to the TPSA via e-mail from the DRX ERP Program Director and participants had two weeks to complete the survey. Each TPSA was to be completed in one sitting at the participants preferred remote work location. Completion time of the TPSA was estimated to be no longer than one hour for completion, inclusive of the open-ended questions. Results were analyzed through SPSS for significance.

Data Analysis, and Results

The study design for this project aimed to examine the results based on pre and post survey responses. Baseline and mid-pandemic TPSA scores were compared for each NC/M to evaluate change in technology self-competency over the pandemic. Eleven participants

completed the survey in full. Bias may affect TPSA responses on pre-pandemic technology competency as NC/M were asked to complete the self-assessment retrospectively. However, there was no way to evaluate technology competency prior to COVID-19 due to the unexpected nature of the emergency shut down of in-person activities.

IBM SPSS statistics version 26 was used to run the statistical analysis of the data. Initial primary data analysis aimed to run a paired samples t-test to evaluate the change in self-perception. Descriptive statistics were run and used to identify trends in perceived technological competence.

The survey results showed significance in the TPSA areas of email (p=.033), integrated applications (p=.033), and teaching with technology (p=.021) (Table 1). Further analysis shows significant p values within the listed topic areas and is illustrated in Table 2.

Table 1: Technology Proficiency Self-Assessment – Overall Topics

Topic	P-Value
Email	P = .033*
World Wide Web	P = .115
Integrated Applications	P = .033*
Teaching with Technology	P = .021*
Technology Usage	P = .203
Emerging Technologies for Student Learning	P = .100

*Significance found using a paired samples t-test as measured at $p < 0.05$

Table 2: Technology Proficiency Self-Assessment – Subtopic Questions

Topic	Question	P-Value
Email	"I feel confident that I could create a distribution list to send emails to several people at once"	P=.015*
Integrated Applications	"I feel confident that I could create a Word document in outline format with headings, numbering and bullet points"	P=.037*
Teaching with Technology	"I feel confident that I could use technology to collaborate with teachers, students or others who are distant from my classroom"	P =.015*
Teaching with Technology	"I feel confident that I could describe 5 software programs that I could use in my teaching"	P=.045*
Teaching with Technology	"I feel confident that I could use Google Classroom to Conduct a lesson"	P =.040*
Teaching with Technology	"I feel confident that I could use breakout rooms in Zoom"	P=.052
Teaching with Technology	"I feel confident that I could create materials or resources for a virtual lesson"	P=.054
Teaching with Technology	"I feel confident that I could use my online tools to teach my students/learners from a distance (eg: Zoom, Google Meet)"	P=.054
Teaching with Technology	"I feel confident that I could use Google Suite to create interactive activities for virtual lessons"	P=.018*
Emerging Technologies for Student Learning	"I feel confident that I could use social media tools for instruction in the classroom (eg. Instagram, Twitter)"	P=.054
Emerging Technologies for Student Learning	"I feel confident that I could use Canva to create a flyer"	P =.032*

Significance found using a paired samples t-test as measured at *p < 0.05

Each section was analyzed by individual questions in order to see where significant changes were found. Researchers found the following summary of results from the statistical analysis (Table 2).

Email - The data show an increase in NC/M confidence in creating a distribution list to send emails to several people at once (p=.015). Since email communication became the primary form of communication for NC/M with most of their sites, creating a distribution list increased the NC/M's efficiency. Pre-COVID, some NC/M may have communicated with sites, in-person, while visiting them to establish schedules and plans. The pandemic eliminated this option. Creating distribution lists made it easier to disseminate and gather program information from several teachers at any one site. While coordination through email had occurred prior to the COVID-19 pandemic, forced reliance on email correspondence shows an increase in this skillset.

Integrated Applications – NC/M reported significantly increased confidence in creating a Word document in an outline format (p=.037). The reasons behind this increased confidence are not known but might be reflected in staff having more time to learn the nuances of the Word program. Furthermore, when the pandemic forced the program to go virtual, the team worked together to translate materials to an online format, which could also identify further confidence in working with Microsoft Word.

Teaching with Technology – Since NC/M went from in-person to virtual programming, significant increases in confidence for this topic were not surprising. NC/M had to learn platforms and technologies that they had not used previously. While they may have created worksheets, flyers, presentations, or other documents pre-pandemic, they had not created forms and activities that could be used in a virtual setting. They also were able to consider how different activities might be modified to increase engagement during lessons. Significant results were found in technology collaboration (p=.015), utilization of multiple software programs for teaching (p=.045), confidence in Google Classroom (p=.040), and confidence in using Google Suite (p=.018). Questions approaching significance included creation of materials for virtual lessons (p=.054), and use of online tools to teach learners from a distance (p=.054).

Emerging Technologies for Student Learning – While this topic area as a whole did not show significant increases, two individual questions did demonstrate approaching significance or

significant measures: use of social media tools for instruction in the classroom (p=.054) and use of Canva to create a flyer (p=.032). NC/M became adept at using the Canva program as it was useful in developing engaging and creative materials for virtual lessons. It was also used in developing social media posts for the program. NC/M assisted with the development of social media content. Some NC/M also taught students how to use this program to have students create social media posts to highlight what they were learning in nutrition lessons.

No significant differences were found in **World Wide Web** and **Technology Usage**. This is not surprising with the reliance on technology via smartphone usage, as well as the amount of time that the World Wide Web has been in use, and its consistent reliance in SNAP-Ed where it is used to find approved resources.

NC/M were also asked about challenges, resources and training, lessons learned, and opinions about the future of SNAP-Ed programming. These findings are summarized below:

Challenges

The NC/M respondents noted what their biggest perceived challenges were in conducting virtual programming. Seven NC/M reported that student engagement was the greatest challenge. NC/M specified that students did not have cameras on during lessons and students would not respond to questions by unmuting or participating in the chat. These behaviors made it difficult to tailor lessons and understand whether students were listening to the coordinator. Four NC/M reported that technology was a challenge, specifically using and navigating the Google classroom. Two NC/M stated that WIFI connection and reliability was another challenge.

Limitations

Limitations in this study included a small sample size of NC/M participants, where the expansion of this survey might indicate larger measures of significance or significance in topics that were not seen with this subset of employees. Additional limitations include the use of technology or virtual delivery in SNAP-Ed lesson delivery prior to the pandemic virtually, as well as a lack of literature that has been published to identify topics surrounding virtual implementation and delivery.

Resources and Training

NC/M were asked, "What resources would improve your ability to conduct virtual program delivery?" The responses to this question were varied and are summarized below:

- Practice conducting programming prior to implementation
- Having "How to" links available
- Using Kahoot! - A game-based learning platform to aid in student engagement
- WIFI Hotspot to help rectify connectivity issues
- Training on how to help other teachers trouble shoot problems while they are trying to connect to their smartboards in the classroom
- Methods to implement more interactive activities; pre-made multiple choice questions to include throughout lesson presentation that would allow students to answer and be able to engage throughout the lesson
- Using resources created to increase engagement or promote interaction with participants

One NC/M noted that they felt that the resources provided have been very helpful with virtual program delivery.

When NC/M's were asked what training they would have liked to have had pre-pandemic to make the transition to virtual learning easier, NC/M noted several suggestions:

- Technology Training
    - Three NC/M noted the need for Google Meet, Google Classroom, and Zoom training.
    - Two NC/M noted that training on Google Suite would be beneficial.
    - One NC/M noted that training on Excel/Google Sheets would be helpful.
- How to teach in a virtual setting
- Using virtual teaching tools
- Creating interactive virtual worksheets
- Lastly, one NC/M noted that training in classroom management would be helpful.

Lessons Learned

NC/M were asked what they learned about virtual program delivery over the past year. The responses are varied and are listed below:

- Learned to incorporate more visuals into presentations and have movement breaks
- Be prepared for technology issues to come up
- Virtual teaching is not the best way to educate, but it is possible
- Programs can be just as effective virtually
- Learned how to schedule a Zoom meeting/ Google classroom and use other platforms to make lessons more interactive
- Students have difficulty retaining information when taught virtually unless there are fun ways to memorize
- Virtual teaching requires planning and creativity
- Materials that are interactive are the best way to keep students engaged and videos are helpful to break up talking on the screen
- Learned how to utilize the features on Zoom and Google Meet such as sharing my screen
- It is a lot harder than it seems
- There are different ways to teach a class or deliver materials

Future of SNAP-Ed Programming

The last questions asked NC/M to consider their experiences from the past year and comment on how those experiences may influence future ERP programming or SNAP-Ed programming in general, in a post-pandemic environment. Table 3 shows the answers provided by NC/M.

Table 3: How experiences may influence future ERP or SNAP-Ed programming
Many of my PSE efforts have been aided with technology we produced during the pandemic. For instance, videos and content we created to promote physical activity and fruit and vegetable of the month information has been extremely useful!

The ERP team created many online resources that will continue to be useful post-pandemic.
I think it gave us the opportunity to keep the relationships with our schools to continue successful programming, but it also showed us different ways we can do programming to adjust to current settings.
We are more creative and innovative with the way we deliver material.
COVID forced us to learn new materials, create a lot more visual materials and forced us to adapt to new tech/situations and I feel that that has improved our program. The videos, the website, the YouTube page, there are additional resources that teachers, I feel, are more likely to utilize because it requires less work from them, and it is a convenient and educational tool. I also feel the things we have created have been more inclusive... Visuals, Closed Captions, multiple areas of exposure... and I felt like we were lacking in that area prior.
Teachers seem to really like the virtual worksheets - multiple school staff have requested continuing with the electronic materials. I think it is important to be flexible with teaching styles, which virtual learning really highlighted. Moreover, virtual teaching showed how much is going on in students' lives that we do not normally see when in the school building. At-home learning required a lot of empathy on the part of the educator (for technical issues; home issues; etc.) and I hope that empathy will continue.
More teachers may desire virtual programming or can teach curriculum with virtual materials themselves.
Some classrooms and schools respond better to the virtual learning environment than when previously taught in person, so I think continuing with online instruction makes sense for some school communities. Moving forward I think SNAP -Ed programming needs to take advantage more of current technologies to enhance message outreach and program implementation through better usage of social media channels and prerecorded educational videos that allow for participants to engage in programming during a time frame that works for them and taking better use of survey technologies to understand what communities are interested in learning.

More programming desired in a virtual platform from sites.
We can see that nutrition education can be provided effectively in a virtual environment, but PSE work is more challenging to create effective initiatives in the virtual environment.

Conclusions

Virtual SNAP-Ed programming has the potential for continued use for both the duration of the pandemic as well post-pandemic as a supplement to traditional, in-person programming to improve accessibility and outcomes. Despite the use of virtual programming and future potential applications, no literature exists on technology competency in SNAP-Ed or other similar direct nutrition education providers and how it affects virtual program delivery. The COVID-19 pandemic provided a unique opportunity to evaluate NC/M technology competency and its effect on programming.

The results of this study intended to evaluate perceived technology competency in a group of SNAP-Ed educators. The data suggests that the transition to virtual programming was a learning opportunity for NC/M. In addition to learning new technology skills, they built on their creativity, learning new ways to conduct programming and engage students. NC/M have also been able to transition virtual teaching skills and tools to in-person classrooms in an effort to increase student engagement. Student engagement in a virtual environment, though, is an area for continued growth. Understanding the barriers and exploring new techniques to engage students is important in conducting effective virtual nutrition education programming.

Qualitative data provides some insight into training needs of SNAP-Ed staff and future SNAP-Ed staff. Results can be applied to identify gaps in current skills and training in the SNAP-Ed staff who conduct education, and it can be used to develop future training protocols and employment qualifications. Data can be used to guide hiring and training of SNAP-Ed employees. Training on virtual platform use, interactive virtual programs, using virtual tools and teaching in an online classroom might be considered for staff conducting SNAP-Ed programming.

An additional, progressive strategy for this study could be to extend the participation to nutrition educators employed by other PA SNAP-Ed partners in the Philadelphia region, or possibly the state. Results could provide additional insight into the potential use of virtual programming, the adaptation of in-person teaching methods for current day, technological advancement in order to improve SNAP-Ed programming, increase reach and improve effectiveness. Teaching virtually has the potential to expand programming, reach, and serve underserved areas. Future implications include research on the effectiveness of technology use in virtual and in-person programming.

Appendix A

Baseline TPSA

Instructions: Please answer the following questions on your comfort and confidence using technology BEFORE PA SNAP-Ed transitioned to virtual programming in the spring of 2020. Select only one answer for each question.

Likert Scale (All Questions)

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

Email

As of March 2020, I felt confident I could…

1. Send an email to a friend.
2. Subscribe to a discussion list.
3. Create a distribution list to send e-mails to several people at once.
4. Send a document as an attachment to an e-mail message.
5. Keep copies of outgoing messages that I send to others.

World Wide Web

As of March 2020, I felt confident I could…

6. Use an Internet search engine (e.g., Google) to find website pages related to my subject matter interest.
7. Search for and find the SNAP-Ed Connection website.
8. Create my own OneDrive folder with educational resources to send to teachers.
9. Keep track of websites I have visited so that I can return to them later (e.g., using bookmarks).

10. Find approved sources of nutrition education materials and information on the Internet that I can use in my teaching.

Integrated Applications

As of March 2020, I felt confident I could…

11. Use a spreadsheet to compile data and calculate the sum, average, etc.
12. Create a Word document in outline format with headings, numbering and bullet points.
13. Save documents in formats so that others can read them if they are using different programs (e.g. Word, PowerPoint, Google Slides/Sheets, PDF).
14. Use PowerPoint to make presentations for in-person and virtual use.
15. Use Google Slides to make a presentation for virtual use.
16. Create an Excel workbook with multiple tabs to organize a curriculum.
17. Use Canva to create a flyer.

Teaching with Technology

As of March 2020, I felt confident I could…

18. Explain to a new employee how I use technology in my classrooms/community sites.
19. Create materials or resources for an in-person lesson.
20. Use technology to collaborate with teachers, students or others who are distant from my classroom.
21. Describe 5 software programs that I could use in my teaching.
22. Use Zoom to conduct a classroom lesson.
23. Use Google Classroom to conduct a lesson.
24. Use breakout rooms in Zoom.

25. Create materials or resources for a virtual lesson.
26. Use online tools to teach my students/learners from a distance (e.g. Zoom, Google Meet).
27. Use Google Suite to create interactive activities for virtual lessons.

Technology Usage

As of March 2020, I felt confident I could…

28. Use mobile devices to connect to others for my professional development.
29. Send and receive text messages.
30. Save and retrieve files in a cloud-based environment.
31. Use Zoom to conduct a meeting.
32. Create content for use on DRX ERP social media (e.g., Instagram, Twitter)
33. Transfer photos or other data via smartphone.

Emerging Technologies for Student Learning

As of March 2020, I felt confident I could…

34. Integrate mobile technologies into my lessons.
35. Use social media tools for instruction in the classroom (e.g., Instagram, Twitter).
36. Find a way to use a smartphone in my classroom for student engagement.
37. Use mobile devices to have my students access learning activities.

Appendix B

Post TPSA

Instructions: Please answer the following questions on your comfort and confidence using technology at the current time. Select only one answer for each question.

Likert Scale (All Questions)

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

Email

Right now, I feel confident I could…

2. Send an email to a friend.
3. Subscribe to a discussion list.
4. Create a distribution list to send e-mails to several people at once.
5. Send a document as an attachment to an e-mail message.
6. Keep copies of outgoing messages that I send to others.

World Wide Web

Right now, I feel confident I could…

7. Use an Internet search engine (e.g., Google) to find website pages related to my subject matter interest.
8. Search for and find the SNAP-Ed Connection website.
9. Create my own OneDrive folder with educational resources to send to teachers.
10. Keep track of websites I have visited so that I can return to them later (e.g., using bookmarks).

11. Find approved sources of nutrition education materials and information on the Internet that I can use in my teaching.

Integrated Applications

Right now, I feel confident I could…

12. Use a spreadsheet to compile data and calculate the sum, average, etc.
13. Create a Word document in outline format with headings, numbering and bullet points.
14. Save documents in formats so that others can read them if they are using different programs (e.g. Word, PowerPoint, Google Slides/Sheets, PDF).
15. Use PowerPoint to make presentations for in-person and virtual use.
16. Use Google Slides to make a presentation for virtual use.
17. Create an Excel workbook with multiple tabs to organize a curriculum.
18. Use Canva to create a flyer.

Teaching with Technology

Right now, I feel confident I could…

19. Explain to a new employee how I use technology in my classrooms/community sites.
20. Create materials or resources for an in-person lesson.
21. Use technology to collaborate with teachers, students or others who are distant from my classroom.
22. Describe 5 software programs that I could use in my teaching.
23. Use Zoom to conduct a classroom lesson.
24. Use Google Classroom to conduct a lesson.
25. Use breakout rooms in Zoom.

26. Create materials or resources for a virtual lesson.
27. Use online tools to teach my students/learners from a distance (e.g. Zoom, Google Meet).
28. Use Google Suite to create interactive activities for virtual lessons.

Technology Usage

Right now, I feel confident I could…

29. Use mobile devices to connect to others for my professional development.
30. Send and receive text messages.
31. Save and retrieve files in a cloud-based environment.
32. Use Zoom to conduct a meeting.
33. Create content for use on DRX ERP social media (e.g., Instagram, Twitter)
34. Transfer photos or other data via smartphone.

Emerging Technologies for Student Learning

Right now, I feel confident I could…

35. Integrate mobile technologies into my lessons.
36. Use social media tools for instruction in the classroom (e.g., Instagram, Twitter).
37. Find a way to use a smartphone in my classroom for student engagement.
38. Use mobile devices to have my students access learning activities.

Open-Ended Questions

Instructions: Please answer the following questions in the space provided.

1. What was your biggest challenge in conducting virtual programming?

2. What resources would improve your ability to conduct virtual program delivery?

3. What training, if any, would you have liked to have had pre-pandemic to make the transition to virtual learning easier?

4. What have you learned about virtual program delivery over the past year?

5. Considering your experiences from the past year, how do you think these experiences may influence Eat Right Philly SNAP-Ed programming and SNAP-Ed programming in general, in a post-pandemic environment?

References

Christensen R, Knezek G. The Technology Proficiency Self-Assessment Questionnaire (TPSA): Evolution of a Self-Efficacy Measure for Technology Integration. University of North Texas. 2015.

Knezek G, Christensen R, Miyashita K, Ropp M. Instruments for Assessing Educator Progress in Technology Integration. University of North Texas Institute for the Integration of Technology in Teaching and Learning.

Supplemental Nutrition Assistance Program Education (SNAP-Ed) Factsheet. Published August 2016. Access March 8, 2021. https://snaped.fns.usda.gov/sites/default/files/documents/SNAP-Ed%20Factsheet%20_August%202016.pdf

FY22 Reporting Evaluation of Emerging Curriculum/Approach

Name of Project

Effectiveness of a Training and Technical Assistance Model for Food Service Departments

Project Goals (specifically those evaluated)

Describe the goal of the evaluation and identify each impact being assessed by this evaluation.

Through providing training and technical assistance to food service and kitchen department staff, this emerging policy, systems, and environmental (PSE) initiative aims to strengthen healthy food selection practices and improve the nutritional quality of served meals at eligible Food Service Departments serving meals to SNAP-eligible populations in Philadelphia. This emerging PSE work involves several evaluation activities across two main components – one focusing on increasing knowledge about culinary and nutritional topics through group training, and one focusing on technical assistance tailored to a site's individual needs.

Collaborative Culinary and Nutrition Trainings

1. Change in knowledge among collaborative training participants of content covered in training.

2. Satisfaction among collaborative training participants with training content and structure, facilitator, and overall experience.

3. Effect of collaborative training content upon attendees' operations, and identification of any sustained changes at their sites.

Individualized, Virtual and On-site Technical Assistance

1. Change over time at the site level, including goal setting on implementing strategies to achieve healthier meal service (e.g., using menu templates, increasing use of fruits and vegetables, eliminating deep frying as a method of food preparation) and assessment of incremental progress.

2. Improvements in food quality and choices provided to residents/clients (both existing menus and newly introduced meal options)

Evaluation Design

Describe the population being evaluated and its size.

The target audience are members of Food Service Departments serving meals to SNAP-eligible populations across the City of Philadelphia. SNAP-eligible constituents of targeted Food Service

Departments include but are not limited to families and adults experiencing homelessness, adults housed in a City-funded assisted living facility, early child education facilities, and other community centers.

Describe the unit of assignment to intervention and control/comparison groups.

N/A

Describe how assignment to these groups was carried out. Be explicit about whether or not this assignment was random.

N/A

Describe how many units and individuals were in the intervention and control/comparison groups at the start and end of the study.

N/A

Impact Measures

For each goal, describe the associated measure(s). Descriptions should indicate if the focus is on knowledge, skills, attitudes, intention to act, behavior or something else.

Listed below are the measures and corresponding evaluation instruments:

Collaborative Culinary and Nutrition Trainings

1. Pre/Post Test – individual and aggregate change in knowledge among collaborative training participants of content covered in training.

2. Satisfaction Surveys – individual and aggregate level of satisfaction ("good"/"agree" and above) among collaborative training participants with training content and structure, facilitator, and overall experience.

3. Follow-up Implementation Survey – participants' self-reported effect of collaborative training content upon site operations, and identification of any sustained changes at sites.

Individualized, On-site Technical Assistance

1. Baseline Goal Setting and Follow-Up Assessment Tool – change over time at the site level; namely, the adoption of strategies selected at baseline and tracked via follow-up assessments.

2. Meal/Menu Satisfaction Surveys – individual resident/client satisfaction ("satisfied" and above) with existing site menus and/or newly introduced menu item options.

Describe the points at which data were collected and how.

Collaborative Culinary and Nutrition Trainings

1. Pre/Post Test – administered at the outset and close of each training.

2. Satisfaction Surveys – administered at the close of each training.

3. Follow-up Implementation Survey – administered several weeks following each training.
   Note: As the FY22 training took place towards the close of the contract year, there was not sufficient time within the remainder of FY22 for attendees to have the opportunity to apply training content to their operations, and to administer the follow-up implementation survey.

Individualized, Virtual and On-site Technical Assistance

1. Baseline/Initial Goal Setting Assessment Tool completed during first meeting (or other proximate date/time as convenient for site)

2. Number and type(s) of strategies selected by sites through goal setting

3. Progress toward and achievement of strategies selected for adoption at initial meeting

4. Attendance recorded at each technical assistance session

5. Meal/Menu Satisfaction Surveys (if applicable, based on site needs and any continued visitor restrictions/low census due to COVID-19).

If there were any differences in measures for intervention and control/comparison groups, describe them.

N/A

Findings

Describe the measurement results for intervention and control/comparison groups at each point data were collected.

Collaborative Culinary and Nutrition Trainings

Note: materials for virtual training (i.e., food for test cook) were funded by the American Heart Association (AHA)

HPC planned one culinary and nutrition training for FY22, which was conducted virtually. The interactive training was designed and led by Connor Lightcap, MPH, Culinary Support Services Coordinator (CSSC) at HPC. Due to COVID-19, the typical agenda format for the in-person culinary and nutrition trainings was modified; the CSSC abbreviated the education component, used a PowerPoint format, and conducted the recipe demonstrations virtually. Additionally, the pre/post-test and satisfaction surveys were administered electronically through Alchemer, a secure survey platform. The virtual training took place on August 24, 2022 on the topic of using frozen and canned fruits and vegetables.

Using Frozen and Canned Fruits and Vegetables Training

Sixteen individuals representing three different sites across Philadelphia attended the August 24, 2022 virtual training on using canned and frozen fruits and vegetables: one from Women Against Abuse, one from People's Emergency Center, and fourteen from Open Door Clubhouse (two staff and twelve clients). Prior to the educational session, a pre-test was circulated to measure participants' baseline knowledge of training content. Questions spanned topics such as the utility of frozen/canned fruits and vegetables, pros and cons of frozen/canned fruits and vegetables, and approaches for freezing leftover produce. A post-test consisting of the same questions was disseminated at the end of the program to evaluate any changes in knowledge as a result of participation. Matched pre- and post-test pairs were obtained for two of the participants. In the matched pairs, one participant had no change across pre- and post-test in their assessment score of 100%; the other participant's score decreased from 100% in the pre-test to 80% in the post-test.

At the conclusion of the program, satisfaction surveys were distributed to collect anonymous participant feedback on various dimensions of the training. As illustrated below, respondents (*n*=3) indicated high levels of satisfaction with training structure, content, and instructor.

- **100%** of respondents rated the training as excellent
- **100%** of respondents strongly agree that they would recommend this training to others (*n*=2)
- **67%** of respondents agreed and **33%** of respondents strongly agreed the instructor answered all participants' questions
- **67%** of respondents strongly agreed and **33%** of respondents agreed the instructor communicated clearly and effectively
- **100%** of respondents strongly agreed the instructor was well-prepared and organized
- **67%** of respondents rated the quality of training materials as excellent, and **33%** of respondents rated the quality of training materials as good

- **50%** of respondents rated the organization of the information as excellent, and 50**%** of respondents rated the organization of information as good (*n*=2)
- **67%** of respondents rated the quality of presented information as good and **33%** of respondents rated the quality of presented information as excellent
- **67%** of respondents rated the training length as good and **33%** of respondents rated the training length as excellent
- **100%** of respondents strongly agreed their knowledge increased as a result of the training
- **100%** of respondents strongly agreed they will be able to apply what they learned to their job. (*n*=2)
- **100%** of respondents strongly agreed they will be able to apply what they learned to their life. (*n*=2)

Individualized, Virtual and On-site Technical Assistance

The Culinary Support Services Coordinator (CSSC) provided technical assistance to 16 sites throughout the fiscal year.

Center for H.O.P.E. Carlisle and Center for H.O.P.E Tioga

In October 2021, the HPC Culinary Support Services Coordinator (CSSC) spoke with Center for H.O.P.E. Carlisle's and Tioga's kitchen point of contact about the October 2021 training on Food Safety. The CSSC also inquired about meeting to conduct formal goal setting using the Follow-Up Checklist Tool. The point of contact noted they would have time to complete the Follow-Up Checklist Tool in 2022. The kitchen point of contact attended the October Food Safety training. Later in October, the CSSC emailed the point of contact several menu templates that were requested, as the contact is interested in setting menus at both Carlisle and Tioga sites, and offered assistance if any were needed. In November, the CSSC spoke with the kitchen point of contact about progress towards menu implementation. The kitchen contact had not yet started using the menus, but wanted to meet in 2022 to complete the Follow-Up Checklist. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. The CSSC also scheduled a follow-up assessment with the site contact. During the lengthy session to complete the follow-up assessment and review results, the CSSC was introduced to a new main cook at the site. The CSSC introduced the program to this new staff member. In June, the CSSC went to the site to check-in with staff. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and

vegetables, and followed up with the recipes shared during the training. While administrative/staff buy-in and institutional priorities facilitated this work during FY22, communication, staff turnover, and time constraints were barriers to additional progress.

Depaul House
In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted Depaul House about the October 2021 training on Food Safety. There has been turnover in the site's food service staff; CSSC will be informed when a new kitchen supervisor is hired. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In June, the email of the site's key contact bounced back, and the CSSC is confirming if the contact is still working at the site. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. While equipment/space facilitated this work during FY22, communication, staff turnover, and the lack of true champions were barriers to additional progress.

McAuley House
In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted McAuley House about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. Throughout FY22, the CSSC experienced protracted issues with lack of responsiveness to multiple rounds of outreach. Communication, staff turnover, and time constraints were barriers to additional progress.

Muslims Serve
In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted the point of contact at Muslims Serve to provide information about the October 2021

training on Food Safety, which the contact attended. In November, the CSSC toured the site and spoke with the point of contact about needs the training and TA program could assist with. In January 2022, the CSSC reached out to the point of contact to schedule completing the initial Goal Setting Tool virtually. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In February, the CSSC also met with site point of contact for one hour to complete an Initial Goal Setting Tool, through which the site selected assistance with having all staff cook from the same recipes, as a new kitchen supervisor was recently hired and the kitchen often uses volunteers. The CSSC shared resources such as prior disseminated recipes/cookbooks and the salt-free spice rubs handout with the site.
In March 2022, the CSSC toured the Muslims Serve pantry and received an update from the site point of contact on how the pantry is running. The site contact requested additional recipes, which were provided as follow-up. In May 2022, the CSSC will be scheduling a training on hummus preparation, as the site expressed they have an oversupply of chickpeas that are not getting taken during their pantry hours; this links back to the site's prioritized strategy of resource management. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In August, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. While administrative/staff buy-in, skills, and institutional culture or traditions facilitated this work during FY22, time constraints and equipment/facilities/space were barriers to additional progress. While the contact at Muslims Serve is incredibly motivated to take on PSE work at his site, he is the director and the only person cooking/taking care of the pantry; thus, there is little time to make substantial traction on selected PSE strategies.

Open Door Clubhouse
In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted the point of contact at Open Door Clubhouse to provide information about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In February, the CSSC also sent the site a link to HPC's garden survey to solicit the site's opinions and input on planning for a spring garden. In March 2022, the CSSC met with site point of contact to complete a Follow-Up Goal Setting Tool. That same day, they worked to clean up the garden and prepare it for the spring alongside eight Open Door Clubhouse clients. The

CSSC worked with the site contact to identify a gardening day, and at the end of March, held a two-hour introduction to the garden and led a "how to plant" workshop with participants and two HPC staff members. Mesclun, spinach, peas, chives, oregano, mint, parsley, and thyme were planted. In April, the CSSC checked in with the site to see how things were growing in the garden, and gave a brief training for participants on how to know when to water plants. Two weeks later, the CSSC spent three hours at the site to give a pest prevention training, spread cayenne pepper throughout the garden for pest management, and hang up some resources on a bulletin board for site clients to reference. In April, the CSSC also reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In May, the CSSC contacted the site again to check on the garden, and to schedule a date for summer planting. At the end of the month, the CSSC spent two hours to assist with cleaning up the garden space and addressing pest issues (there appears to be either squirrels or a possum that are attacking the garden bags). Summer crops were planted, including cucumbers, tomato, beans, and herbs.
In June, two site clients and the CSSC planted some additional crops and worked on a solution to try and protect the plants from pests; the CSSC also emailed some pest management suggestions to the site contact as well. The CSSC is awaiting an update from the site on the garden status and work done to mitigate pests.
In July, the CSSC spent an hour with the site contact and some clients to clean up the summer garden and harvest some produce. In August, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. Open Door Clubhouse was in attendance at the training, and reached out to the CSSC in advance to let him know a state representative they were collaborating with wanted to join in attendance at the virtual culinary and nutrition training. The state representative attended the training (data for this individual was not collected/reported as there is no MOU with state representative office). In September, the CSSC connected with the site contact to check in on the garden and get a time set up for fall plantings. About 10 days later, several herbs were harvested from the summer garden, and the bags were cleaned up in advance of transitioning to a fall garden. Lettuces and collards were planted. In September the CSSC also led a two-hour workshop on three different methods of herb drying. Sage, oregano, thyme, and basil were dried for the site's future use. On the last day of the month, the CSSC visited the site to check in on the herbs that were dried. Some were completely dry, so a group convened to crumble up and bag the herbs. While administrative/staff buy-in, community buy-in and motivation, community culture or social environment, institutional culture or traditions, and leaders/champions facilitated this work during FY22, time and skills were barriers to additional progress.

Our Brother's Place
In October 2021 the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at Our Brother's Place to provide information about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff.

In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious.
In March 2022, the CSSC met twice for one hour with the site's new kitchen supervisor and other staff; first, to introduce the training and technical assistance program and complete a Follow-Up Goal Setting Tool, and again to discuss their garden. The group spent some time looking over the garden, and discussing what the site staff wanted to plant. Towards the end of March, the CSSC held a two-hour garden clean up and training for some site staff who will be maintaining the garden space. The group cleared the debris from old planters, rearranged the garden set up, amended the soil, and planted the following crops: romaine, mesclun, arugula, spinach, chives, basil, thyme, oregano, parsley, peas, and mint. The next day, the group cleaned a lot of trash and cigarette butts out of the garden, and the site contact expressed concern that participants would continue to put trash in the planters. The CSSC created signage letting people know about the garden, what was being grown, and encouraging mindfulness of the space; the signage were hung in the garden. Clients of Our Brother's Place will be able to work in the garden, and it is open to anyone who accesses the food service program at this site.
In April, the CSSC visited the site to check on the garden and see how things are growing; the CSSC also added items to the bulltein board area by the garden entrance. The CSSC also reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In mid-April, the CSSC led a succession planting workshop with a site staff member, and more spinach, peas, and herbs were planted. In May, the CSSC spent a few hours with a site staff member and a few clients to plant some summer fruits and vegetables, and harvest some herbs to bring to the kitchen. After harvesting, the CSSC brought the herbs into the kitchen and had a conversation with the kitchen lead about dishes she could make with the herbs provided. Later that month, the CSSC met with a new team member who would be replacing a staff member the CSSC was mostly liaising with.
In June, the CSSC visited the site to see the garden and check in on the recently hired staff member's transition into their new role. They harvested some herbs for the kitchen and checked in on all of the plants. In July, the CSSC met with the key contact and introduced him to the follow-up assessment. The CSSC provided the contact with a copy of the most recent follow up assessment that was completed with the prior key contact before they left OBP, and walked him through the assessment, explaining the procedure for completing a new one. A meeting was scheduled to complete a new follow-up assessment. About a week later, the CSSC and key contact met to check on the garden and complete the follow-up assessment. The CSSC also provided a recipe booklet. Later, the CSSC provided a copy of the menu satisfaction survey to OBP, as well as the electronic copy of the follow up assessment that was completed. In August, the CSSC scheduled time to clean up OBP's summer garden and initiate planting of the fall garden. The CSSC also informed the site of HPC’s upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training.

In September, the CSSC picked up the completed menu satisfaction surveys (*n*=17) and met with OBP staff to clean out the summer garden and set up the fall garden. Results of the menu satisfaction surveys are included below.

Overall level of satisfaction with food prepared:

	Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied	Total (*n*)
Taste of the food	4	1	0	5	7	17
Appearance of the food	1	2	2	9	3	17
Portion sizes served	1	1	6	5	4	17
Variety of meals/menu served	2	4	1	5	5	17

Do clients look forward to eating most of the dishes served:

Never	Rarely	Neutral	Sometimes	Always	Total (*n*)
2	3	1	6	5	17

Current dishes that clients would like to see more of on the menu:

- N/A (*n*=8)
- more hot breakfast (not cold cereal), eggs
- vegetables (e.g., potatoes)
- proteins such as fish, chicken (*n*=4), and beef/steak (*n*=2)
- salad
- fruit (*n*=2)
- spaghetti and meatballs

Other foods that clients would like to see more of on the menu:

- N/A (*n*=3)
- Any additional items
- More selections

- Burgers (*n*=2)
- Pizza (*n*=2)
- Proteins such as steak/beef (*n*=2), bacon, pork (*n*=2), meatloaf, cheesesteak, fish, and shrimp
- Wheat bread
- Sides such as rice dishes (*n*=3), legumes (*n*=2)
- More fruits (*n*=2) and juices
- Frozen, fresh, or roasted vegetables (*n*=2)
- Real mashed potatoes
- Salad
- Baked "mac"
- Fewer soups

Other client suggestions on how to improve the menu:

- N/A (*n*=6)
- Improve the skills of cooking staff, improved nutritional value of menus, "hire people who care about what they do, who have a passion in what they do" (*n*=4)
- More flavor/seasoning
- Juices with meal and choices of coffee or tea with breakfast
- Soup is overserved
- Breakfast: larger portions and additional options (e.g., oatmeal with granola, egg whites, salmon, coffee, juice, iced tea)
- Other beverage option alternatives to water
- Post menu throughout the building
- Three respondents noted satisfaction with their experience of food/staff

While administrative/staff buy-in, equipment/facilities/space, and leaders/champions facilitated this work during FY22, community culture/social environment and staff turnover were barriers to additional progress. Staff turnover has been especially difficult at this site. The former key contact was a great support for this PSE work, so it took some time to get this PSE restarted after his successor onboarded.

Outley House

In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at Outley House to provide information about the October 2021 training on Food Safety. At the end of FY21, this site identified starting an onsite vegetable/herb garden as a primary goal. In late October 2021, the CSSC contacted the site to schedule time to set up the site garden before the first frost. On November 13, 2021 the CSSC spent two hours with Outley House contact and six other participants to create the garden. Spinach bunching onions, garlic, and beets were planted for the winter season. In mid December and mid January, the CSSC touched base with the site to see how the plated produce was growing. In January, the CSSC offered to travel to Outley House to help complete garden preparations for winter.

The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In February, the CSSC also sent the site a link to HPC's garden survey to solicit Outley House's opinions and input on planning for the new planting season. On February 24, 2022, the CSSC met for 1.5 hours with the site contact. During this meeting, a Follow-Up Goal Setting Tool was completed, through which the site indicated interest in amplifying their garden to an even larger degree. The site was also interested in a training for participants about how to plant seeds/take care of the garden before it gets installed. The CSSC and site contact worked to clean up the garden to prepare it for the spring. In March 2022, the CSSC liaised with the site contact to identify dates for a training on starting seeds. On March 30, the CSSC led a seed/plant starting workshop with two clients of Outley House and one Outley House staff member. Oregano, thyme, peas, dill, parsley, spinach, lettuce, and mesclun were planted. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. The CSSC also met with the site contact to look over the garden and check in about plans for summer planting. In May, the CSSC met with the site contact and one client who has been taking care of the garden to check in. They harvested some lettuce and herbs and brought them to the kitchen, where the CSSC discussed with the kitchen lead some recipes that he could make with the herbs, and how to store herbs to keep them fresh. Later that month, the CSSC followed up with the site contact to establish a summer gardening date and introduce her to some raised garden bed options for a more permanent solution. In June, the CSSC visited the site to check on the plants and talk with the site about what they'd like to plant for the summer. They also harvested some thyme, dill, oregano, and parsley for the kitchen, as well as a few heads of garlic to cure. About a week later, the site was still waiting on more planting bags to arrive, but they we were able to consolidate some plantings and plant some tomatoes and some additional herbs. At the end of June, the CSSC went to the site to clear out the final spring crops and planted a few additional summer crops. In July, the CSSC met with the site contact to check in on the garden and troubleshoot any issues. In August, the CSSC informed the site of HPC’s upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. The CSSC also spent three hours managing a table at Outley House's Community Day; during this event, the CSSC was able to connect with residents and community members and share information about HPC's services and PSE work. In September, the CSSC initiated contact to schedule time to clean up the summer garden and prepare for the fall garden. Less than a week later, the CSSC, site contact, and two clients set up the fall garden and planted lettuces and collards. A week later, the CSSC stopped by to check on the garden and plant some garlic, as additional planting bags were secured. While administrative/staff buy-in, community culture/social environment, and equipment/space facilitated this work during FY22, the cost of making or maintaining the change, participant motivation, and time constraints were barriers to additional progress.

People's Emergency Center – Gloria's Place

In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at PEC to provide information about the October 2021 training on Food Safety, which the contact attended. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. On November 8, 2021, the CSSC met with site staff, who shared that the family shelter might be closing, and to follow-up after the holidays after the site's plan is finalized. In early January 2022, the CSSC spoke with site staff, who shared that the PEC family shelter had in fact closed effective January 1. PEC still operates their kitchen to serve the residents of the youth program. The site contact said she would update the CSSC on next steps once PEC had decided what to do with the space. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In February, the CSSC also sent the site a link to HPC's garden survey to solicit PEC's opinions and input on planning for the new planting season. On March 7, 2022, the CSSC met for two hours with the site contact. During this meeting, a Follow-Up Goal Setting Tool was completed, through which the site indicated interest in continuing and expanding their herb and veggie garden, which was started in FY21. The CSSC and site contact worked to clean up the garden, and discussed garden planning for the upcoming season. The site will also create space for a garden bulletin board that the CSSC will provide resources for. Towards the end of March, the CSSC contacted the site to begin scheduling spring crop planting, and to make preparations in advance of the summer so that the CSSC can continue to provide support surrounding the setup and maintenance of the garden. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. The CSSC also met with the site contact and two clients to set up the garden for the spring. The area was full of weeds, so the contact said she will follow up with facilities to clean up the area. A variety of vegetables and herbs were planted. About one week later, the CSSC visited the site garden and talked with the site contact about how to know when to water plants. In May, the CSSC met with the site contacts to discuss more permanent options for the garden; a few days later, they planted summer crops, as the weeds and debris from the area had been cleared and everything looked much more robust. The CSSC followed up with raised bed options that the site contact could share with PEC's administration for approval. In June, the CSSC met with the site contact to check on the garden; the tomatoes were growing wonderfully and were almost ready for harvest. They harvested some herbs and the CSSC gave the kitchen lead ideas for dishes she could use the herbs with. At the end of the month, the CSSC visited the site to check on the garden, and see if the PEC administration had given feedback on the raised beds. The administration is excited about implementing raised beds, but they do not have the budget for it this fiscal year. The site contact was going to present the idea to their board during their proposal period in August, but was informed they would need to put the raised garden beds on hold due to another construction project; however, PEC noted they would revisit this idea in spring 2023. In July, the CSSC met with the site contact to check on the garden. The CSSC also sent advanced notice of upcoming weather and tips on knowing when to water and harvest their gardens. In August, the CSSC informed the site of HPC's upcoming virtual collaborative

culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. In September, the CSSC connected the site cook with food safety training resources and additional recipes, as well as met with the site contact to discuss a plan for the fall garden. The CSSC also spent 1.5 hours cleaning up the summer garden and planting some lettuces, collards, and garlic. While administrative/staff buy-in, communications, and institutional culture or traditions facilitated this work during FY22, the cost of making/maintaining the change, time, and rules/regulations were barriers to additional progress.

Riverview/Fernwood Emergency Shelter
This site has indicated interest and has been contacted multiple times to complete the initial goal assessment, but has failed to respond. At this time, the site is still included in the training and TA program. On October 7, 2021 the HPC Culinary Support Services Coordinator (CSSC) contacted Fernwood about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. Throughout FY22, the CSSC experienced protracted issues with lack of responsiveness to multiple rounds of outreach. Communication, administration/staff buy-in, and time constraints were barriers to additional progress.

St. Barnabas Mission
On February 15, 2022, the CSSC met for one hour with site point of contact to receive an update on the site and complete and Initial Goal Setting Tool. Through completion of the tool, the site identified a need for more standardized recipes and batch cooking recipes, given the recent expansion of the site's pantry and their existing role in creating large batch meals for a nearby senior site. In March 2022, the CSSC held a follow-up meeting with the site contact and provided recipes requested by the site. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. While administrative/staff buy-in and institutional culture/traditions facilitated this work during FY22, time constraints were barriers to additional progress.

St. John's Hospice
In October 2021 the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at St. John's Hospice to provide information about the October 2021 training on Food

Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. The CSSC also reached out to the site's new food services director to introduce the PSE program and request a time to meet. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In June, the CSSC followed up with the site's new food services director to meet and discuss the program. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. While administrative/staff buy-in and community culture/social environment facilitated this work during FY22, communication, staff turnover, and rules/regulations were barriers to additional progress.

Station House

In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at Station House to provide information about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious.
In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS.
In August, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. Equipment/facilities/space and communications were barriers to additional progress in FY22.

Sunday Breakfast

Despite multiple outreach attempts in FY22, this site remained unengaged. In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted point of contact at Sunday Breakfast to provide information about the October 2021 training on Food Safety. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared

during the training. Throughout FY22, the CSSC experienced protracted issues with lack of responsiveness to multiple rounds of outreach. Administration/staff buy-in, and time constraints were barriers to additional progress.

Women Against Abuse-Ameya's Place and Women Against Abuse-Carol's Place
In October 2021, the HPC Culinary Support Services Coordinator (CSSC) contacted the point of contact at WAA - Ameya's Place and WAA – Carol's Place to provide information about the October 2021 training on Food Safety, which the contact attended. The CSSC provided the site a link to the recorded food safety training so that it could be used as a resource for other site staff. In February 2022, the CSSC developed and shared a new Cold Weather Cookbook, based on the Philadelphia Nutrition Standards, which included twelve new recipes that food service staff could prepare for clients. Recipes included in the cookbook can be made in advance and frozen, require minimal culinary skills, and are filling/delicious. In April, the CSSC reminded sites of community resources in areas of interest, and informed them of a future food handler's training being developed in collaboration with OHS. In Q4, the CSSC informed the site of HPC's upcoming virtual collaborative culinary and nutrition training on the topic of using frozen and canned fruits and vegetables, and followed up with the recipes shared during the training. Administration/staff buy-in facilitated this work during FY22. The sites subsequently transitioned to a CACFP program.

Description of how evaluation results will be used:

These evaluation results will:

- Inform individual sites of areas of strength and growth in promoting the preparation, serving, and consumption of healthier meals; coordinate and provide sites with useful insight, directly from clients and residents, on their menus and meals served.
- Equip Food Service Departments of Philadelphia agencies with knowledge and skills to improve food selection and distribution practices.
- Assess the effectiveness of training and technical assistance for Food Service Departments to adopt healthier meals and food preparation practices.
- Determine the feasibility of expanding the training and technical assistance model to improve the adoption of the Philadelphia nutrition standards and/or healthy food selection practices at eligible Food Service Departments serving meals to SNAP eligible populations.

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HPC Curriculum-Specific Evaluations | **FY2022**

Background

The following sections analyze respondent data from participants of nutrition education curricula *A Taste of African Heritage*, *Cooking Matters at the Store*, and *Seniors Eating Well*, taught by Health Promotion Council (HPC) between October 1, 2021 and September 30, 2022.

A Taste of African Heritage (ATOAH)

Self-reported changes in ATOAH participants' food preparation and consumption behaviors, perceptions of African Heritage Foods, challenges to cooking and eating healthily, and feedback on curriculum content were assessed through the curriculum's entrance and exit surveys. Between October 2021 and September 2022, HPC collected 37 entrance surveys and 22 exit surveys, of which 18 were matched pairs. The below sections contain analyses of behavioral changes for matched pairs, as well as summaries of qualitative free-response data across all respondents.

Behavior Change among Matched Pair Respondents

Prior to participating in their first ATOAH lesson (entrance) and following the final ATOAH lesson (exit), participants were asked to provide the frequency with which they performed the following behavioral indicators: cooking at home; eating home-cooked meals; cooking with herbs and spices; exercising; and consuming greens, whole grains, beans, tubers (e.g., sweet potatoes or yams), vegetables, fruits, and vegetarian-based meals. Summarized results across these matched pairs is included below in Table 1. As the behavioral questions' response options are solely quantitative, an understanding of the deeper nuances why negative behavior change may have occurred after completing ATOAH is lacking.

Table 1. Changes in healthy behaviors among matched-pair respondents following completion of ATOAH

Indicator	Increase in behavior	Decrease in behavior	No change in behavior
Times per week cooking at home	12% (*n*=2)	35% (*n*=6)	53% (*n*=9)
Times per week eating home-cooked meals (cooked by self or other)	20% (*n*=3)	53% (*n*=8)	27% (*n*=4)
Times per week cooking with herbs and spices	19% (*n*=3)	19% (*n*=3)	63% (*n*=10)
Times per week eating greens	7% (*n*=1)	27% (*n*=4)	67% (*n*=10)
Times per week eating whole grains	36% (*n*=5)	21% (*n*=3)	43% (*n*=6)
Times per week eating beans	20% (*n*=3)	20% (*n*=3)	60% (*n*=9)
Times per week eating different tubers (e.g., sweet potatoes, yams)	33% (*n*=1)	--% (*n*=0)	67% (*n*=2)
Times per week eating vegetables	20% (*n*=3)	20% (*n*=3)	60% (*n*=9)
Times per week eating fruits	13% (*n*=2)	33% (*n*=5)	53% (*n*=8)
Times per week eating vegetarian-based meals	7% (*n*=1)	21% (*n*=3)	71% (*n*=10)
Frequency of exercising per week (including walking)	19% (*n*=3)	31% (*n*=5)	50% (*n*=8)

Qualitative Responses

At entrance, participants were asked what came to mind when they heard the phrase “African Heritage Foods.” After completing ATOAH, participants were asked how they would describe African Heritage Foods to someone unfamiliar with this term. All respondents’ submissions to these questions, regardless of matched pairing, were categorized into the themes listed below (Table 2). Each theme is followed by a sample of responses from which the themes emerged. When a concept was raised by more than one respondent, the number (*n*) is noted.

Table 2. Participants' description of African Heritage Foods before and after completion of ATOAH

Entrance Survey (*n*=27)	Exit Survey (*n*=20)
Taste: spicy (*n*=3); good (*n*=2);	*Taste:* spicy; good or very good (*n*=6); tasty; amazing; wonderful
Health/Nutrition: health; healthy cooking of chicken	*Health/Nutrition:* healthy (*n*=4); very healthy (*n*=3); health conscious; good eating; great for healthy living; nutritional meals; nutritious; "important for your health"
Types: beans (*n*=2); vegetables (e.g., cooked, with herbs) (*n*=5); curries; home grown foods; roots; rice (*n*=3); grains; natural food; spices (*n*=3); starch (e.g., potatoes, yams); food that fills you up fast	
Geography – Africa and the Diaspora: authentic foods for Africa; different from traditional American food; African food (*n*=2); food of African trace origin to be found, prepared, and devoured	
Tradition: foods that bring healing from the motherland; my country's food; meals that are prepared and traditionally from a African standpoint and diet; earth; soul food; my heritage	*Tradition:* "the African heritage diet contains a great deal of carbohydrates. Provides energy but should be paired with an active lifestyle"
New Knowledge: "I don't know;" learn; "I want to try that, something I never eat before"	*New Knowledge:* "Learn about it;" "I would share my learning of understanding what veggies, beans, legumes, fruits, herbs and spices are. How to read labels and share healthy tips - It has been life changing for me. Great."; very good series and helpful;
	Other: "just time and life;" "I love them"

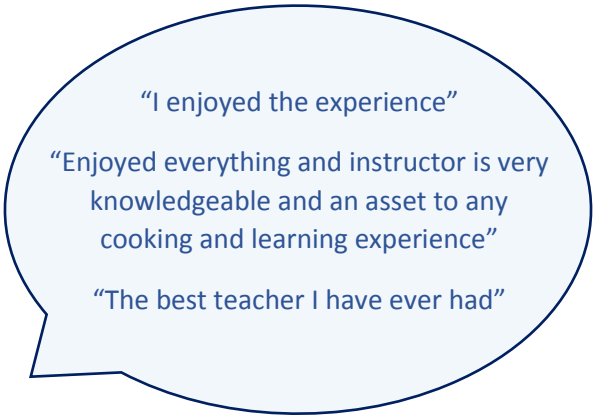
After completing ATOAH, participants were asked through the exit survey what surprised them most about the class, the recipes, or African heritage foods. Of 20 total responses, participants most commonly mentioned new knowledge (*n*=8), such as education about health and wellness, the variety of beans, and cooking preparations/techniques. As one respondent relayed, "How to cook without including a lot of salt. How to use different herbs and spices to achieve different [tastes]. Especially

those herbs and spices I never used." Others touched upon recipes, food items (e.g., herbs, tubers), and ingredients (*n=6*), as well as taste (*n*=2). Another respondent noted how much they have changed as a result of the class.

At exit, participants were also asked which curriculum recipes were the most interesting. Only two respondents provided the answers of braised cabbage and fruit salad; all others skipped the question or wrote 'N/A.' Eight individuals reported preparing in-class recipes at home.

Lastly, upon finishing the curriculum, participants were asked to share what content they would modify, and were invited to share any additional information about their experience with ATOAH. Fifteen respondents indicated they would not change the curriculum. Additional feedback included: not using beans, having more supplies to cook with, having housing in order to cook one's own food, and more lessons of ATOAH.

When asked if/how the program changed their eating patterns, 68% of respondents (*n*=15) indicated a change. Two respondents reported ATOAH had led to eating less meat, while two others noted using more herbs in their cooking, and two additional respondents shared they are cooking more foods. Two participants reported ATOAH had changed the way they eat/they eat healthier.



Motivators and Barriers

At entrance, participants who were not presently cooking and eating healthily were asked their biggest obstacles to these behaviors. The top four selected barriers were junk food/sweets (*n*=7), not enough time (*n*=3), too expensive (*n*=3), and physical difficulties (*n*=3). At exit, 91% of respondents (*n*=20) believed that history and heritage were positive motivators for living and eating well. Of the respondents who did not cook any of the curriculum recipes, the reasons provided included not being able to shop for ingredients/did not have the ingredients at home (*n*=4), not having time to cook (*n*=2),

being in a shelter setting (*n*=2), not enjoying the recipes, not feeling like cooking, and physical difficulties.

Cooking Matters at the Store (CMATS)

Due to a low number of completed post-surveys (*n*=3), the data are not sufficient for analysis.

Seniors Eating Well (SEW)

Self-reported changes in SEW participants' knowledge, behavior, and self-efficacy relating to diet and physical activity practices were assessed through the curriculum's brief post-surveys (e.g., 4-8 questions), which are discrete and tailored to each of the lessons. Between October 2021 and September 2022, HPC collected a total of 63 post-surveys from the health center setting; aggregate results for each lesson's post-survey are summarized below.

Lesson 1 *Great Grain Discoveries*

After participating in Lesson 1:

One respondent indicated a decrease and two respondents reported an increase in their ability to identify an ounce portion of most grain foods.

One respondent indicated a decrease and two respondents reported an increase in their ability to identify two or more health benefits of whole grains.

Three respondents reported an increase in intent to eat three or more ounces of whole grains most days (when compared to prior behavior in the past month); the other four respondents' level of intent remained unchanged.

One respondent reported an increase in intent to always read the fiber content on grain food labels (when compared to prior behavior in the past month); the other six respondents' frequency of reading fiber content remained unchanged.

Lesson 2 *All-Star Snacks*

After participating in Lesson 2:

Two respondents indicated an increase and one respondent reported a decrease in intent to use MyPlate to plan snacks (when compared to prior behavior in the past month); the remaining six respondents' level of intent remained unchanged.

Three respondents indicated an increase in intent to choose their snack foods from fruits, vegetables, and whole grains (when compared to prior behavior in the past month); the remaining six respondents' level of intent remained unchanged.

Three respondents reported an increase and one respondent reported a decrease in intent to try recipes that contain a good source of fiber (when compared to prior behavior in the past month); the remaining five respondents' level of intent remained unchanged.

Lesson 3 *Heart Healthier Meals*

Only one respondent used MyPlate to plan their menus prior to completing Lesson 3; 83% of respondents (*n*=10) intended to apply MyPlate within the month. One respondent indicated no intention to use MyPlate when planning their meals. Half of respondents (*n*=6) stored food safely before the lesson, whereas 33% (*n*=4) planned to store food safely within the month. One respondent indicated no plans of storing food safely. 42% (*n*=5) of respondents stocked up on heart healthy staples such as fruits and vegetables before the lesson, whereas 58% (*n*=7) respondents planned to stock up on heart healthy staples within the month. Half of respondents used a lower-fat cooking method (such as stir-fry, steam, poach, or crock-pot) before the lesson, whereas the remaining 50% (*n*=6) planned to use a lower-fat cooking method within the month. A third of participants (*n*=4) had tried a new heart healthy recipe before the lesson, whereas the other 67% (*n*=8) planned to try a new heart healthy recipe within the month. 36% of respondents (*n*=4) ate two or more cups of fruit and 2.5 cups of vegetables a day before the lesson, whereas the other 63% (*n*=7) planned to do so within the month.

Lesson 4 *Cooking/Seasoning with Herbs*

After participating in Lesson 4, 50% of respondents (*n*=4) indicated no change in their familiarity with many types of herbs used to season foods; the remaining half was split between both increased (25%; *n*=2) and decreased in familiarity (25%; *n*=2). Three participants indicated an increase and one participant indicated a decrease in intent to use herbs when cooking or seasoning food at home to help decrease salt intake (when compared to behavior prior to the lesson). The remaining 50% (*n*=4) of respondents' level of intent remained unchanged.

Lesson 5 *Savory Soups*

Before participating in Lesson 5, all respondents indicated they were able to identify the main sources of salt in their diet, and none reported a change in level of ability (i.e., "agree" to "strongly agree") after participating in the lesson. Similarly, 86% of respondents indicated they were already able to identify two foods that would help prevent or lower high blood pressure before participating in the lesson; only one respondent reported an additional positive increase to their existing ability. Three respondents indicated an increase in intent to read food labels to help them choose lower sodium foods (when compared to prior behavior in the past month); the remaining 57% (*n*=4) of respondents' level of intent remained unchanged. All respondents planned to try one or more new reduced salt recipes within the next month.

Lesson 6 *Fitness Fun*

After participating in Lesson 6, 22% (*n*=2) of respondents reported an increased confidence in their ability to safely perform physical activities; the remaining seven respondents indicated no change in confidence level. Seven of the nine respondents were already exercising on a daily basis, with total time spent ranging from 20 minutes to 90 minutes. When estimating future physical activity planned after the lesson, one participant decreased their total daily minutes, 44% (*n*=4) indicated an increase, and 44% (*n*=4) remained unchanged. Prior to participating in the workshop, all respondents had tried

one or more novel ways of increasing their daily hydration, and all planned to continue trying at least one new method of increasing daily liquid intake within the next month.

Lesson 7 *Evaluating Dietary Supplements*

After participating in Lesson 7, 50% of respondents (*n*=3) reported an increased confidence in their ability to identify the percent Daily Value (DV) on dietary supplement labels, while the remaining half noted no change. Only one respondent reported a positive change in confidence in identifying at least one safety issue with dietary supplements, while the confidence level in the remaining 83% (*n*=5) remained unchanged. Half of respondents (*n*=3) were able to identify one or more credible sources of information for dietary supplements, while the remaining half noted no change.

Lesson 8 *Dietary Fat*

After participating in Lesson 8, 40% of respondents (*n*=2) noted a decreased confidence in their ability to identify at least two health concerns with a higher fat diet; the rest indicated no change. All respondents were already able to identify two or more foods high in saturated or trans fat before the workshop, but as a result of participation, 40% (*n*=2) reported an additional positive increase to their existing ability. A total of 60% of respondents (*n*=3) indicated an increase in intent to reduce the amount of higher saturated or trans fats in their diet (when compared to prior behavior in the past month), and 60% (*n*=3) planned to increase consumption of foods with healthy fats (when compared to prior behavior in the past month).

Lesson 9 *Weight Control – Energy Density*

The final lesson was unable to be taught as the final class was cancelled by the health center, which suspended in-person programming due to concerns related to COVID-19.

HPC Partnership Assessment Results | **FY2022**

Background

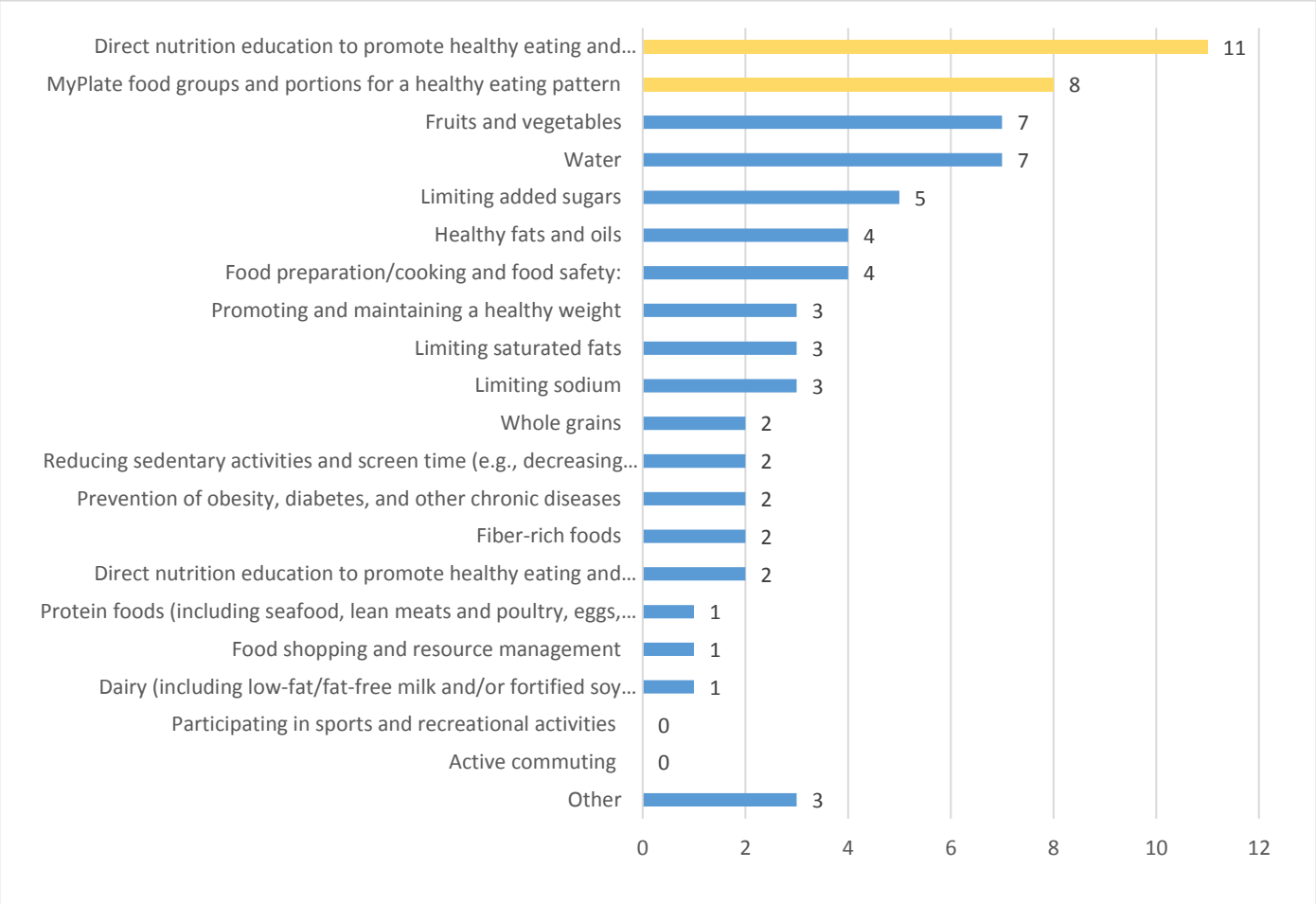
Health Promotion Council (HPC) circulated its FY22 partnership tool to SNAP-Ed delivery sites with which HPC maintains an active partnership and provides nutrition related services to clients. Through the tool, HPC sought to learn about partner sites' experiences working with HPC during the program year spanning October 1, 2021 to September 30, 2022. To facilitate respondent access, the FY22 tool was administered through an online survey link.

Respondents

Thirteen individuals representing thirteen different partner sites completed the online partnership tool, thereby exceeding HPC's initial goal of 5-10 sites. The majority of respondents were from Out of School (OST) programs (46%, *n*=6) and schools (46%, *n*=6). One additional respondent was from a health center (8%, *n*=1). Respondents represented diverse positions, such as case manager, nurse, principal, director, and vice president. The length of respondents' organizational partnership was mostly split between 2-4 years (46%, *n*=6), and four or more years (46%, *n*=6); one respondent reported their organization partnered with HPC for six months to a year (8%, *n*=1). When asked how long the respondent had worked with HPC in their current role, nine reported 2-4 years (69%, *n*=9), three respondents reported more than four years (23%, *n*=3), and one reported between six months to a year (8%, *n*=1).

Site Partnership

All respondents (100%, *n*=13) agreed or strongly agreed that they had a clear understanding of what the collaboration between their site and HPC was striving to accomplish. As illustrated by the below chart, the most prevalent topical focus of respondents' partnerships with HPC was the provision of direct nutrition education for the promotion of healthy eating and increased physical activity among youth or school-aged participants (85%, *n*=11). Other top foci included MyPlate food groups and portions for healthy eating patterns (62%, *n*=8), fruits and vegetables (54%, *n*=7) and water (54%, *n*=7).



Note: **Respondents could select all answer options that applied to their partnership.**

As a result of working with HPC during FY22, respondents noted their site acquired useful knowledge about services, programs, and/or people in the community (92%, *n*=12); their site was able to have a greater impact with their community (85%, *n*=11) and clients (100%, *n*=13) than they could alone; and their site developed or advanced relationships in the community (54%, *n*=7).

When asked how the partnership between their organization and HPC could be improved or strengthened, two respondents noted the partnership was "seamless" and they were pleased with the existing relationship. Five other respondents suggested:

- Offering more programs/classes
- Incorporating physical activities within curricula/offerings
- Increasing visibility within schools

- Increasing communication and sustaining existing communication
- Supporting the identification of key staff at sites to foster partnerships
- Continuing to discuss and prioritize community needs

All respondents noted their organizations would like to continue partnering with HPC to provide nutrition-related programming.

Site Goals

When asked if the partnership between their organization and HPC has helped them identify additional resources and/or programs to meet their organization's goals, 92% (*n*=12) of respondents strongly agreed or agreed. All respondents rated their organization's collaboration with HPC as successful at reaching its goals; over half found the collaboration very or completely successful 62% (*n*=8), and 38% reported it as successful (*n*=5).

Barriers

For the third consecutive year, the COVID-19 pandemic was identified by respondents as the top barrier (67%; *n*=6) to their organization's partnership with HPC during FY22. The second highest barrier was time constraints (44%, *n*=4). Other barriers identified included staff turnover, poor client engagement, clearances required by DHS, and shifting priorities within the partnership with HPC (*n*=1 each).

Accomplishments and Feedback

Respondents shared the following examples of accomplishments/successes resulting from their collaboration with HPC: students "seeing their food" and learning about healthy fruits and vegetables; students looking forward to learning about new foods; students not pushing back when healthy snacks are offered, or when they are asked to put away their junk food; students being exposed to different recipes and enjoying vegetables they might not have tried previously; students pointing out teachers' food choices ("students will actually say to me whether I'm eating something healthy or not"); and one site's successful transition from virtual to in-person programming with maintained engagement and attendance.

HPC PSE Evaluations | **FY2022**

Healthy Pantry Snapshot Assessment Tool

HPC administered the Healthy Pantry Snapshot Assessment Tool with a pantry that was newly engaged with the Healthy Food Pantry Initiative PSE project. Through this assessment, the following key takeaways were obtained:

- While the pantry has fresh fruits, fresh vegetables, and frozen protein "in abundance," staff are not consistently talking with participants about what to select at the pantry and why (e.g., compare/contrast healthier options)
- While signs/shelf tags are not currently posted at F2E locations, the pantry had recently purchased them
- F2Es are not placed at the front of the pantry, but are placed at both hand and eye level
    - Delivery bins are used to create a produce stand set-up, and staff sort through the produce so "it looks like something people want to eat"
    - There are low-sodium and low-sugar food sections within the pantry
- Recipe cards are not available at the pantry, such as located near F2Es, but MyPlate posters are hung in the pantry
- The pantry seldom receives non-foods to encourage (F2E), such as cookies, cakes, and pies
- Twice a week, nutrition classes and Drexel University students speak with pantry clients about how to read a food label
- The pantry distributes fresh and frozen produce more than 80% of the time
- It is unclear if staff/volunteers receive training on the four steps to keep food safe (e.g., as a required condition of employment/volunteering)

Follow-up meetings will be scheduled with the pantry to review the results of their Snapshot and identify goals to prioritize.

Lactation Support Goal Setting Tool

Through the Lactation Support in Family Shelters project, HPC contacted family shelters and assessed interest in receiving training and technical assistance related to supporting the breastfeeding friendly shelter environment policy at their site. HPC identified and provided continued support to key champions at each family shelter who could maintain PSE implementation at their site. During the first half of FY22, HPC experienced challenges in communicating with sites involved in the PSE project, as the site champions HPC had built prior relationships with at Families Forward, Red Shield Family Residence, Women Against Abuse, and Woodstock Family Shelter had either left their organization, were unresponsive to multiple rounds of communication, or were responsive but overburdened in their daily role and thus declined to complete a Goal Setting Tool at that time. In Q3, the health coach was able to complete the Goal Setting Tool with the newly hired champions at Women Against Abuse-Carol's Place and Women Against Abuse-Ameya's Place. The top goals identified by champions through the tool were raising awareness via posting breastfeeding flyers and/or posters in strategic areas (*n*=2), developing and incorporating a written breastfeeding support policy, identifying dedicated space to support client breastfeeding and pumping, and assistance with resources on breastfeeding community support services. During Q3, the health coach also completed follow-ups with champions at the sites Families Forward, Red Shield Family Residence, and Woodstock Family Center. This follow-up resulted in the following identified goals: implementing measures to promote privacy for breastfeeding clients; assistance with resources on breastfeeding community support services (*n*=2); assistance with establishing safe onsite storage practices for pumped breastmilk; and assistance with including language on breastfeeding in the shelter's manual. During Q4, the health coach met with the champion at People's Emergency Center – Gloria's Place (PEC). During this meeting, the health coach discussed breastfeeding policies, changes the site could make to their environment to make it more supportive of client breastfeeding, and completed the Goal Setting Tool with the champion. The goals of raising awareness via posting breastfeeding flyers and/or posters in strategic areas, and developing and incorporating a written breastfeeding support policy for their site were prioritized.

Breastfeeding Champion Pre/Post-test

As a component of the Lactation Support in Family Shelters project, HPC's heath coach conducted the initial breastfeeding champion training with the incoming champions at Women Against Abuse-Carol's Place, Women Against Abuse-Ameya's Place, and People's Emergency Center – Gloria's Place. Training content included breastfeeding benefits, a background on baby-friendly hospitals, and breastfeeding policies at local, state, and federal levels. A pre/post-test format assessed champion knowledge before and after the training. Of the participating champions from each site, 33% (*n*=1) demonstrated an increase in knowledge of training content (improved score from 71 to 100). The other two champions sustained a score of 100 on both the pre-test and post-test.

A second training on breast pump types and safe cleaning and handling of pumps and parts was developed and submitted to the ME in March 2022. The intended audience for the training are site champions who have already completed the first champion training on breastfeeding benefits, background on baby-friendly hospitals, and breastfeeding policies at local, state, and federal levels.

Health Center Baseline Assessment and Snapshot Assessment Tool

The first step in the Health Center Wellness Initiative is completing the Baseline Assessment, which facilitates identifying each participating health center's action areas and prioritizing associated PSE change interventions. Throughout FY22, HPC experienced protracted challenges in conducting outreach with health centers due to several rounds of health centers' leadership turnover, and time-intensive third party audits taking place at the health centers. In Q4, HPC was able to complete the Baseline Assessment with three health centers: PHMC Congreso Health Center, PHMC Health Connection Health Center, and PHMC Rising Sun Health Center.

The intervention areas identified by the health centers as top priorities included education and resources about local food banks, pantries, or soup kitchens in order to refer or connect patients to these organizations (*n*=3); access to healthy recipes (*n*=3); receiving breastfeeding/chest feeding

resources and support (*n*=2); education and resources about local farmer's markets in order to refer or connect patients to these markets; developing an urban garden; veggie scripts food incentive programs for food insecure individuals to increase their access to fruits and vegetables; increased nutrition signage; and physical activity resources for patients. Follow-up meetings will be scheduled with the health centers to review the results of their Baseline Assessment, and identify actionable next steps towards the identified priorities.

The Health Center Snapshot Assessment Tool is administered approximately 6-8 weeks following the Baseline Assessment to measure progress on health centers' identified action areas and assess change over time. In order to complete the Health Center Snapshot Assessment Tool, health centers must have made traction towards their identified goals; as the health centers have not had enough time to progress towards their goals, the Health Center Snapshot Assessment Tool will be completed in FY23.

School Health Index

HPC identified and worked with SDP and non-SDP schools to complete the School Health Index (SHI) self-assessment created by the Centers for Disease Control and Prevention. The SHI is a tool through which HPC can assist schools in assessing their nutrition and physical activity needs, and help guide schools in the development of School Wellness Action Plans (e.g., development of school wellness committees) and PSE efforts.

Throughout FY22, due to substantial staffing changes at two SDP schools and non-response from a third, HPC focused efforts in actively building collaborative relationships with new staff and working towards SHI completion. HPC successfully completed the SHI with Catharine in Q3, and HPC staff met with the Assistant Principal from Catharine in Q4 to review their results and identify goals. Catherine prioritized three goals, and subsequent meetings are being scheduled to discuss concrete action steps. At DeBurgos, HPC successfully completed the SHI in Q3, and met with the Assistant Principal in Q4 to review their results and identify goals. One goal was prioritized, and staff from DeBurgos were identified/recommended to participate. Subsequent meetings are being scheduled to discuss concrete action steps.

Within the non-SDP schools, HPC met with the key contact at Mastery Charter, but encountered challenges with HPC staff shortages and the school's lack of buy-in to incorporate PSE into their schedules. At Inquiry Charter, HPC connected with the newly hired key contact to resume progress towards completing the SHI, but encountered difficulty due to HPC staff turnover. A new educator has been assigned to Inquiry Charter, and will collaborate with them to complete the SHI. At OMSSI, the SHI was completed, and HPC staff met with the Assistant Principal to review results and identify goals. One goal was prioritized, and subsequent meetings are being scheduled to discuss concrete action steps.

HEALTHY BODIES PROJECT
at Penn State

ANNUAL REPORT
Fiscal Year 2022

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SNAP-Ed Healthy Food. Healthy Moves. Healthy YOU. Celebrating 25 years

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

WHO WE ARE

The Healthy Bodies Project is a child health and wellness nutrition education outreach project funded by the United States Department of Agriculture (USDA) and the PA Department of Human Services. This project is a part of the Supplemental Nutrition Assistance Program-Education (SNAP-Ed). We are housed within the Department of Biobehavioral Health at Penn State University. Our focus is on providing guidance to teachers, children and families on ways to improve healthy eating, increase active play, and help children develop healthy behaviors. We provide family and school-based curricula to promote healthy behaviors in preschool and school-aged children, as well as their caregivers. Our overall goal is to help children and families develop healthy attitudes and behaviors that lead to lifelong health and wellness.

With a focus on food literacy - a set of skills needed to develop a healthy lifelong relationship with food - our program aims to improve knowledge, attitudes, and behaviors in ways that help families manage, select, and consume foods that support healthy growth and development. Our school-based curricula introduce children to a variety of healthy nutrition and physical activity topics, with a focus on learning about new fruits and vegetables, and other healthy foods, describing how each of them grows, and how food moves from farm to table. For adults and caregivers, we provide guidance on eating healthy on a budget, and strategies for providing healthy eating and physical activity environments for their family.

Our Team

The Healthy Bodies Project at the Pennsylvania State University, is directed by Dr. Lori Francis, a developmental health scientist with a focus on early experiences that influence healthy growth and development in children. Our team consists of researchers, early-childhood educators, and other professionals and students from a diverse group of backgrounds, who are all devoted to improving family health outcomes.

Testimonials and Quotes:

"I am so glad that you try the healthy foods here at school. I try to offer them at home, but they don't want to try them very often. Now when we are shopping my child will ask me to buy some of the things that she has eaten in class. I think tasting them with all of the other children makes a difference in their willingness to try new things." – *Parent of preschool child*

"It's a vegetable and I don't like it but I'm gonna eat it anyways." – *Elementary Student in Afterschool Program*

PRESCHOOL PROGRAMS

Eating The Alphabet

Overview

This curriculum focuses on increasing children's food literacy. Children learn the importance of eating fruits and vegetables by going on a tasting journey through the alphabet (A through Z). Children sampled a new food each week, learned how it grows, and how it may be beneficial for their health. Trying and liking data were assessed throughout the program. Some teachers chose to participate in our Farm to Early Childhood Education (ECE) initiative and received a basil growing kit for their classrooms. Parents and teachers were asked to complete a survey at the completion of the program to provide feedback.

- **Participants:** 922 children ages 3-5 years across 58 classrooms participated weekly.
- **Procedures:** A total of 28 lessons (20 to 30 minutes in duration) were delivered weekly by children's preschool teachers. In addition to lessons and food tastings that children received, caregivers were sent weekly handouts/fact sheets to review what children were learning and exposed to in the classroom. Lastly, teachers and parents completed a survey to provide program feedback.
- **Measures:**

  Food Tastings: Teachers reported the number of children that tried and indicated that they liked the target food of the week.

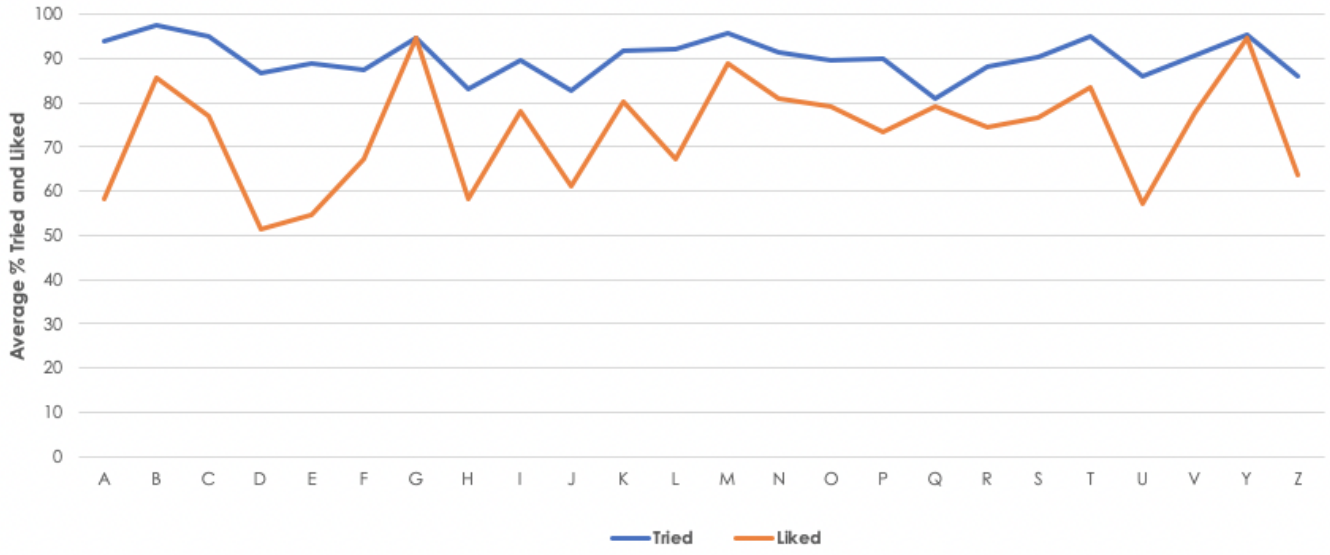
  Teacher Survey: Teachers provided feedback about the curriculum, materials, and procedures.

  Parent Survey: Parents provided feedback on the impact that our project had in their household.

RESULTS: TRIED AND LIKED DATA

- Results varied weekly; an average of 90.07% children tried each food and an average of 73.45% reported that they liked each food (see Figure 1).

Figure 1. Food Trying and Liking Data



**NOTE: Due to COVID-19, we were unable to visit classrooms to assess food literacy or classroom environment.*

PRESCHOOL PROGRAMS

Eating the Alphabet

Teacher Testimonial:

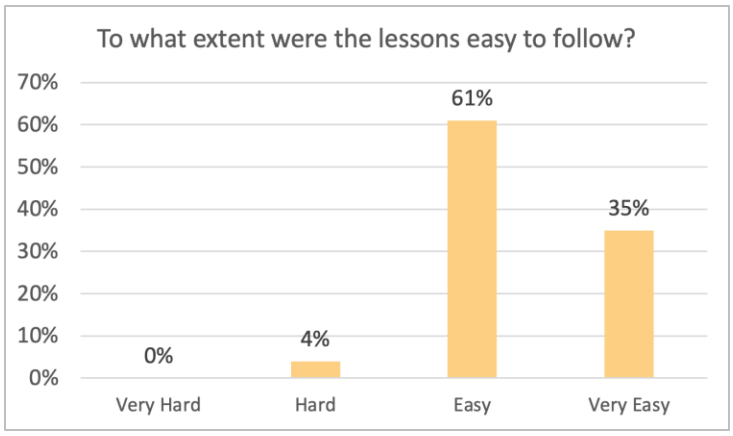
"I had a returning child this year. Throughout last year's program, he refused to try anything. This year, he was very brave! This year, he tried EVERYTHING. He even found out that he LOVES hummus, and now his parents buy it for him regularly."

Forty-six teachers completed our teacher feedback survey at the conclusion of the 2021-2022 program. Below is some of the feedback we received.

Curriculum Feedback:

- 100% of teachers reported that our lessons were age appropriate and engaging.
- 96% of teachers reported that our lessons were easy or very easy to follow.

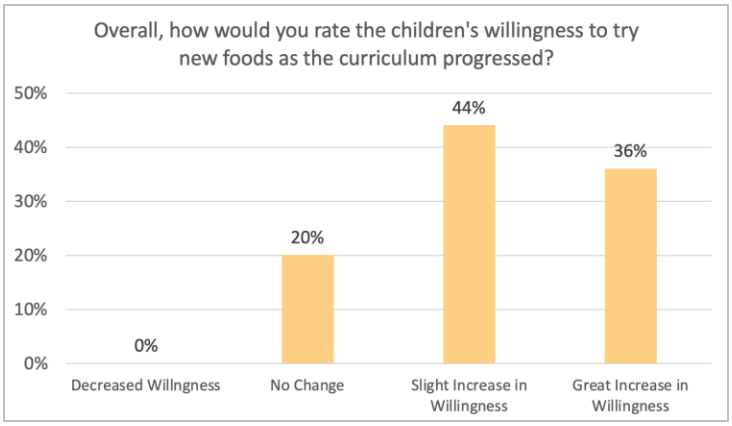
"The lessons were easy to understand, step-by-step, and offered lots of activities to supplement each letter/food."



Tasting Feedback:

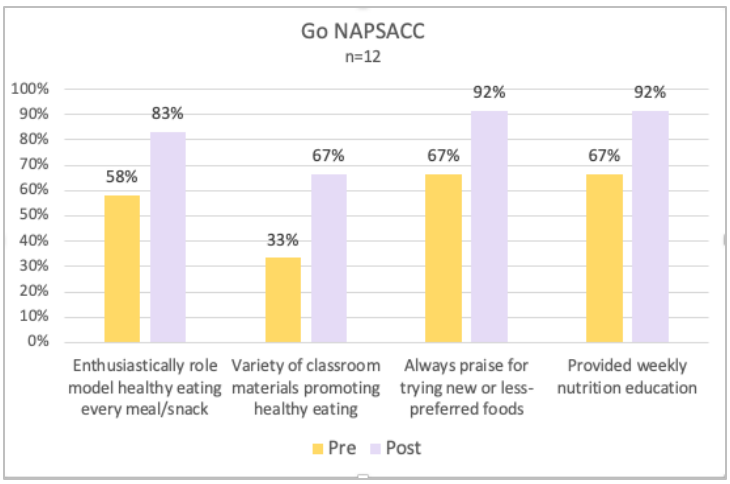
- 80% of teachers reported that they felt children's willingness to taste test foods increased as the program progressed.

"Children became more willing to touch, smell, and taste the foods. They looked forward to guessing the new foods each week."



Go NAPSACC Results:

- 19 teachers completed the Go NAPSACC Child Nutrition pre-assessment, of which 12 teachers also completed the post-assessment.
- 35% of teachers reported having a variety of books, posters, and other learning materials promoting healthy eating at pre-assessment.
- See the table for pre- to post-comparisons of 4 measures from the respondents who completed both pre- and post-assessments.



PRESCHOOL PROGRAMS

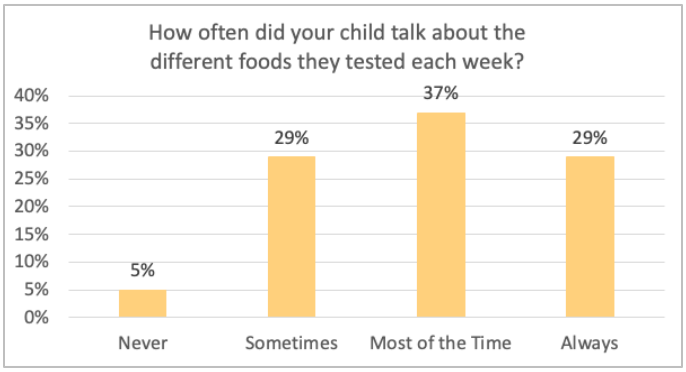
Eating the Alphabet

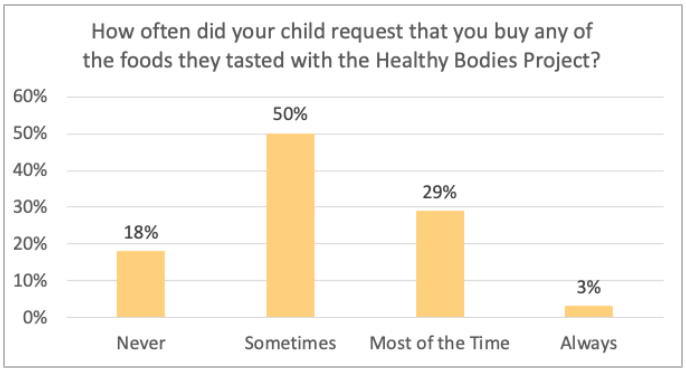
Parent Testimonial:

"I want to thank you for sharing The Healthy Bodies Project at [my child's school] this school year. My son regularly talks about it and it has been one of his favorite parts of Pre-K. He kept a folder at home with all of his handouts and his tasting book. My husband and I appreciate how adventurous it has made him in trying new foods."

Healthy Bodies Project impact at home:

- 95% of parents reported that their child talked about the foods they tasted in school during our lessons.
- 82% of parents reported that their child requested they buy the foods they tasted during the Eating the Alphabet lessons.





"Many times, my child has made comments about how healthy foods are good for him, and he is more conscientious about what he is eating."

"Food of the Week" Fact Sheets (see following page for example):

- We asked teachers to send home a weekly "Food of the Week" fact sheet, so that parents could continue conversations about the new foods.
- 97% of parents found these fact sheets helpful to some extent.
- 89% of parents reported that they used the information or recipes on these fact sheets.


Ugli Fruit

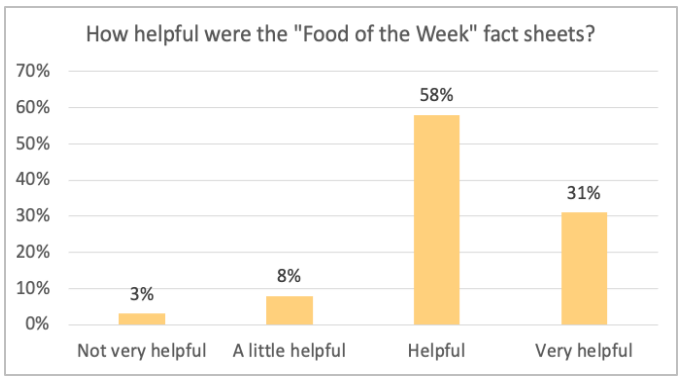
Facts About Ugli Fruit:

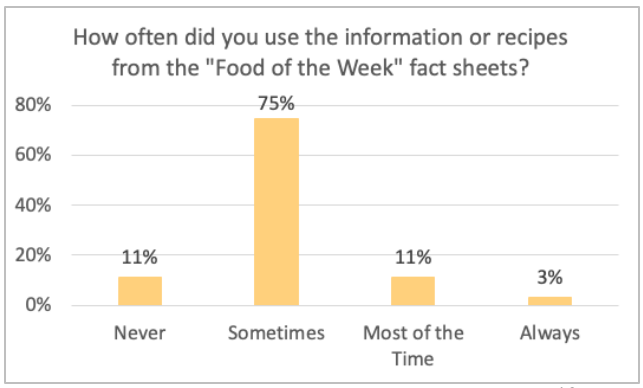
Good Source of:

Tips for Preparing:

Did You Know?

Family Time: Moroccan Fruit Salad Recipe:





Fruit,
Serving Size:
½ cup

Dragon Fruit

Facts about Dragon Fruit:

Dragon fruit is the common name for pitaya. It is the fruit of a cactus plant. It is a tropical fruit. Dragon fruit is now very popular in Asian countries. In the United States it is grown in Texas. Its skin can be red, pink, or yellow with many green spines sticking out, making it look like a dragon. The flowers of the plant are extremely beautiful but only bloom for one night.

Did You Know?

The flower part of the dragon fruit plant never sees daylight!

Good Source of:

- **Fiber** – good for you heart and stomach.
- **Vitamin C** – helps prevent colds and helps cuts to heal.

Tips for Buying Dragon Fruit:

- Dragon fruit is available in Asian markets from August – November.
- Look for bright, even-colored skin. Fruit with blotchy skin is usually overripe. Ripe dragon fruit should give slightly when pressed.
- Keep it at room temperature until ripe. It will keep in the refrigerator for 3-4 days once ripe.
- Cut the fruit in half and peel away the skin or scoop out the flesh.

Family Time; Cooking Tips for Dragon Fruit:

- Put the fruit in the blender and mix to make Dragon Juice.

<u>Dragon Fruit Salad:</u>

- Cut fruit in half lengthwise.
- Scoop out the flesh and mix with other tropical fruits such as pineapple or mango.
- Toss with fresh mint and return to the skin to serve.

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

PRESCHOOL PROGRAMS

Farm to School

The Healthy Bodies Project decided on growing basil as a medium to expand experiential learning. We chose basil because it grows quickly, is easy to grow, and would allow children to experience the entire plant cycle, from planting to harvesting. The goal was to create a deeper understanding in children about how food grows, as well as foster excitement over trying new things by offering this hands-on experience in the classroom.

Basil Grow Kit Contents:

- Basil seeds
- Greenhouse planters
- Seeding tools
- Spray bottles
- Compostable pots for transplant and transport home
- Instruction sheet with recipes (see following pages)

Basil Grow Kit Feedback:

- Results of a preliminary interest survey resulted in 39 of 60 participating teachers receiving basil grow kits in the spring of 2022.
- 100% of teachers that received grow kits in the spring of 2022 expressed interest in participating in our farm to ECE growing initiative in the upcoming program year.
- 93% of ALL survey respondents expressed interest in participating in our farm to ECE growing initiative in the upcoming year.

Teacher Testimonial:

"We absolutely loved doing the basil. The kids enjoyed planting and watching it grow. I loved how quickly it sprouted. It was the topic of lots of spontaneous conversations about growing food from seeds and then healthy foods. I would say this was one of the kids' favorite activities we did this year. They were very excited and proud to take them home... I, as a teacher, loved this activity!"

Why did my classroom receive a basil growing kit?

Earlier this year, you completed a survey and expressed interest in having the Healthy Bodies Project assist in your classroom gardening efforts. This year we have decided to help you grow basil in your classroom, with the hopes of expanding our gardening support in future years.

What is included in my basil growing kit?


Seed Starter Tray(s)


Coco Coir Seed Starter Discs


Basil Seed Packet(s)


8oz Spray Bottle


Small Transplant Pots with Labels


Dibber & Widger Gardening Tools


Seed Dispenser

What do I need to know about growing basil?

Each seed starter tray has 12 cells. You have received enough trays so that each child in your classroom has their own cell, and therefore their own basil plant to take home at the end of the year. We purposely purchased trays with clear cells so that you and your class can hopefully examine the root system periodically as your basil grows.

Each cell should only require one seed starter disc, but we have provided a few extras in case some are smaller than others. To expand the soil, have the children place a disc in their designated cell. Then slowly pour warm water over the disc and watch it expand. The children will LOVE that part! Just be sure that you have the clear tray inside the green tray to catch any water that may drip while watering.

"Dibber" & "widger" will be fun new words for your students! The dibber is the tool with the point that looks like a pencil and is used to make the holes in the soil;. Once the disc has expanded, allow the children to use the dibber to create a small hole (1/4 inch deep) where they will sow their seeds. The widger looks like a spatula and will help scoop out the soil when it is time to transplant the basil into the compostable pots.

Basil seeds usually germinate in 5-10 days. Place your tray somewhere sunny; ideally, your basil plant should get 6-8 hours of sun a day. It is best to water your basil plants in the morning. We have provided water bottles so that the children can spray the soil without the fear of overwatering. You should be watering your basil plants often enough that the soil remains moist.. Begin taking small harvests when the plant has 6-8 pairs of leaves.

Check out this article from the Penn State Extension for more information about growing basil:
https://extension.psu.edu/basil-a-summer-favorite

Pea Pesto

Enjoy this gorgeous, bright, green pesto on your favorite protein food or pasta.

PREP TIME: 15 minutes COOK TIME: *none* SERVINGS: 8

Ingredients

- 1 cup frozen peas (can also use fresh or canned)
- 1/2 cup grated Parmesan cheese
- 1 cup basil leaves
- 1 cup spinach (fresh, frozen, or canned)
- 1/2 cup walnuts
- 2 cloves garlic
- 1/4 cup extra virgin olive oil
- 1/4 cup water
- 1/4 teaspoon salt
- 1/4 teaspoon black pepper

Instructions

1. For the pesto, add peas, Parmesan cheese, basil, spinach, walnuts and garlic into a food processor or blender.
2. Add in water, oil, salt and pepper. Blend until the ingredients are combined to form a thick sauce.
3. Place pesto in an airtight container. Refrigerate until needed.

*For more recipes, visit https://www.myplate.gov/myplate-kitchen/recipes

Follow us on Facebook @HealthyBodiesProject or visit our website: https://sites.psu.edu/healthybodiespsu/

Tomato Basil Bruschetta

This delicious appetizer is a great way to use ripe tomatoes and basil from your garden. Serve with toasted bread on the side for a quick and delicious appetizer for your family or at your next get-together.

PREP TIME: 10 minutes COOK TIME: 7 minutes SERVINGS: 12

Ingredients

- 8 tomatoes (ripe, Roma plum, chopped)
- 2 garlic cloves (minced)
- 1/2 red onion (chopped)
- 6 fresh basil leaves
- 2 tablespoons extra-virgin olive oil
- salt (optional, to taste)
- pepper (optional, to taste)
- 2 mini French bread (or Italian, cut into 1/2 inch diagonal slices)

*For more recipes, visit https://www.myplate.gov/myplate-kitchen/recipes

Instructions

1. Preheat oven to 400 degrees F.
2. Combine tomatoes, garlic, onion, basil, and olive oil in a bowl. Season with salt and freshly ground black pepper, to taste (optional). Set aside.
3. Arrange bread on a baking sheet in a single layer. Bake about 5-7 minutes until it begins to brown slightly. Transfer bread to a serving platter.
4. Serve the tomato mixture in a bowl with a serving spoon and let everyone help themselves. Or place some on each slice of bread before serving. If adding the tomato mixture yourself, add it last minute or the bread may become soggy.

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

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SCHOOL-AGE PROGRAMS

CATCH Kid's Club

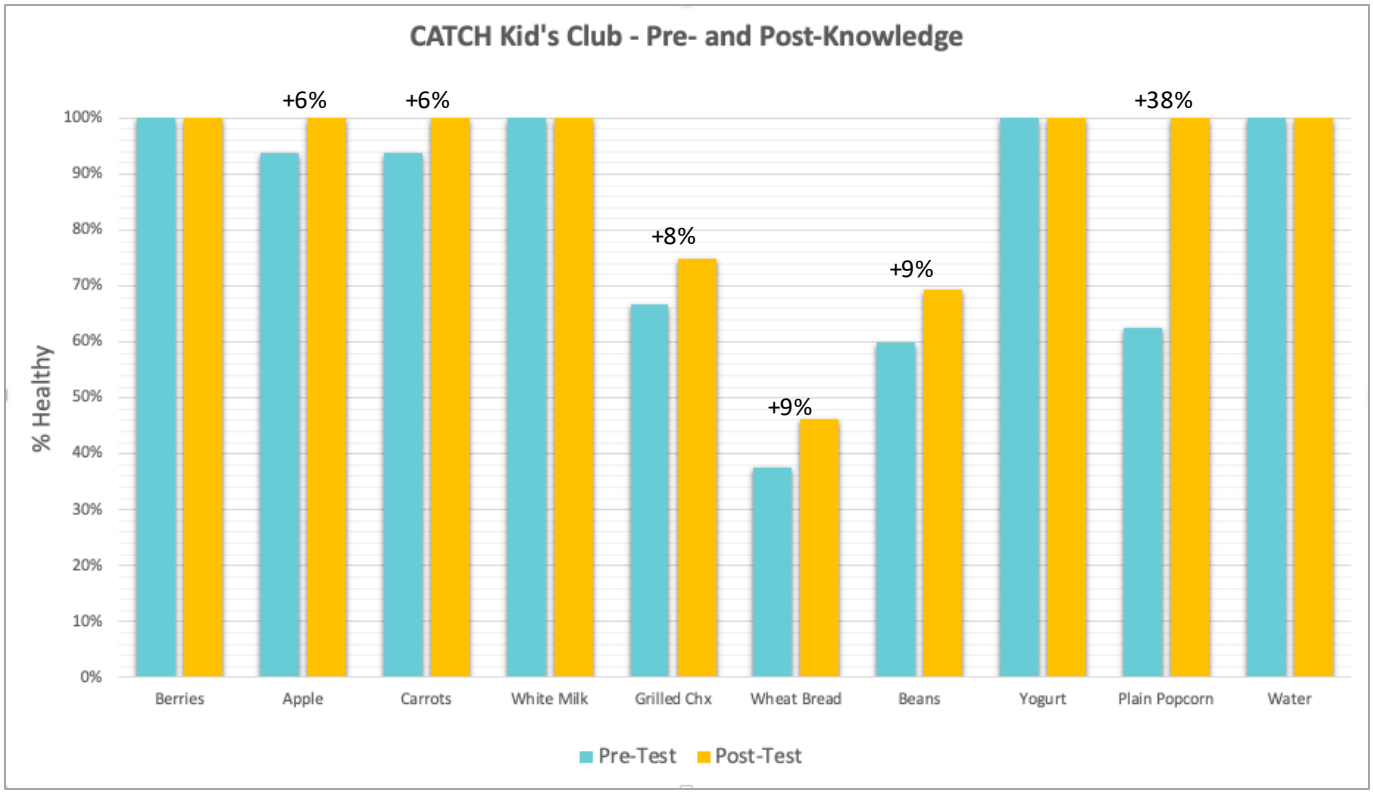
Overview

In this 6-week program, students attending the YMCA after-school program split into two groups to receive age-appropriate lessons that focused on physical activity recommendations and how to overcome barriers to physical activity. Lessons also covered how to make healthy food choices. Participants were assessed on food knowledge prior to and following implementation of the program.

- **Participants:** 25 children aged 6-12 years participated in these classes.
- **Procedures:** The program consisted of 6 lessons, each lasting about 30 minutes. Lessons were delivered by SNAP educators. Participants received weekly food tastings, and reinforcements items.
- **Measures:** Pre- and post-assessments were conducted. For each, students were given a handout with 10 pairs of foods, one healthy and one unhealthy in each pair. They were asked to identify the healthy food by circling it. The pairs of foods are listed below:

Chocolate Bar / Berries	Apple Slices / French Fries
Carrots / Potato Chips	Chocolate Milk / White Milk
Grilled Chicken / Chicken Nuggets	Wheat Bread / White Bread
Mac and Cheese / Beans	Ice Cream / Yogurt
Plain Popcorn / Popcorn w/ Butter	Soda / Water

Results: Results showed an overall increase in nutrition knowledge pre-post.



SCHOOL-AGE PROGRAMS

Serving Up MyPlate

Overview

This curriculum was delivered through two separate programs this past year.

- Three elementary school teachers from a local school district piloted one or two lessons with their Kindergarten through 4th graders in the spring.
- SNAP educators delivered lessons to YMCA Summer Camp students at two locations. This was a 6- to 7-week program where campers were split up into three age groups to provide age-appropriate content. To make the lessons more interactive, we utilized Kahoot! quizzes. The children really enjoyed these and were very engaged in the lessons!

Lessons in this curriculum cover things like the five food groups, healthy meal planning, healthy snacks, nutrients, physical activity, and more.

- **Participants:** 615 children K-4th graders received lessons at their elementary school. An additional 167 6-12-year-olds received lessons at their local YMCA.
- **Procedures:** The school district program consisted of 1-2 lessons, each lasting 30-45 minutes. Lessons were delivered by elementary school teachers. The YMCA programs consisted of 6-7 Kahoot!-style lessons per age group, each lasting 45-60 minutes. Lessons were facilitated by SNAP educators. Participants at the YMCA received weekly food tastings and reinforcement items.

What is Kahoot!?

Kahoot! is an interactive software program through which one can create personalized modules with instructional videos and quiz questions. Once a Kahoot! module is created, it can be issued as a "challenge" for participants to complete. Challenges can be played by an individual or as a team on individual devices, or they can be played as a team on a shared device. Because the YMCA campers did not have access to phones or computers, SNAP educators teamed up with YMCA counselors and used their personal devices to lead teams of campers through the challenges. Unfortunately, the challenges were not set up in a way that we can compare answers between early and later challenges. However, SNAP educators reviewed quiz questions in real-time, explaining and expanding upon correct answers.

ADULT PROGRAMS

Eat Healthy, Be Active

Double-Pepper Salsa

Salsa isn't just for scooping up with chips! We like it in quesadillas and tacos, as a topping for burgers and chili, and even as a stir-in addition to grain or vegetable salads.

2 cups | 15 minutes

INGREDIENTS

- 2 ripe tomatoes (or 1 can of diced)
- 1 small red onion
- 2 garlic cloves
- 1 bell pepper
- 1/4 cup cilantro, finely chopped
- 1 tablespoon fresh lime juice
- 1/4 teaspoon of salt

OPTIONAL

- 1 jalapeno pepper

* Cutting a jalapeno pepper is a good job for an adult. Wear gloves and be careful not to touch your eyes or face after handling peppers until you have washed your hands with soap and water.

PREP SUGGETSIONS

1. Core and dice the tomatoes. Or you could buy no-salt added canned diced tomatoes to save time.
2. Peel and finely chop the red onion. Remember to leave the rooted part attached while chopping to make it easier to handle.
3. Chop garlic cloves. Or buy pre-chopped garlic cloves to save time.

DIRECTIONS

1. Put all the ingredients together in a bowl and mix well.
2. Taste the salsa. Does it need more lime juice or a pinch of salt? If it does, add it and taste again. Serve right away.

SNAP-Ed Pennsylvania | Healthy Food. Healthy Moves. Healthy YOU.

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

Overview

Our project partnered with the local Early Head Start (EHS) to host these lessons. EHS Home Visitors helped recruit parents for our classes. We hosted lessons focused on the following:

- Five small changes to make healthier choices
- Three tips for healthy meal preparation

We found that the parents who attended enjoyed having time to learn about ways to make every day healthier choices, as well as a chance to sit down and talk with other parents. We choose the Eat Healthy, Be Active curriculum for these classes because the Home Visitors felt that the content covered was more relevant and the lesson length was more appropriate.

- **Participants:** Each class had 6 people in attendance. All participants were females between the ages of 17 and 58.

- **Procedures:** Two lessons were held on different days with separate groups of participants. Each group of participants received a lesson, observed/participated in a food demonstration, and received a food tasting. Recipes were taken from the Choose MyPlate approved recipe website and included salsa and energy balls. Participants also received reinforcement items.

Parent Testimonial:

"I signed up for this class because I need help with finding ways to make my meals at home healthier. And I am so glad that I get to have some uninterrupted adult conversation too!"

CONCLUSION

The Healthy Bodies Project is committed to promoting healthy lifelong relationships with food across all age groups! While FY22 was still marginally affected by the COVID-19 Pandemic, we were able to provide a wide-range of SNAP-Ed approved programming focused on food literacy including:

- ***Eating the Alphabet***: 922 children ages 3-5 years across 58 classrooms participated weekly in a total of 28 lessons. Teachers delivered a total of 1481 lessons! An average of 90.07% children tried each food and an average of 73.45% reported that they liked each food tried.
- ***Farm to School:*** 39 of 60 participating pre-school teachers received basil grow kits in the spring of 2022. Of these teachers, 100% expressed interest in participating in this program in FY23 and 93% of ALL teachers, including those who did not previously participate, expressed interested in participating in FY23.
- ***CATCH Kid's Club***: 25 children ages 6-12 participated in this weekly program held across 6 weeks at the YMCA after-school program. SNAP educators delivered a total of 12 lessons and results showed an overall increase in nutrition knowledge pre-post.
- ***Serving Up MyPlate***: 615 children K-4th graders received 1-2 lessons lasting 30-45 minutes at their elementary school. Teachers delivered a total of 41 lessons. Additionally, 167 6- to 12-year-olds received lessons at their local YMCA, consisting of 6-7 Kahoot!-style lessons per age group, each lasting 45-60 minutes. SNAP educators delivered a total of 25 lessons.
- ***Eat Healthy, Be Active***: 12 adults between the ages of 17-58 years participated in two lessons (6 participants each) that focused on 5 small changes to make healthier choices and 3 tips for healthy meal preparation.

Looking Ahead to FY23:

In the coming year we look forward to:

- Expanding our reach to additional childcare centers
- Resuming in person child assessments and classroom fidelity visits conducted by SNAP educators
- Expanding the *Farm to School* program to offer three new vegetables: Cherry Tomatoes, Garlic, and Romaine Lettuce. Teachers will have the opportunity to choose one, two or all three grow kits!
- Exploring and expanding other adult programming options throughout the year

PENNSYLVANIA NUTRITION EDUCATION NETWORK (PA NEN)

Annual Report FY22

Oct. 1, 2021 – Sept. 30, 2022

Prepared by
Pennsylvania Nutrition Education Network Staff Members

Introduction

The Pennsylvania Nutrition Education Network (PA NEN) promotes communication among individuals and organizations engaged with improving nutrition in Pennsylvania. We work to ensure that effective, evidence-based, appropriate nutrition resources primarily for low-income populations are available across the state. First conceived in November 1996, PA NEN provides a forum for public and private agencies and other groups working with Pennsylvanians eligible for the Supplemental Nutrition Assistance Program (SNAP) to share information about current nutrition education efforts and to plan and carry out creative approaches.

PA NEN's role as a statewide provider of technical assistance and social marketing is more important than ever; the COVID-19 pandemic altered life for many Pennsylvanians and increased issues of food insecurity. To that end, PA NEN remains committed to a robust social marketing campaign that reaches SNAP-Ed-eligible adults and families across the commonwealth.

Additionally, PA NEN continues to be a critical technical assistance and professional development provider to other PA SNAP-Ed organizations. PA NEN has also continued to update the smart phone mobile application, PAVeggieBook, to ensure individuals can easily access information on how to build healthy meals with their benefits and available ingredients.

Thank you for taking the time to review this report and the progress made over the last year in delivering high quality support and content across the state of Pennsylvania to SNAP-Ed providers, SNAP-Ed recipients, and SNAP-Ed eligible Pennsylvanians.

Sincerely,
PA NEN Team

Social Marketing

Be Healthy PA is a social marketing campaign designed to improve nutrition and boost physical activity among SNAP-Ed eligible Pennsylvanians. Be Healthy PA is primarily an online campaign, focused on connecting people and nutrition education through social media. Social Media post, on Facebook and Instagram, are utilized to catch a reader's attention and redirect them to the BeHealthyPA website where more in-depth information and a range of free-to-use resources can be found. The goal for FY22 was to increase unique visitors to the website by 10%. The campaign achieved a **39.59% increase in unique visitors** from FY21 to FY22.

PA NEN utilized both traditional social media post (non-paid) and paid targeted ad campaigns to promote Be Healthy PA. In FY22 there was 116 Facebook post,100 Instagram post, and 21 story posts for a total of 237 posts for the year. The paid ad campaign delivered 5,388,803 impressions (number of times any content from/about PA NEN Page entered a person's screen) to 653,028 people within the target audience. In total over 19,000 unique users visited the BeHealthyPA.org website. Based on the number of people engaged via ad campaigns and the number of unique visitors to the website, there was about a 3% conversion rate for FY22.

Social Marketing Continued

Part of the success of the social marketing campaign over the past fiscal year was based on allowing the data to drive future design and communications decisions. The PA NEN design team was dedicated to creating messaging and using certain imagery within the ads that based on the results of past ads.

In the visual examples below, PA NEN was able to improve the performance of these ads by making small changes to the creative that was being published. We learned from this process that images of vivid veggies, asking big, bold questions, a more prominent campaign logo, and bright red colors proved to be more eye-catching and made a viewer more likely to stop scrolling and click on our ad, thus driving better results for web traffic.

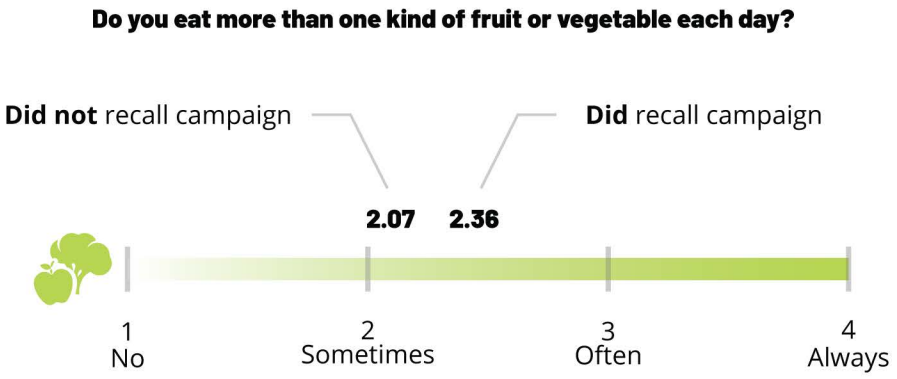
17.24% 14.84% 19.57%

The percent values above are from Facebook's Estimated Ad Recall calculation. Facebook derives these figures based on an algorithmic estimation of how many people would remember seeing this ad if asked within two days. These examples demonstrate PA NEN's responsive strategy to ad creation/dissemination to continuously improve social marketing results throughout the programmatic year of implementation.

Social Marketing Evaluation

In January 2022, a panel survey was disseminated to SNAP-Ed eligible participants through Alchemer to evaluate the success of the social marketing campaign. Participant recruitment was targeted specifically to identify people who resided in the geographic areas which aligned with geo-fenced targeting of the Facebook ads (i.e., areas with higher SNAP-Ed eligible populations). Metrics of campaign success were derived from the SNAP-Ed Evaluation Framework and included aided campaign recall rates, intentions to change behaviors, actual changes in behavior, and food resource management skills.

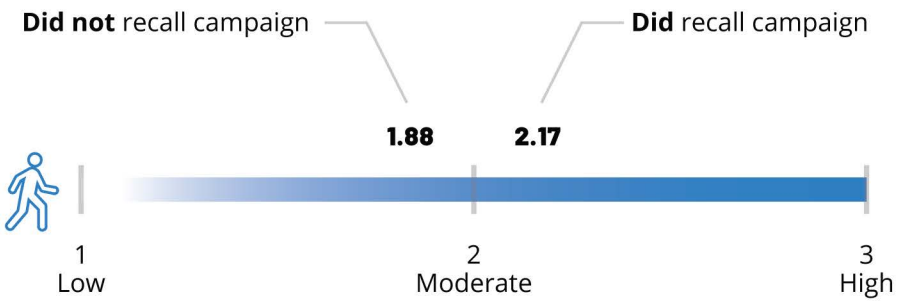
Results from the evaluation showed that 35.8% of participants recalled the BeHealthyPA campaigns or the ads used for the campaign. Statistically significant results show that those who recalled the campaign were more likely to exhibit healthy behaviors, such as fruit and vegetable consumption, and reported higher levels of physical activity. Those who recalled the campaign were also significantly more likely to report being at a further stage on the Readiness to Change scale than those who did recall the campaign. Finally, those who recalled the campaign were more likely to report food resource management skills than those who did not recall by some, but not all, measures of this goal.



Results were statistically significant at the 0.01, 0.05 or 0.1 level.

Social Marketing Evaluation

How much do you walk?*



*Determined by walking frequency (days/week) and duration (minutes/day).
Results were statistically significant at the 0.01, 0.05 or 0.1 level.

Do you exercise regularly?[1]

3.80

Did recall campaign

3.17

Did not recall campaign

Scale

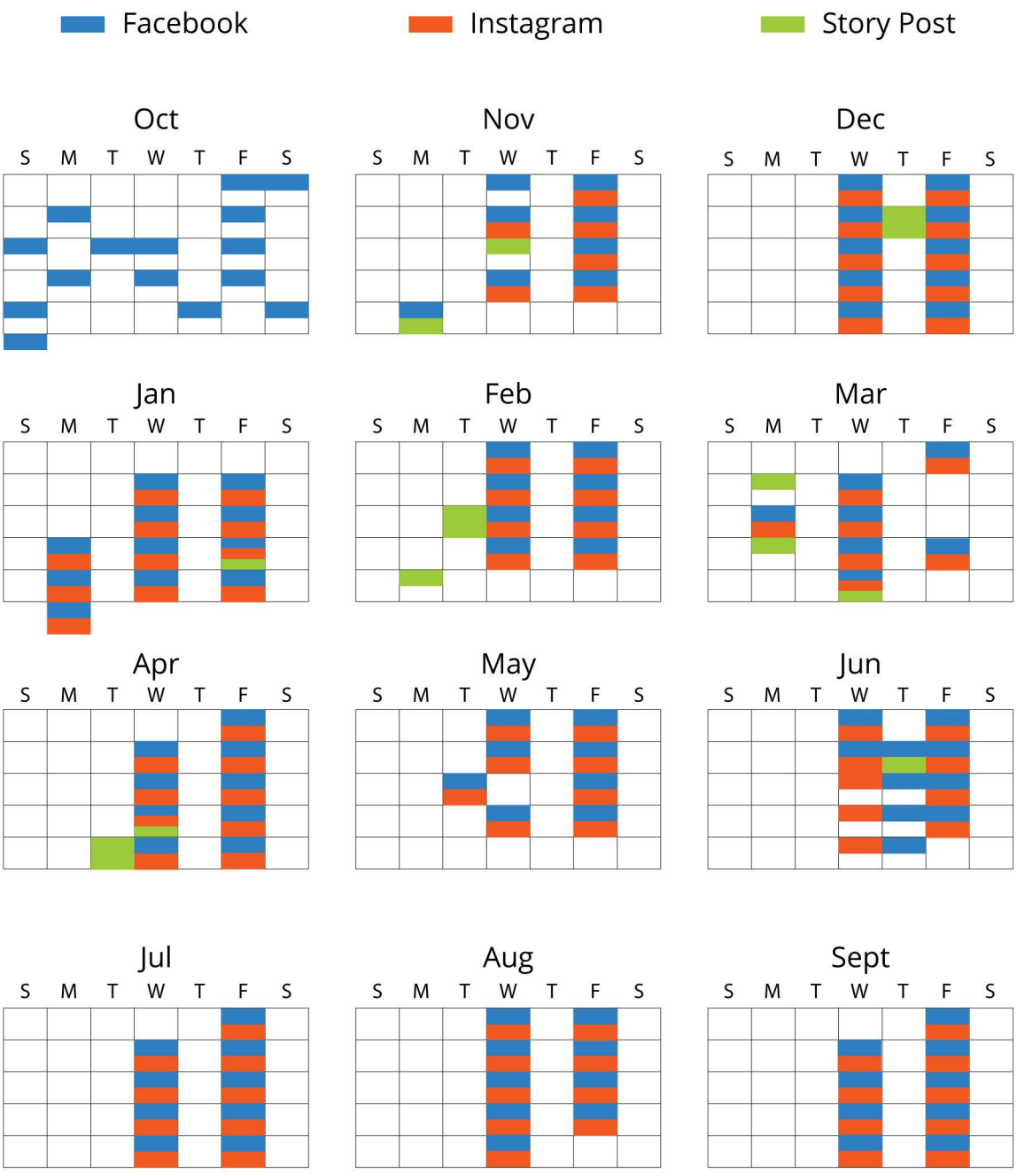
1 = No, and I do not intend to in the next 6 months
2 = No, but I intend to in the next 6 months
3 = No, but I intend to in the next 30 days
4 = Yes, I have been for less than 6 months
5 = Yes, I have been for more than 6 months

[1] Exercise is defined as "physical activity such as walking, jogging, biking, or swimming. It helps your physical fitness. It is recommended that you perform this kind of activity 3 to 5 times per week for between 20 and 60 minutes at a time. It does not have to be painful to be effective but should increase your rate of breathing and cause you to sweat".

Results were statistically significant at the 0.01, 0.05 or 0.1 level.

Social Media Post Examples

Social Media Post Calendar



3-5 posts per week across social media platforms

Recipe App Rebuild

PAVeggieBook is a smart phone mobile application (app) that is designed to help users choose approved recipes and healthy eating tips which ultimately lead to increased vegetable-based preparation for meals at home. In FY22, PA NEN made upgrades to the app based on feedback from end-users, SNAP-Ed partners, User Interface (UI) specialists, and designers. These upgrades improve app functionality and customization while adding features that make the overall app experience easier and more useful. With these new features and a fresh look, PAVeggieBook is ready for download and poised for full promotion among the SNAP-Ed audience in FY23.

New Features Include:

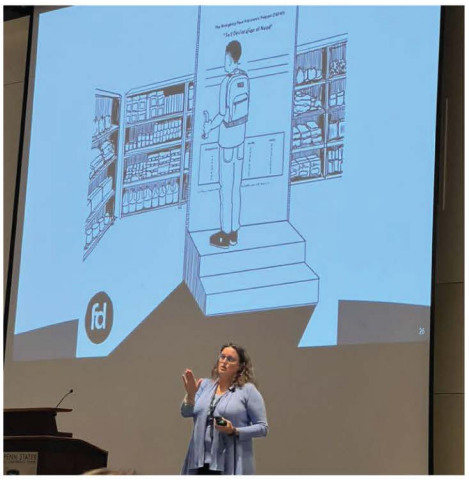
1. Brand Refresh
2. Robust Search Bar
3. Ingredient and Meal-type recipe categorization
4. Embedded how-to videos
5. Improved user interface
6. Pin and save recipes off line
7. Ability to deliver surveys
8. Data dashboard to track use

Education & Trainings

PA NEN supports SNAP-Ed providers across the commonwealth through high-quality professional development opportunities. In FY22 PA NEN hosted a state-wide in-person conference plus six virtual webinar opportunities, offering a range of education and professional development modalities. Along with the monthly 'New Nibbles' newsletter, PA NEN provided recent news articles, grant opportunities, upcoming trainings, and online resources.

Annual Conference: Healing Through Food and Movement

PA NEN's 2022 annual meeting took place on June 9, 2022 at the Penn Stater Conference Center Hotel at Penn State University. The meeting was co-located with the Pennsylvania Public Health Association and PA Office of Rural Health annual meeting. Throughout the day, attendees took part in a keynote lecture, synchronous breakout sessions, table vendors, and networking opportunities.



Keynote speaker, Clancy Harrison, delivering her presentation on Food Dignity at the Penn Stater Hotel and Conference Center

107
Total Attendees

9 Breakout Sessions

Conference Evaluation

At the end of the Annual Conference, the Research & Evaluation Group at PHMC distributed a survey to attendees in order to measure reported knowledge gain and how useful it will be in their work. According to those results, attendees were very likely to share what they learned at the conference in their work with low-income audiences and with others. They were less likely to use what they learned to improve Policy, Systems and Environment (PSE) for low-income communities. These results and other qualitative feedback from the survey will inform future programming and conference implementation.

How likely are you to share what you learned...?	**Likely**	**Unsure**
With others	90%	3%
With low-income audiences	82%	3%
To improve PSE for low-income communities	72%	10%

3.7/5 Overall Satisfaction

Webinars

In addition to the annual conference, PA NEN hosted webinars throughout the year that provided additional touch points for SNAP-Ed providers and other public health professionals to grow their skills. PA NEN made sure that all these webinars were recorded and made available to the PA SNAP-Ed partners for future trainings.

Topics Included:

- Social Media in SNAP Ed (March 4)
- Teaching Tips for Virtual Cooking Demos and Nutrition Lessons (April 8)
- Advancing Equity through Community Engagement Webinar Presentation (July 15)
- Trauma-Informed Nutrition in SNAP-Ed (August 5)
- Affordable Nutrition: Strategies for Shopping on a Budget (September 23)
- Planting Seeds of Success: Lessons Learned in Social Marketing in SNAP-Ed (September 30)

6 Webinars Offered Total

Total Attendees: **212**

Other Notable Accomplishments

PA NEN continues to grow and foster relationships with not only the 20 other PA SNAP-Ed partners but other Food, Nutrition, and Health stakeholders. PA NEN engaged and collaborated with organizations such as Pennsylvania Beef Council, Pennsylvania Public Health Association, and the PA Office of Rural Health.

PA NEN welcomed new leadership team this year. In May 2022, PA NEN welcomed Kristine Gonnella as the new director. Kristine brings a wealth of public health program management experience to this position. We also welcomed our new Program Manager, Camille Clark, MPH. She brings a fresh perspective and enthusiastic approach to PA SNAP-Ed. Along with our Communication Manager, Eli Steiker-Ginzberg, the PA NEN team looks forward to collaborating with PA SNAP-Ed partners and creating a healthier Pennsylvania

3350

Total Recipe Cards Distributed to PA SNAP-Ed Partners

229

Total NERI Distributed to Partners

Conclusion

PA NEN is committed to creating a healthier Pennsylvania through a strong SNAP-Ed community. We believe that when individuals and organizations have access to the right tools and knowledge, we can create individual behavior changes and systems-level impact to address food insecurity and improve the nutrition of under-served communities. Looking ahead in 2023, PA NEN will....

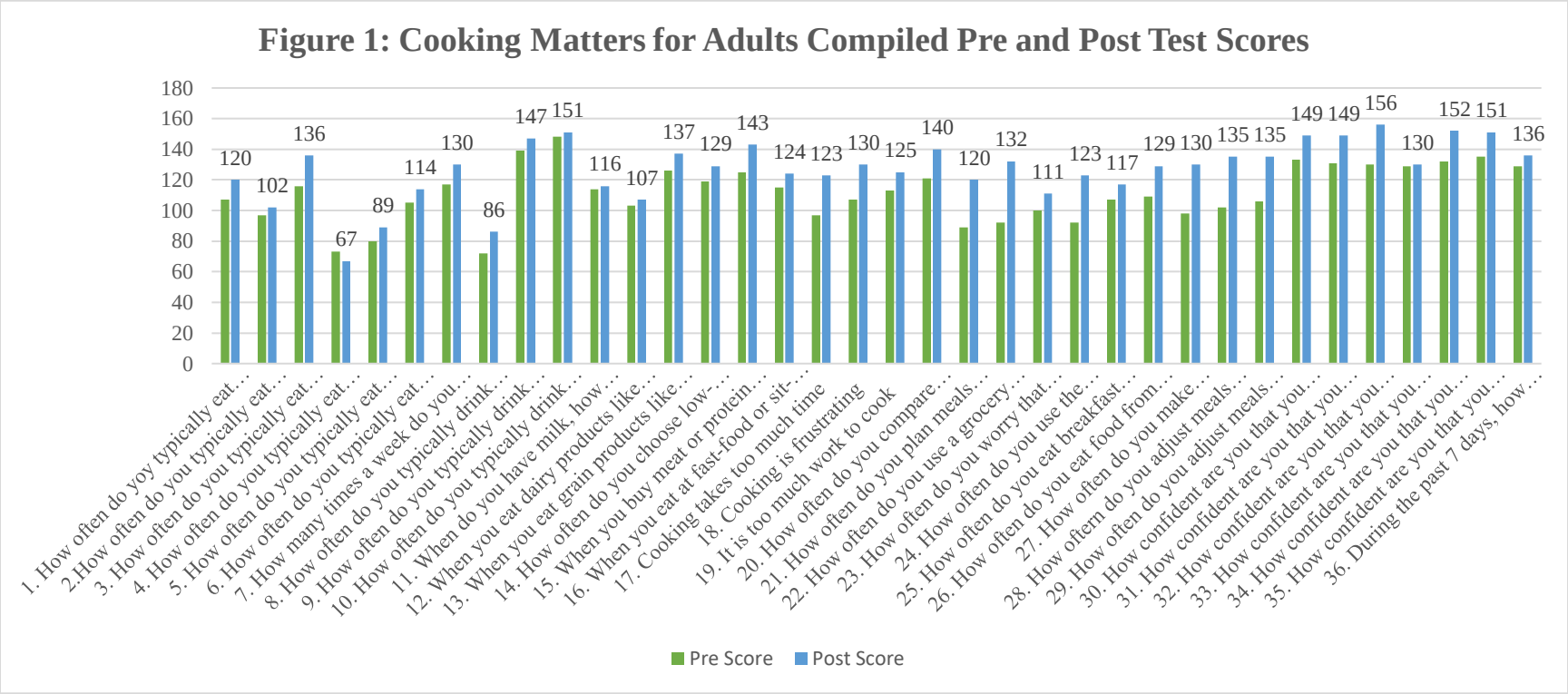
- continue to expand the reach of the BeHealthyPA campaign through data driven feedback and cutting edge marketing strategies,
- offer more technical assistance and professional development opportunities to PA SNAP-Ed partners to enhance the direct education they are delivering in their communities,
- promote the use of the PAVeggieBook mobile app and evaluate its use so that PA NEN can continue to make meaningful upgrades to it and make it a more powerful tool for families across the commonwealth.

Contact us:
pa_nen@phmc.org

Visit us online at:
panen.org

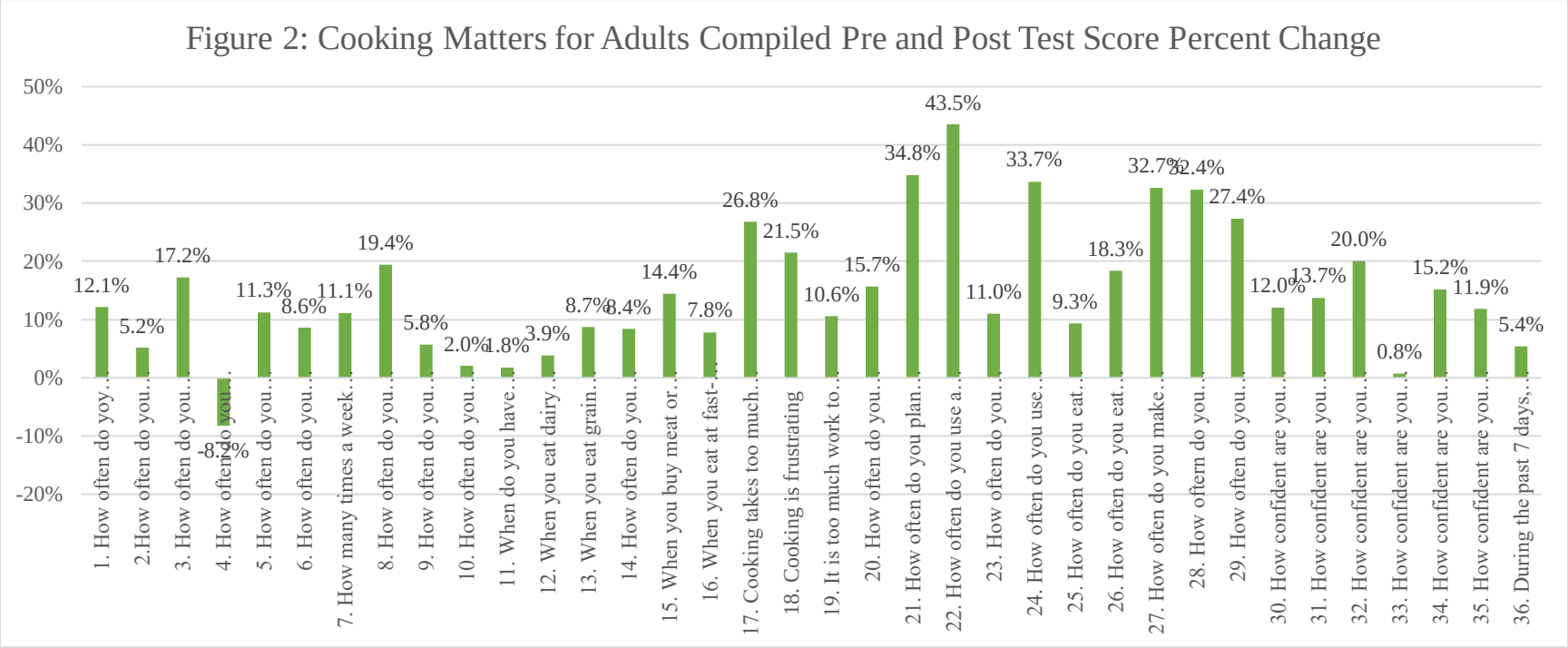
This institution is an equal opportunity provider. Funded by the USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

Cooking Matters for Adults Compiled 2021-2022 Survey Data Results - SAH



Compiled pre and post test scores were calculated by assigning a score of 1-5 to every answer. The scores were lowest if a participant had a less-desirable habit and highest if a participant had a more-desirable habit. For example, Question 1 asked, “How often do you typically eat fruit like apples, bananas, melon, or other fruit?” If participants gave the answer, “not at all,” their answer was scored as “1.” If participants gave the answer, “more than once a day,” their answer was scored as "5.” All answer options except for question #36 had Likert scale options. Question #36 asked how many meals the participant made at home last week.

All questions except one showed that participants improved their more desirable habits after taking the 6-week Cooking Matters Course. The percent change is showen in Figure 2. The greatest change (43.5%) was for Question #22: “How often do you use a grocery list when you go grocery shopping?” In addition question #21, #24, #27, and #28 had We had a total of 33 matched surveys to assess from our six courses that were held from October 2021-September 2022. A list of questions asked is below Figure 2.



List of Questions Asked:

1. How often do you typically eat fruit like apples, bananas, melon, or other fruit?
2. How often do you typically eat green salad?
3. How often do you typically eat French fries or other fried potatoes, like home fries, has browns, or tator tots?
4. How often do you typically eat any other kind of potatoes that aren't fried?

5. How often do you typically eat refried beans, baked beans, pinto beans, black beans, or other cooked beans? (do not count green beans or string beans.)
6. How often do you typically eat other non-fried vegetables like carrots, broccoli, green beans, or other vegetables?
7. How many times a week do you typically eat a meal from a fast-food or sit-down restaurant? (consider breakfast, lunch and dinner.)
8. How often do you typically drink 100% fruit juices like orange juice, apple juice or grape juice? (Do not count punch, Kool-aid, sports drinks, or other fruit-flavored drinks).
9. How often do you typically drink a can, bottle, or glass of regular soda or pop, sports drinks, or energy drink? (do not count diet zero calorie drinks.)
10. How often do you typically drink a bottle or glass of water? (count tap, bottled and sparkling water.)
11. When do you have milk, how often do you choose low-fat milk (skim or 1%)?
12. When you eat dairy products like yogurt, cheese, cottage cheese, sour cream, etc. how often do you choose low fat or fat-free options?
13. When you eat grain products like bread, pasta, rice, etc. how often do you choose whole grain products?
14. How often do you choose low-sodium options when you buy easy-to-prepare, packaged foods like canned soups or vegetables, pre-packaged rice, frozen meals, etc?
15. When you buy meat or protein foods, how often do you choose lean meat or low-fat proteins like poultry or seafood (not fried), 90% or above lean ground beef, or beans?
16. When you eat at fast-food or sit-down restaurants, how often do you choose healthy foods? (Healthy foods include fruits, vegetables, whole grains, lean meats, low-fat or fat-free dairy, and water.)
17. Cooking takes too much time
18. Cooking is frustrating
19. It is too much work to cook
20. How often do you compare prices before you buy food?
21. How often do you plan meals ahead of time?
22. How often do you use a grocery list when you go grocery shopping?
23. How often do you worry that your food might run out before you get money to buy more?
24. How often do you use the "nutritional facts" on food labels?
25. How often do you eat breakfast within two hours of waking up?

26. How often do you eat food from each food group every day?
27. How often do you make homemade meals "from scratch" using mainly basic whole ingredients like vegetable, raw meats, rice, etc?
28. How often do you adjust meals to include specific ingredients that are more "budget-friendly", like on sale or in your refrigerator or pantry?
29. How often do you adjust meals to be more healthy, like adding vegetables toa recipe, using whole grain ingredients, or baking instead of frying?
30. How confident are you that you can use the same healthy ingredient in more than one meal?
31. How confident are you that you can choose the best-priced form of fruits and vegetables (fresh, frozen or canned)?
32. How confident are you that you can use basic cooking skills, like cutting fruits and vegetables, measuring out ingredients, or following a recipe?
33. How confident are you that you can buy healthy foods for your family on a budget?
34. How confident are you that you can cook healthy foods for your family on a budget
35. How confident are you that you can help your family eat more healthy?
36. During the past 7 days, how many times did you cook food for dinner or supper at home?

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 11 October 2022
DOI 10.3389/fpubh.2022.987171

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Public Health and Nutrition, a section of the journal Frontiers in Public Health

RECEIVED 05 July 2022
ACCEPTED 15 September 2022
PUBLISHED 11 October 2022

CITATION
Fornaro EG, McCrossan E, Hawes P, Erdem E and McLoughlin GM (2022) Key determinants to school breakfast program implementation in Philadelphia public schools: Implications for the role of SNAP-Ed. *Front. Public Health* 10:987171. doi: 10.3389/fpubh.2022.987171

Key determinants to school breakfast program implementation in Philadelphia public schools: Implications for the role of SNAP-Ed

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Background: Policies addressing food insecurity are only effective if they are implemented successfully, serving those most at risk. Universal school meals provide a key intervention to schools that serve predominantly low-income families by providing free school breakfast and lunch to all. Unfortunately, low uptake of such provisions among students is concerning especially regarding school breakfast, warranting key implementation support for schools to ensure student nutrition needs are met. Thus, the purpose of this study was to evaluate the determinants of implementing two different school breakfast programs and pragmatic strategies for serving breakfast in ways that maximize student participation.

Methods: A qualitative study was conducted between 2018 and 2020 within the School District of Philadelphia (SDP) comprising surveys, interviews, and observations to assess contextual determinants of two distinctive breakfast models: Breakfast in the Classroom (BIC) and Cafeteria after the Bell (CAB). Principals and lead kitchen staff completed surveys to assess determinants of breakfast model adoption. Principals, lead kitchen staff, classroom teachers, climate (i.e., social emotional wellbeing), and facilities staff subsequently participated in interviews to discuss implementation determinants (i.e., facilitators and challenges) and strategies for maximizing student participation. Observations provided rich data to triangulate interviews and survey data. Survey data were analyzed using frequency analysis, and observation and interview data were analyzed through thematic analysis. Presentation of themes was framed by the Consolidated Framework for Implementation Research.

Results: Results highlighted several positive determinants to participation including addressing student and family needs, making data-informed decisions, and providing hot meals and fruit based on student tastes. Negative determinants to implementation comprised challenges to SNAP-Ed-funded policy changes to promote student breakfast participation, lack of communication between administration, and staff and turnover among

food service staff. Strategies included modifying school entrance procedures and combining breakfast with other education-related tasks to minimize instructional time lost through breakfast after the bell schedules.

Discussion: Data highlight the need to include implementation partner expertise when designing interventions for increasing reach and effectiveness of school meal programs. Future research that directly tests implementation strategies and key outcomes of reach/participation, among others, is critical to bridging the policy to practice gap in school nutrition programs.

KEYWORDS

school meals, breakfast, implementation science, policy, nutrition insecurity, qualitative

Introduction

Eating breakfast has a positive association with students' academic outcomes and attendance. Conversely, skipping breakfast is associated with decreased cognitive performance, such as alertness, attention, memory, and problem-solving (1–3). In an effort to promote student breakfast and lunch consumption at school, federal policies such as the Community Eligibility Provision (CEP) were enacted to provide free meals to schools and districts serving low-income student populations (4–6). Universal school breakfast programs can therefore mitigate food insecurity of families whose students are in the public school system; this is particularly true for urban schools and districts that serve students of racial/ethnic minority backgrounds and low-income families (7, 8). However, despite provision of CEP and school breakfast programming, low reach (i.e., participation rates) poses implementation challenges for schools and districts trying to meet the needs of their students (9–11). Thus, further research to elucidate the determinants of successful implementation is warranted to improve health benefits of food assistance policy.

Many models for breakfast service exist and are often chosen based on the needs of each individual school system (12). In addition to the traditional model of serving breakfast in the cafeteria before school, termed "cafeteria before the bell," other options include serving breakfast on "grab-n-go carts;" serving "breakfast in the classroom" (BIC) after school starts; and serving breakfast in the "cafeteria after the bell" (CAB; see Table 1). In the last decade, several studies have been conducted to elucidate the impact of these various models on attendance, meal participation, nutritional outcomes, and even on student weight status (2, 13–18). All studies report that BIC or CAB are positively associated with improved attendance and participation, highlighting factors such as reduced stigma and accommodation of student/family needs in decision making as potential antecedents to such changes (2, 14, 18). However, research to date has mainly examined the impact of breakfast models on student outcomes, but not the factors which influence implementation of each model. Partnerships with Supplemental Nutrition Assistance Programs-Education (SNAP) funded programs are a potential key opportunity to facilitate breakfast implementation, yet evaluation into such partnership is lacking. Without such understanding of implementation determinants, our ability to develop implementation strategies to improve outcomes, such as reach and participation, is limited.

TABLE 1 Breakfast service models and definitions.

Model	Definition
Cafeteria before the bell	Breakfast is served in the cafeteria before school starts.
Grab-n-go cart	Breakfast is available on a cart in the hallway (or somewhere else in the building) before or after the bell.
Breakfast in the classroom (BIC)	Breakfast is delivered to classrooms for students to eat all together after school starts
Cafeteria after the bell (CAB)	Breakfast is served in the cafeteria after school starts, either to entire classrooms who come through the line together or to individual students who arrive late

The field of implementation science offers important insights for studying the implementation and utilization of evidence-based policies and programs (19, 20). Its application to the present study through application of the Consolidated Framework for Implementation Research (CFIR) (21, 22) provides a theoretical foundation to studying implementation determinants (i.e., facilitators and challenges) of school breakfast models, which is a key first step in development of implementation strategies for improving their impact on health outcomes. Specifically, the CFIR comprises five key domains

and several constructs within such domains: (1) Innovation Characteristics (i.e., components of the breakfast model); (2) Outer Setting (i.e., factors outside the school context); (3) Inner Setting (i.e., within-school factors); (4) Characteristics of Individuals (i.e., school and staff); and (5) Implementation Process (i.e., getting implementation underway). Examining implementation determinants through these constructs will help to identify opportunities for support from leadership and researchers.

This study was conducted in the School District of Philadelphia (SDP) during the 2018–19 and 2019–20 school year to answer the following research questions: (1) What are the positive determinants to school breakfast model implementation and student participation in SDP schools? (2) What are the negative determinants to school breakfast model implementation and in what ways can they be mitigated to maximize student participation? and (3) What are pragmatic strategies that schools can implement to mitigate negative determinants and increase reach of breakfast programming?

Methods

All research procedures were approved by the institution's Internal Review Board and all study participants (who were over 18 years of age at the time of the study) provided informed consent through signed documents. This article presents data from a 2-year study on school breakfast in SDP, including surveys completed by lead kitchen staff and principals, observations, and qualitative in-depth interviews at four school sites (Table 2). These different data sources were used together to understand the implementation processes, successes, and challenges of different breakfast delivery models adopted by SDP schools.

Implementation context: Philadelphia public schools

In large urban school districts, such as the SDP, every student has the option of eating free breakfast at school due to CEP which allows all schools/districts serving students with over 40% identified as low-income to provide free breakfast and lunch (4, 5). However, during the 2018–19 school year (before COVID-19), breakfast participation across the district averaged 42%. Due to its positive effects on attendance, cognition, and academic outcomes (1–3, 13, 23), in Fall 2017 the SDP set a goal of serving breakfast to 70% of students in attendance each day. This goal is important considering that the food insecurity rate for SDP student households was estimated to be 19.1% during the 2019–2020 school year (24). This rate was substantially higher than the rate estimated for the city as a whole (14.4%) as well as the rate for the state of Pennsylvania (10.2%) (25, 26). The high rate of food insecurity among SDP student households represents an unmet need within the district, and an opportunity to innovate breakfast meal service. SDP partnered with Eat Right Philly (ERP), the district's nutrition and wellness program. This organization is a federally funded program through USDA SNAP-Ed and works with SDP's Division of Food Services to support schools in increasing breakfast participation. We were particularly interested in discerning school's experiences with ERP and how the role of SNAP-Ed agencies could be strengthened in breakfast program implementation.

Lead kitchen staff surveys

In spring 2019, SDP lead kitchen staff completed surveys to provide their experiences implementing school breakfast models. Lead kitchen staff manage the cafeteria and are the primary staff members responsible for implementing the school's chosen breakfast model. Grounded in the CFIR (22), these surveys focused on lead kitchen staff experiences with implementing various breakfast models at their schools. Example closed questions included: "Which of the following outside groups have promoted school breakfast participation at your school in the last year?" (outer setting) and "How important were the following factors in your school's decision to have BIC?" (innovation characteristics and inner setting). Options for outside involvement included the ERP, the city's SNAP-Ed provider. Additionally, there were 15 open-ended questions that invited respondents to explain more about implementation barriers and facilitators of specific breakfast models (BIC, Cafeteria Before the Bell, CAB); if lead kitchen staff would be interested in trying a model in the future; and if no, why not. The research team sent the survey to the 242 lead kitchen workers managing SDP cafeterias. A total of 145 lead kitchen staff took the survey, for a response rate of 60%.

Principal surveys

In 2020, the research team sent surveys to SDP principals to understand the successes and challenges to implementing different breakfast delivery methods adopted by SDP schools to distinguish why implementation of BIC stopped. Prior research indicated that schools that offered BIC to all students had higher breakfast participation rates than schools that used other models (17). However, the implementation challenges associated with this model are unknown and perspectives of key implementers are therefore needed to identify key implementation determinants of adopting BIC and CAB. A total of 60 surveys were sent through email to principals at SDP schools. First, surveys were sent through email to a random selection of principals at 56 SDP schools. In addition, surveys were sent to the principals of the four

TABLE 2 School demographic information.

School site	Breakfast model description	School type	Enrollment	Student demographics	Interviews
1	"Cafeteria before the bell" (with a "Grab-n-go cart" in a multipurpose room before the bell due to space limitations in the cafeteria) <1 year with the current model (in year prior there was some BIC)	Elementary	640	27% English Language Learners 11% Students with IEPs 100% Economically Disadvantaged 0% American Indian 4% Asian 24% Black/African American 62% Hispanic 8% Multi-Racial <1% Pacific Islander 1% White	4
2	Mostly "cafeteria before the bell" with some "breakfast in the classroom" (special education classes eat BIC after the bell) Model in place for 5+ years	High	1,080	29% English Language Learners 33% Students with IEPs 100% Economically Disadvantaged 0% American Indian <1% Asian 31% Black/African American 64% Hispanic 2% Multi-Racial 0% Pacific Islander 1% White	2
3	Schoolwide "BIC" Model in place for 5+ years	Elementary	640	18% English Language Learners 7% Students with IEPs 100% Economically Disadvantaged <1% American Indian 4% Asian 21% Black/African American 69% Hispanic 2% Multi-Racial <1% Pacific Islander 4% White	2
4	"CAB" (with some "BIC" due to space constraints) Model in place for <1 year (in year prior served BIC)	Elementary	680	25% English Language Learners 7% Students with IEPs 100% Economically Disadvantaged <1% American Indian <1% Asian 18% Black/African American 77% Hispanic 3% Multi-Racial <1% Pacific Islander 2% White	2

schools where observations and interviews were taking place (described below). After an initial email and two reminder emails, principals at 38 schools responded to the survey for a response rate of ∼63%. Six respondents (15.7%) did not complete the survey, but their responses to questions they did complete are included in the analysis. Most principal survey respondents had worked at their school "5–9 years" (31%).

School observations and school staff interviews

During the 2019–20 school year, the research team conducted a total of 14 observations and 10 interviews at four SDP schools to understand the successes and challenges of different breakfast models. Given that the prevalence of food

TABLE 3 Description of breakfast model by school.

School site	School type	Enrollment	Breakfast service practices
1	Elementary	640	• "Cafeteria before the bell" (with a "Grab-n-go cart" in a multipurpose room before the bell due to space limitations in the cafeteria) • Served 30 min before school starts and ended at the start of school • Less than 1 year with the current model (in year prior there was some breakfast in the classroom)
2	High	1,080	Mostly "cafeteria before the bell" with some "breakfast in the classroom" (special education classes eat breakfast in the classroom after the bell) • Served before school starts • Cafeteria stays open ∼10 min past the start of school to serve late students • Model in place for more than 5 years
3	Elementary	640	Schoolwide "Breakfast in the Classroom" • Packaged in crates picked up by students from the kitchen at the start of school • Served after school starts school for ∼30 min • Model in place for more than 5 years
4	Elementary	680	"Cafeteria After the Bell" (with some "Breakfast in the Classroom" due to space constraints) • Breakfast timing staggered by grade: ○ 1st and 2nd ate breakfast in the cafeteria after school starts (two 1st grade classes ate breakfast in a second cafeteria space because they did not physically fit in the main cafeteria) ○ 3rd and 4th went to their classrooms at the start of school and then came back to the cafeteria to eat when 1st and 2nd grade finished ○ Kindergarten ate breakfast in a second cafeteria space after school starts • Model in place for <1 year (in year prior served breakfast in the classroom)

insecurity is one reason why it is vital to maximize breakfast participation rates, we first limited the sample (all SDP non-charter schools) to schools where there might be a greater need for augmented food security. To select schools where food security is a bigger concern, we used two criteria: (1) the school's Identified Student Percentage and (2) parent and principal responses to the 2017–18 District Wide Survey (DWS). School Identified Student Percentage data from 2018–19 determined the rate of students qualifying as economically disadvantaged determined according to their participation in specific benefit programs. Not all students or families participate in benefit programs for which they are eligible, which may result in an underestimate. We limited the sample to schools with an Identified Student Percentage rate of more than 75% of students qualifying as economically disadvantaged. To compare breakfast models, we purposefully selected two sites that implemented breakfast before the bell, one that implemented BIC, and one that implemented CAB. Information on each school type, enrollment, and breakfast service model is shown in Table 3. The School District had adopted CEP which allows schools and districts with an Identified Student Percentage above 40% to provide breakfast and lunch free of charge to students (4–6).

We also limited the sample to schools where 20% or more of parent/guardians who responded to the 2017–18 DWS answered "yes" to the question, "In the past 30 days, have you worried about having enough food for you or your family?" We chose this marker because the city-wide food insecurity rate was ∼20% (25). Across SDP, 13% of parents and guardians who responded to the 2018–19 District-Wide Survey answered "yes" to the question "In the past 30 days, have you worried about having enough food for you or your family?" (27). The DWS is administered each spring to students, teachers, principals, and parents and guardians. The survey asks respondents about how they experience and perceive their schools. In 2018–19, 22% of SDP parents and guardians responded to the DWS (27). In addition, we limited the sample to schools with an enrollment of over 500, given that smaller schools would not have the same logistical issues as larger schools when serving breakfast. We then selected typical cases representing a combination of different breakfast models (Cafeteria before the bell, Grab-n-go cart, BIC, and CAB).

Formal, semi-structured interviews (28) were conducted at the four schools using interview protocols designed specifically for school administrators, teachers, kitchen staff, or school facilities staff. Interviews were conducted by two members of the research team either in person or over the phone. Interviews were recorded and transcribed, lasting ∼20–45 min. Interviews aimed to gain insights on the specific factors within and outside the school setting that were influential to adoption and implementation of a particular breakfast service model. Questions included: "Who makes decisions about breakfast at your school and how?" "How is breakfast delivered and cleaned

up at your school? What do you think about this delivery method?" and "What do you think the importance of breakfast is to student health, attendance, behavior, and/or academics? How do you think the delivery and/or clean-up model impacts these things?" School staff were also asked about their involvement with ERP and what this partnership looked like in their building, to elucidate how ERP might support implementation of school breakfast. Interview guides were developed in collaboration with the office of food service related to their experiences with breakfast implementation.

A total of 14 observations were conducted across the four schools. Observations were conducted between November 2019 and March 2020. Two research team members visited the school on each observation date in order to allow for observation of different breakfast service sites in the school (e.g., cafeteria, classroom, and multipurpose room). Trained research team members with extensive experience with Philadelphia schools and nutrition service took field notes during each observation (28, 29). Field notes documented breakfast procedures in real time and captured the context of breakfast at each school. The focus of field notes was to understand the ways in which schools approached specific breakfast models, as well as the challenges and benefits associated with specific breakfast models.

Data analysis

Lead Kitchen Staff and principal surveys were completed using Qualtrics software. Data were analyzed descriptively to ascertain frequencies to understand the determinants of breakfast implementation factors. Interviews were recorded and transcribed verbatim. Interview transcripts and fieldnotes were analyzed thematically using Dedoose software (Los Angeles, CA) by three members of the research team and two research assistants. This approach was adopted to capture the rich contextual detail within each setting and to capture nuanced determinants of implementation that may not be present in the literature to date. To develop the codebook, all members of the research team read select interview transcripts and fieldnotes and noted any common concepts that emerged from the data(30). Several iterations of discussing and relating common concepts led to a final codebook of 13 data themes. Inter-coder reliability was established through three rounds of testing using the Dedoose training feature. All transcripts and fieldnotes were coded by one team member and checked by a second team member. The research team wrote informal memos about emerging categories and themes throughout the coding process as a form of an audit trail to enhance credibility of the findings (31). Themes were generated from the coded data and subsequently linked to CFIR constructs, following recommendations by Damschroder et al. (22, 32, 33), in order to frame our understanding of how findings related to implementation. This served as a critical step to achieve theoretical triangulation between the themes and the CFIR, increasing external validity (34).

Results

Data from surveys of 38 SDP Principals and 145 lead kitchen staff provides an overview of the successes, challenges, and supports related to different school breakfast models. Data from principal surveys, observations, and school staff interviews are presented together. For each section, we provide each theme, developed through thematic analysis, grouped by specific components of the CFIR model to facilitate interpretation.

Positive determinants to school breakfast implementation and student participation

Key facilitators were the high demand for supplemental nutrition through school breakfast, the potential of BIC and CAB to promote reach of breakfast programming and innovating how students enter school buildings to maximize participation. Further, the kinds of foods served were found as a significant factor in student acceptability and reach.

Inner setting: Implementation model driven by stakeholder needs

Salient to the Relative Priority construct within the Inner Setting domain (22) across all models, there was a perception that students relied on their schools to access breakfast. Data from interviews show that school staff (administrators, teachers, and other support staff) at all four school sites, representing various "before the bell" and "after the bell" breakfast models, perceived school breakfast as the main way students were eating in the morning. For example, a school staff member at school site 1, which served breakfast in the cafeteria before the bell, felt that their school community viewed school breakfast as the main way students eat in the morning: "I think our community as a whole, I think that's their breakfast. It's not optional. You go to school. You eat breakfast. That's where you eat your breakfast" (School Staff Member, Interview, School Site 1).

Data from interviews and observations at school sites show BIC or CAB reduced barriers to students accessing school breakfast, such as having to arrive at school early or stigma associated with eating breakfast at school. For example, an administrator at school site 3, which served BIC school-wide, explained that parents and guardians face financial and time barriers to serving students breakfast at home before school:

> We're in a high poverty school. A lot of working parents, a lot of grandparents raising their kids. A lot of kids' parents are getting off shift work and then bringing their kids

> to school. A lot of homes can't actually afford adequate nutrition for their students. Therefore, a lot of times breakfast is skipped, or parents rely on breakfast as a way for their students to get food, because what they're getting at home is infrequent because they can't afford it, they don't have the time, it's not nutritious. At least when they come to school, they get that nutritious well-balanced breakfast (Administrator, Interview, and School site 3).

This administrator found that serving BIC ensured students were well-fed because it removed barriers to breakfast participation, such as having to arrive at school early; serving CAB also removed this barrier. During observations of BIC and CAB, most students ate breakfast with their classes. Data from principal surveys showed that schools chose different breakfast models (BIC, "grab-n-go carts," or CAB) to meet the same goals (Figure 1). When asked to identify which factors were most important for choosing their breakfast model, principals' responses were broadly similar across different breakfast models. The two most important factors overall were "making sure students have enough to eat" and "making sure students have access to healthy breakfast foods." Considering only responses from schools with BIC and CAB, principals placed high importance on ensuring students have access to enough healthy breakfast foods. Additionally, there were some differences between BIC and CAB responses. Principals at schools with BIC placed slightly more importance on increasing participation numbers and helping students learn better. Principals at schools with CAB placed slightly more emphasis on attendance (Figure 1).

Implementation process: When "after the bell" breakfast models cannot be provided, having students enter the school through the cafeteria maximized participation

Pertinent to the Planning construct in the Implementation Process domain (22), in open-ended survey responses, principals emphasized the importance of students walking directly past breakfast options as they enter school. They referred to requiring students to enter through the cafeteria and/or the placement of a grab-n-go cart near the main entrance as important factors for student participation. School sites 1 and 2, which both served most of their students' breakfast in the cafeteria before the bell, had their students enter through the cafeteria.

School site 1 had third- and fourth-grade students enter through the cafeteria where breakfast was served before the bell. During observations, students entered, sat down at tables, and were called by table to go through the cafeteria line. Students were able to choose from cold (e.g., yogurts, cereals, and pastries) or hot (e.g., egg and sausage sandwich) breakfast items in addition to fruits, milks, and juices. Due to space constraints in the cafeteria, fifth-grade students entered through a multipurpose room, where breakfast was served on a grab-n-go cart before the bell. During observations, these students also entered, sat down at tables, and were called by table. However, students were limited to cold packaged items that could be delivered on a cart (cereals and packaged pastries) in addition to fruits, milks, and juices. At this school, students stayed in the cafeteria until their teachers picked them up. School site 2, a high school, had students stay in the cafeteria until they left independently for their first period class. During observations at school site 2, students entered the cafeteria and chose breakfast items, such as parfaits, juices, fruit, and pastries, from a cafeteria window, similar to a food court. Moreover, students who came to school after first period also entered through the cafeteria. They were required to stay in the cafeteria until the end of the first period to not disrupt class. Breakfast was still served, giving late students the option of eating, maximizing participation.

Implementation process: Providing students with hot meals and fresh fruit increased breakfast participation

Salient to the Reflecting and Evaluating construct in the Implementation Process domain (22), principals and school staff emphasized food quality, such as the ability to provide hot meals, as an important factor for student participation. For instance, one teacher observed that there are specific meals that maximized breakfast participation and other meals that students did not eat:

> I think your breakfast participation would go up 2-fold if we served stuff that the kids would enjoy eating. That's just my opinion. Like I said, I don't know if anyone believes the same as me, but I know even just around my school, you see it. Some breakfasts the kids eat, some breakfasts they don't eat (Teacher, Interview, and School site 1).

School and cafeteria staff noted that the breakfast meals they observed as most popular are hot breakfasts, such as egg sandwiches, and felt they should be served more often. One principal responded to an open-ended survey question by writing: "students love the sausage muffins, but they are not served often" (Principal, Survey). Observations indicated that students liked when fresh fruit, such as oranges, were served with breakfast. During one observation of BIC, students cheered when the teacher looked in the breakfast crate and announced there were oranges. However, during other observations of BIC classes of ~20 were only given 5 or 6 oranges causing the majority of students to have to go without. Interviews and observations suggest that identifying and serving the most popular options more frequently, and ensuring a ratio of one item per student, would increase breakfast participation. Staff found breakfast foods that were lower in carbohydrates and

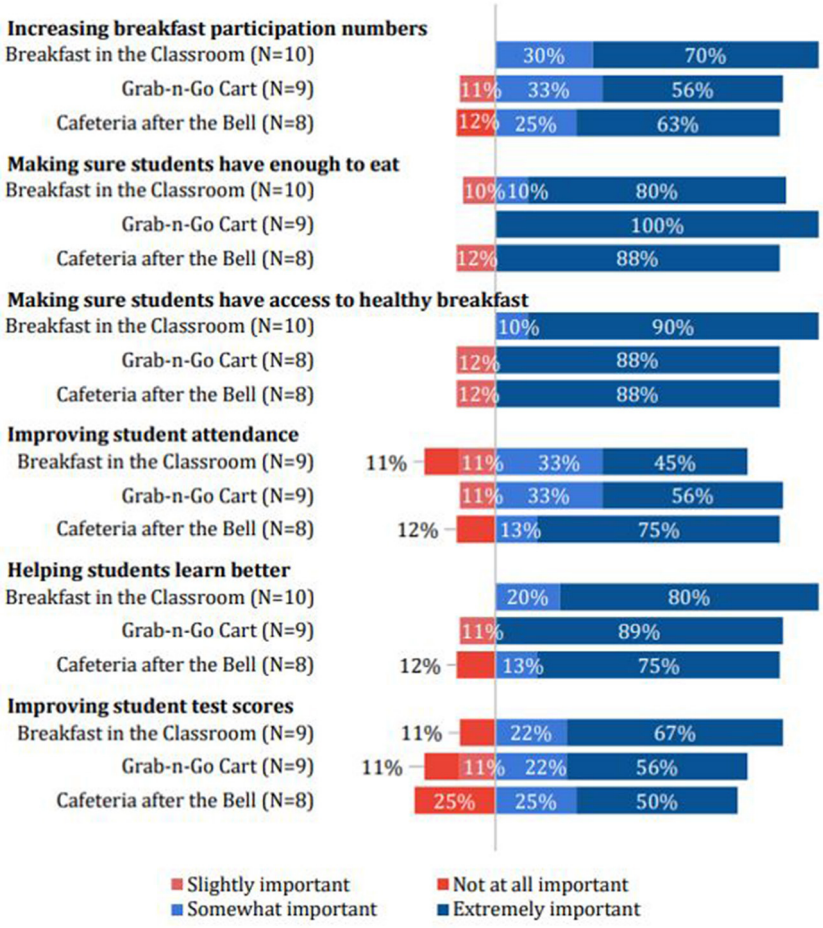

FIGURE 1
Relative advantage of school breakfast model choice.

sugars to be best for students, and that items high in sugar have a negative impact on student behavior.

Negative determinants to implementation and student participation

Below we present some important challenges which must be mitigated to improve reach and participation of school breakfast programming. These relate to issues of communication among schools and SNAP-Ed providers regarding breakfast promotion, divergence in priority among school administrators and nutrition leadership, and turnover among staff.

Outer setting: Divergent perspectives on the role of ERP in breakfast participation

Related to the External Policies and Incentives construct within the Outer Setting domain (22), survey results suggest that Eat Right Philly (ERP), which provides SDP schools with SNAP-Ed funded nutrition and wellness programming, was closely linked to implementation of BIC and CAB. Schools that implemented BIC and CAB were much more likely to report outside engagement in breakfast promotion from ERP. Observations at all four school sites, each with different breakfast models, and interviews with school staff show that ERP posted information about nutrition on bulletin boards and provided materials for parents/guardians to take home. However, interview participants were not aware of when or how ERP specifically promoted breakfast. During an interview, a teacher highlighted that breakfast promotion was made difficult for ERP because they were tasked with promoting meals when students do not like all of the options:

> Kids, when they think of breakfast, in my opinion, they think of eggs and pancakes and waffles and cereal and oatmeal. They don't think of a piece of banana bread as breakfast…

> You can promote it all you want, but if it's something the kids don't like to eat, they're not going to eat it because someone tells them it's good for you (Teacher, Interview, and School site 1).

Nonetheless, school staff believed that ERP encouraging students to try new foods increased breakfast participation. One school support staff member felt that in providing nutrition education and food tastings, ERP is teaching students to try new foods, making it more likely for them to try breakfast items. "…even though some of the ingredients they're not familiar with, they get excited afterwards because they actually participate. They make it so they really want to try what they make" (School Staff Member, Interview, School Site 1). This school staff member felt that students want to try the foods they make with ERP, increasing their enthusiasm to try new foods.

Inner setting: Kitchen staff and school staff experienced breakfast models differently

The Networks and Communications construct within the Inner Setting domain (22) highlights the difference among principal and lead kitchen staff survey responses, with some notable differences that may impact the breakfast model they implement. Principals gave the highest overall favorability rating to BIC while lead kitchen staff gave the highest rating to CAB. At surveyed schools that currently operate BIC, lead kitchen staff were more likely than principals to identify messes, pests (rodents and insects), extra work for teachers and staff as "great" challenges (Figure 2).

Other challenges, including food waste and student behavior, were also considered slightly more challenging by lead kitchen staff. Moreover, interviews indicate that communication between kitchen staff and school staff can be a challenge to successful breakfast implementation. For instance, an administrator at school site 3, which served BIC school-wide, expressed that the logistics of getting the breakfast crates to the classrooms, clean up once crates are returned, and recording breakfast participation requires communication about procedures:

> We all see the value and the need to make sure that our students are well-fed, especially that starts with a really nutritious breakfast to start off the day. Any frustrations that come across usually come with procedural and lack of clarity (Principal, Interview, School Site 3).

Inner setting: Kitchen staffing challenges impeded consistency of breakfast delivery

Finally, within the Inner Setting domain are several constructs linked to Readiness for Implementation, which are illustrated by the lack of available resources such as staff and time for implementation (22). Inconsistent kitchen staffing impeded schools' ability to implement alternative breakfast models. At school site 2, which mostly served breakfast in the cafeteria before the bell, the lead kitchen staff member liked to serve fresh smoothies on a cart in the cafeteria, which was popular with students. However, when they did not have a complete kitchen staff, they were unable to do so: "unfortunately, I'm out of a cook and sometimes I'm out of a worker so that puts me behind the eight ball, so I have to stay in the kitchen" (Kitchen Staff Member, Interview, School Site 2). Kitchen staff turnover resulted in an inability to consistently serve breakfast in alternative ways found to be popular with students. Similarly, kitchen staff turnover also contributed to challenges with communication and coordination around procedures. As one administrator explained,

> Sometimes I feel like my teachers aren't sure. Sometimes I feel like something's being said and then it changes based on rules and things like that. I think having [several] managers this year has... it's been a little bit stressful (Administrator, Interview, School Site 2).

Kitchen staff turnover can lead to changes in procedures, meaning that kitchen staff and school staff are no longer on the same page. School site 3, which served BIC school-wide, mitigated challenges to communication and coordinating by providing "refresher" trainings on breakfast procedures for school staff and holding meetings between kitchen staff and school staff.

Potential strategies to mitigate logistical challenges in breakfast participation

Finally, we share some potential strategies that were observed/shared by SDP school staff which could be employed to address some logistical barriers to breakfast service. However, the needs of each school context and capacity of stakeholders must be considered.

Serving CAB to entire classrooms maximized participation while minimizing challenges

Principal survey responses showed that most common challenges to breakfast implementation (e.g., messes, pests, or extra work for teachers and staff) were perceived to be less challenging by principals at schools that used the CAB model. However, getting students to come early was perceived as a significant challenge for schools with "cafeteria before the bell" (Figure 3). The BIC and CAB models removed the barrier of having to arrive at school early to be able to receive breakfast. Comparing the BIC and CAB models suggests that challenges were generally greater for BIC, on average (Figure 3).

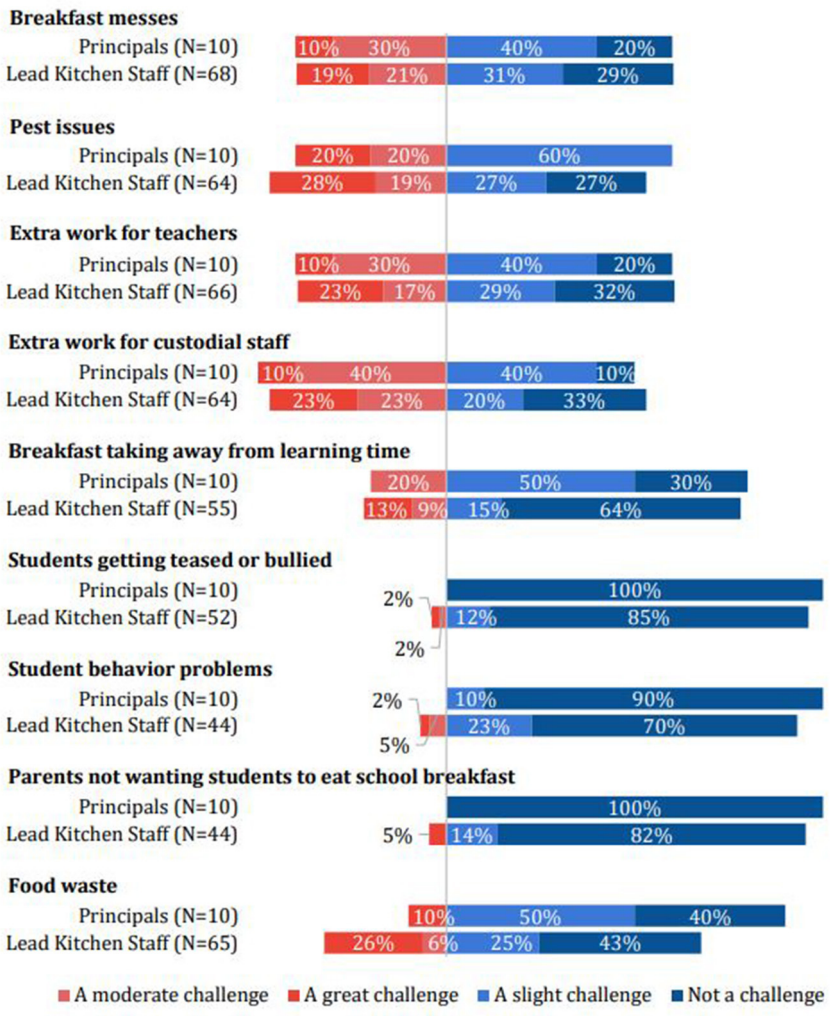

FIGURE 2
Perceived negative implementation determinants by respondent.

For some factors, such as messes and pests, both models had similar percentages of principals reporting "moderate" or "great" challenges. However, in these cases, CAB had much larger percentages reporting "not a challenge." In other words, BIC was consistently rated as more challenging overall, while CAB was described as challenging only in some school contexts. BIC was closely associated with challenges related to messes, pests, and extra work for teachers and custodians. Schools implementing CAB reported greater challenges related to missed learning time. The results suggest that no single model is likely to be suitable in every school context. However, considering both survey and qualitative data, we find that the CAB model appears likely to address the primary concerns of school administrators, teachers, and support staff in many—but not all—school contexts.

Data from interviews with administrators and teachers show that classroom messes and pests were a challenge related to serving BIC. As discussed above, data from principal survey responses confirm this finding. For instance, an administrator at school site 4, which served breakfast in the CAB, and BIC to a few classes due to cafeteria space issues, cited mice as one reason for transitioning from BIC to the CAB model. A teacher at school site 3, which served BIC school wide, confirmed that cleaning up the classroom after breakfast was a challenge: "I like the fact that kids that may not be able to get to eat at home are able to eat, but the clean-up is a lot" (Teacher, Interview, School Site 3). The research team observed teachers and students sweeping up crumbs after BIC and one student cleaning up spilled milk. In addition, during observations of BIC, students had to leave the classroom to empty unused milk or juice into bathroom sinks. While messes are inevitable, serving CAB limits messes to one space.

In addition, staff indicated logistical barriers to serving hot breakfast meals, which were liked by students, in BIC and

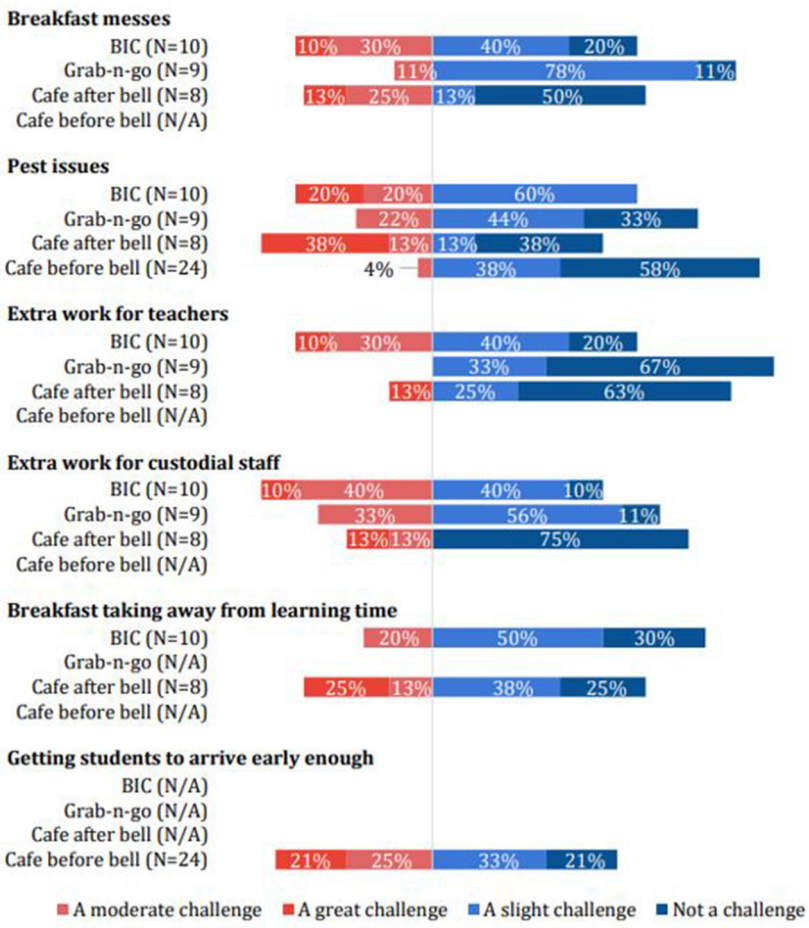

FIGURE 3
Principal-reported negative implementation determinants according to breakfast model.

"grab-n-go cart" models. Data from interviews and observations show that serving hot breakfast using these models was too complicated. The principal at school site 3, which served BIC school wide, confirmed that serving hot BIC was "too hard." Kitchen staff at school site 1, which used a grab-n-go cart explained that hot breakfast cannot be served on the grab-n-go cart because the temperature of the food would decrease as it was transported. Because BIC and "grab-n-go carts" made it very difficult to provide hot meals, CAB was the most feasible model for addressing this concern.

Integrating instructional time with CAB may mitigate time-related barriers

Data from principal survey responses showed that one concern with the CAB model was that students missed out on learning time. However, observation data provide potential strategies to address this challenge. At school site 4, which served breakfast in CAB to most classes (with two classes eating BIC due to space constraints), students ate breakfast in the CAB in two shifts. During the first shift, first- and second-grade classes ate breakfast in the cafeteria at 8:20 am. Two classes ate BIC due to space constraints. Kindergarten ate breakfast at the same time in a second cafeteria space. The research team observed K-2 students entering the cafeterias at 8:20 am, participating in morning announcements, and beginning to eat breakfast at ~8:30 am. Third and fourth graders went to their classrooms at 8:20 am and then came back down to the cafeteria during the second shift.

The research team observed both breakfast shifts which lasted ~20 min. All students in both shifts sat at one table together with their class and teacher, who facilitated breakfast service. The kitchen pre-prepared breakfast crates for each class and had them sitting on each table, which the teacher then

passed out items and recorded participation for their class. Since students were sitting together with their classmates and teacher, eating breakfast in the CAB model provided time for announcements, learning activities, and community building. During the first breakfast shift, students listened to school announcements. Kindergarten students also participated in a literacy game. The research team observed classrooms eating together at a long cafeteria table. During an interview, a facilities worker at the school explained what they see in the cafeteria during "breakfast after the bell":

> A lot of kids, they sit around the table, they're all eating together. I couldn't really tell you how it impacts the little kids, I just see the expression on their faces, and they sit there, and they talk with their little friends, and they're having a good meal, so it's pretty good (School Staff, Interview, School Site 4).

At this school, the act of sitting together as a class with their teacher at one table in the cafeteria seemed to create a positive environment in a space conducive to eating and appeared to be a time for community building.

Discussion

The purpose of this study was to identify the implementation determinants regarding two distinctive breakfast service models and potential mitigating strategies to enhance reach and participation within a large urban district and implications for potential future involvement of SNAP-Ed agencies. The use of the CFIR provided structure for the study design, analysis, and interpretation of findings which improved clarity and facilitated the use of data to drive future decisions on implementation support (22). Overall, school and food service staff perceived school breakfast as the main way students were eating in the morning and perceived BIC and CAB as a high priority for addressing food insecurity. Although "after the bell" models removed the barrier of students having to arrive at school early to eat, when they could not be provided, having students enter the building through the cafeteria maximized breakfast participation by explicitly inviting and encouraging students to eat. These findings reflect prior literature which highlights the positive impact of serving breakfast after the bell in promoting student participation, nutrition behaviors, and preventing absenteeism (13, 14, 35).

Within the inner setting domain, school staff also emphasized that food quality was an important factor in student breakfast participation with hot items, such as breakfast sandwiches, and fruit being particularly popular with students. It was not within the scope of our study to conduct interviews with students, but prior research indicates that perceptions of food quality and cultural relevance were key factors in participation in BIC initiatives (14) highlighting the importance of gaining student and parent input in breakfast programming and menu selection (36). In the current study, concerns were mainly from teachers/administrators regarding quality of food and a lack of high-protein options. These concerns are highly prevalent in other recent research with food service providers (37) and are linked to the reimbursement amount received for breakfast served which limit the procurement of high protein options (i.e., breakfast sandwiches) given the greater expense and preparation requirements for these foods. The United States Department of Agriculture (USDA) has recently increased reimbursement amounts for school breakfast and lunch (38) which may help to increase higher value options served at breakfast. Nonetheless, gaining student and parent input in decision making on menus may be a pragmatic strategy to increase participation.

To address another negative determinant within the Networks and Communications construct (22), due to the different perceptions among school staff and administration regarding breakfast model implementation, school and district leadership may also stress the importance of breakfast with school staff by sharing information on the positive association between breakfast and cognitive performance, academic outcomes, and attendance (7). Further, emphasizing the importance of school breakfast in addressing food insecurity by making sure school staff are informed of city-, district-, and school-level food insecurity rates could help improve adoption and implementation. Improved coordination between principals and lead kitchen staff could help identify challenges and the most appropriate breakfast model within each school context (18).

Finally, some key strategies emerged from schools that adopted BIC and CAB which provide advocacy support for schools who are deliberating adoption of these models, and for those who may be struggling to implement addressing barriers found in the Outer Setting domain of the CFIR (22). One of the key strategies to implementing BIC and CAB well was linked to collaborating with ERP. Principal survey data suggests that ERP involvement though delivering SNAP-Ed funded nutrition education in the classroom was closely linked to implementation of BIC and CAB breakfast models. This finding provides support for collaborating with SNAP-Ed agencies for promoting breakfast participation and reducing food insecurity in students and families (39–41). Recent findings show that more states are planning to use more policy, systems, and environmental (PSE) approaches in their SNAP-Ed programs to maximize the public health impact of this provision, highlighting opportunities for future research (39).

Furthermore, serving CAB to entire classrooms minimized challenges associated with the BIC model, such as messes and pests in the classroom, while still not requiring students to come to school early to eat. Combining educational practices with CAB reduces loss of instructional time and seems to improve participation in breakfast at school, and potentially mitigating challenges found within the Networks and Communications and

Readiness for Implementation constructs (22). Organizations such as No Kid Hungry have issued guidance on how schools and districts can plan for and successfully implement breakfast after the bell which is inclusive of BIC and CAB (12), but such guidance does not include blending lessons with breakfast consumption. These data provide a potential pragmatic solution for CAB service; further research should be conducted to examine how participation and procurement could be impacted by this strategy.

Implications for research and practice

Several implications arose from this evaluation. First, serving CAB to entire classrooms after school starts maximizes breakfast participation while minimizing challenges. To mitigate the amount of lost learning time, schools could consider serving breakfast in the CAB in two shifts, have students eat in the CAB together with their teacher and classmates, or provide each class a pre-prepared crate of breakfast meals to minimize the amount of learning time students miss. If schools cannot adopt either BIC or CAB due to logistical or contextual barriers, leadership may ask students to enter the building through the cafeteria to maximize participation so that every student must "opt out" of breakfast instead of opting in. To further incentivize participation, schools need to collect data from students regarding popular menu items and prioritize serving them. Considering the opinions of school-based staff and teachers who are with students during breakfast will also enhance implementation and overall school climate.

The present study identified several pertinent determinants which negatively impacted implementation of BIC, CAB, and other models. One key opportunity for partnership is to enhance communication between SNAP-Ed representatives and school food service providers, as one key goal of the SNAP-Ed program is to increase participation in school meals. This collaboration may drastically improve the implementation and uptake of school breakfast and empower school food service staff to address gaps with support of SNAP-Ed agencies such as ERP. Further investigation into feasibility is warranted but we urge researchers to consider their role as partnership builders in such process to increase the likelihood of success.

Finally, from a methodological standpoint, use of the CFIR facilitated understanding of these determinants and provided avenues for development of implementation strategies to bolster school/district capacity to implement breakfast models successfully (22). A critical next step for researchers who are partnering with school districts, especially urban districts, is to replicate our assessment of implementation determinants. Understanding the context-specific factors which influence adoption of evidence-based policies is essential to providing support. Findings from this study can inform data collection and analysis protocols and help researchers "narrow down" the specific factors to study. Subsequently, we highly recommend using rigorous implementation science methodologies to collaboratively develop and tailor implementation strategies (42, 43) to improve reach of breakfast programs and study their impact on school-level implementation outcomes and student behaviors. Such application will mark a necessary step in enhancing the public health impact of policies to address food insecurity.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by School District of Philadelphia Research Review Board. The patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

EF and EM conceptualized the study and led data collection. PH and EE assisted with data collection and analysis. GM provided scientific consultation and led the writing of the manuscript. All authors provided substantial input on the manuscript. All authors contributed to the article and approved the submitted version.

Acknowledgments

This research was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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The Food Trust

FY'22 Reporting Evaluation of Emerging Curriculum/Approach

Name of Project

KI for Families: Cooking Beyond the Classroom

Project Goals (specifically those evaluated)

Describe the goal of the evaluation and identify each impact being assessed by this evaluation.

The goals of the project include:

1. TFT will modify six lessons from the KI curriculum for additional use as a six-part family cooking series intended to meet the needs of both school age (K-2nd grade) and adult audiences together
2. TFT will gather feedback from SNAP-Ed eligible participants regarding lesson content and design. TFT will use this information to make adjustments to the lessons.

Plans to pilot and evaluate the curriculum are included in TFT's FY' 23 Emerging Statement of Work with the intention of expanding KI to have an evidence-based family cooking series component.

Evaluation Design

Describe the population being evaluated and its size.

Sixteen families from four schools provided feedback on the lesson series. The families were convened using a virtual platform and participated in the six-week modified lesson series. After each lesson, families were asked what they liked about the lesson and what they would change. As a result of the feedback collected, the lessons were modified with the following changes:

- Increased hands-on activities and movement breaks for children.
- Decreased the lesson series from a six lessons to four.
- Included hands-on activities to allow families to showcase foods in their pantries that they use for snacks and meals based on their preferences and culture.
- Expanded the list of *cooking tasks for kids* to include cooking tasks that students and caregivers shared that they enjoy doing at home.

The majority of feedback given was positive. Many families asked when the lesson series will be re-offered. One particular caregiver mentioned that she and her daughter loved participating and they plan to commit Tuesday nights to "family cooking night."

Describe the unit of assignment to intervention and control/comparison groups.

N/A

Describe how assignment to these groups was carried out. Be explicit about whether or not this assignment was random.

N/A

Describe how many units and individuals were in the intervention and control/comparison groups at the start and end of the study.

N/A

Impact Measures

For each goal, describe the associated measure(s). Descriptions should indicate if the focus is on knowledge, skills, attitudes, intention to act, behavior or something else.

Describe the points at which data were collected and how.

Data will be collected in FY'23 as specified in TFT's FY'23 Emerging SOW.

If there were any differences in measures for intervention and control/comparison groups, describe them.

N/A

Findings

Describe the measurement results for intervention and control/comparison groups at each point data were collected.

Data will be collected in FY23

Description of how evaluation results will be used:

Results of the outcome evaluation will be used to further enhance the Healthy KI evidence-base and to identify program best-practices and areas for improvement.

Point of Contact

Matt Vrazo

mvrazo@thefoodtrust.org

Relevant Journal References

The Food Trust
FY'22 Annual Pennsylvania SNAP-Ed Evaluation Report

November, 2022

Contents

EXECUTIVE SUMMARY

The Food Trust's (TFT) PA SNAP-Ed program employs a comprehensive approach to behavior change combining direct education and Policy Systems and Environmental (PSE) efforts with non-SNAP-Ed funded resources in a variety of settings. Through partnered efforts, TFT works towards shared responsibilities with public and private partners to achieve strong outcomes. This report documents our evaluation highlights in southeastern Pennsylvania for FY'22.

As part of our Heart Smarts program, corner store in-store and follow-up surveys were conducted. 255 participants completed surveys at 13 Philadelphia-area corner stores following at least one of nine Heart Smarts lessons. Educators followed up with participants 30 days following the lessons to conduct a survey to assess medium-term behavior change. Results were also analyzed from participants who took part in at least two lessons one month apart. Among those who participated in a follow-up survey, a majority indicated that they had made at least one healthy behavior change in the preceding month. For participants who completed at least two lessons, a majority indicated that they had made at least one healthy behavior change from the first to the second (or more) lesson. Thus, follow-up calls provide a viable means for evaluating medium-term indicators.

Participants at SNAP-Ed farmers markets who received GusNIP financial incentives were asked to complete a GusNIP survey. Some of these participants had also taken part in SNAP-Ed nutrition education lessons. Responses to questions related to SNAP-Ed nutrition education lessons, financial incentive redemption (named Food Bucks), and food insecurity to assess the combined impact of SNAP-Ed PSE, nutrition education and GusNIP on fruit and vegetable consumption and food access. An increase in food security was noted by a number of participants coincident with an increased reliance on Food Bucks for fruit and vegetable purchases. This suggests that SNAP-Ed combined with Food Bucks serve an important role in increasing fruit and vegetable access and consumption, particularly during increased food insecurity.

For FY '22, TFT's Community-based Participatory Research approach was extended from Philadelphia to include Reading-area partner organizations. A Social Network Analysis of 13 organizations in the greater-Reading area was conducted to establish baseline strength, density, and connectivity values for the network. Results indicate a strong network with two central organizations connecting to many others resulting from PA SNAP-Ed partnered efforts.

1. HEART SMARTS CORNER STORE SURVEY AND FOLLOW-UP PROGRAM

TFT's Heart Smarts programming in southeastern PA includes nine lessons on the following topics: fruits and vegetables, whole grains, calcium, lean proteins, sodium, prepared foods, beverages, stretching your food dollars, and snacks. Lessons are accompanied by taste tests, corner store tours, nutrition-focused tip cards, visuals, and store-based PSE and marketing. Recipes provided encourage participants to use fruits and vegetables, increase whole grain consumption, use spices instead of salt, and to choose lean proteins. They are also designed to be budget-friendly, with the final cost target being less than $4 per serving for a family of four. At the end of each lesson, staff also distribute non-SNAP-Ed funded financial incentives ("Heart Bucks") that can be redeemed for specific healthy food products in the store.

To assess the impact of lessons and accompanying PSE materials on ST1–2 and MT1–2 indicators, surveys were administered immediately after lessons. As part of the survey, which measured ST1–2 indicators, participants were asked if they would be willing to take part in a follow-up phone survey 30 days after the lesson; this allowed for the measurement of MT1–2 indicators.

I. Methods and Sampling

Over the course of the nine lesson series, 255 customers completed the in-store Heart Smarts survey (see Appendix A for the list of survey questions). Among those surveyed in-store, 139 provided a phone number for follow-up calls. Several challenges, including inactive phone numbers and participants who did not answer their phones or respond to voicemails reduced the sample of follow-up surveys. Seventeen participants completed a follow-up survey.

To expand the dataset, we also analyzed the results from surveys administered to customers who completed at least two lessons, the second no sooner than one month after the first. These served as an additional data source from which to measure medium-term behavior changes over a one month timeframe. Twenty-one participants were included in this analysis.

II. Results

The following figures document responses from all 255 survey participants. In terms of general vegetable consumption, there was a bimodal distribution among participants, with a majority eating them either one or 1–3 times per day in the past week, or 4–6 times (Fig. 1). Conversely, there was a strong unimodal peak in terms of participants thinking about eating more fruits and vegetables–most participants indicated that they were currently making changes to include more fruits and vegetables in meals (Fig. 2). Most participants also indicated that they check prices before buying fruits and vegetables (Fig. 3). In terms of thinking about making a recipe to be more healthy, most participants responded that they were either always, often, or sometimes thinking about doing this (Fig. 4)

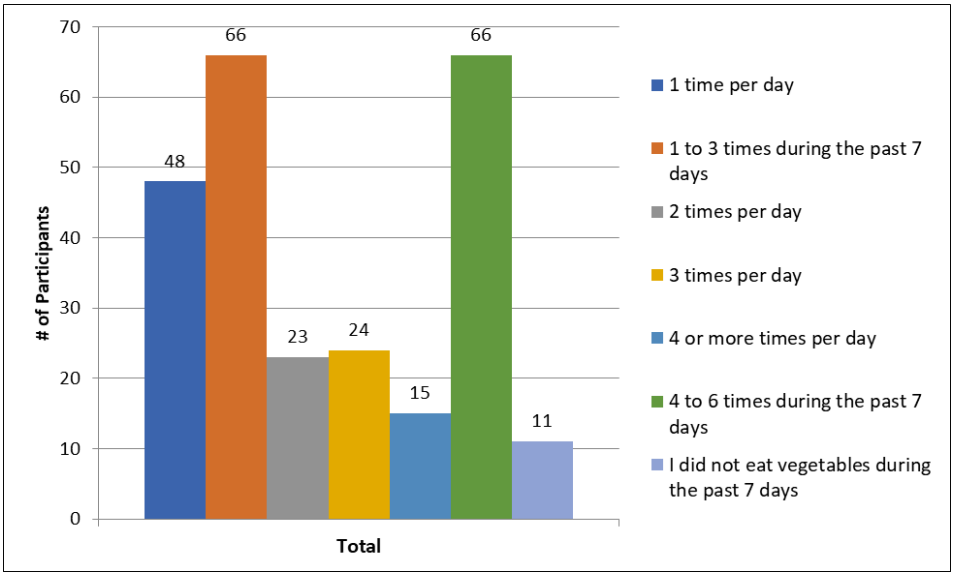

Figure 1. Answers to the question, *During the past 7 days, how many times did you eat vegetables?* following a Heart Smarts lesson (n = 253).

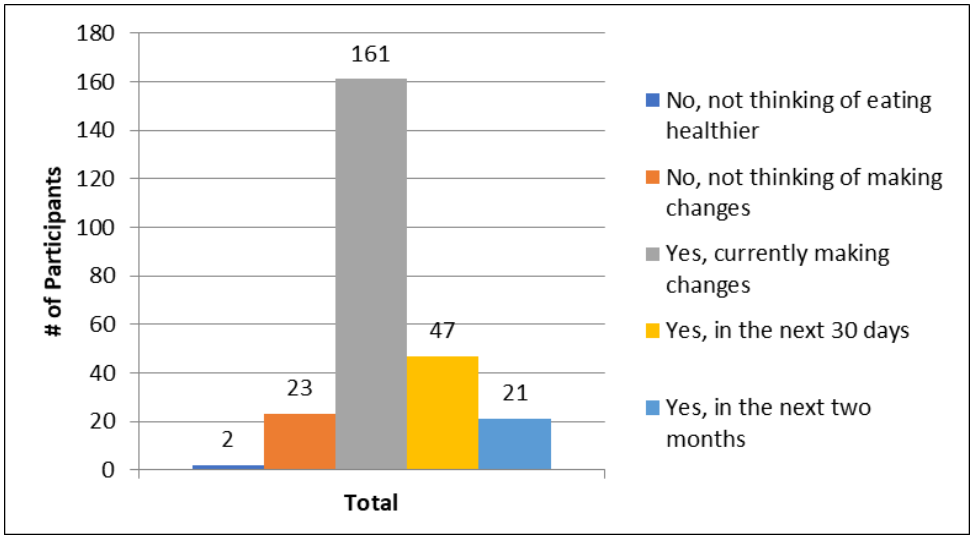

Figure 2. Answers to the question, *Have you thought about making meals using fruits and vegetables?*, following a Heart Smarts lesson (n = 253).

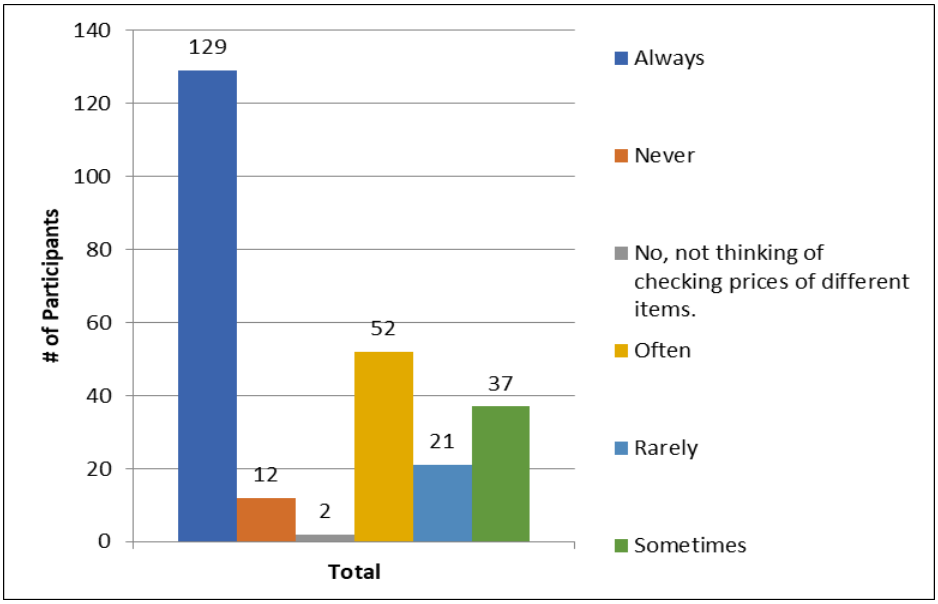

Figure 3. Answers to the question, *Before you buy fruits and vegetables, how often do you check prices of different items?*, following a Heart Smarts lesson (n = 253).

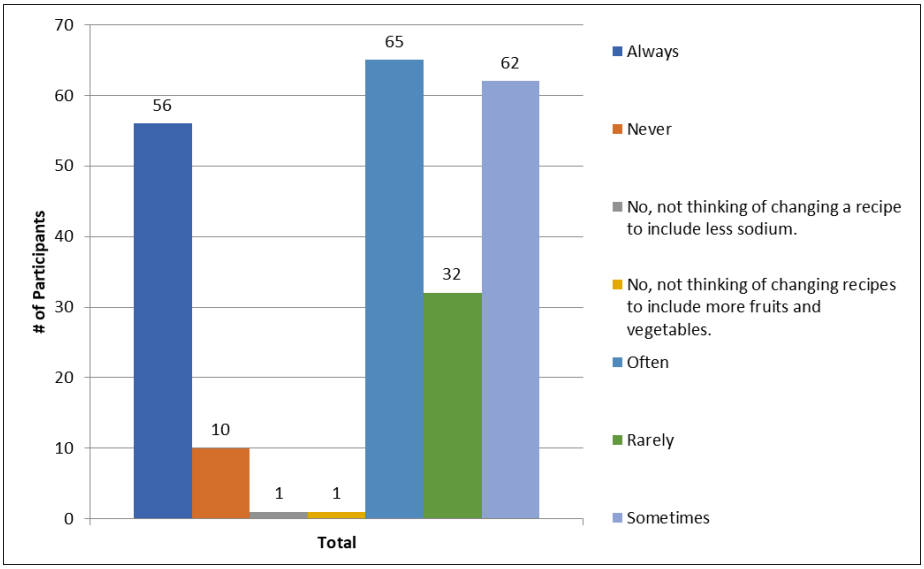

Figure 4. Answers to the question, *How often do you change a recipe to be more healthy? This could include adding fruits or vegetables to a recipe?*, following a Heart Smarts lesson (n = 227).

i. Number of Participants Attending More than One Lesson

Among all in-store survey participants, 21/255 (8%) came to at least two lessons, with a range of 2 to 6 lessons (Fig. 5). Among those participants, 18/21 (86%) made at least one healthy change over the course of the lessons they participated in. Some people made more than one change.

The breakdown of changes related to specific questions is as follows:

- *During the past 7 days, how many times did you eat vegetables?*
    - 12/21 (57%) people increased vegetable consumption
- *Have you thought about making meals using fruits and vegetables?*
    - 2/21 (10%) people increased thinking about using more fruits and vegetables in meals
- *Before you buy fruits and vegetables, how often do you check prices of different items?*
    - 7/21 (33%) people increased price checking
- *How often do you change a recipe to be more healthy? This could include adding fruits or vegetables to a recipe.*
    - 9/21 (43%) people changed the frequency of making a recipe to be more healthy

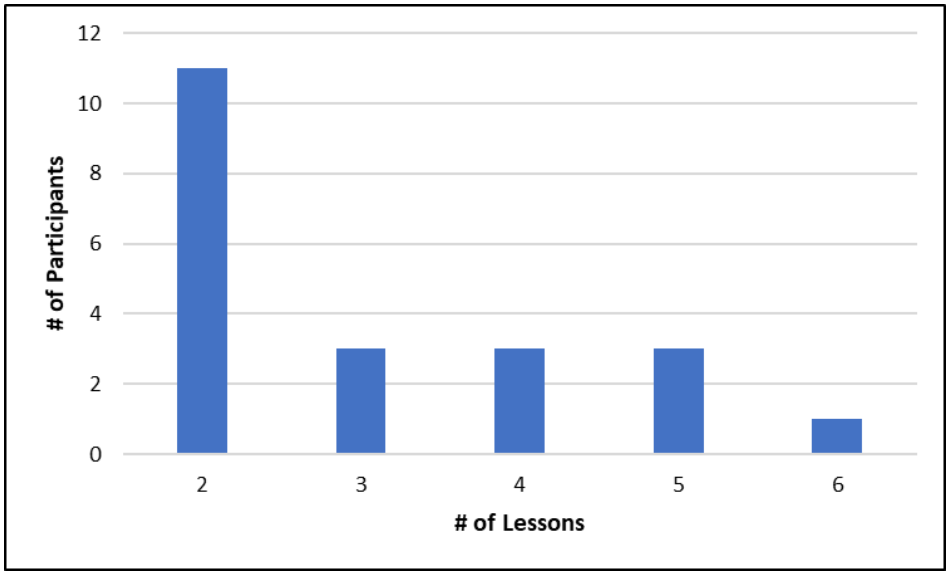

Figure 5. Histogram showing the number of participants who came to two or more lessons (n = 21).

ii. Follow-up calls

Seventeen follow-up phone surveys were completed. Among these, 11 were participants who also had completed at least two lessons/in-store surveys. 13/17 (76%) reported making at least one healthy behavior change.

The breakdown of changes related to specific questions is as follows:

- *During the past 7 days, how many times did you eat vegetables?*
    - 4/17 (24%) increased vegetable consumption
- *Have you thought about making meals using fruits and vegetables?*
    - 4/17 (24%) increased thinking about making meals with fruits and vegetables
- *Before you buy fruits and vegetables, how often do you check prices of different items?*
    - 5/17 (29%) increased price checking

- *How often do you change a recipe to be more healthy? This could include adding fruits or vegetables to a recipe.*
    - 4/17 (24%) changed frequency of making a recipe to be more healthy

III. Discussion

Medium-term (MT1c–d, l–m, MT2f, h) healthy behavior changes were recorded among a majority of Heart Smarts participants who either completed an in-store (86%; 18/21) or follow-up phone call (76%; 13/17) survey one month after the initial Heart Smarts lesson. Among the follow-up call surveys, the numbers of responses were similar for each of the four questions, with a slight majority reporting that they had begun to more frequently check prices of fruits and vegetables before buying (MT2h). Among the in-store follow-up survey participants, a majority reported increasing their consumption of fruits and vegetables in the interim since the first lesson/survey (MT1c–d). With the small sample size, these results are not necessarily representative of the overall sample; nonetheless, based on the follow-up survey results, the use of nutrition education lessons, PSE material, and nutrition incentives appears to be an effective means of promoting healthy food purchasing in corner store settings. Also, given the healthy behavior changes we recorded in the 30 day gap in between the initial and follow-up surveys, these findings also support the use of follow-up surveys to measure medium term indicators. TFT will continue this approach in FY'23 with the goal of an increased follow-up sample size.

2. NUTRITION EDUCATION AND INCENTIVES AT SNAP-ED FARMERS MARKETS

I. Overview

TFT works to increase food access and promote fruit and vegetable consumption at farmers markets/farm stands through PSE, nutrition education and financial incentives. Customers at Philadelphia-area SNAP-Ed funded farmers markets have the opportunity to participate in SNAP-Ed nutrition education lessons and food demonstrations with accompanying non-SNAP-Ed funded GusNIP "Food Bucks" when utilizing SNAP benefits at the market.

TFT has adopted this integrative approach as the potential benefits of combining PSE, nutrition education and nutrition incentives are threefold:

1) it creates an opportunity for greater impact than any type of programming can produce alone by combining the information, availability, and the means needed to purchase and prepare healthy foods (specifically fruits and vegetables in the case of Food Bucks);

2) nutrition incentives give nutrition education participants funds to purchase the healthy foods highlighted in lessons, reduce the risk associated with trying unfamiliar foods, and make buying healthy foods more approachable and appealing;

3) nutrition education can provide nutrition incentive participants with information about selecting, storing, and preparing healthy foods, as well as the benefits of those foods, and can supply recipes and cooking tools for preparing those foods at home.

For this report, we will focus specifically on the GusNIP Participant Survey distributed at SNAP-Ed-funded farmers markets to SNAP users.

II. Methods and Sampling

Following Food Bucks-earning SNAP transactions at six Philadelphia-area SNAP-Ed-funded farmers markets in FY'21 and FY'22, TFT market staff and interns asked participants to complete the GusNIP Participant Survey. This survey was developed by the Gretchen Swanson Center for Nutrition and comprises questions on fruit and vegetable intake, food insecurity, COVID-19 impacts, and demographics. The number of surveys completed by participants at Philadelphia-area SNAP-Ed funded farmers markets is as follows: FY'21, N = 49; FY'22, N = 60. In this report, we will focus on the GusNIP survey questions that relate to fruit and vegetable consumption, food insecurity, and Food Buck redemption. See Appendix B for a list of the questions that were analyzed from the larger GusNIP survey.

III. Results

i. Food Bucks Use and Redemption

Responses to questions from the FY'21 and FY'22 surveys related to increased fruit and vegetable consumption and redemption are presented below. For both FY'21 and FY'22 surveys, survey participants at farmers markets indicated that they primarily redeem their Food Bucks at farmers markets vs other retail settings (Table 1). In terms of additional activities at farmers markets, including nutrition education lessons, results were largely similar for both years (Table 2). It should be noted that COVID-19 restrictions limited most food demonstrations and tastings in FY'21. In terms of the length of time participants had been using Food Bucks, FY'21 participants skewed toward a shorter timeframe, while FY'22 participants skewed toward longer (an indication of continued use over time) (Fig. 6). In terms of a) the importance of Food Bucks for being able to purchase more fruits and vegetables (Fig. 7), and b) the general consumption of fruits and vegetables since use of Food Bucks began (Fig. 8), results were either similar to FY'21 or saw a slight increase in importance in FY'22.

	FY'21 (N = 49)	**FY'22 (N = 60)**
Farmers Markets	46 (94%)	48 (80%)
Mobile market	3 (6%)	7 (12%)
Small corner store	5 (10%)	9 (15%)
Supermarket	11 (22%)	14 (23%)

Table 1. Answers in response to the GusNIP survey question, *Have you used Food Bucks to get fruits and vegetables at any of the following places?* The question is multiple choice and percentages add up to > 100%.

	FY'21 (N = 49)	FY'22 (N = 60)
Nutrition education lesson	4 (8%)	7 (12%)
Taste test	5 (10%)	7 (12%)
Health screening	5 (8%)	6 (10%)
Cooking demonstration	N/A (due to COVID-19)	6 (10%)

Table 2. Answers in response to the multiple choice GusNIP survey question, *Have you ever participated in a nutrition education lesson, taste test, cooking demonstration, or health screening at the location you wrote in the previous question (Table 1)?*

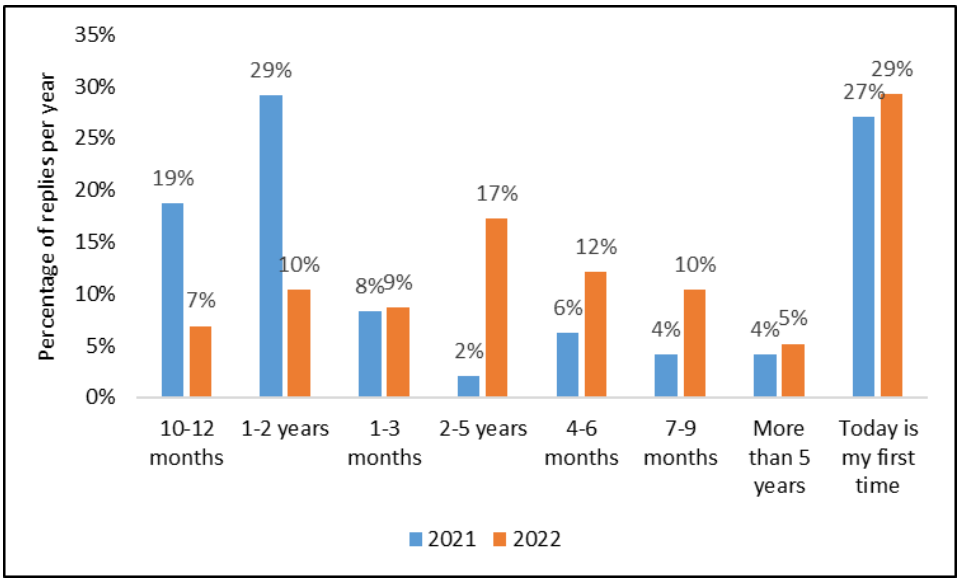

Figure 6. Answers in response to the GusNIP survey question, *How long have you been using Food Bucks to get fruits and vegetables at any of the locations you checked above (Table 1)?* (FY'21, n = 48; FY'22, n = 58)

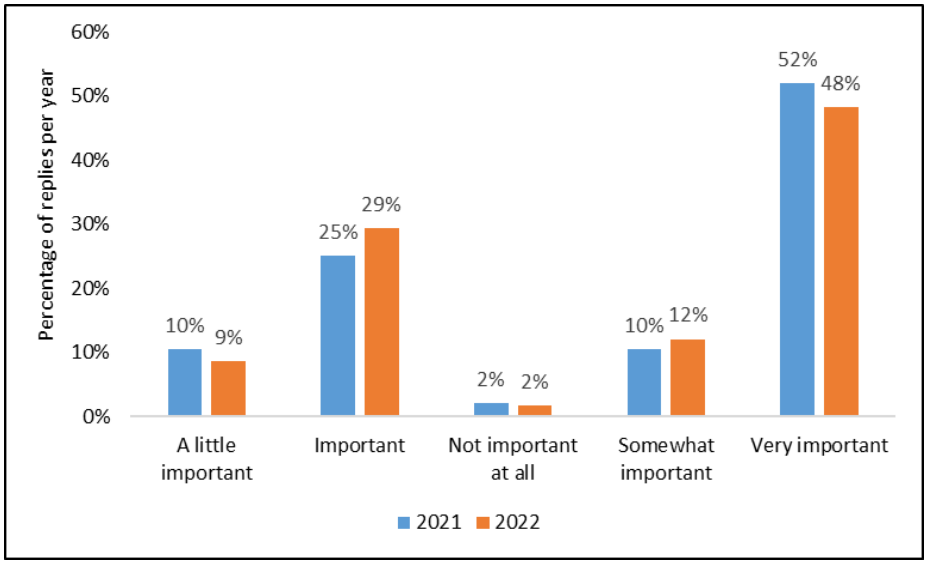

Figure 7. Answers in response to the GusNIP survey question, *How important are Food Bucks in helping you purchase fruits and vegetables?* (FY'21, n = 48; FY'22, n = 58)

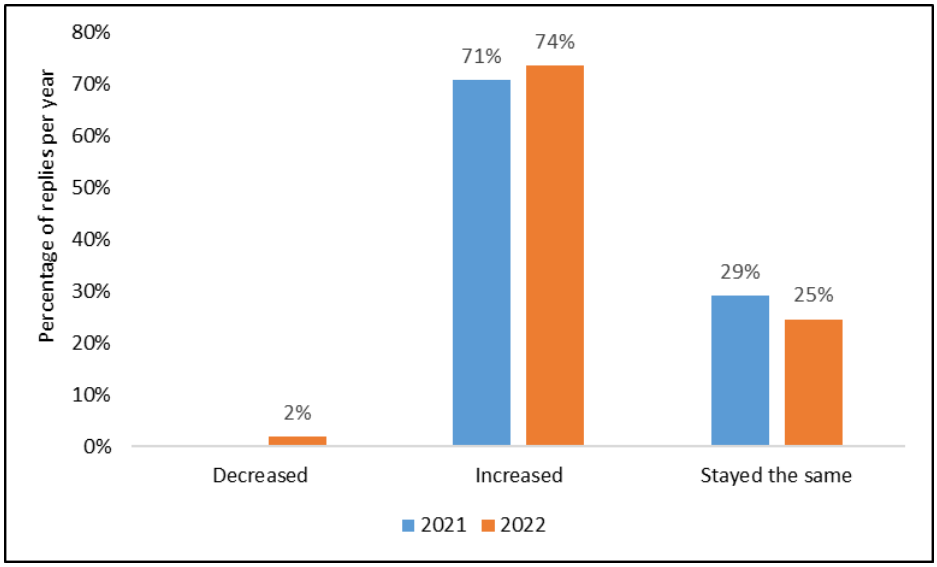

Figure 8. Answers in response to the GusNIP survey question, *Has your consumption of fruits and vegetables increased, decreased, or stayed the same since you started using Food Bucks?* (FY'21, n = 48; FY'22, n = 53)

iii. Food Insecurity Among Incentives ("Food Bucks") Users

The GusNIP survey includes a series of questions related to food insecurity that have been validated by the USDA. The answers to the questions from both the FY'21 and FY'22 surveys related to food insecurity are presented below. Results were mixed between FY'21 and FY'22 participants: in FY'22 there was a slight decrease in terms of food, or money for food, not lasting in the last 30 days, or there not being enough money for balanced meals (Figs. 9–10). But there was also an increase in the number of meals that needed to be skipped or cut because there was not enough money (Fig. 11). FY'22 participants also

indicated this was largely happening within the first three days of the month, an increase over FY'21, but then well into the end of the month (Fig. 12). FY'22 participants also indicated that they a) were more likely to eat less than they felt they should (Figs. 13); and b) be hungry but not eat due to lack of money (Figs. 14) compared to FY'21 participants. While the study did not investigate the reasons for this increase in food insecurity, inflation and the increased cost of food may explain some of these responses.

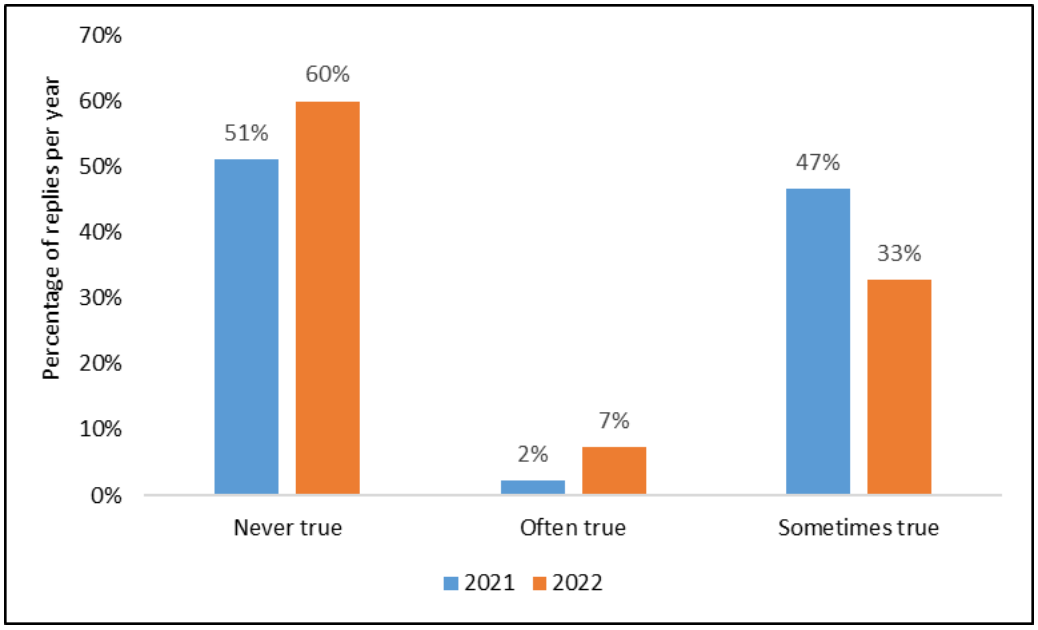

Figure 9. Responses to the question, *The food that we bought just didn't last, and we didn't have money to get more. Was that often, sometimes, or never true for your household in the last 30 days?* (FY'21, n = 45; FY'22, n = 55)

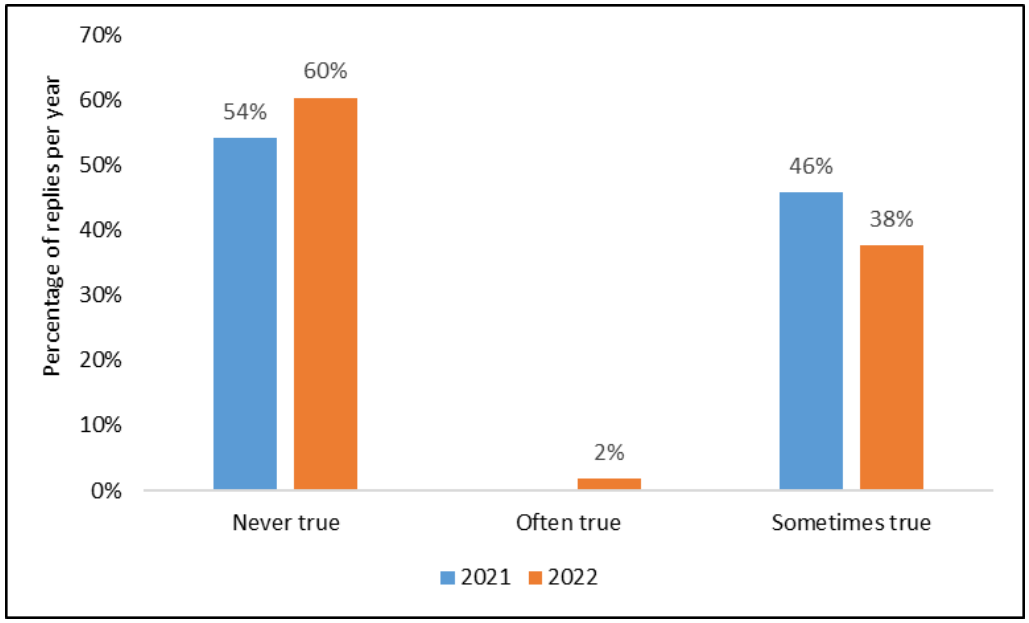

Figure 10. Responses to the question, *We couldn't afford to eat balanced meals. Was that often, sometimes, or never true for your household in the last 30 days?* (2021, n = 48; 2022, n = 53)

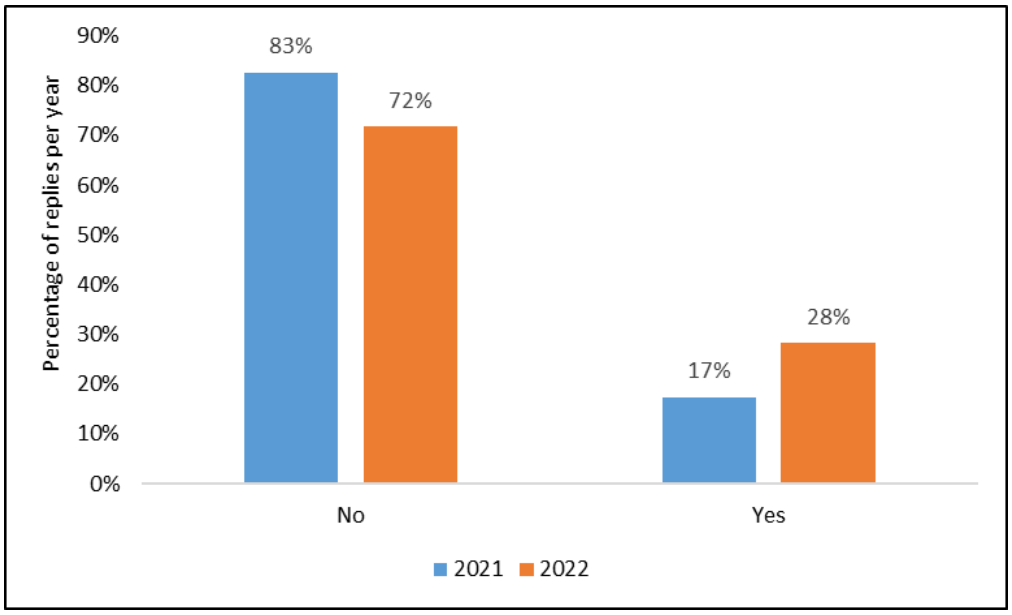

Figure 11. Responses to the question, *In the last 30 days, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?* (2021, n = 46; 2022, n = 53)

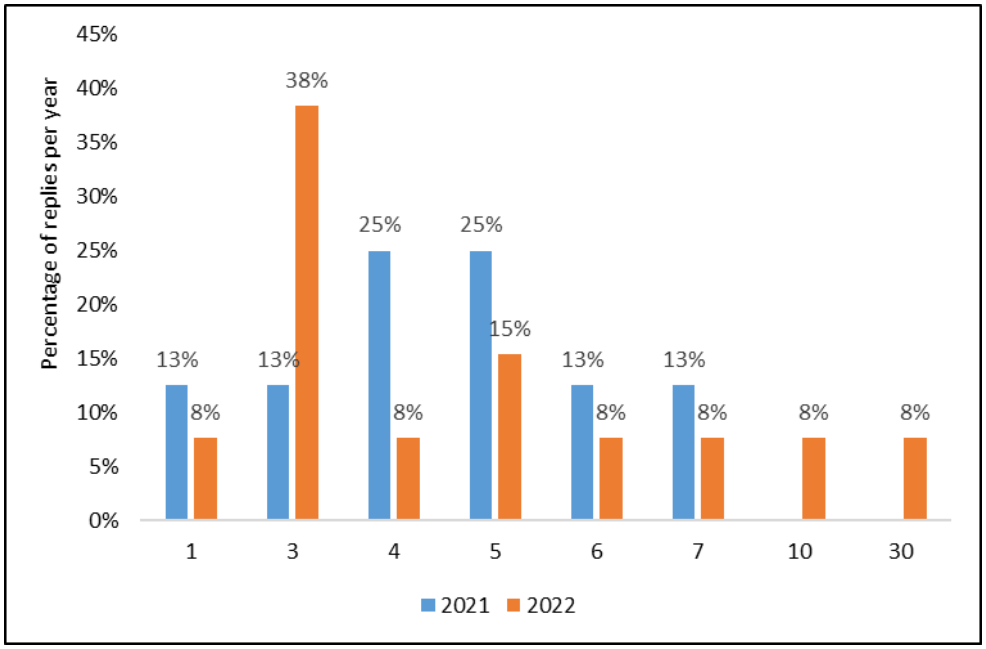

Figure 12. As a follow-up to the previous question, responses to the question, *In the last 30 days, how many days did this happen?* (2021, n = 8; 2022, n = 13)

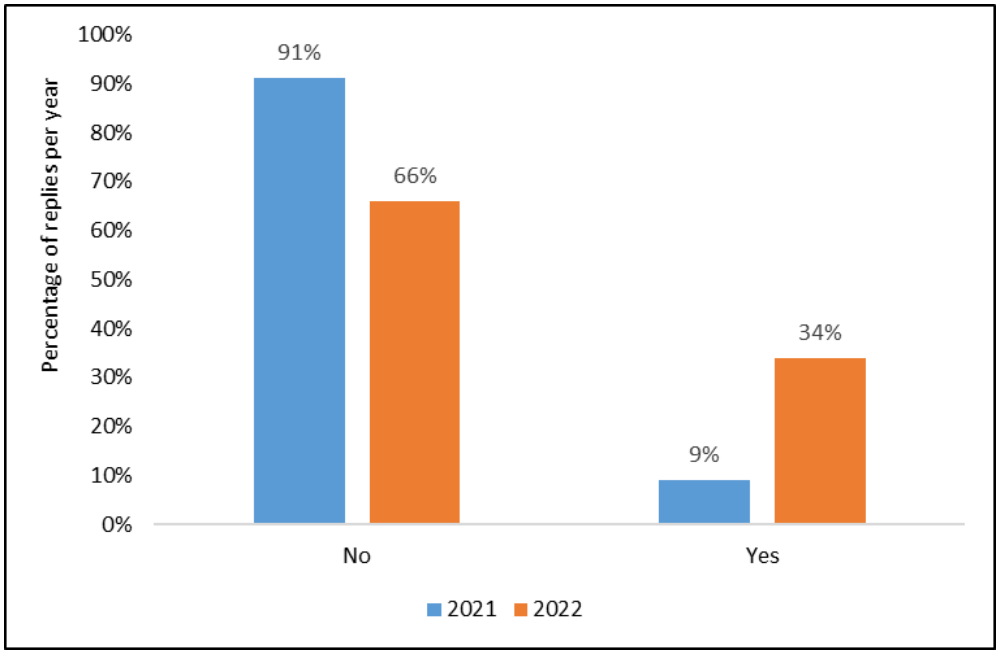

Figure 13. Responses to the question, *In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?* (2021, n = 45; 2022, n = 53)

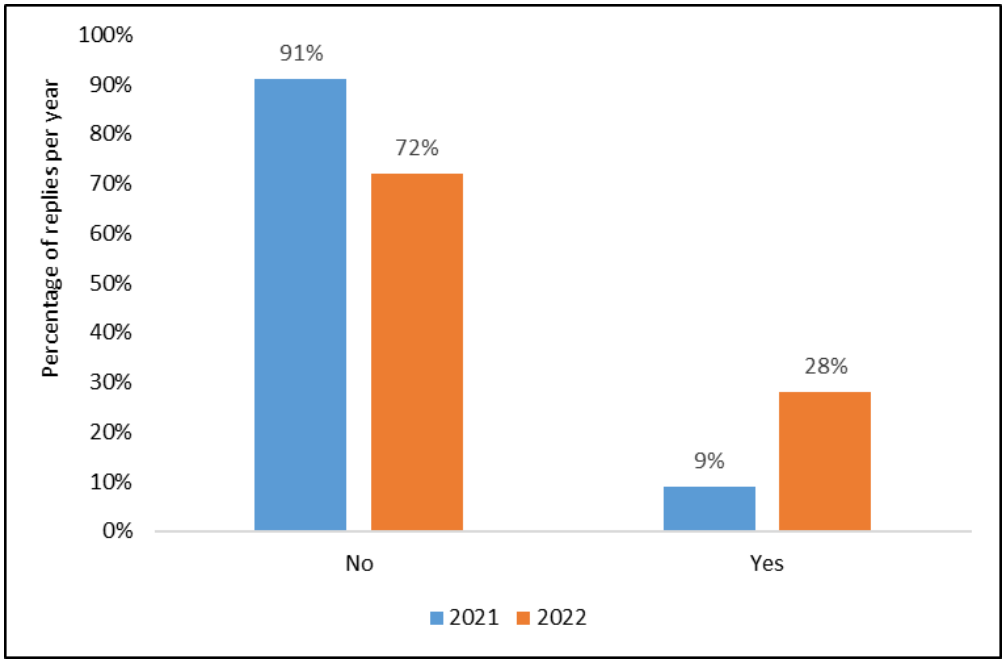

Figure 14. Responses to the question, *In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?* (2021, n =45; 2022, n = 50)

III. Discussion

Examining fruit and vegetable consumption and incentive data at SNAP-Ed funded farmers markets following SNAP-Ed nutrition education lessons provides a novel approach for identifying how combining SNAP-Ed PSE and direct education with GusNIP financial incentives programs may lead to increased fruit and vegetable consumption and food access, while potentially mitigating food insecurity. In examining the changes from FY'21 to FY'22, a larger proportion of participants in FY'22 indicated that Food Bucks were very important in terms of helping them buy fruits and vegetables. A larger proportion in FY'22 also indicated that fruit and vegetable consumption had increased since they began using Food Bucks. Among the food security questions (figs 9–12), there was a small but consistent increase in the proportion of responses that indicate increasing food insecurity. In the context of the ongoing COVID-19 pandemic and the widespread impacts it has had on the economy, this is not surprising. Thus Food Bucks appear to be supporting the purchase and consumption of fruits and vegetables when food insecurity is increasing.

3. OVERVIEW OF COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACH

Community-based Participatory Research (CBPR) is an alternative to traditional research methods that emphasizes engagement and input from the community through all aspects of a research or evaluation program[1]. In FY'22 TFT continued to utilize CBPR within its Community Participatory Program (CPP). The purpose of the CPP is to be more inclusive of SNAP eligible individuals and to ensure a high level of impact and sustainability. TFT is achieving this by increasing its community engagement and expanding PSE efforts by implementing a participatory approach in multiple communities in southeastern Pennsylvania. In addition, this approach is designed to lead to increased opportunities for collaboration and benefits to participants and communities for strong outcomes. With these goals in mind, the evaluation objectives for our CBPR work in FY'22 were as follows:

1) Identify and collaborate with community champions (ST6).
2) Measure strength and depth of partner organization relationships (ST7).
3) Measure depth of multi-sector partnerships (ST8).

To measure strength and depth of organization and multi-sector partnerships, we performed a Social Network Analysis (SNA).

I. Measuring Multi-Sector Partnerships Using Social Network Analysis

Measuring connections between organizations and identifying ways to strengthen partnerships within a network facilitates resource sharing and collaboration, and ultimately increases potential reach and impact. We initiated this process in FY'19 and then continued it in FY'21, where connections and relationships were examined between food access and nutrition education partner organizations working in North Philadelphia. To do this, we used a Social Network Analysis (SNA), which is a tool for identifying the connectedness of individuals (or organizations) to each other and quantifying the strength of that network as a whole.

In FY'22 the central objective of our CBPR evaluation work was to establish network strength and density in new regions in southeastern Pennsylvania. To achieve this, we again used a SNA survey; TFT staff identified partner organizations that they had interacted or connected with and a survey was sent to them. The SNA was carried out based on the survey responses. The results from this SNA ultimately will be disseminated to all partner organizations involved, to inform them of the status of the network and provide a platform for future networking and collaboration.

II. Evaluation Design

Method and Sample Description and Size: A total of 19 organizations were invited to complete the FY'22 SNA survey (see Appendix C for full list). Participants were asked about the depth of their organizational relationships, which was measured on a 5-point scale from Unaware (0) to Collaborating (4). Figure 15 shows the full relationship scale, including definitions, that was used to determine the strength of the Reading-area network. Each survey respondent was asked to identify their organization's level of relationship, in connection to their food-related work in the past year, with all other organizations invited to take the survey.

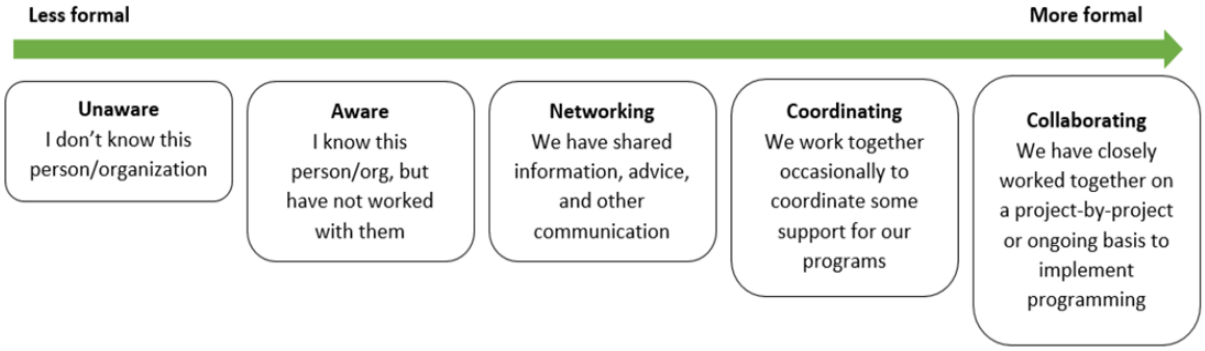

Figure 15. SNA Relationship Scale

Thirteen out of the 19 invited organizations completed the survey for a 68% organizational response rate. Following the initial email inviting organizations to take part in the survey, up to two follow-up emails were sent out as needed. Prior to the social network analysis, organizations that were included in the survey relationship list, but did not complete the survey, were removed from the dataset along with any connections made to them by other organizations.

To determine the *Stage Level Distributions*, the average level of relationships between organizations was used (Fig. 16). In partnerships where the average value was not a whole number (i.e., two organizations were respectively "Unaware" [0] and "Aware" [1] of each other), the value was rounded up, e.g., where (0 + 1)/2 = 0.5, this was rounded to "1". This also means that all one-sided relationships (i.e., where one group was "Unaware" and the other was "Aware") became mutual.

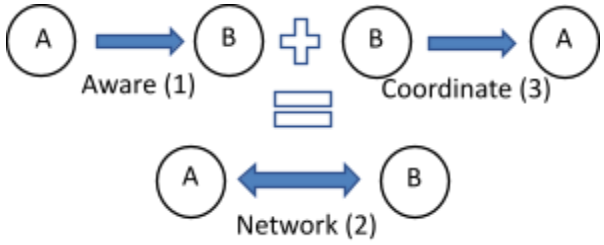

Figure 16. Example of Average and Mutual Relationships

SNAP-Ed Evaluation indicators: SNAP-Ed Evaluation Framework indicators that were measured through the SNA are as follows:

- The number and depth of organizational partnerships (ST7a–b).
- Types and number of sectors represented in the multi-sector partnership (ST8a)
- Number of partner agencies within each sector, and the roles and resources contained within the partnership or coalition (ST8b)
- Stage of coalition or partnership maturity, as measured by the documented level of active engagement (ST8c)
- Network analytics documenting integration and participation within the partnership, including collaboration network density, average degree, and centrality (ST8a-d)

III. Results

Network Representation (ST8a–b): Although all survey respondents were connected in some way to food access and nutrition education work in the Reading area, they also represented organizations working at different levels within the government and community on other social determinants of health including healthcare, community development, public health, agriculture, and the arts.

In total, respondents represented:

- 4 non-profit organizations
- 1 city agencies or departments
- 2 academic institutions
- 1 agricultural institution
- 1 food market
- 3 health agencies
- 1 nature conservation organization
- 1 arts center
- 1 economic development organization
- 1 grocery store

Stage of Relationships (ST8c): Respondents were asked to report their partnerships on food-related work on a scale from 0 (Unaware) to 4 (Collaborating). Figure 17 shows the overall results of the Reading-area network. At baseline, the network had 92% of all possible ties with no isolates that were completely unconnected to the network. The thickness of each tie in the network represents the strength of the partnership, with thicker lines being deeper relationships. Organizations located closer to the center of the network had the highest number of reported ties with other organizations.

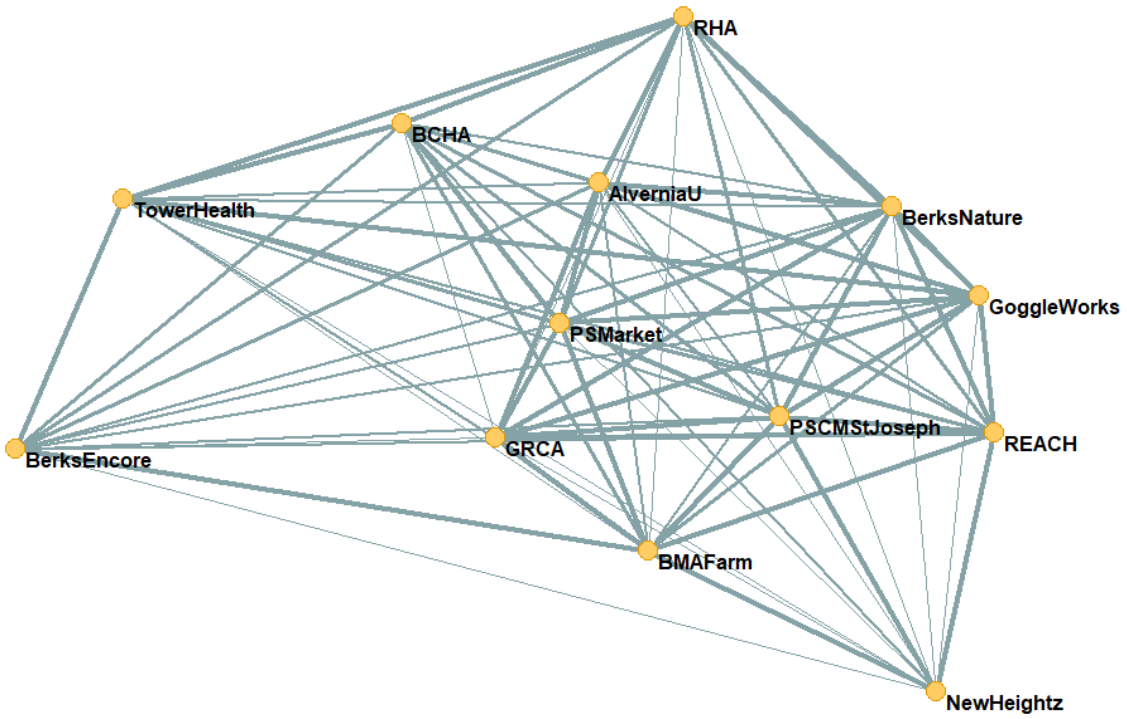

Figure 17. Results from the 2022 Reading-area Social Network Analysis (N = 13).[2]

Organizational Awareness (ST7b): Table 3 shows the distribution of Partnership Stage Scores. The Relationship State with the large proportion is Collaborating, which suggests a high-level of collaboration among the partner organizations.

Stages	FY'22 Partnerships (n = 156)
Aware	40 (28%)
Networking	31 (22%)
Coordinating	26 (18%)
Collaborating	47 (33%)

Table 3. Distribution of Partnership Stage Scores from the FY'22 Reading-area SNA Survey.

Network Statistics (ST8a–d): Another statistic, *network density*, was used to measure the number of lines in a network, out of all possible lines. This allows for the determination of the overall strength of the network. The baseline network density of the FY'22 Reading-area network was 0.92 or 92%. Network size influences a network's density and larger networks will have lower density because the number of possible lines increases as the number of organizations in the network increases. Thus the high density value of the Reading-area network is probably a reflection of its relatively small size but when considering the high proportion of Collaborating Relationship Scores, this also suggests that the network itself is very strong.

Additionally, the *average degree* value can be measured, which is a useful metric for comparing different networks. The average degree value of the Reading-area network was 28, which represents the structural cohesion of the network. Going forward, this can be used to assess change in the overall network over time because it can be used to compare the network cohesion regardless of whether or not the network size changes.

All degree centralization is where a higher level of centralization represents a more efficient network, or one in which information and communication can travel most efficiently and reach a greater number of organizations. The all degree centralization of the FY'22 Reading-area network was 0.05, which represents a somewhat high level of variation. From this it might be derived that certain organizations in the Reading-area network are much more centralized than others, i.e, this creates lower efficiency.

Lastly, *betweenness*, which can show which nodes are 'bridges' between other nodes in a network, was assessed. This allows for identifying specific organizations in the network who influence the connections around them. In the Reading-area network, Penn State Health St. Joseph Medical Center and Penn Street Market had the highest betweenness values. This is not surprising given that the former is one of the largest public health centers in that region, and the latter is the main farmers market in Reading's downtown.

IV. Discussion

The combined results suggest that although small, the Reading-area network is strong, with a high-level of collaboration among organizations. A major healthcare provider and a central food market appear to be the central nodes in the network through which most other organizations are connected. However, there is room to increase the connectivity among organizations, along with expanding to include a larger number of partner organizations. For example, TFT currently partners with the PennStreet Market and delivers SNAP-Ed programming there, making this an ideal hub for increasing network strength in this region. Since multi-sector partnerships and planning (MT8) is a priority indicator for SNAP-Ed, this analysis demonstrates the potential value of engaging the community in working towards community and behavior change.

4. CONCLUSIONS

Over the last two years, the COVID-19 pandemic limited or prevented much of TFT's in-person programming; FY'22 saw a return to mostly regular programming and in-person evaluation in schools, childcare centers, corner stores, farmers markets, and in the wider community.

Results from surveys following Heart Smarts lessons in corner stores indicate that a combination of nutrition education lessons, PSE materials, and financial incentives is an effective means of promoting healthy behavior change among corner store customers. Surveys administered around 30 days after the initial lesson, either in-person or on the phone, revealed that a majority of follow-up survey participants reported making at least one healthy behavior change during that time, with a majority increasing their consumption of fruits and vegetables. Some participants reported making more than one change. In sum, these findings support the use of a multi-pronged approach to increase healthy food choices in corner store settings and the use of either the phone or in-person follow-ups to measure medium-term indicators. TFT plans to expand its Heart Smart Corner Store surveying in FY'23 to achieve a larger sample size.

Surveying GusNIP-users at SNAP-Ed funded farmers markets, which offer nutrition education and healthy food access, proved to be an effective means of evaluating fruit and vegetable consumption. Two years of survey data suggest that SNAP-Ed farmers market participants have increased their consumption of fruits and vegetables but are also experiencing an increase in food insecurity. A larger proportion of FY'22 participants indicated that Food Bucks are very important in terms of being able to purchase fruits and vegetables. These results support the impact of PSE and nutrition education with financial supports at SNAP-Ed farmers markets, particularly when food insecurity is increasing.

Social Network Analysis of a partner organization network in the Reading-area of southeastern Pennsylvania revealed a strong network with a high degree of existing collaboration. Two partner organizations are particularly well connected and thus serve as the hubs for other organizations in this region. Over the last three years, SNA has proven to be an effective means of tracking MT8 including the growth and depth of partner organization networks.

5. ENDNOTES

[1] Barbara A. Israel [and others], editors ; foreword by David Satcher. Methods for Community-Based Participatory Research for Health. San Francisco, CA :Jossey-Bass, 2013.

[2] Network visualization was performed using Kamada-Kawai Free Energy, Fruchterman-Reingold 2D, and manual manipulation to separate partner nodes within Pajek64 (ver. 5.13; Mrvar and Batagelj, 2021).

APPENDIX A

List of questions analyzed in the Heart Smarts Corner Store Survey

1. During the past 7 days, how many times did you eat vegetables?
2. Have you thought about making meals using fruits and vegetables?
3. Before you buy fruits and vegetables, how often do you check prices of different items?
4. What are some ways you will increase fruits and vegetables in your diet? Check all that apply.
5. How often do you change a recipe to be more healthy? This could include adding fruits or vegetables to a recipe.

APPENDIX B

List of questions analyzed in the GusNIP Participant Survey

1. Have you used Food Bucks to get fruits and vegetables at any of the following places? *Check all that apply.*

    - o Farmers market
    - o Mobile market or grocery truck
    - o Small food store (e.g., corner store, bodega, etc.)
    - o Supermarket, co-op, or grocery store
    - o Don't know/Prefer not to answer

2. Have you ever participated in a nutrition education lesson, taste test, cooking demonstration, or health screening at the location you wrote in question 3? *Check all that apply.*

    - o Nutrition education lesson
    - o Taste test
    - o Health screening
    - o Cooking demonstration
    - o None of these
    - o Don't know/Prefer not to answer

3. How long have you been using Food Bucks to get fruits and vegetables at any of the locations you checked above?

    - o Today is my first time
    - o 1-3 months
    - o 4-6 months
    - o 7-9 months
    - o 10-12 months
    - o 1-2 years
    - o 2-5 years
    - o More than 5 years
    - o Don't know/Prefer not to answer

4. How important are Food Bucks in helping you purchase fruits and vegetables?

    - o Not important at all
    - o A little important
    - o Somewhat important
    - o Important
    - o Very important
    - o Don't know/Prefer not to answer

5. Has your consumption of fruits and vegetables increased, decreased, or stayed the same since you started using Food Bucks?

    - o Decreased
    - o Stayed the same
    - o Increased
    - o Don't know/Prefer not to answer

20. The food that we bought just didn't last, and we didn't have money to get more. Was that often, sometimes, or never true for your household in the last 30 days?

o Often true
o Sometimes true
o Never true
o Don't know/Prefer not to answer

21. We couldn't afford to eat balanced meals. Was that often, sometimes, or never true for your household in the last 30 days?

o Often true
o Sometimes true
o Never true
o Don't know/Prefer not to answer

22. In the last 30 days, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?

o Yes
o No *Go to Question 24*
o Don't know/Prefer not to answer à *Go to Question 24*

23. In the last 30 days, how many days did this happen?

_____days

24. In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?

o Yes
o No
o Don't know/Prefer not to answer

25. In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?

o Yes
o No
o Don't know/Prefer not to answer

APPENDIX C

List of Partner Organizations in the FY'22 Reading-area SNA

Alvernia University
Berk Nature
Berks Community Health Center
Berks Encore - Reading Center
Blue Mountain Academy Farm
GoggleWorks Center for the Arts
Greater Reading Chamber Alliance
New Heightz Grocery Store
Penn State College of Medicine/ Penn State Health St. Joseph
Penn Street Market (GRCA) & B.A.R.N.
Penn State REACH
Reading Hospital - Tower Health
Reading Housing Authority

VETRI COMMUNITY PARTNERSHIP

EAT. EDUCATE. EMPOWER.

SNAP-Ed Pennsylvania

Healthy Food. Healthy Moves. Healthy YOU.

FY22 Program Monitoring Project Report

Vetri Community Partnership (VCP) collaborated with eight charter school partners to implement policy, systems, and environmental (PSE) changes to support school wellness. VCP educators worked with charter school liaisons to determine PSE change initiatives that focused on bettering the nutrition and physical activity environment. This year our charter schools focused on hydration promotion, school gardening, fruit & vegetable promotion, and healthy school celebrations. The following School Wellness Stories highlighted a key PSE change initiative at each school.

Table of Contents

Global Leadership Academy Charter Schools

Grades Served: K-8
Student Enrollment (2021-2022): 1194

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

GLOBAL ACADEMIES

VETRI COMMUNITY PARTNERSHIP
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Nutrition Education Classes

21
Sessions

Cooking with Kids Curriculum

183
Students reached

Grades K-3

351
Food tastings

Vegetable Tamales
Potato Pancakes
Ethiopian Lentils

Policy, Systems, and Environmental Change Initiatives

In October 2021 Jiana Murdic from Get Fresh Daily met with staff from Vetri to talk about how to encourage health choices at Global Leadership Academy West and Southwest in the 2021-22 school year. Jiana knew that water bottles for students would help encourage hydration throughout the school day.

Vetri staff collaborated with Jiana and other GLA staff and administrators. With the help of Pennsylvania SNAP-Ed funding, Vetri Community Partnership was able to purchase reusable water bottles, and promote hydration with nutrition education sessions.

GLA Southwest faculty commented how the reusable water bottles allowed for scholars to drink more water throughout the day, and how they look forward to filling their water bottles at hydration stations in the school building. Faculty member, Ms. Price commented how her students, “Always ask to fill up their water bottles.” Students also pointed out how the bottles help them track how many times they refill their bottle throughout the day.

Independence Charter School

Grades Served: K-8
Student Enrollment (2021-2022): 787

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Independence CHARTER SCHOOL

VETRI COMMUNITY PARTNERSHIP
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Nutrition Education Classes

57
Sessions

Cooking with Kids Curriculum

463
Students reached

Grades K-4

Policy, Systems, and Environmental Change Initiatives

The 2020-2021 school year was the first year that Independence Charter School collaborated with Vetri Community Partnership. The partnership began in 2019 when Neyza Cabrara reached out to Vetri's team of nutrition educators. Last year the Vetri team collaborated with Neyza and other school staff to encourage students to make healthy choices during the school day and at home.

In June 2022, Vetri Community Partnership educator Jamara Griffin went to Independence Charter School to model classroom movement breaks with students and teachers. Every class got a chance to play a game designed to increase physical activity. During her visit students and teachers were encouraged to continue using the movement breaks on their own throughout the school year and into the summer.

Jamara interviewed school staff after her visit to learn more. "Movement breaks encourage students to relax, socialize and play," one teacher shared. Faculty also noticed that the breaks helped students focus, even when they were completing more challenging lessons or learning for long periods of time. Another faculty member shared that, after practicing movement breaks with Jamara, their students were "calmed down and definitely ready to learn."

Independence Charter School West

Grades Served: K-8
Student Enrollment (2021-2022): 776

VETRI COMMUNITY PARTNERSHIP
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This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Policy, Systems, and Environmental Change Initiatives

Before the COVID-19 pandemic, ICS West had begun a garden club with the intention to have a garden producing vegetables and flowers for students to engage with. The pandemic put this goal on hold until this year, as restrictions and time have allowed a renewed focus. Vetri Community Partnership was able to identify the major stakeholders in the school for the garden and convene them for a planning meeting. The meeting included completing the Partner Assessment tool for School Gardens together. We identified that the large overarching dream for the garden is to be able to grow some vegetables for school meals, and to make it a very hands-on project for students. In the meantime, VCP and ICS West will work together to get the single moveable garden bed prepared to receive dirt and seeds.

Nutrition Education Classes

71
Sessions

Cooking with Kids Curriculum

552
Students reached

Grades K-5

1501
Food tastings

Vegetable Tamales
Potato Pancakes
Ethiopian Lentils

"Y'all always make me try new things and these lentils are the bomb dot com!" - 5th grade student

Mastery Charter School
Harrity Elementary

Grades Served: K-8
Student Enrollment (2021-2022): 809

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Nutrition Education Classes

74
Sessions

Eat Right Philly Curriculum

485
Students reached

Grades K-5

1384
Food tastings

Trail Mix
Fruit Kabobs
Fruit Infused Water

Policy, Systems, and Environmental Change Initiatives

Harrity Elementary and Vetri Community Partnership (VCP) came together this school year to offer a Family Cooking Night (FCN) series where students and their caregivers cooked meals together in their kitchens. Harrity Elementary's school social worker, Cynthia Clark was the driving force for the implementation of this PSE change initiative. In this 6-part virtual series, VCP educators used recipes from the Oldways' website and curriculum, A Taste of African Heritage to engage families in cooking together and trying new foods.

Family Cooking Nights were held once a month and groceries for the recipes were provided to the families free of charge through a grant acquired by Cynthia for Harrity Elementary. Money from this grant was also used to supply grocery store gift cards that were raffled off to Family Cooking Night participants. Over the course of the Family Cooking Night series, fifty students participated! Students who attended at least one Family Cooking Night were rewarded with a surprise celebration at the end of the series where they received a certificate of completion and a taste of chili-lime watermelon.

"Family Cooking Night went very well; it was a good way to teach students and families nutrition and cultural relevance. Families were able to see students learn a new skill and create critical family time. - Cynthia Clark, Harrity Elementary Social Worker

Universal Alcorn Charter School

Grades Served: K-8
Student Enrollment (2021-2022): 526

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Nutrition Education Classes

30
Sessions

Cooking with Kids Curriculum

229
Students reached

Grades K-4

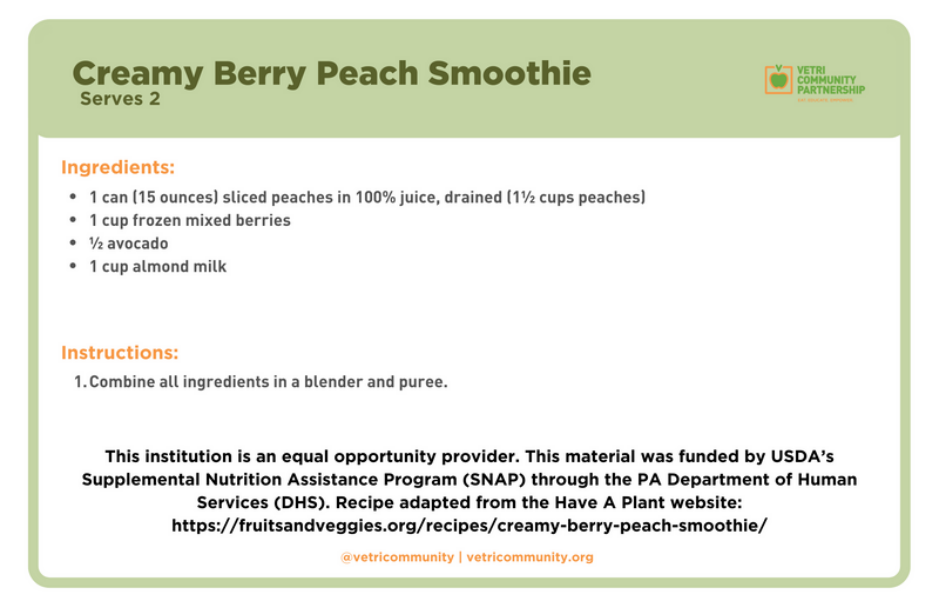
569
Food tastings

Vegetable Tamales
Potato Pancakes
Ethiopian Lentils

Policy, Systems, and Environmental Change Initiatives

Universal Alcorn partnered with Jefferson University's Nursing program this school year to offer COVID-19 vaccinations and boosters to students, families, staff and the community. The Vaccination Clinic was held several times over the school year. Vetri Community Partnership was invited to take part in the clinic to promote school wellness and offer a healthy, sweet treat for those who received the jab.

At one vaccine clinic, participants were offered a taste of a 'Creamy Berry Peach Smoothie' and the recipe to make it at home. People loved the taste and were surprised to learn that there were canned peaches in the recipe. A volunteer nursing student shared that they avoided canned food, thinking it was 'unhealthy.' This was a great opportunity to share knowledge on reading the nutrition facts label to choose healthy versions of canned fruits and vegetables.



Creamy Berry Peach Smoothie
Serves 2

VETRI COMMUNITY PARTNERSHIP

Ingredients:

- 1 can (15 ounces) sliced peaches in 100% juice, drained (1½ cups peaches)
- 1 cup frozen mixed berries
- ½ avocado
- 1 cup almond milk

Instructions:

1. Combine all ingredients in a blender and puree.

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS). Recipe adapted from the Have A Plant website: https://fruitsandveggies.org/recipes/creamy-berry-peach-smoothie/

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Wissahickon Charter School - Awbury Campus

Grades Served: K-8
Student Enrollment (2021-2022): 474

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Nutrition Education Classes

35
Sessions

Cooking With Kids Curriculum

304
Students reached

Grades K-8

1394
Food tastings

Vegetable Tamales
Potato Pancakes
Ethiopian Lentils

Policy, Systems, and Environmental Change Initiatives

Awbury in Awbury

Wissahickon Charter School – Awbury Campus hosts an annual field day for students at the Awbury Arboretum. It began 8 years ago with the goal of creating an event that would build community and the students would have a positive experience outdoors. Liz Baglioli, the Discovery teacher at Awbury, planned the event this year, which took place on November 4th and 5th.

Health and healthy lifestyles were promoted through games, experiments, art, and nutrition. Awbury's Physical Education teacher, Jim Reggiani provided opportunities for physical activity by coordinating a relay race for the students.

Vetri Community Partnership (VCP) was invited to participate at the Awbury in Awbury event to promote healthy food choices. VCP educator, Vicki Mines offered the children a taste test of a variety of apple slices to go along with the seasonal fall theme. Students were excited to try the apple slices. One student proclaimed, "These are so juicy!" while another was surprised when they said "I thought there was only one type of apples. Are you serious there are 2,500 different types?!?" Over the course of two days, at least 400 students participated in the taste test.

"How awesome was it to have Vetri participate in our annual Awbury in Awbury event to celebrate the fall season with our community! Vetri supported students in having a positive experience with sampling of seasonal apples while learning, Thank you!- Liz Biagioli, Awbury Discovery Teacher

Policy, Systems, and Environmental Change Initiatives

A WIN for Wellness!

In January, Liz and Vicki teamed up again, this time to lead a project-based program centered on school wellness. Eleven 7th and 8th grade students taking part in the WIN program were introduced to their school's wellness policy and the School Health Index, a needs assessment from Action for Healthy Kids. Using these two resources, the students identified health and wellness concerns related to them and their peers.

The WIN students worked in groups to address and gather information to support their concerns. They created surveys that were distributed to their peers for input and feedback. Vicki taught the students about the nutritional benefits of breakfast, healthy beverages and snacks using the SNAP-Ed Eat Right Philly curriculum.

Using all of this information, students made recommendations for healthier options for breakfast and lunch and to bring back some student favorites to the school menus. They presented their research and recommendations to two key stakeholders, Kelly Coleman, from the Nutrition Department and Tiffany Days-Harris, Director of School Operations. Based on the results of their work they were able to get some items returned to the lunch menu and a designated snack time for middle schoolers.

Wissahickon Charter School - Fernhill Campus

Grades Served: K-8
Student Enrollment (2021-2022): 474

This School Wellness Story, created by Vetri Community Partnership, highlights school wellness initiatives that took place at your school during the 2021-2022 school year. Information in this report is provided to your school for needs assessment, program planning purposes, or to celebrate school wellness successes with your community. Looking forward to being your school wellness partner in the upcoming school year!

Nutrition Education Classes

35
Sessions

Cooking with Kids Curriculum

283
Students reached

Grades K-5

553
Food tastings

Vegetable Tamales
Potato Pancakes
Ethiopian Lentils

Policy, Systems, and Environmental Change Initiatives

During the 2021-2022 school year, Vetri Community Partnership educator Vicki Mines led Cooking with Kids nutrition education classes at Wissahickon Charter School – Fernhill Campus. Leah Wright, the Discovery teacher, collaborated with Vicki to schedule the classes.

Leah is also in charge of the garden at Fernhill. In the fall, Vicki supplied seeds of various vegetables and herbs for the students to plant in the classroom. The students cared for the seedlings and were able to take them home. Vicki looks forward to working with Fernhill on more school wellness initiatives in the coming school year!

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS).

Appendix 23. FY 2022 PA SNAP-Ed Abbreviations

AAA	Area Agency on Aging
AAP	American Academy of Pediatrics
AHI	Adagio Health, Inc.
AND	Academy of Nutrition and Dietetics
APHA	American Public Health Association
ASN	American Society for Nutrition
ASNNA	Association of SNAP Nutrition Education Administrators
ATOAH	A Taste of African Heritage
BASICS	Building and Strengthening Iowa Community Support
BHP	Be Healthy PA
BLAST	Breakfast Learning Activities for Students and Teachers
BMI	Body Mass Index
BP	Blood Pressure
BRFSS	Behavioral Risk Factor Surveillance System
C3	Choice, Control, and Change
CACFP	Child and Adult Care Food Program
CAO	County Assistance Office
CAP	Community Action Partnership of Lancaster County
CATCH	Coordinated Approach to Child Health
CCOR	Penn State Center for Childhood Obesity Research
CD	Compact Disc
CDC	Centers for Disease Control and Prevention
CEC	CATCH Early Childhood
CED	County Extension Director
CEO	Commission on Economic Opportunity
CEP	Community Eligibility Program
CFR	Code of Federal Regulations
CFW	Carry Forward
CHHD	Penn State University College of Health and Human Development
CHNA	Community Health Needs Assessment
CNPP	Center for Nutrition Policy and Promotion
COM	Common Threads
CORE	Center for Obesity Research Education - Temple University
COVID-19	Coronavirus Disease 2019
CPU	Central Processing Unit
CSFP	Commodity Supplemental Food Program

CSYI	Corner Store Youth Initiative
CX3	Communities of Excellence in Nutrition Physical Activity and Obesity Prevention
DE	Direct Education
DFARS	Defense Federal Acquisition Regulation Supplement
DGA	Designated Graphical Area
DHS	Department of Human Services
DOD	Department of Defense
DOH	Department of Health
DRX	Drexel University
DVD	Digital Versatile Disc
E-01	PA SNAP-Ed Policy E-01: Evaluation Reporting Requirements
E-02	PA SNAP-Ed Policy E-02: Direct Education & Indirect Channels Reporting Requirements
E-03	PA SNAP-Ed Policy E-03: Human Subjects Approval for Research
E-04	PA SNAP-Ed Policy E-04: Policy Systems & Environmental Change Reporting Requirements
EARS	Education and Administrative Reporting System
ECE	Early Childhood Education
EFNEP	Expanded Food and Nutrition Education Program
ERP	Eat Right Philly
ERS	Economic Research Service
ESOW	Emerging Statement of Work
EW PHCCS	Eat Well, Play Hard in Child Care Settings
F-01	PA SNAP-Ed Policy F-01: Quarterly Submission of Invoices
F-02	PA SNAP-Ed Policy F-02: Budget Monitor
F-03	PA SNAP-Ed Policy F-03: Time Records
F-04	PA SNAP-Ed Policy F-04: Reimbursement Documentation
F-06	PA SNAP-Ed Policy F-06: Budget Reallocation
F-07	PA SNAP-Ed Policy F-07: Records Retention
F-10	PA SNAP-Ed Policy F-10: Allowable Indirect Costs
F-11	PA SNAP-Ed Policy F-11: Nutrition Education Reinforcement Items
F-13	PA SNAP-Ed Policy F-13: Purchase of Computers & Office Equipment
F-14	PA SNAP-Ed Policy F-14: Disposal of Obsolete Computers & Office Equipment
F.U.N.	Families Understanding Nutrition
F/R	Free/Reduced Price Meal Program Enrollment
FAY	Fayette County Community Action Agency
FFVP	Fresh Fruit and Vegetable Program
FMNP	Farmers' Market Nutrition Program

FNCE	Food and Nutrition Conference & Exhibition
FNCS	Food, Nutrition, and Consumer Services
FNS	Food and Nutrition Service
FPA	Feeding Pennsylvania
FQHC	Federally Qualified Health Center
FSNE	Food Stamp Nutrition Education
FTE	Full Time Equivalent
FUL	Fulton County Food Basket, Inc.
FUN	Albert Einstein Medical Center
FY	Fiscal Year
GA-02	PA SNAP-Ed Policy GA-02: Plan Amendment
GA-03	PA SNAP-Ed Policy GA-03: Non-duplication of Services
GA-04	PA SNAP-Ed Policy GA-04: Policy & Procedure Updates
GA-05	PA SNAP-Ed Policy GA-05: Site Reviews
GA-06	PA SNAP-Ed Policy GA-06: National Conferences
GA-07	PA SNAP-Ed Policy GA-07: Presentation & Publication Credits, Data Usage, Publicity
GHP	Get Healthy Philly, Philadelphia Department of Health
GIS	Global Information Systems
GSI	General Salary Increases
HAES	Health At Every Size
HEAT	Healthy Eating, Active Time
HPA	Penn State Department of Health Policy and Administration Project
HPC	Health Promotion Council of Southeastern Pennsylvania, Inc.
IT	Information Technology
JNEB	Journal of Nutrition Education and Behavior
JSY	Just Say Yes to Fruits and Vegetables
KI	Kindergarten Initiative
KKG	Keystone Kids Go
LAF	Penn State Francis Project
LI	Lower Income
LiFE	Linking Food and the Environment
LOA	Letter of Agreement
LT	Long Term
MARO	Mid Atlantic Regional Office
ME	Management Entity
MOU	Memorandum of Understanding
mRFEI	Modified Retail Food Environment Index

MT1	Medium Term Change, Healthy Eating
MT2	Medium Term Change, Food Resource Management
MT3	Medium Term Change, Physical Activity and Reduced Sedentary Behavior
MT5	Medium Term Change, Nutrition Supports
MT6	Medium Term Change, Physical Activity and Reduced Sedentary Behavior Supports
N/A	Not Applicable
NAPSACC	Nutrition and Physical Activity Self-Assessment for Child Care
ne/Frames	Digital photo frame programs
NE-01	PA SNAP-Ed Policy NE-01: Copyright Clearance for Education Materials
NE-02	PA SNAP-Ed Policy NE-02: Required Messages on Materials Distributed to SNAP-Ed Participants
NE-05	PA SNAP-Ed Policy NE-05: Use of Food and Retail Store Brand Names
NE-06	PA SNAP-Ed Policy NE-06: Approval of Nutrition Education Materials
NEA	Nutrition Educator Assistant
NEAS	Nutrition Education Advisors
NEMS	Nutrition Environment Measure Survey
NEN	Pennsylvania Nutrition Education Network
NERI	Nutrition Education Reinforcement Items
NEPA	Northeast Pennsylvania
NFTT	New Foods Take Time
NIFA	National Institute of Food and Agriculture
NIH	National Institutes of Health
NKC	New Kensington Community Development Corporation
NLA	Penn State Extension Nutrition Links
OIM	Office of Income Maintenance - DHS
ORE	Office of Research and Evaluation
ORIC	Organizational Readiness for Implementing Change
OST	Out of School Time
PA	Pennsylvania
PA	Physical Activity
PARS	Personal Activity Reports
PDE	Pennsylvania Department of Education
PDS	Program Delivery Sites
PEARS	Program Evaluation And Reporting System
PHMC	Public Health Management Corporation
PPE	Personal Protective Equipment
PPT	Pregnant and Parenting Teens

PreK	Preschool
PS	Purchased Service
PSA	Public Service Announcement
PSE	Policy, Systems, and Environmental
PSU	Pennsylvania State University
QR	Quick Response
RD, LDN	Registered Dietitian, Licensed Dietitian Nutritionist
RFP	Request for Partners
RISE PA	Resource Information and Services Enterprise - Pennsylvania
SAH	The Salvation Army Harrisburg Capital City Region
SBPI	School Breakfast Policy Initiative
SDP	School District of Philadelphia
SEM	Socio-Ecological Model
SEPA	Southeast Pennsylvania
SFSP	Summer Food Service Program
SFT	Savor the Flavor
SHI	School Health Index
SHIP	State Health Improvement Plan
SMART	Specific, Measurable, Achievable, Realistic, Time-bound Objectives
SNAC	State Nutrition Action Coalition
SNAP	Supplemental Nutrition Assistance Program
SNAP-Ed	Supplemental Nutrition Assistance Program Education
SNEB	Society for Nutrition Education and Behavior
SOW	Statement of Work
SPAN	School Physical Activity and Nutrition Survey
SRC	Survey Research Center
SSI	Supplemental Security Income
SSL	Secure Sockets Layer
ST7	Short Term Readiness & Capacity, Organizational Partnerships
ST8	Short Term Readiness & Capacity, Multi-Sector Partnerships and Planning
STARtracks	Statewide Technical & Administrative Reporting system
TANF	Temporary Assistance for Needy Families
TBD	To be determined
TEFAP	The Emergency Food Assistance Program
TFT	The Food Trust
TIU	Tuscarora Intermediate Unit
TN	Team Nutrition

UNC	University of North Carolina
UNI	Agatston Urban Nutrition Initiative
US	United States
USDA	United States Department of Agriculture
VCP	Vetri Community Partnership
VM	Virtual Machine
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
WSCC	Whole School, Whole Child, Whole Community
YMCA	Young Men's Christian Association
YRBSS	Youth Risk Behavior Surveillance System