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age was 49 years. Participants were predominantly female (84%), Hispanic or Latino (62%) and Black (25%). Thirty-four percent of participants reported a diagnosis of hypertension and 21% reported a diabetes diagnosis. Over \$125,000 in incentives have been distributed through the program, 70% of which have been redeemed.

Conclusions: The majority of incentives distributed are redeemed and we anticipate the program will reach the intended audience.

Funding: USDA

P141 Time to Cook! Developing a Conceptual Framework to Guide Healthy Eating Education in Time-Scarce Lifestyles

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Background: Time is often indicated as a main barrier to cooking from scratch and to healthy eating. This has implications for health outcomes and nutrition education.

Objective: This study reviewed existing literature on the perception of time as a barrier to home cooking; the time link with cooking skills and practices; and inclusion of time in food, nutrition, and cooking education in different settings and through different media. The goal was to generate a conceptual framework to help inform healthy eating education considering time-scarce lifestyles.

Study Design, Setting, Participants: A narrative literature review was conducted involving searches in Pub Med and Google Scholar using the keywords time, food preparation, cooking, and health, and by consulting other grey literature. Years covered were 2010-2020.

Measurable Outcome/Analysis: One hundred and two studies were reviewed and thematic analysis was used to elicit main time-related factors which directly or indirectly were involved in food choices, preparation and consumption, and food, nutrition, and cooking skills education.

Results: Key emergent themes included general time scarcity and consumption of low-nutritive quality food (eg eating more highly-processed, nutrient-poor foods through using convenience foods or eating fast food meals); duration of food preparation and consumption of specific foods (eg vegetables, fruit, cholesterol-rich foods); diversity of vehicles to successfully promote and aid home cooking efficiency (eg community courses, TV programs, mobile apps, video messaging); culinary nutrition education for health professionals to help patients overcome time barriers to healthier eating; creative healthy snack and meal inspiration; and practical skills to plan and prepare healthy meals ahead of time.

Conclusions: A conceptual framework based on evidence from the literature shows how time availability and usage

have implications for diet quality, and how time can be addressed in education for healthy eating. Further research could test the conceptual framework in aiding development of practical nutrition education to suit contemporary time-scarce lifestyles.

Funding: None.

P142 Vegetable Intake, Preferences, and Variety in Michigan Gardeners Over a Single Gardening Season

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Background: Gardening is associated with health and health behaviors, including vegetable intake. Qualitative research has indicated that gardening may increase preferences for vegetables, which may contribute to higher vegetable intake frequency found in gardeners, but quantitative research examining vegetable preferences of gardeners is scarce.

Objective: The objective of this pilot study was to examine vegetable preferences, variety, and intake consumed before gardening and during peak harvest time. This data was collected as part of a larger study examining the relationship between gardening and the composition of the gut microbiome.

Study Design, Setting, Participants: Participants were adults enrolled in a gardener support program that serves both home and community gardeners. Thirty-two percent of participants had no previous gardening experience, 36% had 1-5 years of gardening experience, and 32% had 5 or more years of experience. Twenty-nine participants enrolled in the study and completed a baseline survey prior to beginning gardening and 25 of these completed a follow-up survey at the peak of garden harvest.

Measurable Outcome/Analysis: Surveys assessed vegetable intake frequency, preferences for 20 different vegetables, and number of the 20 different vegetables eaten in the past month (variety). Paired, 2-tailed t-tests were used to compare pre-gardening and harvest time survey data. T-tests were considered significant at $P < .05$.

Results: Preferences for vegetables were initially high and did not increase from baseline to harvest time. Vegetable consumption frequency in times per day also did not significantly change from baseline to harvest time. Vegetable intake variety significantly increased from 12.1(SD $\pm$ 2.9) at baseline to 13.6(SD $\pm$ 3.1) at harvest time ($P = .026$).

Conclusions: In this study, we found gardeners consumed a greater variety of vegetables during harvest time than before gardening. Previous research has found that consuming a high variety of plant-based foods has a positive influence on gut microbiome diversity. This has relevance to the

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primary aim of this study, to examine the relationship between gardening and gut microbiome composition.

Funding: USDA

P143 Analyzing Costs Associated with Implementation of a Nutrition Program in Early Childhood Education

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Background: Cost analysis is a tool used to summarize and report on individual elements of costs to implementing an innovation. We used cost analysis to track and compare costs of provision of 2 implementation strategies to support an evidence-based nutrition curriculum in the Head Start (HS) setting.

Objective: To compare how much it cost, per classroom per year, to deliver the basic (ie, training and reminders) and enhanced implementation support (ie, a package of 8 implementation strategies).

Study Design, Setting, Participants: We partnered with a HS program in an urban area of a Southern state with 9 sites and 38 classrooms. We used stratified randomization to assign sites to participate in either the basic or the enhanced implementation of the nutrition curriculum. All sites received the same 6-hour training and implemented the curriculum with either basic or enhanced implementation support.

Measurable Outcome/Analysis: Cost accounting methods allowed for a comparison of time and materials allocated to each group. Our primary outcome of cost included fixed (eg, costs of trainings, materials, printing) and variable (eg, duration of facilitation, number of incentives, travel) costs for both strategies. Facilitators logged activities using a smartphone application.

Results: Estimated costs per classroom, per year were \$35 for basic and \$261 for enhanced implementation support. This reflects average delivery of 4 incentives and 2 resources per classroom, a total of 39.2 in-person and 20.4 virtual facilitation hours to enhanced classrooms. In-person facilitation accounted for 25% of the enhanced costs; travel 23%; and the tailored incentives and educational materials 21%.

Conclusions: These data, paired with outcome data, will help understand the relative cost in improving implementation outcomes (eg, fidelity, acceptability) between groups, and will inform scalability and sustainability efforts for future uptake of the intervention.

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P144 A Comprehensive Community Partnership Model for Improving Nutrition Among SNAP-Eligible Families in Early Education Settings

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Objective: One in 4 U.S. children are overweight or obese before they reach kindergarten. Early intervention encourages the development of positive behaviors, including healthy eating, that are necessary for young children's healthy growth, development and prevention from chronic diseases. This model highlights an innovative community partnership model to increase the consumption of fruits and vegetables among low-income preschool families.

Use of Theory or Research: Maryland SNAP-Ed implements an innovative partnership model with multilevel interventions for children and their families; as well as policy, systems, and physical environment (PSE) changes which target each level of the socio-ecological model.

Target Audience: Low-income preschool children and their families in Howard County, Maryland.

Program Description: This unique collaboration with the county school system; Head Start; Women, Infants, and Children (WIC) program; Food Bank; Farmers' Markets; and the Local Health Improvement Coalition leverages resources to improve access to and consumption of healthy foods. Children and families receive nutrition education and exposure to programs linking to gardens, the grocery store, and farmers' markets.

Evaluation Methods: Maryland SNAP-Ed's comprehensive evaluation model assesses individual-level impacts through participant surveys and PSE changes through post-program year reports.

Results: Maryland SNAP-Ed programming is associated with improved individual health behaviors, including increased consumption and purchasing of healthy foods. Early education sites in Howard County have also established health-promoting PSEs, such as healthy classroom celebrations, limited availability of sugar-sweetened beverages, and increased variety of healthy foods offered during family events and on-site food pantries, that encourage positive nutrition behaviors.

Conclusions: Maryland SNAP-Ed's holistic approach with multiple county collaborators establishes a sustainable county-wide framework that increases access to fruits and vegetables for preschool families. This poster shares a detailed sustainable approach for others to replicate.

Funding: Supplemental Nutrition Assistance Program - Education.

P145 Results of Using Improvised Kitchen Spaces to Teach Skills-Based Nutrition in Schools

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