O16 (continued)
10 Experimental Drivers of Behavior Change, identifiers of behavioral and attitudinal changes. Participant post-survey and instructor interviews assessed capabilities and barriers to participation.

Measurable Outcome/Analysis: Session observation measured attendance, cooking with instructor, instructor’s use of visual aids. Post served measured youth attitudes and behaviors.

Results: Instructors (91.6%) used new visual aids to facilitate virtual learning (PowerPoints/videos). Adolescents attended a mean of 8.2 of 12 sessions. The percentage of adolescents cooking with the instructor was 37.3%. The post-survey (n = 28) revealed 92.9% of adolescents felt empowered to prepare meals on their own; 57.1% reported regularly trying to get more ‘colors’ of fruits/vegetables in their meals. Difficulty obtaining ingredients was the largest participation barrier (42.9%). An average of 8.4 of the 10 Experiential Drivers of Behavior change were used in these virtual sessions. Instructor interviews revealed 100% felt they were effective in supporting students to cook at home and 90% reported advantages of students using home kitchens.

Conclusions: Virtual live culinary education elicited student participation and skills development, despite barriers of online education. Educators found students being in their own home kitchens facilitated their ability to develop the targeted culinary/life skills and adopt them in their lifestyle more quickly than in classroom instruction. These positive findings suggest future evaluation of virtual culinary nutrition education is warranted.

Funding: None.

Techn Equity Applied to Food Systems

O17 Current Use and Demand for Digital Tools to Enhance Food Pantry Management: Findings from a Nationwide Survey
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Background: Food insecurity has skyrocketed during the COVID-19 pandemic, compounded by critical limitations and unparalleled needs at food pantries. Interconnectivity between food pantry staff and clients is vital to food security. Digital tools are widely used in public health; however, little is known about current use or desire for digital tools in food pantry settings.

Objective: To define types of digital tools currently used for pantry management and identify gaps and interest in specific digital tool features to enhance pantry management.

Study Design, Setting, Participants: A cross-sectional online survey of U.S. food pantries was disseminated from January-May 2022. Using the foodpantries.org database, every tenth food pantry in each state was recruited via email and asked to complete the survey via Google Forms. The response rate was 27.4% (n=283/1,032). Most respondents (64.5%) identified as food pantry directors.

Measurable Outcome/Analysis: Descriptive statistics were used to characterize pantry location, size (pounds of food distributed), number of staff and volunteers (SV), use of a client choice model, and to describe the current tools used by pantries for multiple aspects of management.

Results: A majority (54.8%) of respondents represented large food pantries. Pantry-specific digital applications were rarely used. Instead, respondents reported using word-of-mouth and email to recruit SV, phone calls and emails for SV scheduling, and in-person classes for SV trainings. Clients were most often contacted via phone or email. There was high demand for an app for SV scheduling (50.2%), providing a safe, remote version of client choice (42.4%), client registration (35.7%), client and SV communications (35.0%), and connecting with nearby emergency services (22.3%).

Conclusions: Food pantry directors desired an app to support SV management, SV and client communication, safe client choice, and connection to emergency services. Future app development to enhance food pantry management and optimize food distribution is greatly needed.

Funding: None.

O18 Restaurant-Based Programming to Improve Healthy Food Access: Eat Fit Program Impact and Factors that Influence Adoption
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Background: Food insecurity has skyrocketed during the COVID-19 pandemic, compounded by critical limitations and unparalleled needs at food pantries. Interconnectivity between food pantry staff and clients is vital to food security. Digital tools are widely used in public health; however, little is known about current use or desire for digital tools in food pantry settings.

Objective: To define types of digital tools currently used for pantry management and identify gaps and interest in specific digital tool features to enhance pantry management.

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Results: A majority (54.8%) of respondents represented large food pantries. Pantry-specific digital applications were rarely used. Instead, respondents reported using word-of-mouth and email to recruit SV, phone calls and emails for SV scheduling, and in-person classes for SV trainings. Clients were most often contacted via phone or email. There was high demand for an app for SV scheduling (50.2%), providing a safe, remote version of client choice (42.4%), client registration (35.7%), client and SV communications (35.0%), and connecting with nearby emergency services (22.3%).

Conclusions: Food pantry directors desired an app to support SV management, SV and client communication, safe client choice, and connection to emergency services. Future app development to enhance food pantry management and optimize food distribution is greatly needed.

Funding: None.

Continued on page S10
**O18 (continued)**

**Program Description:** EF works with restaurants in Louisiana to offer easily identifiable healthy options on food menus. Healthy options are promoted on and are searchable within a map-based, EF smartphone app.

**Evaluation Methods:** Pre- and post-program implementation environmental assessments and cross-sectional manager/owner surveys were collected.

**Results:** In 44 restaurants, an average increase of 4.5 healthy items was observed from pre- to post-EF implementation. All restaurants with no healthy dishes at baseline (n = 9) added healthy offerings. Of 49 surveyed restaurant managers/owners, most had positive beliefs towards offering healthy options (n = 41), positive perceptions of staff knowledge and skills to offer healthy options (n = 29), high levels of support to implement EF (n = 41), and positive perceptions of EF success in their restaurants (n = 41). Most commonly cited barriers to implementation were customer preference (n = 26), ingredient availability (n = 16), staff knowledge (n = 15), and operational challenges (n = 14). Facilitators included: desire to increase healthy food access (n = 36), desire to entice customers seeking healthy options (n = 36), belief that restaurants should offer healthy foods (n = 34), and opportunities to market the restaurant through EF (n = 34).

**Conclusions:** The availability of healthy food options increased after program implementation, indicating that programs like EF hold promise for improving customer food choices, especially where no healthy options may exist. When recruiting new restaurants, restaurant-based healthy eating programs may focus on the role restaurants can play in promoting health, benefits of offering healthy food, and the idea of social responsibility. Programs like EF may consider more training for restaurant staff for improved staff nutrition knowledge, program buy-in, and program implementation and fidelity.

**Funding:** Blue Cross Blue Shield Louisiana Foundation.

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**O19 Measuring the Reliability of a Frequency Method for Assessing Vegetable Intake Using Photos: A Smart Phone Approach**

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**Background:** Traditional dietary assessment tools can present several challenges, including participant and researcher burden, recall bias, cost, and time. A frequency method using mobile photos and descriptions of meals through smartphones can be a promising strategy to address these challenges.

**Objective:** To measure the interrater reliability of assessing the frequency of vegetable intake using photos and descriptions from smartphones.

**Study Design, Setting, Participants:** This study used a pre-posttest experimental design. Participants were undergraduate students living in dormitories at a large Midwestern university. Participants (n = 85) were asked to count the number of times they ate red/orange vegetables and set a goal to eat one more time. Participants used their smartphones to upload photos and descriptions of their meals on an online platform for three days. Based on the study’s objective, two raters independently coded meals using uploaded photos and descriptions of meals from smartphones. The first rater, who has several months of experience in public health research, was trained in qualitative coding of mobile photos by a senior researcher. The second rater has over three years of experience in coding mobile photos and oversaw the coding process.

**Measurable Outcome/Analysis:** The primary outcome measure was the interrater reliability in assessing the number of times each of these vegetable subgroups was consumed daily: dark green vegetables, beans and peas, starchy vegetables, and other vegetables. Cohen $\kappa$ was calculated to determine interrater reliability.

**Results:** A value of $\kappa = 0.956$ ($P < 0.001$) was obtained, indicating an almost perfect agreement between the two raters who independently coded each mobile photo using the same training protocols.

**Conclusions:** The trained raters reliably coded the frequency of vegetable consumption using mobile photos. Therefore, a frequency method using mobile photos and descriptions of meals through smartphones is a reliable strategy to assess vegetable consumption by nutrition researchers. This mobile-phone-assisted method can be used in nutrition programs to improve data quality, reduce participant burden, and minimize recall bias.

**Funding:** Women and Hi-Tech organization.

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**O20 Food System Models for Promoting Food Security, Diet Quality, and Health Among Low-Income Populations: A Systematic Review**

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