NP3 (continued)

improve dietary quality in low-income families by conducting research, extension, and education activities.

Description: The Farm Fresh Foods for Healthy Kids (F3HK) intervention included a cost-offset (50% subsidy) summer CSA share, weekly payments (including SNAP-EBT), two to four pieces of kitchen equipment, and nine CSA-tailored education classes. F3HK participants were recruited from 12 rural and micropolitan communities in four states in spring 2016 and 2017, and individually randomized to intervention ($n = 148$) or control ($n = 157$). All had income $< 185\%$ poverty and at least one child (2-12y) in the household. Using an intent-to-treat framework, multivariate multi-level regression models were used to examine change in outcomes over time for intervention relative to control. Geospatial data, participant focus groups, and farmer interviews were used to describe CO-CSA accessibility.

Evaluation: CO-CSA pickup sites averaged six miles (m) from participants' homes, which was closer than the farm (18m) but further than the supermarket (3m). F3HK farms reported efforts to reach low-income customers and strategized to modify the F3HK model to suit the local context; however, CO-CSA participants expressed mixed levels of accessibility. Relative to controls, F3HK intervention caregivers had improvement in some measures of attitudes, self-efficacy, skills, and dietary quality after one-season of participation, but not other measures. Lessons from the implementation and evaluation of F3HK informed the development of four undergraduate course modules: development of an intervention in a setting where "local food" is a foreign concept; assessment of dietary quality; economic impact analysis; and how to adapt CSA to open new markets for farmers.

Conclusion: CO-CSA plus education and kitchen tools is a promising mechanism to improve attitudes, self-efficacy, and skills among caregivers, with mixed results concerning dietary quality among caregivers and children. Long-term outcome data will be examined for behavioral maintenance. An Extension toolkit for CO-CSA implementation is under development. Education modules are being piloted, and will be evaluated and refined before dissemination in 2020-21.

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NP4 Improving Preschool Children's Food Knowledge and Food Choice Intentions: Results From a Childhood Obesity Preventive Intervention

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Objective: To examine the impact of a large, preventive intervention on preschool children's food knowledge, and intentions to choose nutrient-dense foods for meals and snacks.

Description: A total of 29 classrooms across 14 predominantly low-income, rural childcare centers ($n = 215$ children, 52% female, mean age = 4.1y) were randomized into 1 of 16 conditions that differed based on whether a classroom received an intervention curriculum (Healthy Eating, Active Play and Self-Regulation) or parent/caregiver guidance. For the purposes of this study, we focus solely on the 11-week Healthy Eating (HE) curriculum that covered a number of topics, including: identifying "GO" and "WHOA" foods, food groups, increasing fruit and vegetable intake, and building a "healthy plate."

Evaluation: Measures were collected pre-post. To assess children's food knowledge, children were first asked to choose their favorite foods from a list of 30 foods and four beverages that vary in energy content. Children were then asked to choose foods for a "healthy lunch" using foods from the same list. A snack selection procedure was used to assess children's food preferences and ability to choose the healthier choice from a list of nine pairs of foods; each pair contained an energy-dense and nutrient-dense food. Children in the HE condition showed a slightly larger increase in their ability to correctly identify nutrient-dense foods. Children in the HE condition showed an increase in nutrition knowledge, and competence in making nutrient-dense snack and meal choices. Children in the HE condition also showed more than a two-fold greater increase in their ability to identify nutrient-dense snack foods than children who were not in the HE condition. Data collection with more than 700 participants is ongoing; results including these additional participants will be shared.

Conclusion and Implications: Increasing children's food/nutrition knowledge and intentions to choose nutrient-dense over energy-dense foods may lead to the development of healthy dietary patterns that prevent the development of obesity in young children.

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NP5 Salud Para Usted y Su Familia [Health for You and Your Family]: Integration of Research, Education and Extension to Promote Healthier Mexican-Heritage Families

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Objective: To implement and evaluate an integrated Spanish-language program to improve nutrition, increase physical activity, and strengthen family function among Mexican-heritage (MH) families. We describe research (stepped wedge cluster randomized controlled trial

NP5 (continued)

[SWCRCT] of father-focused, family-centered program), education (experiential learning and innovative teaching), and extension (promotora-led charlas [chats/talks]) components.

Description: The SWCRCT consists of clusters of 10-15 families receiving six in-person group sessions (three focused on father-child pairs) and at-home activities. Sessions include food tastings, interactive lessons, active games, hands-on food preparation, time to eat together, and goal setting. The promotora interventionists were trained using the train-the-trainer approach to gain knowledge and skills related to nutrition and food preparation, physical activity, family functioning, and motivational interviewing. The program actively involved undergraduate and graduate students from Texas A&M University, Baylor University, and Texas State University in experiential training that included material development, participant observation of promotora trainings (cooking and experiential nutrition and physical activity) and family pretesting, and motivational interviewing. Program activities and learnings were included in undergraduate and graduate courses (research methods and evaluation). In the charla program, team promotoras conducted a series of five community-based programs and activities that delivered science-based knowledge and informal educational programs to empower Mexican-heritage children and families to make sustainable healthy decisions. More than 400 participants attended charlas, which took place in community centers, churches, community organizations, and colonia neighborhoods.

Evaluation: Data were collected for training, recruitment, process (observations and checklists), and outcome (pre- and post-program surveys, seven-day accelerometer, Veggie Meter®, and interviews/focus groups. Surveys and reflection papers from students were used. Post-charla surveys, debriefs, and a follow-up ripple effect survey (sharing of session materials) was done.

Conclusion and Implications: This integrated family program enhances the capacity of families, students, promotoras, and community members to incorporate education and skill-building into healthier behaviors. The SWCRCT is a game changer by engaging Mexican-heritage fathers, co-parenting couples, and children and addresses a lacuna in obesity prevention.

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NP6 Preliminary Results From the Multi-Pronged Intervention to Increase Secondary Student Participation in School Lunch (MPI)

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Objective: The National School Lunch Program is a healthy lunch option for students, yet participation is sub-optimal and fruit and vegetable waste remains high. The study intervention consisted of adding school-lunch vending machines and mobile carts, school-lunch outreach to teachers, and cafeteria redesigns. The objectives were to determine the impact on school-lunch participation, perceptions and fruit and vegetable consumption.

Description: This three-year quasi-experimental study included 24 middle and high schools of which half received the intervention and half served as controls. Daily meal participation data were available through electronic point-of-sale records. Student and teacher surveys (20,905 and 1,941, respectively) assessed consumption and perceptions. Mixed effects linear and logistic regression models were used to assess differences between intervention and control groups in outcomes.

Evaluation: No significant differences in overall lunchtime fruit and vegetable consumption or student lunch participation were observed between control and intervention groups. There was a decrease in participation among teachers at intervention compared to control schools (0.5% difference, $P < .001$). Among students eligible for free or reduced price meals (FRPM), the intervention was modestly effective (2.2% difference in participation, $P < .001$). Compared to students at control schools, students at intervention schools had a significantly greater increase in agreement that school meals make them feel full (0.129, $P = .007$) and that adults at their schools encourage them to eat school-lunch (0.116, $P = .008$). Compared to control schools, teachers in intervention schools had a greater increase in odds of agreement that school meals are healthy (2.83, $P = .037$).

Conclusion and Implications: The intervention did not have a positive effect on overall lunchtime fruit and vegetable consumption or lunch participation but had a modest effect on student and teacher perceptions of school-lunch and FRPM student lunch participation. Additional innovations are needed to improve school-lunch participation and student dietary intakes.

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NP7 Effectiveness of Supports for Family Mealtimes on Obesity Prevention Among Head Start Preschoolers: Screening Phase Results From the Simply Dinner Study

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