NP1 Adolescent Obesity Prevention Project Yields Policy, System, and Environmental Changes in Middle Schools

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Objective: To develop a community-based program targeting overweight and obesity prevention among adolescents in limited resource, minority communities.

Description: Summary of analyzed data for a tri-state, quasi-experimental project including six communities (one control and one intervention community from each state) who are responsible for creating and implementing one nutrition and one physical activity program addressing overweight and obesity among 6th to 8th grade youth.

Evaluation: Mixed methods approach used in collecting community food and physical activity environmental data, student health behavior questionnaire data, intervention community focus group data, steering committee annual meeting transcripts and ripple effect mapping (REM) data.

Conclusion and Implications: This project developed a potential framework for creating community-focused, sustainable and effective adolescent obesity prevention programs. Outcomes reported from REM data support this framework by increased student awareness and importance of positive health behaviors, as well as the willingness to adopt these health behaviors; positive changes in school culture related to collaboration, involvement and commitment to wellness; an increase in school-community partnerships; improvements in the school physical environment; and increased opportunities for physical activity before, during and after school and in the community. This implies community-centered efforts, guided by community stakeholders, educators and youth have led to changes related to policy, system, and environment which promote healthier dietary and physical activity behaviors in youth living in limited-resource communities.

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NP2 Fruving the World: A Social Marketing and Environmental Change Intervention

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Objective: To describe the current outcomes of the Get Fruved project.

Description: Get Fruved is a social marketing and environmental change intervention seeking to prevent unwanted weight gain among high school and college students. The intervention, a non-diet approach focusing on increasing healthy diet choices, physical activity, and stress management, was initially developed and tested on college campuses. In year 05, college students worked with high school students to implement the intervention in high schools.

Evaluation: Because prevention of unwanted weight gain was the primary outcome, propensity score matching and counterfactual modeling was used to evaluate weight change between individuals at intervention and control schools. Evaluations from the year 04 randomized control trial (RCT) on college campuses indicated a positive intervention effect after adjusting for age, gender, race and ethnicity, baseline Body Mass Index (BMI), baseline stress score, and dropout propensity. Specifically, the weight of the intervention group, on average, increased 0.77 lbs less than the control group ($P < .01$).

Conclusion and Implications: During this project, 19 instruments have been developed/validated, 123 presentations conducted, 17 manuscripts published, and health promotion toolkits created for college and high school settings. Data from the RCT in colleges indicate that Fruved may be effective in producing small reductions in unwanted weight gain in college settings. Data from high schools are currently being analyzed.

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NP3 Farm Fresh Foods for Healthy Kids: Innovative Cost-Offset Community-Supported Agriculture Intervention to Prevent Childhood Obesity and Strengthen Local Agricultural Economies

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Objective: To better understand the potential of cost-offset community supported agriculture (CO-CSA) to

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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

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