P110 (continued)

mediated by grade with younger children responding more favorably than older children.

**Funding:** USDA

P111 Head Start Teachers and Wellness Policy: Children’s Healthy Living in Remote Underserved Minority Populations of the Pacific

*Monica Esquivel, MS, RD,* monicake@hawaii.edu,
University of Hawai‘i at Manoa, 1955 East West Road, Honolulu, HI 96822; *R. Novotny, PhD, RD, LD; M. K. Fialkowski, PhD, RD, LD; T. Aflaque, MS, RD*

**Objective:** This study engaged Head Start teachers to inform a preschool wellness policy intervention for childhood obesity prevention. Few preschool interventions have taken a participatory approach in planning and development of policy change.

**Study Design, Setting, Participants, and Intervention:** Sixteen teachers from 2 previously randomized communities in Hawai‘i participated in 1 of 2 focus groups that were audio recorded and facilitated by 1 researcher in the Spring of 2014. Focus group questions queried teachers about how to promote healthy eating and prevent childhood obesity in their classrooms.

**Outcome, Measures and Analysis:** Recordings were transcribed verbatim. Three researchers identified themes following an inductive method where preconceived codes were not provided.

**Results:** Valued being a positive influence and enjoyed witnessing growth and development of children, saw policy as a way to support a safe classroom environment and encourage role modeling of consistent messages, and saw gaps in resources and professional support as barriers to promoting healthy lifestyle habits of children and families. The majority of teachers voiced discomfort addressing childhood obesity and nutrition with parents and the absence of a dietitian as a barrier to nutrition promotion.

**Conclusions and Implications:** Policies are needed that facilitate teachers being role models of healthy lifestyle habits, teachers’ efficacy in addressing nutrition and weight with parents, and the services of a dietitian to support these efforts. Engaging Head Start teachers informed policy changes and fostered ownership of the intervention, which will be examined in future study for effectiveness of the intervention.

**Funding:** USDA-NIFA

P112 Characteristics of Active New York City School Gardens According to the School Garden Integration Framework

*Kate Gardner, MS, RD,* katherinewgardner@gmail.com,
Teachers College Columbia University, 525 West 120th Street, Russell Hall 414, Mailbox #137, New York, NY 10027; *P. Koch, EdD, RD; I. R. Contento, PhD*

**Objective:** To build an understanding of how active NYC school gardens become integrated into schools by using the School Garden Integration Framework (SGIF), comprised of three overarching domains: garden logistics and maintenance, curriculum and student experience, and permeation in the school culture.

**Study Design, Setting, Participants, and Intervention:** An email survey was distributed to 54 of the 347 school gardens registered with “Grow to Learn” (GtL) citywide school garden initiative. Gardens were chosen for inclusion if they reported to GtL that students regularly engage in garden-based activities during class time.

**Outcome, Measures and Analysis:** The survey contained both check-off (quantitative) questions and short answer (qualitative) questions to collect data on the three domains of the SGIF. Analysis was descriptive.

**Results:** 45 people responded to the survey, representing 37 schools (69% response rate). 34 schools met minimum criteria in all three SGIF domains to be considered well-integrated school gardens and are included in these results. 50% reported a garden budget of $500-$5,000 with materials being the most common expenditure (85.7%). 45.2% reported that a designated group is responsible for garden maintenance. Garden-curriculum connection is formalized by 54.8%. The garden is a valued asset by schools: 47.6% consider the garden a defining feature and 42.9% are actively trying to make it one.

**Conclusions and Implications:** Active NYC school gardens are moderately successful at becoming integrated into schools. The SGIF can be used to analyze programs and identify areas for improvement. More research using the SGIF could describe how school gardens become well integrated to create practice guidelines and policies that enhance students’ school garden experience.

**Funding:** Laurie M. Tisch Illumination Fund

P113 The Efficacy of Early Childhood Educators as Role Models of Nutrition Behavior

*Lisa Sisson, MM, RD,* lisssonl@gvsu.edu, Grand Valley State University, B3259 Mackinac Hall, 1 Campus Drive, Allendale, MI 49401; *A. Smith, PhD,* Western Michigan University

**Objective:** This pilot study sought to determine the efficacy of early childhood educators to provide nutrition education and role modeling for young children.

**Study Design, Setting, Participants, and Intervention:** A nutrition knowledge test of early childhood education graduate students (n=63) in a large Mid-west public university.

**Outcome, Measures and Analysis:** Descriptive statistics were used to analyze nutrition knowledge and the ability of students to apply nutrition knowledge to food choices.

**Results:** The mean test score was 53.9% ±12%. Respondents were able to accurately select the healthier food from a paired choice 94% of the time but only 20.6% of responses were correct when selecting multiple good sources

Continued on page S152
P113 (continued)

of an essential nutrient from a list of foods and only 28% of responses were correct to questions about dietary guideline recommendations for young children.

Conclusions and Implications: This study indicates early childhood educators may not have the knowledge and skills necessary to positively impact children's nutrition. As recommended by the Institute of Medicine, requiring nutrition coursework in early childhood education programs is essential to assist teachers and childcare providers in teaching and modeling evidenced-based nutrition concepts to young children. How to best support teachers' ongoing nutrition education needs further investigation.

Funding: None

P114 Identification of Best Practices in Nutrition Education for Low-Income Audiences

Chloe MacKinnon, MS, chloe.mackinnon@colostate.edu, Colorado State University, 101 Gifford, Fort Collins, CO 80523-1571; S. Baker, EdD; G. Auld, PhD, RD; A. Ammerman, DrPH, RD, University of North Carolina at Chapel Hill; G. Hamula, PhD, RD, LD, The University of Georgia; B. Lohse, PhD, RD, LDN, Pennsylvania State University; M. Scott, PhD, RD, Michigan Fitness Foundation; E. Serrano, PhD, Virginia Polytechnic Institute and State University; E. Tucker, MS, University of Arkansas at Pine Bluff; M. K. Wardlaw, PhD, University of Wyoming Extension

Objective: To identify best practices in nutrition education for low-income audiences. Best practices are evidence-based elements or strategies that have shown effectiveness in achieving outcomes in both direct delivery of nutrition education as well as indirect methods, such as social marketing.

Study Design, Setting, Participants, and Intervention: The lead authors and a seven-member expert panel independently generated best practices in nutrition education and then reached consensus. The best practices were confirmed via review of the research literature.

Outcome, Measures and Analysis: Twenty-seven best practices were identified under 5 domains: program design, program delivery, educator characteristics, educator training, and evaluation.

Results: Effectively designed nutrition education programs include the following best practices: a strong theoretical basis, research-based content, emphasis on goal setting, and use of audience-appropriate languages and materials. The program delivery best practices are: use of experiential learning and enhancement items, accommodation of learning styles, inclusion of contacts of appropriate frequency and duration, and maintenance of program fidelity. The best practices related to educators include: expertise in content and teaching methods, an understanding of performance expectations, the ability to relate to the target audience, appropriate initial and ongoing training, and routine observation of teaching. Evaluation should assess program goals and objectives through the inclusion of formative, process, and outcome components on multiple levels of the Social-Ecological Model addressed by the program.

Conclusions and Implications: The inclusion of best practices in programs leads to stronger outcomes. Best practices are intended for use as program self-assessments and guides for professional development. External program reviewers may also use best practices to assess program strengths.

Funding: USDA FNS, through Interagency Agreement with NIFA

P115 Fidelity of Implementation of a 4-H Program to Promote Culinary Skills and Family Meals for Obesity Prevention: iCook 4-H

Douglas Mathews, MS, RD, douglas.mathews@maine.edu, University of Maine, 5735 Hitchner Hall, Orono, ME, 04469; K. Yerxa, MS, RD; L. Franzen-Castle, PhD, RD, University of Nebraska-Lincoln; M. Krebsbiel, PhD, CFLE; T. Aguirre, BSN-RN, PhD, University of Nebraska Medical Center; S. Colby, PhD, RD, University of Tennessee, Knoxville; R. Meade, BS; K. Kattelmann, PhD, RDN, South Dakota State University; C. Kabala, BS; M. Olfort, DrPh, RD, West Virginia University; A. Wells, BS; A. White, PhD, RD, University of Maine

Objective: Evaluate fidelity of implementation (FOI) of the 6-session iCook 4-H intervention curriculum in a 5-state study.

Study Design, Setting, Participants, and Intervention: Curriculum evaluation with a fidelity testing pattern to provide multiple testing of each session across 5 states. The instrument, modified for each session, was designed to capture instructional (e.g. “How involved were youth with...?”) and structural (e.g. “Check which program elements were covered”) components. Program elements were culinary/activity skills, nutrient focus, family communication, and goal setting. Evaluators (n=18) completed the instrument by observing leaders implementing the 2-hour sessions.

Outcome, Measures and Analysis: Measures included implementation time and percentage of time objectives were met; adequacy of materials provided; and accomplishment of program elements. General descriptive statistics were generated using SPSS.

Results: Evaluators were female and either student researchers (53%) or Cooperative Extension/4-H staff (25%). Mean implementation time of 114 minutes per session was close to the planned time of 120 minutes. When comparing across all sessions, objectives were met 91% of the time and materials provided were adequate 96% of the time. Over the sessions, elements were covered 90% of the time with session 1 having the lowest covered (56%). The mean ratings for youth and adult engagement in sessions were 3.8±0.4 and 3.6±0.4 respectively (score range little engagement=1 to actively engaged=4).

Continued on page S153