

## Appendix A: Review Papers Examined

1	Blake-Lamb TL, Locks LM, Perkins ME, Woo Baidal JA, Cheng ER, and Taveras EM. Interventions for childhood obesity in the first 1,000 days a systematic review. <i>Am J Prev Med.</i> 2016;50(6):780-789.
2	Hesketh KD and Campbell KJ. Interventions to prevent obesity in 0–5 year olds: an updated systematic review of the literature. <i>Obesity.</i> 2010;18(S1).
3	Laws R, Campbell KJ, van der Pligt P, Russell G, Ball K, Lynch J, Crawford D, Taylor R, Askew D and Denney-Wilson E. The impact of interventions to prevent obesity or improve obesity related behaviours in children (0–5 years) from socioeconomically disadvantaged and/or indigenous families: a systematic review. <i>BMC public health.</i> 2014;14(1):779.
4	Ling J, Robbins LB, and Wen F. Interventions to prevent and manage overweight or obesity in preschool children: A systematic review. <i>Int J Nurs Stud.</i> 2016;53:270-289.
5	Mikkelsen MV, Husby S, Skov LR, and Perez-Cueto FJ. A systematic review of types of healthy eating interventions in preschools. <i>Nutr J.</i> 2014;13(1):56.
6	Sisson SB, Krampe M, Anundson K, and Castle S. Obesity prevention and obesogenic behavior interventions in child care: a systematic review. <i>Prev Med.</i> 2016;87:57-69.
7	Tandon PS, Tovar A, Jayasuriya AT, Welker E, Schober DJ, Copeland K, Dev DA, Murriel AL, Amso D, and Ward DS. The relationship between physical activity and diet and young children's cognitive development: A systematic review. <i>Prev Med Rep.</i> 2016;3:379-390.
8	Taveras EM, Perkins M, Woo Baidal JA, et al. The Impact of the First 1,000 Days on Childhood Obesity. Durham, NC: Healthy Eating Research; 2016. Available at <a href="http://www.healthyeatingresearch.org">www.healthyeatingresearch.org</a> .
9	Ward DS, Welker E, Choate A, Henderson KE, Lott M, Tovar A, Wilson A, and Sallis JF. Strength of obesity prevention interventions in early care and education settings: A systematic review. <i>Prev Med.</i> 2017;95:S37-S52.
10	Wolfenden L, Wyse RJ, Britton BI, Campbell KJ, Hodder RK, Stacey FG, McElduff P, and James EL. Interventions for increasing fruit and vegetable consumption in children aged 5 years and under. <i>The Cochrane Library.</i> 2012.
11	Woo Baidal JA, Locks LM, Cheng ER, Blake-Lamb TL, Perkins ME, and Taveras EM. Risk factors for childhood obesity in the first 1,000 days: a systematic review. <i>Am J Prev Med.</i> 2016;50(6):761-779.

**Table 1: Characteristics of included interventions and summary of results**

Reference	Study Design, Location, Duration	Characteristics of Sample	Exposure or Intervention	Outputs and Measures	Key/Significant Findings
<b>DIETARY INTAKE OUTCOMES</b>					
Gripshover et al., (2013)	Design: Quasi-experimental Location: CA Duration: Experiment 1 & 2: 10-12 weeks	<b>Experiment 1</b> Sample: 1 center, N=59 Age 4-5 yrs old, mean 4.8 yrs (intervention), 4.6 yrs (control) SES: NP R/E: NP <b>Experiment 2</b> Sample: 1 center, N=103 Age 4-5 yrs old, mean 4.9 yrs (intervention), 4.7 yrs (control) SES: NP R/E: NP	Teaching young children a coherent theory of food as a source of diverse nutrients.	Type: DI Measures: Child knowledge of food variety, nutrients, the dependence of biological processes on nutrients, and digestion; food choice.	DI: Children can learn and generalize the conceptual framework of food as a source of nutrients necessary for health. Although intervention children did not select more total unique foods or unique <i>new</i> foods, they did select more vegetables at snack time.
Harnack et al., (2012)	Design: Randomized crossover trial Location: MN Duration: 6 weeks	Sample: 1 center, N=57 Age: 2-5 yrs SES: 41.5% high school, 49.1% some college or assoc. degree R/E: 75.5% AA, 5.7% Hispanic/Latino, 13.2% multiracial, 3.8% American Indian, 1.9% White	Two serving styles: (1) Fruits and vegetables first: fruits and non-starchy vegetables served family style 5 min in advance of meal; and (2) Provider portioned meals: plate prepared for each child according to CACFP guidelines.	Type: DI Measures: Meal observation. Lunch observation data entered into NDSR.	DI: Fruit, vitamin A, and folate intakes were higher when fruits and vegetables served first. Fruit, vegetable, and total calorie intake higher in provider portioned meals.
Hunsaker, (2015)	Design: RCT Location: UT Duration: 4 weeks	Sample: 1 center, N=65 enrolled children and their parents Age: Mean 4.79 SES: Monthly income \$6099.50 & 5336.33 R/E: 84.8% & 93.9% White, 3.1% and 0% Hispanic, 6.3% & 0% Asian, and 6.3% & 6.1% Biracial	Parents received a personalized health report with child's estimated daily fruit and vegetable intake and a standardized set of recommendations for increasing consumption.	Type: DI Measures: DI via NCI Fruit and Vegetable Screener Questionnaire.	DI: Providing parents with a health report resulted in increased vegetable consumption, but NS increase in fruit consumption.
Huss et al., (2013)	Design: Repeated exposure, randomized, cross-over quasi-experimental study Location: IN Duration: 12 weeks	Sample: 4 classrooms, N=23 Age: 2-5 yrs SES: NP R/E: 56.5% Caucasian, 30.4% Asian, 13.1% other	Four combinations of portion size of main course and dessert: (1) reference portion, dessert with lunch; (2) reference portion, dessert after lunch; (3) large portion (50% larger), dessert with lunch; (4) large portion, dessert after lunch.	Type: DI Measures: DI via observed plate waste and parent survey.	DI: Serving dessert after meal increased energy intake from main course and dessert. Serving dessert with meal decreases total energy intake.

Izumi et al., (2015)	Design: Quasi-experimental Location: Portland, OR Duration: 8 months	Sample: 5 Head Start centers, N=226 Age: Mean 4.8 yrs SES: NP R/E: Spanish spoken in the home (48.2%), English spoken in the home (40.3%), Other language spoken in the home (11.5%)	Harvest for Healthy Kids. Target foods (carrot, butternut squash, sweet potato, cabbage, turnip, rutabaga, berries, beet, and asparagus) were featured in Head Start meals in the low- and high-intervention centers and in classroom activities in the high-intervention centers. High-intervention centers also received curriculum designed to improve knowledge of and attitudes toward target foods through cooking and tasting activities, read-aloud book discussions, transition activities, and mealtime discussion.	Type: DI Measures: DI via willingness to try and like target foods.	DI: Increased willingness to try and like target foods. Children in the high-intervention group were willing to try more target foods.
Joseph et al., (2015)	Design: Pre-post intervention Location: United States, CT Duration: 2 weeks	Sample: 1 center, N=49 Age: 3-5 yrs SES: 50% low, based on eligibility for CACFP R/E: 67% White, 5% AA, 7.8% Hispanic/Latino, 27% Asian	Eat Smart. Nine 30-minute interactive nutrition education lessons. Content focused on teaching and empowering children about distinguishing between healthy and unhealthy snack foods with "Go" and "Whoa" messages.	Type: DI Measures: DI via Preschool Snack Selection tool (PSS) to assess knowledge, preference, and food selection. Parents received Preschool Adapted Liking Survey.	DI: Nutrition education improved knowledge of healthy snacks, but did not result in healthier snack selections for all children.
Namenek Brouwer et al., (2013)	Design: RCT Location: Central NC Duration: 4 months	Sample: 4 centers, N=76 Age: 0-5 yrs SES: NP R/E: NP	Watch Me Grow. Garden-based curriculum aimed to increase the number of vegetables and fruits provided to and consumed by children in child care.	Type: DI Measures: DI via observation of amounts of foods and beverage served, consumed, and wasted.	DI: Increase in observed acceptance and consumption of vegetables, but not fruit.
Piziak, (2012)	Design: Quasi experimental Location: Bastrop County, TX Duration: 1 yr	Sample: N=413) Age: 3-5 yrs SES: Low, based on Head Start eligibility R/E: 57.3% Mexican-American	Bilingual pictorial Nutrition education game. The game, patterned after Loteria a popular pictorial bingo game in the Mexican-American community, shows color images of culturally appropriate food and the reverse side gives the names in English and Spanish. The game was played by children 2 times per week.	Type: DI Measures: DI via FFQ for milk, soda, water, fruit, and vegetables served	DI: Increase in vegetables served outside the preschools at home both during the week and on weekends. NS in other dietary habits.
Roe et al., (2013)	Design: Cross-over design Location: PA Duration: 8 days over the course of 4 weeks	Sample: N = 61 Age: 3-5 yrs SES: NPR/E: 56% White, 29% Asian, 11% AA, 4% Pacific Islander	Teachers offered children a healthy snack, either a single type vegetable/fruit vs. a variety of 3 types. Uniform-sized pieces were served family style, and children ate as much as they wanted.	Type: DI Measures: Meal observation. Uneaten pieces counted and plate weight recorded.	DI: Serving a variety of vegetable and fruit vs. no variety increased selection and consumption of these foods.

Schwartz et al., (2015)	Design: Within subjects crossover design Location: CT Duration: 3 weeks	Sample: 1 center, N = 85 Age: 3–5 yrs SES: NP R/E: 81% Hispanic	Two variations of family-style feeding were compared to usual practice: (1) fruits, vegetables, and milk were served before the main meal (first course); and (2) fruits, vegetables, and milk were served before the main meal and meats and grains were removed from the table after the first serving (combination).	Type: DI Measures: DI via standard weighing methods.	DI: Offering fruits and vegetables before a meal did not consistently lead to larger serving or consumption of these foods. Milk consumption was significantly higher in combined intervention for both meals.
Sigman-Grant et al., (2014)	Design: Pre-post intervention Location: NV, CT, NJ, OK Duration: 9 weeks	Sample: 12 Head Start centers, N=191 Age: 3-5 yrs SES: NP R/E: White (9.4%), Hispanic/Latino (64.9%), and other (25.7%)	All 4 Kids intervention. A 24-lesson program taught by trained Cooperative Extension instructors featured 8 nutrition-focused lessons presented at weeks 4–6, although references to healthy snack foods occurred in all lessons.	Type: DI Measures: DI via Preschool Snack Selection (PSS) Instrument.	DI: Improved identification of, increased preference for, and increased ability to distinguish healthy from unhealthy foods following education.
Sharma et al., (2015)	Design: RCT Location: TX Duration: 5 weeks	Sample: 30 centers, N=577 parent-child dyads Age: 3-5 yrs SES: Higher education and income level R/E: 71% White	Lunch is in the Bag. Program enlists the ECE center, teachers, parents, and children in cueing and reinforcing changes in the home-based food environment to increase parents' packing sack lunches that enable children to achieve healthy eating patterns.	Type: DI Measures: DI via parent-child and parent-ECE center provider communication via parent-reported survey	DI: Improvement in parent-ECE center provider communication around vegetables and fruit. NS change in parent-child communication.
Witt et al., (2012)	Design: Randomized Pre/Post Location: ID Duration: 6 weeks	Sample: 17 centers, N = 263 Age: 4–5 yrs SES: NP R/E: NP	Color Me Healthy. Uses color, music, and exploration of the senses to teach children about healthful eating and PA. Circle time lessons and 1 imaginary trip each week. Take home activities for parents. Teacher training prior to program implementation on circle time lessons and imaginary trips.	Type: DI Measures: DI measured via plate weight to calculate % of snack consumed.	DI: Increase in consumption of overall fruit, strawberry, cantaloupe, grape, pineapple, overall vegetable, celery, cherry tomato, and broccoli. Fruit and vegetable snacks increased.
<b>PHYSICAL ACTIVITY OUTCOMES</b>					
Alhassan, (2012)	Design: RCT Location: MA Duration: 6 months	Sample: 2 centers, 8 classrooms, N=78 Age: 2.9–5 yrs SES: Low R/E: 61% Latino/Hispanic, 39% AA	LMS-based physical activity program including structured physical activity activities vs. unstructured free play time. Teacher trainings and lesson plans/resources provided.	Type: PA Measures: PA via accelerometer, and LMS via TGMD-2.	PA: Decrease in sedentary time and increase in leaping skills.
Alhassan, (2013)	Design: RCT Location: MA Duration: 4 weeks	Sample: 2 centers, 8 classrooms, N=75 Age: 2.9–5 yrs SES: NP R/E: NP	Based on SPARK. Normal outdoor play time + additional 30 min of structured outdoor play 3 days/week. Teacher trainings.	Type: PA Measures: PA via accelerometer.	PA: Decrease in sedentary time and increase in vigorous physical activity.

Alkon et al., (2014)	Design: RCT Location: CA, CT, NC Duration: 7 months	Sample: 17 centers, N = 552 Age: 3–5 yrs SES: Low R/E: 46% White, 17% Latino, 16% AA, 14% Asian, 7% other	Child Care Health Consultant worked with provider to write/update nutrition and PA policies. Provided NAP SACC workshops for center staff. On-site consultations, phone calls, emails, posters, info sheets.	Type: PA Measures: OSRAP; BMI.	PA: NS. Anthro: Decrease in zBMI
Annesi et al., (2013a)	Design: RCT Location: Southeast United States Duration: 8 weeks	Sample: 32 classrooms, N=275 Age: 3.5–5.6 yrs SES: Low-mid R/E: 100% AA	Start for Life Program. 30 min structured PA, 4 h of teacher training. Daily gross motor skills and behavior skill training, goal setting and self-monitoring with achievement charts, logs, and certificates. Activity binder.	Type: PA Measures: PA measured via accelerometer.	PA: Improved MVPA and VPA in individuals and classrooms.
Annesi et al., (2013b)	Design: RCT Location: Southeast United States Duration: 8 weeks	Sample: 26 classrooms, N=1154 Age: 4–5 yrs SES: Low - mid R/E: 86% AA, 9% Latino, 3% White, 2% other	Start for Life Program. 30 min structured PA, 4 h of teacher training. Daily gross motor skills and behavior skill training, goal setting and self-monitoring with achievement charts, logs, and certificates. Activity binder.	Type: PA & Anthro Measures: PA measured via accelerometer. BMI measured.	PA: Increased time in MVPA and VPA. Anthro: Decrease in BMI.
Annesi et al., (2013c)	Design: RCT Location: Southeast United States Duration: 8 weeks	Sample: 17 classrooms, N=273 Age: 4–5 yrs SES: All at/below 130% of federal poverty line R/E: 100% AA	Start for Life Program. 30 min structured PA, 4 h of teacher training. Daily gross motor skills and behavior skill training, goal setting and self-monitoring with achievement charts, logs, and certificates. Activity binder.	Type: PA & Anthro Measures: PA measured via accelerometer. BMI measured.	PA: Greater % participating in MVPA and VPA. Anthro: Decrease in BMI.
Bellows et al., (2013)	Design: RCT Location: CO Duration: 18 weeks	Sample: 8 centers, N=274 Age: 3-5 yrs SES: Low R/E: 59% Hispanic, 32% White	Mighty Moves. Teacher-led activities on stability, locomotor, or manipulation. Food Friends nutrition program with binder, CD, activity mats, flashcards, balls, beanbags, scarves, puppets, ropes, and parent materials. Teacher training.	Type: PA & Anthro Measures: PA and gross motor skills via pedometers and PDMS respectively. BMI measured.	PA: Improved gross motor skills, stability, and manipulation. Anthro: NS
Bonis et al., (2014)	Design: RCT Location: LA Duration: 6 months	Sample: 26 centers, N = 251 Age: 3–5 yrs SES: NP R/E: NP	4 workshops delivered by dietitians (certified Sample SACC consultants) to center staff, TA for center staff, nutrition and PA information distributed to parents/guardians. Used NAP SACC to choose 3–4 areas for improvement and created a facility improvement plan.	Type: PA Measures: PA via accelerometer.	PA: Increase in MVPA, VPA and total PA in intervention group.
Coe et al., (2014)	Design: Pre-post intervention Location: TN Duration: 3 months	Sample: 1 center, N =56 children Age: 3-5 yrs SES: NP R/E: NP	Playground renovation.	Type: PA Measures: System for Observing Play and Leisure Activity in Youth	PA: Improved proportion of children engaged in MVPA on the playground after the renovation. The average number of children using the covered porch decreased and average number of children using the play area increased.

Cosco et al., (2014)	Design: Pre/post Location: NC Duration: 1 month	Sample: 27 centers, N = 804 Age: 3–5 yrs SES: NP R/E: NP	Preventing Obesity by Design. Assistance to change the outdoor environment. POEMS site assessment. Seed grants. Teacher training workshops, webinars. TA. Website, renovation evaluation.	Type: PA Measures: PA measured via CARS.	PA: Children were more likely to be engaged in non-sedentary activity. Connected single and double loops associated with higher activity than linear/straight pathways.
Nicaise et al., (2012)	Design: Cross sectional at two time points Location: CA Duration: 1 yr	Sample: N = 50 pre, N = 57 post Age: 4–5 yrs SES: NP R/E: 70.2% & 63.2% White, 7.0% & 13.2% Hispanic, 12.3% & 13.2% Asian, 10.4% & 10.3% AA	Renovation of outdoor space. L-shaped path transformed into a looping path, grassy hill was created, and climbing/sliding structures removed to create more open space.	Type: PA Measures: PA measured via OSRAC-P and accelerometer.	PA: Increase in observed MVPA and decrease in observed sedentary time.
Winter et al., (2011)	Design: Pre/Post quasi-exp matched sites Location: TX Duration: 24 weeks	Sample: 4 centers, N = 405 Age: 3–5 yrs SES: Low R/E: 95% Latino	Healthy & Ready to Learn. Child activities: set of children's books and corresponding activities for parents/teachers to do with children. Increased daily MVPA. Teacher and parent training.	Type: PA, Anthro Measures: PA via the Brigance Diagnostic Inventory of Child Development-II, and SOFIT tool. BMI.	PA: Improved gross motor skills on the Brigance non-locomotor and locomotor scores. Anthro: NS.
<b>DIETARY AND PHYSICAL ACTIVITY OUTCOMES</b>					
Battista et al., (2014)	Design: Pre-post intervention Location: 3 counties in NC Duration: Follow-up 6 months post initial assessment	Sample: 29 centers Average County demographics include: Age: 4.5% under 5 yrs old SES: 22.9% below poverty R/E: 89.4% White non-Hispanic	Workshops and goal setting specific to nutrition and physical activity.	Type: DI, PA Measure: Compliance with NAP SACC components.	DI: Improvement in 5 out of 37 nutrition standards. PA: Improvement in 7 out of 17 physical activity standards.
Benjamin Neelon, (2014)	Design: RCT Location: Boston, MA Duration: 6 months	Sample: 32 centers, N= 16 intervention centers, mean (SD) N=98.2 (144.8) children, N=16 control centers, mean (SD) N=59.2 (34.5) children  Intervention Centers: Age: NP SES: 38.4 (84.9) mean (SD) number subsidized R/E: 47.5 (37.4) mean (SD) percent white  Control Centers: Age: NP SES: 20.2 (28.2) mean (SD) number subsidized R/E: 46.2 (30.3) mean (SD) percent white	Improvement in nutrition and physical activity policies and practices.	Type: DI, PA Measures: DI via total EPAO score and nutrition sub-score, PA via physical activity EPAO sub-score.	DI & PA: improvement in EPAO scores, chiefly through greater improvement in physical and not nutrition.

Davison, (2013)	Design: Pre-post intervention Location: NY Duration: 6 months	Sample: 5 Head Start centers, N= 423 children and their families (n=154) Age: 2-5 yrs SES: Low R/E: 38.5% White, 17.8% AA, 13.5% biracial, 6.1% Hispanic/Latino, and 24% did not have race/ethnicity documented.	6-week parent-led program to strengthen parents' communication skills, conflict resolution, resource-related empowerment for healthy lifestyles, social networks, and media literacy coupled with revisions to letters sent home to families reporting child body mass index (BMI); a communication campaign to raise parents' awareness of their child's weight status; and integration of nutrition counseling into Head Start family engagement activities.	Type: DI, PA, Anthro Child measures: PA via accelerometer, DI via 24 hour recall. BMI measured. Parent measures: Food-, physical activity- and media-related parenting practices and attitudes.	DI: Decrease in energy and macronutrient intake. PA: Increase in observed time in LPA. Marginal increase in MVPA and decrease in sedentary time. ST: Decrease in time spent watching TV. Anthro: Decrease in obesity and marginal decrease in BMI z-score. Parents increased self-efficacy to promote healthy eating in children and increased support for children's physical activity.
Esquivel, (2016)	Design: Pre-Post Intervention Location: HI Duration: 7 months	Sample: 23 centers N = 349 children Age: 2-5 yrs SES: NP R/E: 6% white, non-Hispanic	Updating policies in Head Start.	Type: DI, PA, Anthro Measured: DI & PA policies via EPAO scores, DI via fruit and vegetables plate waste. BMI measured.	DI & PA policy: Positive and significant effect on classroom EPAO physical activity and EPAO total scores. Anthro: Mean BMI z-score increased post-intervention for both intervention and delayed-intervention groups.
Fitzgibbon et al., (2011), Kong et al., (2015)	Design: RCT Location: IL Duration: 14 weeks	Sample: 18 centers, N = 669 Age: 3-5 yrs SES: Low R/E: 94% AA, 3% Latino, 3% multiracial/other	Hip-Hop to Health Jr. Teacher training. Education lessons targeting reductions in dietary fat and television viewing, and increases in fruits, vegetables, and physical activity. 20 min PA. Parent workshops, CD, and newsletters.	Type: PA, DI, ST, Anthro Measures: PA via accelerometer, ST via parent survey, DI via 24 h recall, food records, and in school observation. BMI. Kong: 1 yr f/u.	PA (2011): Increase in MVPA min/day, MVPA min/h, & vigorous activity min/day. DI: NS. ST: NS. Anthro: NS.
Fitzgibbon et al., (2013)	Design: RCT Location: IL Duration: 14 weeks	Sample: 4 centers, N=147 Age: 3-5 yrs SES: Low R/E: 94% Latino, 2% AA, 4% multiracial/other	Family-Based Hip-Hop to Health. Education lessons targeting reductions in dietary fat and television viewing, and increases in fruits, vegetables, and physical activity. Emphasis on family environment and parenting. 20 min nutrition lesson and 20 min PA. 6, 90- min classes for parents.	Type: PA, DI, ST, Anthro Measures: PA via accelerometer, ST via parent survey, DI via 24 h recall, food records, and in school observation. BMI measured.	PA: NS. DI: NS. ST: NS. Anthro: NS.
Kirk et al., (2014)	Design: Quasi-experimental Location: CT Duration: 6 months	Sample: N=72 Age: Mean 3.8 yrs (intervention) and 3.9 yrs (control) SES: NP R/E: NP	Teacher-directed, academic program that delivered existing literacy lessons using 15 min of moderate physical activity two times a day for 30 min total.	Type: PA Measures: PA via direct observation using SOFIT-P	PA: Increase in PA during free play and improvements in early literacy.
Kunkel et al., (2013)	Design: Pre-post intervention Location: MN Duration: 9 months	Sample: Head Start centers, N= 466 children and their families Age: 3-5 yrs SES: Low R/E: NP	Lessons in a Box. Health and nutrition education program delivered by community nutrition educators in nine 20-minute interactive lessons delivered once a month for 9 months.	Type: DI, PA Anthro Measures: DI & PA via structured interviews. BMI measured.	DI: Decrease in intake of fast foods, fats, and combination foods. Anthro: Participant shifts toward healthy BMI categories observed.

Lyn, (2013)	Design: Pre-Post intervention Location: Southwest GA Duration: 2 observations per center between Feb 2010 and Apr 2011	Sample: 24 centers Age: NP SES: NP R/E: NP	Caregiver training for adoption and implementation of 6 wellness policies.	Type: DI, PA Measures: Environment and Policy Assessment and Observation (EPAO) instrument	DI: improved total nutrition scores; improvements in nutrition environment, and nutrition training and education. PA: improvements in physical activity scores.
Natale et al., (2014a)	Design: RCT Location: FL Duration: 6 months	Sample: 8 centers, N = 307 Age: 2–5 yrs SES: Low R/E: 36% AA, 34% White, 18% other, 14% unknown	Healthy Inside-Healthy Outside (HI-HO) program. Teacher training, weekly TA visits. Parent monthly dinner, monthly newsletters, and at-home activities. Schools developed new policies and menus to increase PA and healthy eating.	Type: DI, PA, ST, Anthro Measures: PA and ST questions were extracted from NHANES and modified (parent report); FFQ used for parents and teachers. BMI.	DI: Decrease in junk food consumption, increase in mean fresh fruit and vegetable consumption. ST: Decrease in time spent at computer and TV. PA: NS. Anthro: NS.
Natale et al., (2014b)	Design: Pre-Post intervention Location: FL Duration: One school year	Sample: Centers, N = 28, intervention arm N=12, control arm N=16; children N=1211, parents N=1211, teachers N=179. Age: children mean (SD): 46.72 (11.18); parents & teachers: 18-51 yrs; SES: Low R/E: 7% white non-Hispanic	Menu modifications, child-focused healthy lifestyle curriculum, and an adult (teacher- and parent-focused) healthy lifestyle role-modeling curriculum and with an attention control group.	Type: DI, PA Child measures: DI & PA via Healthy Kids Checklist (F&V intake, “junk food” intake, sedentary behavior) Parents’ and teachers’ measures: DI & PA via Healthy Behavior Checklist (F&V intake, “junk food” intake, sedentary behavior).	DI: Intervention parents significantly positively influenced higher fruits/vegetable intake; decrease in junk food consumption. Control parents influenced an increase in their children’s junk food consumption. Teachers did not influence preschool-age children’s nutrition. PA: Control children had a significant increase in sedentary behavior. Teachers did not influence preschool-age children's physical activity patterns.
Sharma et al., (2011)	Design: Convenience sample — pre/post pilot intervention. Location: TX Duration: 6 weeks	Sample: 2 centers, N = 75 Age: 3–5 yrs SES: Low R/E: Hispanic & AA	Coordinated Approach to Child Health for Early Childhood (CATCH Early Childhood). There were four major components of the intervention: (1) Teacher-led, nutrition-based classroom curriculum “It’s Fun to Be Healthy!”; (2) Teacher-led PA Box; (3) Parent education and tip-sheets; (4) Teacher training.	Type: DI, PA Measures: PA via SOFIT-P. DI via meal observation.	PA: NS. DI: NS.
Trost et al., (2011)	Design: Quasi-experimental Location: 15 counties in KS Duration: 3 yrs	Sample: 196 family child care homes, N=196 Age: NP SES: NP R/E: NP	Child-care trainers completed a series of train-the-trainer workshops related to promotion of healthy eating and physical activity. Family child-care homes enrolled in the Healthy Kansas Kids program were subsequently guided through a four-step iterative process consisting of (1) self-evaluation; (2) goal setting; (3) developing an action plan; and (4) evaluating progress toward meeting goals.	Type: DI, PA Measures: NAP SACC	DI: Improved healthy eating scores. PA: Improved physical activity scores.



Wright et al., (2015)	Design: Modeling study Location: United States Duration: NP	Sample: Preschool children, N = estimated 6.5 million Age: 2.5-5 yrs SES: not provided R/E: not provided	Changes in beverage, physical activity, and screen time regulations.	Type: DI, PA, ST, Anthro External Measures: Short-term effects on BMI and 10-year healthcare expenditures	ST, PA, DI: Regulatory changes expected to lead children to watch less TV, get more minutes of moderate and vigorous physical activity, and consume fewer sugar-sweetened beverages. External: National implementation could reach 3.69 million children, cost \$4.82 million in the first year, and result in 0.0186 fewer BMI units (95% CI: 0.00592 kg/m2, 0.0434 kg/m2) per eligible child at a cost of \$57.80 per BMI unit avoided. Over 10 yrs, these effects would result in net healthcare cost savings of \$51.6 million (95% CI: \$14.2, \$134). The intervention is 94.7% likely to be cost saving by 2025.
Yin et al., (2012)	Design: Pre/Post quasi-experimental Location: TX Duration: 18 weeks	Sample: 4 centers, N = 384 Age: 3-5 yrs SES: NP R/E: 90% Mexican-American	Míranos! Motor skill development, structured outdoor play, nutrition education and activities, integration of health literacy into classroom activities, staff development and wellness, and engagement of parents for support at home.	Type: PA, DI, ST, Anthro Measures: PA via LAP-3 and pedometer on three consecutive days. DI via NDSR and aggregated plate waste measure. ST via parent survey. BMI measured.	PA: Improved gross motor development center and outdoor play intensity. DI: Improved consumption of fruits, vegetables, and low-fat milk. ST: NS. Anthro: Weight gain was less for combined center and home intervention.
OTHER					
Herman et al., (2012)	Design: Pre/post Location: PA, TX, AZ, RI, NY Duration: 6 months	Sample: 75 centers, N = 112 Age: 3-5 yrs SES: Low parental EL R/E: Parents were 33.3% White, 32.4% Hispanic/Latino, 14.8% AA	Eat Healthy, Stay Active! Teacher training and TA provided. Parent training and incentives. Nutrition and PA lessons, and field trips to farmer's market and grocery store for children.	Type: Anthro Measures: BMI	Anthro: Decrease in BMI and % obese.
Rhemtulla and Tucker-Drob, (2011)	Design: Longitudinal, Early Childhood Longitudinal Study-Birth Cohort Location: United States Duration:	Sample: N=10,201 children, n=8,300 assessed at age 4, n=6,800 assessed at age 5, n=1,850 assessed at age 6 Age: 4, 5, and 6 SES: NP R/E: 41.4% White, 15.9% AA, 20.5% Latino/Hispanic, 11.3% Asian, and 10.8% other	Gross motor skill development including jumping, balancing, hopping, skipping, walking backwards, catching a bean bag	Type: Cognitive Measures: Reading, vocabulary, mathematics, and oral language.	PA: The rates of developmental change in every domain (motor and cognitive) were positively inter-correlated with a common factor, which accounted for an average of 42% of individual differences in change.

AA: African American. BMI: body mass index. CACFP: Child and Adult Care Food Program. CARs: Children's Activity Rating Scale. CMH: Color Me Healthy. DI: dietary intake. EL: education level. FFQ: Food Frequency Questionnaire. FMS: fundamental movement skills. F/U: follow up. HEL: high education level. LAP-3: Learning Achievement Profile Version 3. LPA: Light physical activity. LEL: low education level. LMS: locomotor skill. M: migrant. MoTB: Motor Test Battery. MUAC: mid-upper arm circumference. MVPA: moderate to vigorous physical activity. N: sample size at baseline. NAP SACC: Nutrition and Physical Activity Self-Assessment for Child Care. NDSR: Nutrition Data System for Research. NM: non-migrant. NP: not provided. NS: not significant. OSRAC-P: Observational System for Recording Activity in Children-Preschool Version. OSRAP: Observation System for Recording Activity in Preschools. PA: physical activity. POEMS: Preschool Outdoor Environment Measurement Scale. PDMS: Peabody Developmental Motor Scales. QA: quality assessment. RDNs: registered dietitian nutritionists. R/E: race/ethnicity. SLJ: standing long jump. SNAP: Supplemental Nutrition Assistance Program. SOFIT-P: System for Observing Fitness Instruction Time for Preschoolers. SPARK: Sports, Play, and Active Reaction for Kids. ISS: Intervention Strength Score. ST: screen time. TA: teaching assistant. TGMD: Test of Gross Motor Development. VPA: vigorous physical activity. WTHR: weight to height ratio.