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Results From a Four-State Pilot Study of the Childcare Survey of Activity and Wellness (C-SAW), 2021

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Abstract

Approximately 12.5 million young children are cared for in early care and education (ECE) settings at least once per week, making ECE an important setting to support nutrition, physical activity (PA), breastfeeding, and other health and wellness topics. National standards have been developed for the ECE setting, but the extent to which nutrition and PA standards are being translated to everyday policies and practices is unknown, as information has not been collected in a consistent way across states and communities. This brief report provides descriptive data from 221 ECE centers in four states in 2021 using a standardized survey called the Childcare Survey of Activity and Wellness (C-SAW). Information on the development, piloting, resulting descriptive data, and future implications for C-SAW in public health practice are presented in this brief. The C-SAW survey and all ancillary materials are freely available for use by public health professionals in states and communities to better understand ECE programs in their jurisdictions or to evaluate efforts to improve nutrition, PA, breastfeeding, and other health topics over time.

Keywords

early care and education; child care; nutrition; physical activity; obesity; survey development; surveillance

Childhood obesity affects communities across the United States. Studies indicate that children who have overweight at kindergarten entry are at greater risk of having obesity in eighth grade compared with those who do not (Cunningham et al., 2014). The Centers for Disease Control and Prevention (CDC) Division of Nutrition, Physical Activity, and Obesity works to improve early care and education (ECE) settings, where approximately 12.5 million young children spend time (Cui & Natzke, 2021), in collaboration with state

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Authorship contribution statement

Carrie Dooyema: conceptualization, data curation, investigation, writing-original draft, reviewing, and editing. Kelly Dahl: conceptualization, methodology, formal analysis, writing-original draft, reviewing, and editing. Nora Geary: conceptualization, methodology, investigation, writing-original draft, reviewing, and editing. Margaret West: project administration, writing-reviewing and editing. Marissa Scalia Sucosky: project administration, writing-reviewing and editing.

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and local health departments and partner organizations (Centers for Disease Control and Prevention, 2024).

National standards have been developed for nutrition, physical activity (PA), and other health topics for the ECE setting and are contained in the *Caring for Our Children* publication. In 2010, a national advisory committee reviewed the scientific evidence on nutrition and PA policies and practices in ECE settings that were most likely to prevent childhood obesity. This review identified 47 obesity prevention standards deemed by the national advisory committee as having high impact on obesity prevention when embedded in policies and practices of ECE programs (American Academy of Pediatrics et al., 2019). However, the extent to which nutrition and PA standards are implemented in actual ECE programs' policies and practices is unknown. One potential solution is a standardized survey that public health professionals can use across states to track policies and practices and monitor progress.

In 2017, CDC began working with Westat, a research company, to develop and pilot a survey titled the *Childcare Survey of Activity and Wellness (C-SAW)*. C-SAW collects data on the policies and practices of ECE centers related to nutrition, PA, and wellness to allow for comparison with national standards. C-SAW was created as an innovative solution to address the paucity of data on ECE program policies and practices in states and communities. This paper describes results from a C-SAW pilot study conducted in four states in 2021.

METHOD

Study Design

Four pilot states—Arizona (AZ), Florida (FL), New York (NY), and Ohio (OH)—were selected for participation. Public health professionals within state health departments in each of the four states served as the points-of-contact to help carry out the survey in their respective states, with the support of Westat staff. These four states were selected to ensure a variety of state licensing structures and geographic locations, thus maximizing opportunities for learning during the pilot. To develop the sampling frame, each state health department point-of-contact obtained a list of legally operating ECE programs in each of the four pilot states, and research staff at Westat used these lists to create a stratified sampling frame. Systematic sampling was used to select a set number of ECE program sites within each state. Each state's sample was proportionally allocated to strata, which were formed by program type or license status. Within strata, the sampling units were sorted by key frame variables (urbanicity, capacity, and, in OH, quality rating) and selected with equal probabilities. Selected ECE centers were recruited to participate in this voluntary, one-time survey and mailed a recruitment letter tailored to their state. The sample included only ECE centers serving children aged 0 to 5 years but not yet in kindergarten, and Head Start and preschool programs. This survey does not evaluate the Head Start program, but it does include assessments of centers in which Head Start is offered.

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Survey Instrument

A consultative review process by ECE subject matter experts was used to develop the survey. The C-SAW instrument draws from various existing surveys and includes items in nine areas including program demographics (18 questions), nutrition (19 questions), PA (7 questions), staff training (3 questions), and other health and wellness topics (7 questions). The survey was to be completed by the ECE's director, who would be knowledgeable about the ECE center's policies and practices. The survey was pre-tested with the help of state health department points-of-contact, who identified nine ECE directors for pre-testing.

The study and its materials were approved by the Westat IRB and the Office of Management and Budget (OMB control #0920–1277). Data collection was scheduled to begin in March 2020; however, it was delayed due to the COVID-19 pandemic and eventually took place from April 15 to June 29, 2021.

Data Collection

A sample of 1,284 ECE centers within the four pilot states was recruited, comprised of 289 centers in AZ, 299 centers in FL, 400 centers in NY, and 296 centers in OH. Each center was mailed a letter introducing the survey, objectives, incentive for participation ($20 gift card), and instructions for completion via web-based survey. Three states (AZ, NY, OH) included endorsements from state agencies and other organizations that work with ECE programs in their state. Reminders were sent 2 weeks after initial communication, and nonrespondents were sent a letter and hardcopy of the survey 4 weeks later, allowing nonrespondents to fill out a paper copy if they preferred. Assistance was offered via email and a toll-free phone number.

Data Analysis

Data were cleaned and analyzed using SAS (9.4, Cary, NC). Unweighted, pooled data were used to calculate descriptive statistics for key variables.

RESULTS

The response rates across states were 14.0% in NY, 19.9% in OH, 20.4% in FL, and 27.0% in AZ. Respondents who provided only part-day programming were removed, and data from full-day centers in Arizona ($n = 66$), Florida ($n = 56$), New York ($n = 53$), and Ohio ($n = 46$) were pooled, yielding a final analytic sample of 221 ECEs. About 75% of respondents filled out C-SAW online.

Demographics and Program Structure

Of the responding ECE programs, 58% had children less than 1 year of age in their care, whereas nearly all cared for 3- to 5-year-olds (Table 1). Thirty-seven percent enrolled 50 or more children, and 53% were for-profit. Respondents reported various sources of federal funding including child care subsidies (72%), public pre-kindergarten (33%), and Head Start or Early Head Start (14%). Fifty-two percent reported participating in the Child and Adult Care Food Program or the National School Lunch Program.

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Physical Activity Practices

National standards promote children's active play and outdoor time while in ECE programs (American Academy of Pediatrics et al., 2019). Eighty-three percent of respondents met or exceeded the national standard for total PA time for toddlers (60–90 min per 8-hour day) and 57% met or exceeded the national standard for 3- to 5-year-olds (90–120 min per 8-hour day). Most respondents (84%) stated they take children outdoors twice a day or more.

Other Health and Wellness Practices

Respondents were asked questions about several health and wellness topics. Eighty-one percent said they have a space for parents to breastfeed, whereas 32% said they see children who do not appear to be getting enough food at home "sometimes," "often," or "very often." Fifty percent said they participate in farm to ECE activities, 73% report no screen time for children below 2 years, and 30% report no screen time for children 2 to 5 years. See Table 1 for other results related to use of developmental screening tools, experiences related to challenging child behavior, and trainings for staff.

Quality Improvement Efforts

In addition, respondents were asked if they had engaged in activities to improve nutrition or PA in the last 12 months. Activities included use of an assessment tool to review the programs' nutrition and PA policies and practices (35%), earning a special recognition or designation for nutrition and PA practices (19%), and using a curriculum for healthy eating (46%) or PA (52%).

Nutrition Practices

Finally, responses to nutrition questions were provided by 191 centers who reported providing meals and snacks for the children in their care (Table 2). Of these, 12% reported not serving fruits at all or not serving fruits every day in the last week, whereas 19% reported serving one time per day, 46% reported serving two times per day, and 23% reported serving three times per day or more. For vegetables, 21% reported not serving at all or not serving every day in the last week, 46% reported serving one time per day, 22% reported serving two times per day, and 11% reported serving three times per day or more. In addition, 51% reported serving no juice last week, whereas almost all reported not serving sugar sweetened beverages (97%) or flavored milk (91%).

DISCUSSION

This paper describes the nutrition, PA, and wellness policies and practices of ECE centers in four states from data collected with the assistance and support of public health practitioners in these states. Because this survey was cross-sectional across a relatively small number of programs in four states, data are not generalizable nationally and rather provide a snapshot of policies and practices in these states. This snapshot suggests that ECE programs have high uptake of some practices, such as outdoor time and not serving sugar-sweetened beverages, whereas other areas, such as serving vegetables and supporting Farm to ECE activities, might have room for growth. Programs have undertaken various activities to

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support the health of children in their care, including curriculums, assessment tools, and recognition programs.

One of the challenges in understanding the policies and practices of ECE centers more universally is the lack of consistent data. The practices of ECE programs can vary widely, and a mechanism does not exist to obtain data to ascertain gaps, needs, or progress on meeting best practices unless each state or community were to develop and field their own survey. However, the bandwidth, expertise, and funding to create and field a survey varies by state or community. While state- and locally-developed survey tools can be useful, this approach does not allow for aggregation or comparison across states or jurisdictions.

One goal of C-SAW was to assess the ease or difficulty of public health practitioners obtaining complete lists of ECE centers within a state for sample frame development, and to determine response rate, feasibility, and acceptability of implementation. CDC partnered with public health practitioners within state health departments, and these partners were instrumental in obtaining ECE center lists, promoting the survey, and using the resulting data. Successful strategies that pilot states used included leveraging existing relationships with key partners, such as state licensing agencies, and in Arizona, including a letter from the state licensing agency in the survey recruitment package itself, both of which likely facilitated survey administration. C-SAW used a systematic sampling strategy to select ECE programs, yielding a response rate between 14% and 27%. While C-SAW was fielded during the COVID-19 pandemic, this rate is comparable to those of other state ECE surveys (Byrd-Williams et al., 2019; Stephens et al., 2021; Williams et al., 2021). Those responding, however, could have different practices than those who did not, and nonresponse bias is a limitation. Future C-SAW efforts might consider strategies such as additional reminders, partnerships, or activities that state and local public health practitioners could undertake to increase response rates. Regarding feasibility, there was strong engagement from state health department staff and their partners. States or localities interested in fielding C-SAW would need to consider aspects such as capacity and resources, which could include fiscal and staffing, for sample frame development, survey administration, and data management. While acceptability among nonrepondents is unknown, most respondents (92%) stated the survey was easy or very easy to complete, and 75% reported completing it in 30 minutes or less (data not shown).

Implications for Practice

C-SAW offers public health practitioners in states and communities the opportunity to use a survey developed by experts and piloted in four states to gather data on ECE nutrition and PA in their jurisdictions. Additional questions could be developed to gather data on topics such as lead testing, infectious disease, or state- or community-specific health priorities in states or localities. In an environment of public health resource constraints, both fiscal and human, C-SAW can save survey development costs as a free, public-access, cognitively-tested survey for public health practitioners in jurisdictions to independently administer. This tool can help states and communities to better understand ECE programs in their jurisdictions and to track and evaluate efforts to improve nutrition, PA, and breastfeeding over time.

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TABLE 1

Descriptive Findings Related to Program Structure and Health and Wellness Topics, by State and Overall, Childcare Survey of Activity and Wellness (C-SAW), 2021 (N = 221)

ECE program structure or practice	Percentage of programs with this structure or practice				
	Arizona n = 66	Florida n = 56	New York n = 53	Ohio n = 46	Overall N = 221[a]
Program Demographics and Structure					
For-profit	53.2	58.2	36.5	66.7	53.3
Administers childcare at a single site	58.5	81.1	51.9	55.6	61.9
Head Start or Early Head Start	8.9	14.6	18.2	14.6	13.7
Receives childcare subsidies	75.0	76.4	60.0	73.9	71.6
Public pre-kindergarten programming	21.8	50.0	37.5	22.2	32.7
Cares for infants below 1 year of age	43.9	60.7	52.8	82.6	58.4
Enrolls 50 or more children	28.1	45.5	37.5	40.0	37.0
Physical Activity Practices [b]					
60 or more min of total daily PA time for children aged 1–2 years	86.4	80.8	80.0	83.3	82.6
90 or more min of total daily PA time for children aged 3–5 years	61.5	58.2	51.0	57.8	57.4
Takes children aged 1–5 years outside two or more times per day	87.9	92.7	60.8	91.3	83.5
Other Health and Wellness Practices [b]					
Has space available for parents to breastfeed	81.8	76.8	73.5	93.3	81.0
Has agriculture or nutrition education “Farm to Early Care and Education” activities	45.5	42.9	52.9	61.4	49.8
Grows fruits, vegetables, and/or herbs on- or off-site	37.5	20.0	21.6	25.0	26.6
Staff report seeing children who do not appear to be getting enough to eat at home “sometimes,” “often,” or “very often”	39.4	17.9	25.0	45.7	31.8
Never has screen time for children below 2 years old	88.6	70.5	87.1	51.3	73.2
Never has screen times for children aged 2–5 years	39.1	19.6	45.1	13.0	30.2
Conducts developmental screening using a validated tool (such as the *Ages and Stages Questionnaire)* within 3 months of program enrollment for all children	33.9	42.3	48.0	65.2	46.0
Asked a parent/caregiver to pick up a child early because of challenging behaviors such as hitting, kicking, biting, tantrums, or disobeying	58.5	47.1	34.0	52.2	48.6
Sent a child home for 1 day or more because of challenging behaviors	42.2	34.0	20.0	42.2	34.9
Told a parent/caregiver their child can no longer attend their program because of challenging behaviors	9.4	22.0	18.0	37.8	20.6
Quality Improvement Efforts [b]					
Has accreditation from a national, state, and/or local organization	34.9	39.3	21.2	9.1	27.5

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ECE program structure or practice	Percentage of programs with this structure or practice				
	Arizona *n* = 66	Florida *n* = 56	New York *n* = 53	Ohio *n* = 46	Overall *N* = 221[a]
Participates in a local or statewide Quality Rating and Improvement System	60.6	43.6	19.2	84.8	51.6
Participates in the Child and Adult Care Food Program or the National School Lunch Program	46.7	56.6	47.2	60.9	52.4
Earned a special designation for nutrition or PA practices	23.1	21.1	10.0	20.0	18.9
Leadership has completed professional development related to child nutrition	70.8	59.6	67.9	65.2	66.2
Used an assessment tool to review nutrition and PA policies and practices	69.2	21.2	22.0	17.8	35.4
Used a curriculum or lesson series on healthy eating	35.4	69.2	38.0	44.4	46.2
Used a curriculum or lesson series on PA	38.5	73.1	44.0	54.4	51.6

[a]To decrease survey burden, all survey questions were optional. In addition, some items were not answered by all respondents due to skip patterns (e.g., if a center does not serve 0–2-year-olds, they would not have a screen time policy for this age group and would not have been given the option to answer this question). Thus, the number of responses for each item, out of a possible 221 programs, ranged from 149 to 221.

[b]Respondents were asked whether their program had engaged in this activity or practice in the past 12 months, unless otherwise specified.

ECE=Early Care and Education; PA=Physical Activity

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TABLE 2

Nutrition Practices, Childcare Survey of Activity and Wellness (C-SAW), 2021 (N = 191)

Nutrition practice: During the last week, how many times per day were children aged 1 to 5 years served…	Percentage of programs serving item at each frequency[a]				
	Not served at all	Served some days but not everyday	1 time per day	2 times per day	3 or more times per day
100% fruit juice	51.1	30.3	10.6	6.9	1.1
Sweet drinks that are not 100% juice	96.8	2.6	0.5	0.0	0.0
Flavored milk	90.5	4.2	1.1	3.2	1.1
Fruit	2.7	9.6	19.2	45.7	22.9
Vegetables	6.4	14.4	45.7	22.3	11.2
Fried or pre-fried potatoes	71.3	19.2	8.0	1.1	0.5
Fried, pre-fried, or breaded meats	47.0	31.9	14.1	4.9	2.2
Sweet baked goods	69.3	22.2	6.4	1.6	0.5
Salty snacks	38.1	30.2	18.5	7.9	5.3

[a]Only programs that indicated that they provide one or more meals or snacks are included in this table.