The 2013 Washington State Survey of Nutrition and Physical Activity in Child Care

University of Washington Center for Public Health Nutrition

uwcphn

Full Report

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Report Contents

Executive Summary

Healthy eating and physical activity are crucial for child health and development, school readiness, and for children to achieve their full potential. Early care and education settings are widely recognized as critically important places to support children to maintain healthy weight, enjoy active lives, eat nutritious foods, and develop healthy habits. More than 128,000 children in Washington are enrolled in licensed child care,[1] yet we know little about nutrition and physical activity practices in these settings. To fill this gap, the Washington State Department of Health and Public Health - Seattle & King County jointly funded University of Washington Center for Public Health Nutrition (CPHN) to conduct the first statewide survey of nutrition and physical activity in child care.

The purpose of the survey was to better understand the nutrition, physical activity and screen time practices and environments of Washington's licensed child care centers ("Centers") and family home child care (FHCC). The results will be used to inform strategies to assure that every young child has access to healthy food and physical activity while in child care.

In the fall of 2013, CPHN invited all licensed child care programs caring for children 2-5 years of age in Washington state to participate in the survey. Programs could complete an online or paper survey, and the surveys were offered in English or in Spanish.

- 46% of Centers completed the survey (692 out of 1,522 Centers)
- 32% of FHCCs completed the survey (1,281 out of 4,013 FHCCs)
- 36% of all programs licensed to care for children ages 2-5 completed the survey (1,973 out of 5,540 total programs)

The 1,973 programs that completed the survey have the capacity to care for nearly 60,000 children.

This report provides an analysis and evaluation of the extent to which Washington's licensed child care programs are following national best practice standards to prevent childhood obesity.[2] In particular, the results show the percent of Centers and FHCCs that follow 22 healthy eating and 10 physical activity and screen time best practices established by the American Academy of Pediatrics, American Public Health Association and the National Resource Center for Health and Safety in Child Care and Early Education. Most of the standards addressed in the survey were selected from *Caring for Our Children: National Health and Safety Performance Standards, Third Edition (CFOC3)*,[3] the most highly regarded resource for early care and education standards. A few examples of the types of practices highlighted in the report are listed below.

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[1]Moore D. Washington State University. 2012. Technical Report 12-057. http://www.del.wa.gov/publications/research/docs/LicensedChildCareInWashingtonState_2012.pdf

[2]American Academy of Pediatrics (AAP), American Public Health Association (APHA), and National Resource Center for Health and Safety in Child Care and Early Education (NRC). *Preventing Childhood Obesity, CFOC3.* 2010. http://cfoc.nrckids.org/StandardView/SpcCol/Preventing_Childhood_Obesity

[3]AAP, APHA, NRC. *CFOC3.*2011. http://cfoc.nrckids.org/

Healthy Eating	Fruits and vegetables are served twice daily Whole grains are served daily Fried foods and sugary treats are limited or not served No sugary drinks served Drinking water is readily available for children to self-serve Milk served to children ages two and older is low-fat or fat-free Providers model healthy mealtime behaviors
Physical Activity	Children play outside, even when the weather is rainy, cold, snowy or hot Children get the recommended amounts of daily physical activity Structured physical activity led by an adult is provided every day Providers encourage children to be physically active and often join in
Screen Time	Screen time is avoided or limited Screen time is free from commercials and advertising Screen time is never used to encourage or reward desired behavior

The results of the survey draw attention to areas where child care programs have healthy practices, as well as areas where child care programs may need more support to meet the national best practice standards.

In particular, the findings suggest that many child care programs follow healthy beverage practices such as:

- never serving sugary drinks or flavored milk
- serving low-fat or fat-free milk to children age two and older
- limiting 100% fruit juice

However, the survey results also show that many child care programs are not following other healthy practices such as:

- serving enough fruits, vegetables, and whole grains
- providing more opportunities for physical activity and active play

Finally, the report ends by listing various opportunities for Washington's state and local agencies and communities to support child care programs in meeting the recommended standards to promote health and school readiness in young children. These include improvements in licensing and administrative regulations, inclusion of nutrition and physical activity criteria in Washington's QRIS, Early Achievers, and additional financial and technical assistance for child care providers.

The 2013 Washington State Survey of Nutrition and Physical Activity in Child Care

Background

Child care and early education settings are in a unique position to help prevent childhood obesity

Early childhood is a critical time when children start to develop eating and physical activity habits that can impact their health throughout the course of life.[4,5] According to recent data from the National Health and Nutrition Examination Survey (NHANES), nearly 27 percent of children aged 2-5 are overweight or obese.[6] Children who are overweight are five times more likely to be overweight as adults.[7] This puts them at risk for many significant chronic diseases including heart disease and type 2 diabetes.[8] Being overweight or obese can also harm children's psychological, emotional and social well-being[9] and their academic achievement.[10] In contrast, healthy nutrition and physical activity behaviors and fitness are linked with higher academic performance.[11,12,13] Children under age six spend an average of nearly 30 hours per week in child care.[14] Some studies show that children who spend more time in child care may be at greater risk for obesity than children who spend less or no time in child care.[15,16,17] Many national public health organizations focus on early care and education as a key area for the development of healthy behaviors in young children and to prevent childhood obesity.[18,19,20,21]

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[4]Birch LL et al. *Pediatrics*. 1998;101(3 Pt 2):539-549.
[5]Lambourne K et al. *Pediatr Clin North Am*. 2011;58(6):1481-91, xi-xii. NLM.
[6]Ogden CL et al. *JAMA*. 2012;307(5):483-490.
[7]Whitaker et al. *N Engl J Med*. 1997;337(13):869-873.
[8]National Institutes of Health. 1998. No. 98-4083. Accessed 9/2/2014: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf
[9]Ibid.
[10]Kamijo K et al. *Obesity (Silver Spring)*. 2012;20(12):2406-2411.
[11]Edwards JU et al. *J Sch Health*. 2011;81(2):65-73.
[12]Ickovics JR et al. *J Sch Health*. 2014;84(1):40-48.
[13]Tomporowski PD et al. *Educ Psychol Rev.* 2008;20:111-31. Accessed 9/2/2014: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2748863/
[14]National Center for Education Statistics. *Digest of Education Statistics*. 2009. Table 44. http://nces.ed.gov/programs/digest/d09/tables/dt09_044.asp
[15]Geoffroy MC et al. *J Pediatr*. 2013;162(4):753-758.e1.
[16]Benjamin SE et al. *Pediatrics*. 2009;124(2):555-562.
[17]Maher EJ et al. *Pediatrics*. 2008;122(2):322-330.
[18]Institute of Medicine. NAP. 2011. http://www.iom.edu/Reports/2011/Early-Childhood-Obesity-Prevention-Policies.aspx
[19]American Academy of Pediatrics (AAP), American Public Health Association (APHA), and National Resource Center for Health and Safety in Child Care and Early Education (NRC). *CFOC3.* 2011.
[20]NRC. *ASHW.* 2013.
[21]Centers for Disease Control and Prevention (CDC). N.D. http://www.cdc.gov/obesity/downloads/spectrum-of-opportunities-for-obesity-prevention-in-early-care-and-education-setting_tabriefing.pdf

Child care and early education settings in Washington State

An estimated 128,000 children in Washington are enrolled in licensed child care. Nearly 70 percent of all Washington children in child care attend full-time (25 hours per week or more).[22] Toddlers and preschoolers (children ages 2-5) represent the largest number and proportion of children in care (almost 25 percent).

Family Home Child Care (FHCC) is typically offered by individuals in their homes to a small number of children.

Child Care Centers ("Centers") typically care for more than 12 children and are often located in schools, office buildings, churches, large facilities, etc.

Types of licensed child care

There are three types of licensed child care programs in Washington: Family Home Child Care (FHCC), Child Care Centers ("Centers"), and School-Age Child Care programs. As of August 2013, Washington had 5,540 licensed child care programs caring for children ages 2-5. About 72 percent (4,013) of these programs were licensed FHCC owners/providers.[23] Centers made up 27 percent (1,522) of these licensed child care programs, but Centers cared for about 82 percent of all 2-5 year olds.[24]

Washington State child care regulations

Washington requires licensed child care programs to follow rules and regulations described in the Washington Administrative Code (WAC). The Washington State Department of Early Learning (DEL) oversees child care licensing and rule making.[25] DEL recently revised the licensing rules for FHCC programs, and these rules took effect in March 2012. In 2012, DEL started to review the licensing rules for Centers. This would have been the first substantial update to the Center WACs since 2003. However, DEL postponed the revision process for Center licensing rules due to budgetary constraints.[26] The WACs for licensed child care address a variety of physical, environmental, and administrative rules. They also specify how many initial and continuing state training and registry system (STARS) training credits child care providers must achieve annually. Although some states require training in healthy eating, physical activity or screen time for children, Washington does not.[27,28,29]

[22]Moore D. Washington State University. 2012;Technical Report 12-057. http://www.del.wa.gov/publications/research/docs/LicensedChildCareInWashingtonState_2012.pdf
[23]Ibid.
[24]Ibid.
[25]Washington State Department of Early Learning (DEL). http://www.del.wa.gov/laws/rules/licensing.aspx
[26]DEL. http://del.wa.gov/laws/development/center.aspx
[27]WAC 170-295-1060. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-295&full=true#170-295-1060
[28]WAC 170-296A-1150. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-296A-1150
[29]WAC 170-296A-1175. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-296A-1175

National nutrition and physical activity standards for child care

In 2010, the American Academy of Pediatrics, the American Public Health Association, the National Resource Center for Health and Safety in Child Care and Early Education (NRC), and the Maternal and Child Health Bureau of the U.S. Department of Health and Human Services pre-released a subset of select national standards describing evidenced-based best practices in nutrition, physical activity, and screen time for early care and education programs. This subset of standards is part of the comprehensive 2011 *Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs, Third Edition* (CFOC3).[30] CFOC3 is considered the most highly regarded resource for early care and education standards for child health and safety. Backed by scientific evidence and expert review, CFOC3 standards promote healthy behaviors in young children and directly support efforts to prevent childhood obesity. For example, the CFOC3 standards support the national *Let's Move! Child Care*[31] campaign, an initiative that champions the development of healthy lifestyle habits in early care and education programs.

Since 2010, NRC has tracked states' child care regulations and compared these regulations with 47 "high-impact" CFOC3 standards for infant feeding, nutrition and physical activity/screen time. As of 2012, the WACs fully addressed 6-out-of-47 CFOC3 standards consistently across *both* Centers and FHCC licensing regulations (data not shown).[32]

As shown in **Table 1**, the current WACs for Centers and FHCCs do not consistently address the CFOC3 standards. For example, the Center WACs fully include only 8-out-of-47 standards whereas the FHCC WACs fully include only 12-out-of-47 standards.[33]

Table 1. Number of CFOC3 standards for infant feeding, nutrition, and physical activity/screen time, and number of Center and FHCC WACs that fully address them[a]

	CFOC3 standards to prevent childhood obesity in child care[a]	Center WACs[b] that fully address the standards	FHCC WACs[c] that fully address the standards
Infant Feeding	11	5	4
Nutrition	21	1	4
Physical Activity and Screen Time	15	2	4
Total	47	8	12

[a]Adapted from Table 1 in NRC. *ASHW.* 2013.
[b]WAC 170-295. *Minimum Licensing Requirements for Child Care Centers*. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-295&full=true
[c]WAC 170-296A. *Licensed Family Home Child Care Standards*. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-296A

[30]AAP, APHA, NRC. *CFOC3.* 2011.
[31]The Nemours Foundation. *Let's Move! Child Care.* http://healthykidshealthyfuture.org/home/welcome.html
[32]Ibid. **Table 2.**
[33]NRC. *ASHW.* 2013. **Table 1.**

Early Achievers, Washington's quality rating and improvement system (QRIS)

Many states have established quality rating and improvement systems (QRIS). A QRIS is a voluntary approach to improving the quality of early care and education programs. Early Achievers, Washington's QRIS, rates the quality of child care and early learning programs on a scale of 1 to 5 based on defined standards and quality measures related to instruction, staff training, and family engagement. These ratings are used to communicate to the public how well participating programs are meeting the standards.

DEL partners with Child Care Aware of Washington and the University of Washington to offer Early Achievers statewide. Early Achievers incentives include professional training, scholarships, coaching, technical assistance, and quality improvement grants as well as the quality rating system. A 2014 DEL progress report indicated that by the end of 2013, nearly 61,000 children were cared for by 1,796 licensed programs (754 Centers and 1,042 FHCCs, or 33% of all licensed programs in Washington) participating in Early Achievers.[34]

QRISs are used by states to promote quality child care and provide consistent and coordinated messages about the components of quality child care. Nationally, each state uses different quality measures and criteria in their QRIS. Many states have incorporated obesity prevention practices and nutrition, physical activity, and screen time standards into their QRISs to compensate for weak state licensing regulations.[35] Currently, Early Achievers has no quality measures related to any of the high-impact nutrition, physical activity, or screen time standards associated with obesity prevention.[36]

[34]DEL. 2014. http://www.del.wa.gov/publications/laws/docs/RTT_year2.pdf
[35]Gabor V et al. Altarum Institute. 2012. http://altarum.org/sites/default/files/uploaded-related-files/QRIS-Report-22Feb12-FIN_0.pdf
[36]DEL. 2013. http://www.del.wa.gov/publications/elac-qris/docs/EA_Quality_Standards.pdf

The Child and Adult Care Food Program of the U.S. Department of Agriculture (USDA)

The Child and Adult Care Food Program (CACFP) is a federal assistance program of the USDA. In Washington, the Office of Superintendent of Public Instruction (OSPI) administers CACFP. CACFP reimburses participating child care programs for meals and snacks that meet the requirements set by the USDA as defined in the state's CACFP *Creditable Food Guide*.[37] Meals and snacks must meet a daily pattern, which specifies the number of food groups required. For example, CACFP requires that lunch include a fruit or vegetable, a grain, a meat or meat alternate, and milk.

Several studies, including one study[38] conducted in Seattle, have found that child care programs participating in CACFP provide healthier food compared to non-participating child care programs.[39,40,41] Child care regulations in some states include the requirement that child care programs follow the CACFP guidelines, even if not participating in the program. As of 2012, the revised WACs for FHCC programs include the requirement that all meals and snacks provided meet the CACFP guidelines.[42] In 2010, the Institute of Medicine (IOM) released a report outlining recommended revisions to CACFP meal requirements so they meet current dietary guidelines.[43] At the time of writing this report, USDA is currently revising the CACFP meal patterns.

[37]Griffith et al. OSPI. 2007; 04-0025. http://www.k12.wa.us/childnutrition/pubdocs/CreditableFoodsGuideMAR2007FINAL.pdf
[38]Monsivais P et al. *J Am Diet Assoc*. 2011;111(5):721-726.
[39]Ibid.
[40]Sweitzer SJ et al. *J Am Diet Assoc*. 2009;109(1):141-144.
[41]Bruening KS et al. *J Am Diet Assoc*. 1999;99(12):1529-1535.
[42]WAC 170-296A-7500. http://apps.leg.wa.gov/WAC/default.aspx?cite=170-296A&full=true
[43]Institute of Medicine. NAP. 2011. http://www.iom.edu/Reports/2010/Child-and-Adult-Care-Food-Program-Aligning-Dietary-Guidance-for-All.aspx

Overview of Project Methods

The Washington State Department of Health and Public Health - Seattle & King County jointly funded University of Washington Center for Public Health Nutrition (CPHN) to conduct the 2013 *Washington State Survey of Nutrition and Physical Activity in Child Care*. To make sure the survey would meet the needs of stakeholders throughout the state, CPHN called together a statewide advisory team of child care and health experts. The advisory team provided input on key decisions about the project, including the content and design of the survey tools. The advisory team decided the survey's focus would be nutrition and physical activity best practices for children ages 2-5, child care providers' training, challenges, attitudes and beliefs, communication with families, and food procurement.

The purpose of the survey was to better understand the nutrition, physical activity, and screen time practices and environments in licensed child care programs caring for children ages 2-5. Results will be used to inform strategies to assure that every young child has access to healthy food and physical activity while in child care.

CPHN collaborated with advisory team members to develop two self-administered survey tools—one for center directors and one for FHCC owners/providers. The Center Director Survey and the FHCC Provider Survey tools are nearly the same, with slight differences to reflect these distinct child care settings. Four published assessment tools[44,45,46,47] used in earlier statewide surveys served as the basis for the CPHN survey tools.

Both of CPHN's tools contained 82 questions from 12 topic areas. About half of the questions asked child care programs about their healthy eating, physical activity, and screen time practices. For example, the survey asked respondents how often their programs serve various types of foods and beverages, the amount of time provided to children for daily physical activity, and how much screen time children get. With a few exceptions, all of the survey practice questions were based on national, evidence-based standards to promote healthy weight in children in child care settings.[48,49,50,51,52]

[44]Ward D et al. *Go NAPSACC.* 2014. http://gonapsacc.org/resources/nap-sacc-materials
[45]Yale Rudd Center for Food Policy and Obesity. Yale University. 2008. http://www.yaleruddcenter.org/resources/upload/docs/what/communities/ChildCareDirectorSurvey.pdf
[46]Bellanca H. OPHI. 2011. http://www.ophi.org/strategic-projects/healthy-child-care/right-from-the-start-child-care-assessment/
[47]Center for Weight and Health. University of California, Berkeley. 2009. http://cwh.berkeley.edu/sites/default/files/primary_pdfs/Survey_of_Child_Care_Providers_of_2-5_Year_Old_Children_English_Spanish.pdf
[48]AAP, APHA, NRC. *CFOC3.* 2011.
[49]The Nemours Foundation. *Let's Move! Child Care.*
[50]IOM. NAP. 2011. http://www.iom.edu/Reports/2010/Child-and-Adult-Care-Food-Program-Aligning-Dietary-Guidance-for-All.aspx
[51]Ward D et al. *Go NAPSACC.* 2014.
[52]Boyle M et al. Nemours. 2013.

- **Appendix A** provides a full breakdown of the survey topics, as well as web links to the survey tools.

Each of the practice-related questions included definitions and explanations, and each had four or five response choices on a scale of incrementally better practice. For most questions, one response choice indicated the best practice standard (see **text box** to the right).

A **best practice standard** aligns with a national, evidence-based standard for how child care providers can encourage healthy eating and physical activity in child care.[51]

For example, the survey asked respondents how often their programs offer vegetables (excluding corn, potatoes, or beans). The response choices were: *Never*; *2 times per week or less*; *3-4 times per week*; *1 time per day*; or *2 times per day or more*. *Two times per day or more* matched with the best practice standard.

CPHN designed the survey tools in two formats, an online survey and a paper survey. All survey tools and related materials were offered in both English and Spanish, which is the language most often spoken by non-English speaking child care providers.[53]

In September 2013, DEL provided CPHN with a complete list of all Washington child care programs licensed to care for children from birth to age 13. This provider list contained basic information about the programs, including names, location, contact information, child capacity, and age range of children in care. Since nearly 97 percent of the child care programs licensed to care for children ages 2-5 had email addresses on record, the online survey was the primary survey format used. Using online surveys greatly reduced the cost of doing the survey and enabled CPHN to invite all programs licensed to care for children ages 2-5 to participate: 4,013 FHCC providers, 1,522 Centers, and 5 School-Age Centers, for a total 5,540 child care programs. CPHN sent paper surveys to all programs with no email addresses on record and provided paper surveys to any program that called or emailed CPHN to request one.

CPHN closely followed Dillman's Tailored Design Method for internet and mail surveys to contact the survey population.[54] Additionally, CPHN offered incentives for completing the survey. Incentives included access to an online resource guide on nutrition and physical activity in child care settings, as well as entry into a drawing for hundreds of incentives. The incentives included three iPads worth $1,000 each, 20 gift cards worth $50 each, and 350 gift cards worth $10 each.

- **Appendix B** provides a detailed description of the survey methods.

[53] According to Child Care Aware of Washington, almost 92% of child care providers in Washington speak English, and about 32% are bilingual or multilingual. Of the 8% who do not speak any English, most are FHCC providers in central Washington where there is a large Spanish-speaking population. However, there are also smaller populations of non-English speaking child care providers whose first language is Somali, Russian, Ukrainian, or other languages. **Source:** Sampson K. Child Care Aware of Washington. 2013. http://www.childcarenet.org/about-us/data/2012-data-folder/2012-annual-supply-demand-report

[54] Dillman D et al. John Wiley & Sons, Inc. 2009.

Data Analysis

This report uses basic sums and percentages to describe most of the survey findings. Several tables compare the percentages of programs participating in CACFP with non-participating programs that reported to follow best practices for the nutrition survey items. CPHN's hypothesis was that programs in CACFP would be more likely to follow a nutrition best practice, since these programs must follow nutrition guidelines to be reimbursed for the meals and snacks they serve. To test whether the differences between CACFP participating and non-participating programs were statistically significant, CPHN used SPSS to test for the equality of proportions (two-sided Z-test). The p-value for the two-sided Z test was $p<0.05$. In other words, a "significant" difference between CACFP participating and non-participating programs means there is only a 5% chance that the difference in the results is due to error or random chance.

Survey Response Rate

A total of 1,973 surveys were completed by 692 Center respondents and 1,281 FHCC respondents. **Table 2** shows the response rates by type of survey (online or paper) and child care type (Center or FHCC). Over 80% of all survey respondents (1,665) completed the online survey. The overall response rate was 36%. The Center Director Survey had a 46% response rate and the FHCC Provider Survey had a 32% response rate. None of the five schools CPHN contacted completed a survey.

Table 2. Survey response by survey format and child care type

	Total	Centers	FHCCs	Schools
All licensed child care programs in WA caring for children ages 2-5[a]	5,540	1,522	4,013	5
Ineligible[b]	33	11	22	0
Total eligible	**5,507**	**1,511**	**3,991**	**5**
Online surveys emailed	5,364	1,507	3,852	5
online survey respondents	1,665	657	1,008	0
online survey response rate	31%	44%	26%	--
Paper surveys mailed	1,979	291	1,688	0
paper survey respondents	308	35	273	0
paper survey response rate	16%	12%	16%	--
Total survey respondents (online + paper)	**1,973**	**692**	**1,281**	**0**
Total survey response rate	**36%**	**46%**	**32%**	**--**

[a]Licensed as of September 2013.
[b]"Ineligible" includes no longer in business, duplicate record, and not currently caring for children ages 2-5.

The regional response rates for Centers and FHCCs were similar to the overall response rate for the state (**Table 3**). See page 13 for a map of DEL licensing regions across Washington.

Table 3: Survey response by DEL licensing region and child care type

DEL Region		Centers	FHCCs[a]
Northwest	Eligible programs (n)	718	1,856
	Survey response (n)	318	496
	Response rate (%)	**44%**	**27%**
Southwest	Eligible programs (n)	463	923
	Survey response (n)	217	340
	Response rate (%)	**47%**	**37%**
Central	Eligible programs (n)	125	749
	Survey response (n)	58	224
	Response rate (%)	**46%**	**30%**
Eastern	Eligible programs (n)	205	463
	Survey response (n)	99	155
	Response rate (%)	**48%**	**33%**
Washington Total	Eligible programs (n)	1,511	3,991
	Survey response (n)	692	1,281
	Response rate (%)	**46%**	**32%**

[a]Missing data: 66 FHCC surveys could not be linked to the sampling frame containing location data.

To inspect whether the survey respondents were geographically representative of the survey population at large, CPHN compared the distribution of survey respondents to the survey population across the four DEL regions (shown in the map, **Figure 1**). In general, the percent of survey respondents by child care type from each region closely aligned with the percent of total licensed child care providers in each region, with the exception of FHCCs in the Northwest and Southwest regions (**Table 4**).

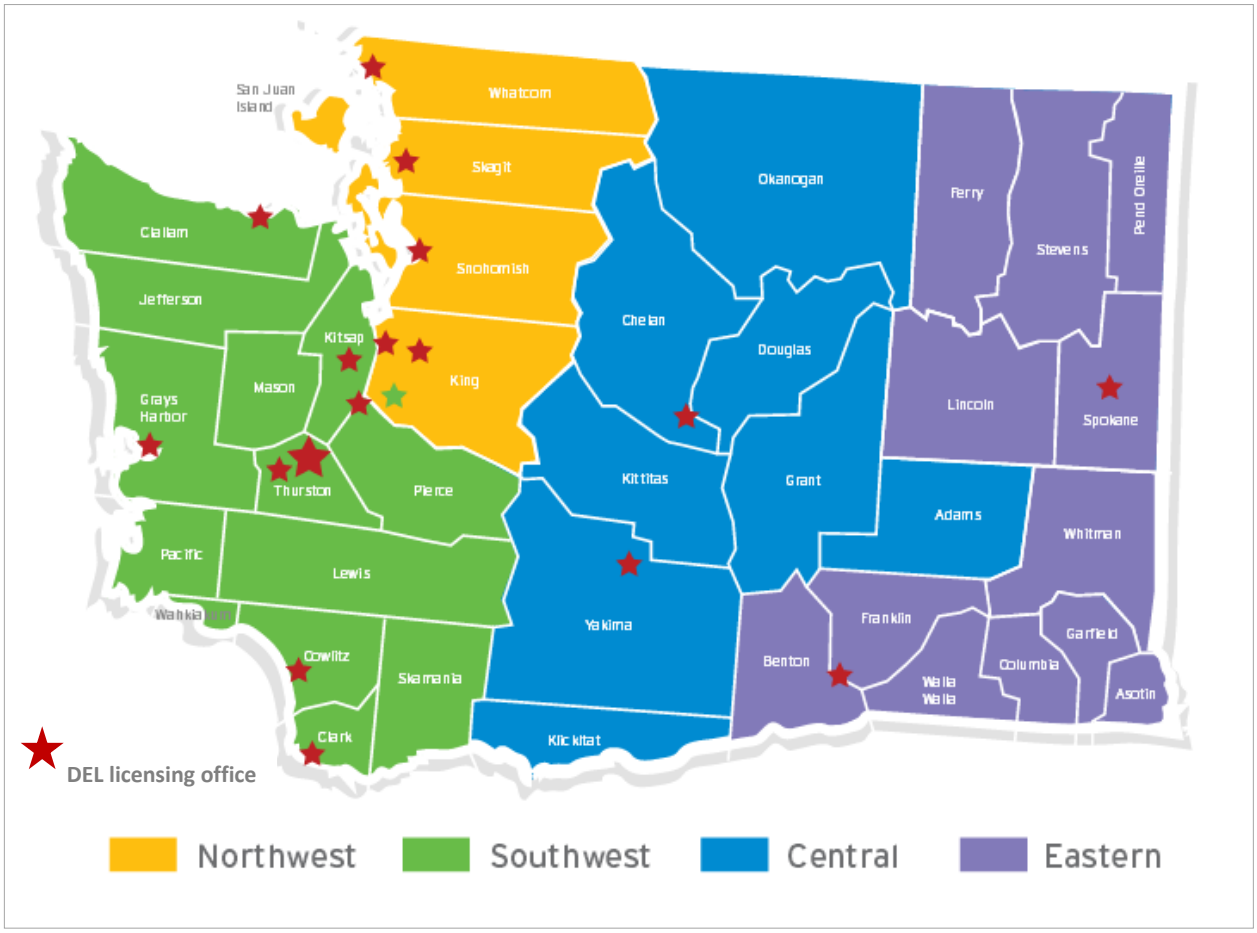
Table 4. Distribution of survey respondents compared to eligible survey population, by DEL region

DEL Region	Centers		FHCCs	
	% of WA Centers	% of survey respondents	% of WA FHCCs[a]	% of survey respondents[b]
Northwest	48%	46%	47%	41%
Southwest	31%	31%	23%	28%
Central	8%	8%	19%	18%
Eastern	14%	14%	12%	13%
Total	100%	100%	100%	100%

[a]Sums to more than 100% due to rounding.
[b]Missing data: 66 FHCC surveys could not be linked to the sampling frame containing location data.

After calculating the survey response rates, CPHN filtered the survey data so that it only included Center and FHCC respondents who reported to care for at least one 2-5 year old. Doing so excluded 23 survey respondents (2 Center and 21 FHCC respondents), resulting in a total study sample of 1,950 survey respondents from 690 Centers and 1,260 FHCCs.

Figure 1. Map of Washington State Department of Early Learning's (DEL) Licensing Regions[55]



[55]DEL. http://www.del.wa.gov/publications/communications/docs/DEL_Licensing_SA_map.pdf

Description of the Survey Respondent Sample

Ninety percent (90%) of the Center respondents identified their role as the center director. Ninety-nine percent (99%) of the FHCC respondents identified their role as the FHCC owner/provider.

Table 5 shows the racial and ethnic breakdown, highest educational attainment, and years employed in child care for Center and FHCC respondents. CPHN collected this data in order to assess how closely the survey respondent sample represents the actual survey population.

Table 6 shows the program characteristics reported by Center and FHCC respondents, including whether a Center has multiple sites or an on-site kitchen, program length (full- or half-day), profit status, participation in Early Achievers, participation in CACFP, and participation in the DSHS subsidy program.

- See **Appendix C** for a detailed comparison of the characteristics from this survey sample to those from the 2012 Child Care Rate and Resource Survey conducted by Washington State University.

Table 5: Demographics of child care survey respondents

	Centers (n= 690)	FHCCs (n= 1,260)
Role		
Center Director (+other roles)[a]	90%	
Center Owner	7%	
Other (Provider/Teacher, Volunteer, Assistant/Office manager)	3%	
Family Home Child Care Owner/Provider		99%
Family Home Child Care Assistant/Helper or Volunteer		1%
Race[b]		
White	84%	69%
Other[c]	5%	14%
Black	3%	5%
Asian	2%	4%
Two or more races/ethnicities	4%	3%
American Indian/Alaskan Native	1%	1%
Ethnicity		
Non-Hispanic or Latino	90%	78%
Hispanic or Latino	10%	21%
Highest Level of Education[d]		
Less than high school	<1%	9%
Completed high school	1%	21%
Some college-level or advanced courses	22%	36%
Associate degree	24%	15%
College graduate	27%	10%
Some graduate-level education	8%	3%
Graduate degree or higher	17%	5%
Years Employed in Child Care[d]		
0-5 years	12%	15%
6-10 years	17%	18%
11-20 years	35%	34%
20+ years	36%	32%

[a]"Other roles": owner, provider/teacher, site supervisor.
[b]Percent totals do not sum to 100 because 48 FHCC and 5 Center respondents did not respond to the question about race.
[c]"Other" includes 26 unique racial identities and many respondents (from 143 FHCCs and 21 Centers) who wrote in *Hispanic or Latino* to the question about race.
[d]Percent total for the FHCC column does not sum to 100 because 12 FHCC respondents did not respond or submitted unreadable responses.

Table 6: Program characteristics

	Centers (n= 690)[a]	FHCCs (n= 1,260)[a]
Center has multiple sites[b]	28%	
Center has on-site kitchen facility[b]	88%	
Program length		
Both full- and half-day	62%	53%
Full-day	35%	46%
Half-day	3%	1%
Profit status[b]		
For-profit	50%	
Non-profit	44%	
Government (tribal, military sponsored, Head Start, community college)	5%	
College or university affiliated	1%	
Enrolled in Early Achievers	62%	35%
Child and Adult Care Food Program (CACFP)[c]		
Currently enrolled in CACFP	55%	65%
Not currently enrolled in CACFP, but enrolled in the past	7%	18%
Never been enrolled in CACFP	36%	14%
DSHS child care subsidy program[d]		
Has one or more families using a DSHS subsidy	76%	60%
Does not accept DSHS subsidies	17%	16%
Accepts DSHS subsidies, but has no families who use subsidies enrolled in child care	6%	24%

[a]Only includes programs that reported to care for children ages 2-5.
[b]Only asked on the Center Director Survey.
[c]10 Centers and 32 FHCCs responded *I don't know* to the survey question about CACFP participation. Missing data: 1 Center response was unreadable and 5 FHCCs did not respond to this question.
[d]DSHS=Department of Social and Health Services. An additional 5 Centers and 5 FHCCs responded *I don't know* to the survey question about DSHS subsidies. Missing data: 1 FHCC response was unreadable and 2 FHCCs did not respond to this question.

- See **Appendix D** for CACFP participation rates for Centers and FHCCs by DEL region.

Using information available in the sampling frame (i.e., DEL's complete list of licensed child care programs), CPHN calculated the total and average child capacity of the Centers and FHCCs that completed the survey. Programs that completed the survey have the capacity to care for nearly 60,000 children. For Centers, the total child capacity was 47,980, with an average capacity of 70 children. For FHCCs, the total child capacity was 11,984, with an average capacity of 10 children.

Table 7 shows the average number of children in care by various age groups, as reported by survey respondents. The average number of 2-5 year olds enrolled in Center-based care was 39 children. For FHCCs, the average number of 2-5 years enrolled in care was five children.

Table 7. Number of children and ratio of children to staff by child care type

	Number of children under 2 years old		Number of children ages 2-5 years		Number of children over 5 years old		Number of children per staff member	
	Mean[a]	SD[b]	Mean[a]	SD[b]	Mean[a]	SD[b]	Mean[a]	SD[b]
Centers	15	15	39	28	15	30	7	11
FHCCs	2	2	5	4	2	2	5	3

[a]Mean is the average.
[b]SD=standard deviation, the range of numbers above and below the mean (average).

The survey also collected information about the meals and snacks provided in child care. Survey respondents reviewed a list of meals and snacks and for each one indicated whether it was prepared by a caterer, the child care program, brought from home, or not offered. According to the results, most Centers (95%) and FHCCs (98%) prepare at least one meal or snack daily. Roughly two-thirds (69% of Centers and 62% of FHCCs) prepare 3-4 meals and snacks a day.

Table 8 shows who prepares the different meals and snacks for all programs combined (Centers and FHCCs). A majority of respondents indicated their program usually prepares breakfast, mid-morning snack, lunch, and mid-afternoon snack. Seventy-four percent (74%) of all programs indicated dinner was not offered, and 81% indicated an after-dinner snack was not offered.

Table 8: Food preparation by type of meal and snack

		All Programs (n= 1,950)[a]
Breakfast	Program prepares	83%
	Not offered	11%
	Kids bring from home	5%
	Caterer prepares	1%
Mid-morning Snack	Program prepares	79%
	Not offered	17%
	Kids bring from home	2%
	Caterer prepares	1%
Lunch	Program prepares	85%
	Not offered	3%
	Kids bring from home	11%
	Caterer prepares	1%
Mid-afternoon Snack	Program prepares	94%
	Not offered	3%
	Kids bring from home	2%
	Caterer prepares	2%
Dinner	Program prepares	24%
	Not offered	74%
	Kids bring from home	1%
	Caterer prepares	<1%
After-dinner Snack	Program prepares	18%
	Not offered	81%
	Kids bring from home	<1%
	Caterer prepares	1%

[a]Only includes Centers and FHCCs that reported to care for children ages 2-5.

Among FHCCs and Centers that participate in CACFP, a greater proportion of Centers than FHCCs reported that children bring lunch from home (23% vs. 5%). A greater proportion of Centers in CACFP prepare lunch compared with non-participating Centers (94% vs. 40%).

Twenty-nine percent (29%) of all Centers said mid-morning snack is not offered from any source compared with 17% of all FHCCs. Among all programs (Centers and FHCCs), breakfast prepared by the

program was commonly reported. However, a greater proportion of programs in CACFP prepare breakfast compared with non-participating programs: 96% of FHCCs in CACFP prepare breakfast compared with 77% of non-participating FHCCs. Similarly, 94% of Centers in CACFP prepare breakfast compared with 46% of non-participating Centers.

- See **Appendix E** for detailed information on Center and FHCC food preparation by type of meal and snack, and by CACFP participation.

Key Findings for Nutrition Practices

The survey asked child care programs how often they serve different types of foods and beverages, and what their meal and snack time environments are like. For most nutrition-related questions, one response choice corresponded with a national best-practice child care standard to promote healthy weight in children.

Table 9 on the following page shows the rates of all programs (Centers and FHCCs) that reported best practices for fruits and vegetables, grains, sweet treats, fried foods and processed meats, milk, drinking water, 100% fruit juice, sugary drinks, and healthy eating environments. The footnotes in Table 9 provide the supporting standard, program, or national campaign for each best practice listed.

Table 9. Nutrition best practices and the percent of licensed child care programs (Centers and FHCCs) following them

Topic	Best Practice	All programs (1,915)[a]
Fruits & Vegetables	**Whole fruit with no added sugars** served twice a day (for half-day programs: at least once a day)[b,c,d,e]	51%
	Non-starchy vegetables served twice a day (for half-day programs: at least once a day)[b,c,d,e]	35%
	Fruit canned in syrup (heavy or light syrup) is never served[b,c]	34%
	"Powerhouse vegetables" (dark green, orange, red, or deep yellow vegetables) served at least once a day[c,d,e]	27%
	Vegetables at snack time at least five times a week[d]	12%
Grains	**Sugary cereal** is never served[b,d]	57%
	Grains high in added sugar and solid fat (muffins, cookies, cakes, brownies, Pop-Tarts®) limited or never served[b,d]	54%
	100% whole grain foods served at least once a day[b,c,d,f]	48%
Sweet Treats	**Sweet treats** (candy, ice cream, frozen yogurt, Popsicles®, gummy fruit snacks) are never served[b,c,f]	41%
Fried Foods & Processed Meats	**Fried potatoes** (french fries, Tater Tots®, hash browns, Jo Jo potatoes) are never served[b,e,f]	33%
	Fried and breaded meat (chicken nuggets, chicken strips, fish sticks, corn dogs) are never served[b,e,f]	23%
	Processed meats (hot dogs, sausage, bacon, salami, bologna, SPAM®, lunchmeat) are never served[b,c,e]	23%
Beverages	**Sugary drinks** (juice drinks, flavored waters, sweet teas, sports drinks, soda) are never served[b,c,d,e,f]	83%
	Flavored milk is never served[d,f]	76%
	100% fruit juice is limited to 4-6 ounce servings twice a week or less[c,f]	65%
	Low-fat (1%) or fat-free (skim) milk is served to children age two and older[b,c,d,e,f]	61%
	Drinking water is indoors and outdoors where it is visible and available for self-serve[c,e,f]	50%
Healthy Eating Environment	Staff rarely or never consume sweets, salty snacks, or sugary drinks in front of children[b,f]	88%
	Food is never used to encourage desired behavior[f]	66%
	Staff sit and eat with children and model healthy mealtime behaviors[f]	63%
	Children always get to decide how much or how little food they eat[f]	46%
	Meals and snacks are served family-style[f]	18%

[a]Only includes Centers and FHCCs that serve or cater at least one meal or snack to children ages 2-5.
[b]Boyle et al. The Nemours Foundation. 2013.
[c]Ward D et al. *Go NAPSACC.* 2014.
[d]IOM. NAP. 2011.
[e]The Nemours Foundation. *Let's Move! Child Care.*
[f]AAP. APHA, NRC. *CFOC3.* 2011.

Fruits and Vegetables

The survey included questions about how often programs serve fruit canned in syrup, whole fruit (not juice) with no added sugars, non-starchy vegetables, high-nutrient ("powerhouse") vegetables, and vegetables at snack time. For full-day programs, the best practice is to serve non-starchy vegetables and fruit with no added sugars at least twice a day (for half-day programs the best practice is at least once a day). Other best practices are to never serve fruit canned in syrup, to serve high-nutrient (dark green, orange, red, or deep yellow) vegetables at least once a day, and to serve vegetables at snack time five times a week (**Table 9**). **Figures 2-6** show the distribution of all provider responses to questions about how often fruits and vegetables are served in child care.

Figure 2. Serve fruit with no added sugars

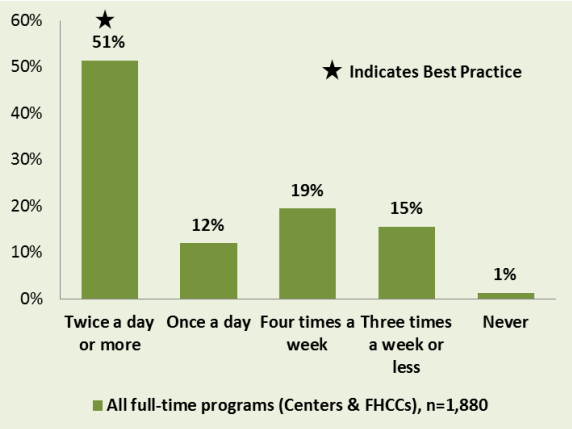


Figure 3. Serve non-starchy vegetables (not potatoes, corn, or beans)

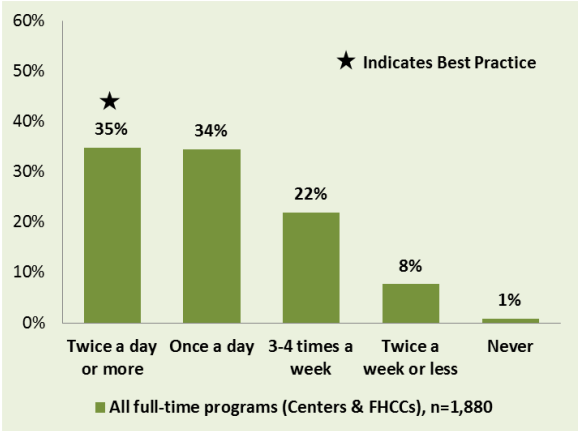


Figure 4. Serve fruit canned in syrup (heavy or lite)

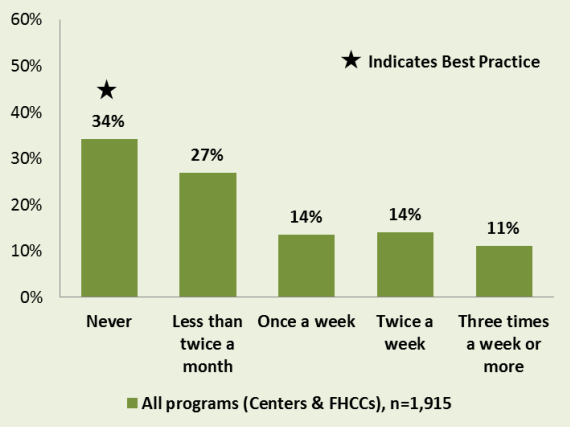


Figure 5. Serve dark green, orange, red, or deep yellow vegetables

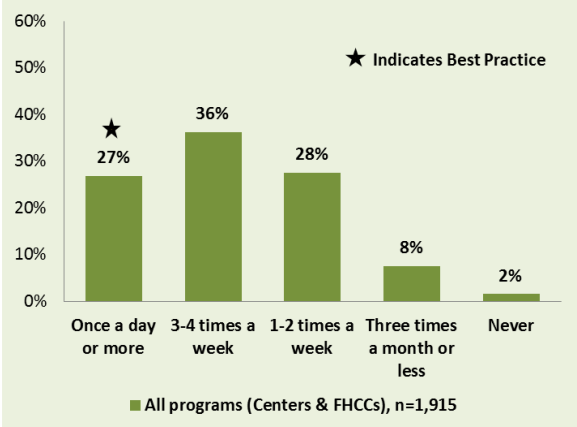
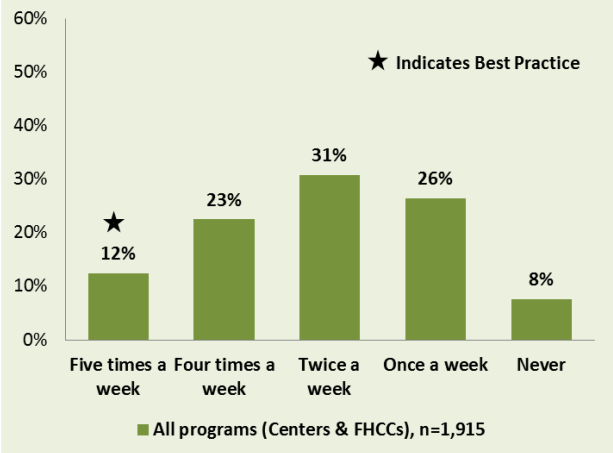


Figure 6. Serve vegetables at snack time



Grains

The survey asked how often programs serve sugary cereal, sugary baked goods, and 100% whole grains. The related best practices are to never serve sugary cereal, limit sugary baked goods to twice a month or less, and serve whole grains at least once per day (**Table 9**). **Figures 7-10** show the distribution of all provider responses to questions about how often different types of grains are served in child care.

Figure 7. Serve sugary cereal

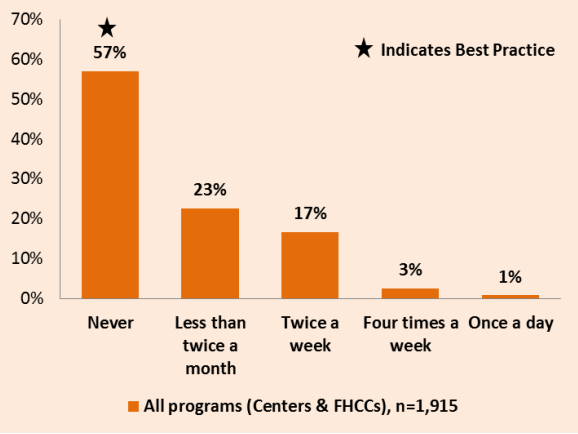


Figure 8. Serve sugary baked goods (e.g. muffins, cookies, cakes, brownies, Pop-Tarts®)

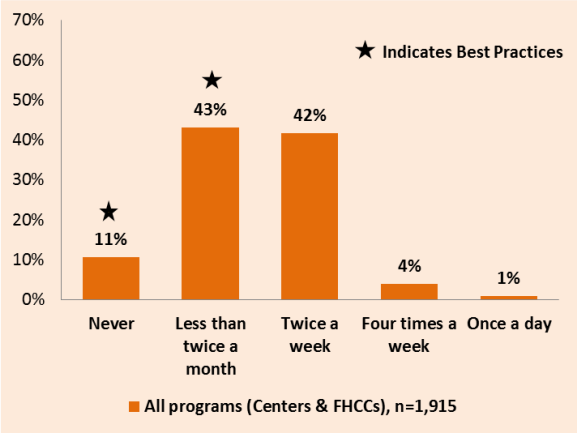


Figure 9. Serve 100% whole grain foods

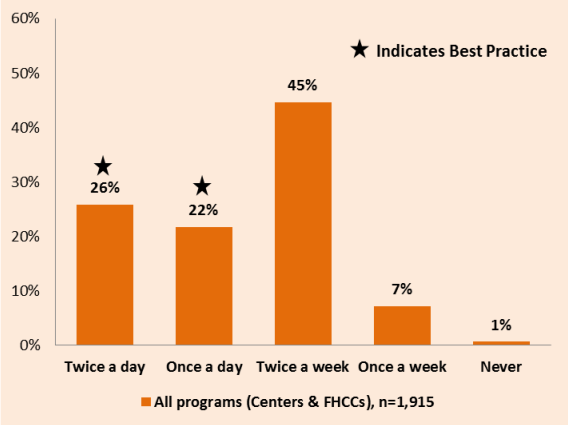
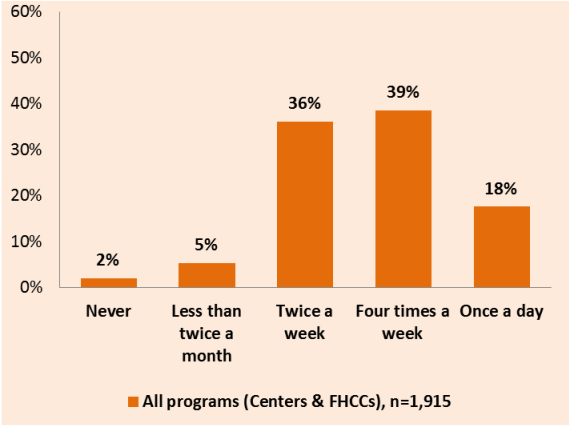


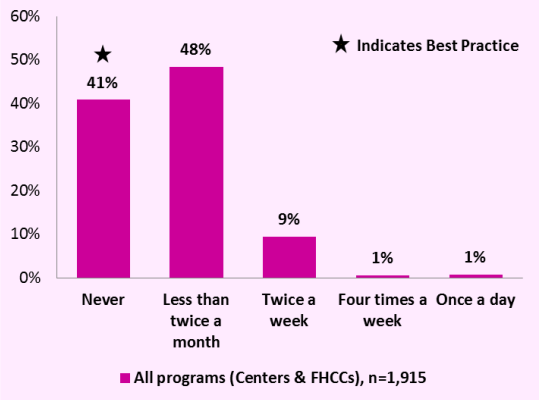
Figure 10. Serve salty snack foods (e.g. Wheat Thins®, Ritz®, saltines, Goldfish®, chips, Chex Mix®)



Sweet Treats

The survey included a question about how often programs serve sweet treats such as candy, Popsicles®, and gummy fruit snacks. The best practice is not to serve these foods. **Figure 11** shows the distribution of all provider responses to question about how often sweet treats are served in child care.

Figure 11. Serve sweet treats (e.g. candy, ice cream, frozen yogurt, Popsicles®, gummy fruit snacks)



Fried Foods & Processed Meats

The survey included questions related to how often programs serve fried potatoes, fried and breaded meats, and processed or cured meats. Best practices are not to serve these foods (**Table 9**). **Figures 12-13** show the distribution of all provider responses to questions about how often fried foods and processed meats are served in child care.

Figure 12. Serve fried potatoes (e.g. french fries, Tater Tots®, hash browns, or Jo Jo potatoes)

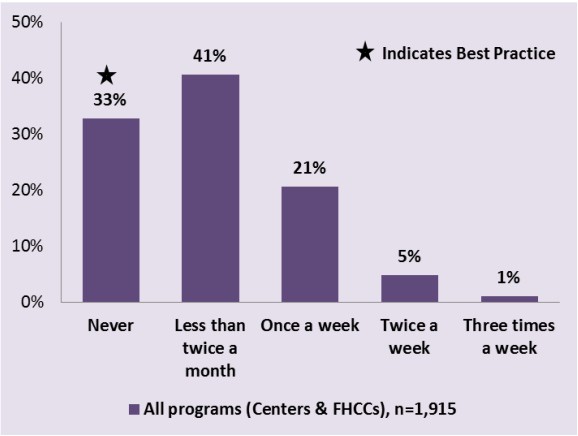


Figure 13. Serve fried and breaded meat (e.g. chicken nuggets, chicken strips, fish sticks, corn dogs)

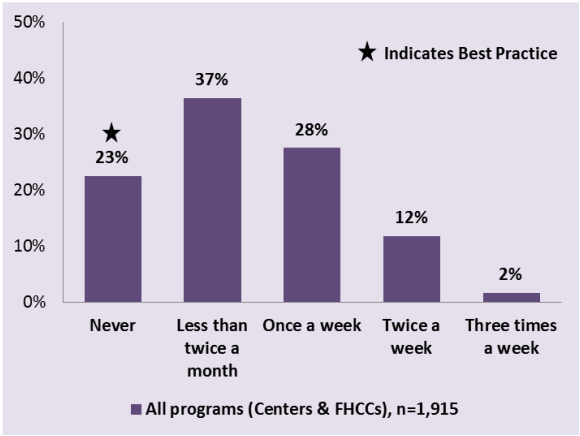
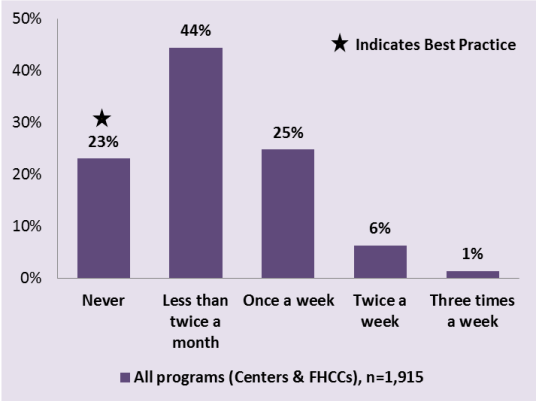


Figure 14. Serve processed meats (e.g. hot dogs, sausage, bacon, salami, bologna, SPAM®, lunchmeat)



Beverages

The survey asked respondents about the fat content of milk served to children ages two and older, children's access to drinking water, and how often flavored milk, 100% fruit juice, and sugary drinks are served. For sugary drinks and flavored milk, the best practice is not to serve these beverages (**Table 9**). **Figures 15-18** show the distribution of all provider responses to question about how often different beverages are served in child care.

Figure 15. Serve sugary beverages

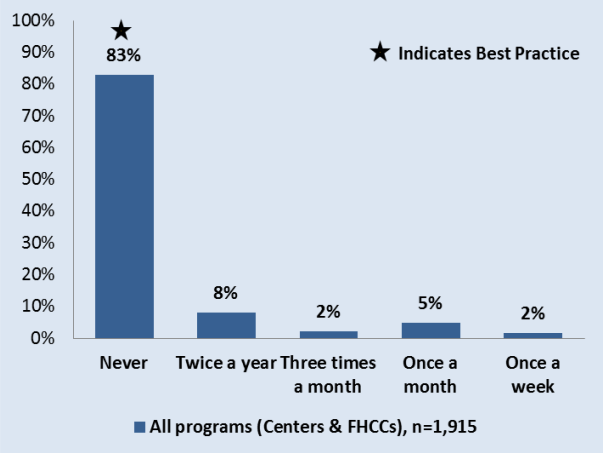
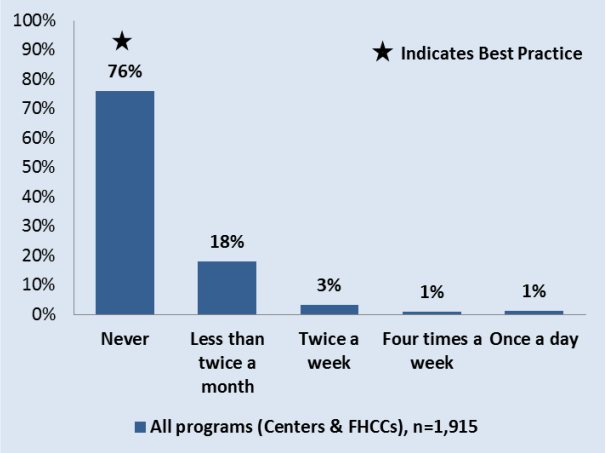


Figure 16. Serve flavored milk



The best practice for 100% fruit juice is not serve it or to limit it to 4-6 ounce servings twice a week or less. Sixty-five percent (65%) of all programs reported one of these best practices (**Table 9**).

Of the programs that serve any 100% fruit juice, 90% of them also reported to limit juice to 4-6 ounce servings. Sixty percent (60%) of the programs that limit juice to 4-6 ounces serve juice twice a week (**Figure 18**). Taking this information together, CPHN calculated that 65% of all programs follow one of the best practices for servings of 100% fruit juice.[56]

Figure 17. Serve 100% fruit juice

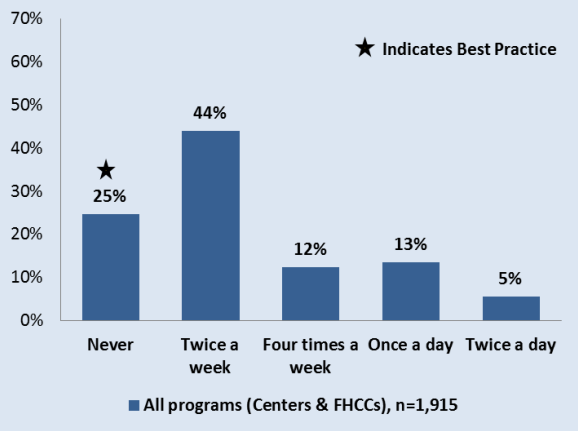


Figure 18. Serve 100% fruit juice AND limit juice to 4-6 ounce servings

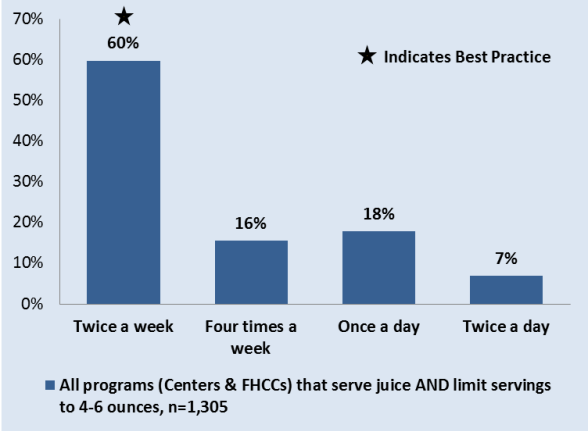


Figure 19. Type of milk served to children age 2 and older

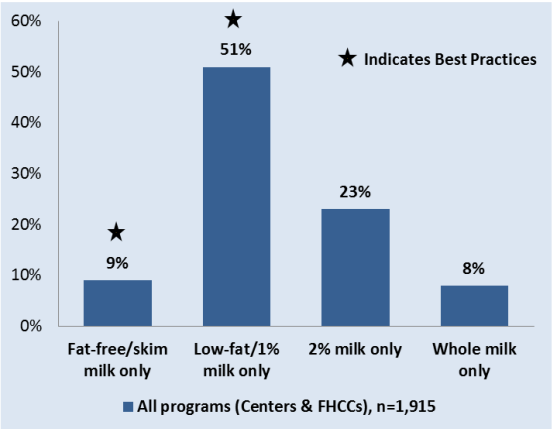
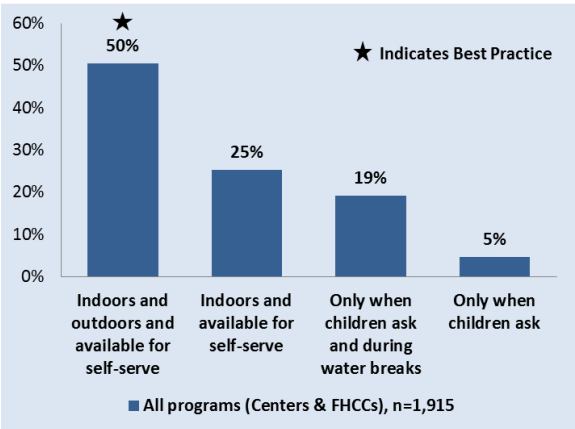


Figure 20. How drinking water is served



[56]Twenty-five percent (471/1,915*100=25%) of all programs never serve 100% fruit juice (**Figure 17**). For the 1,444 programs (1,915-471=1,444) that indicated they serve *any* 100% fruit juice, the survey then asked if juice is limited to 4-6 ounce servings. Ninety percent (1,305/1,444*100=90%) of programs that serve any juice reported to limit juice to 4-6 ounce servings. Of the 1,305 programs that limit juice to 4-6 ounce servings, 60% of them (778/1,305*100=60%) serve juice twice a week (**Figure 18**). Taking this information together, we can calculate that 65% of all programs follow the best practices for juice ((471+778)/1,915*100=65%) (**Table 9**).

Healthy Eating Environment

The survey included questions about how programs serve meals and snacks to children, what staff do during meal times, whether staff use food to encourage good or desired behaviors (such as giving a treat for potty training), and whether staff consume less healthy foods or drinks in front of children.

The vast majority (88%) of all programs said staff *rarely or never* consume sweets, salty snacks, or sugary drinks in front of the children (a best practice) (**Table 9**).

The best practices related to meal service are to serve meals and snacks "family style", to let children decide how much or how little food they eat, and for staff to sit and eat with the children and role model healthy mealtime behaviors (**Table 9**).[57]

Figures 21-25 show the distribution of all provider responses to questions about the eating environment in child care.

Figure 21. How FHCCs report serving food to children

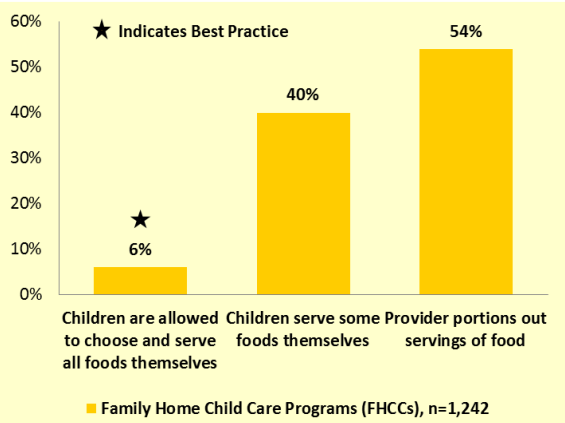
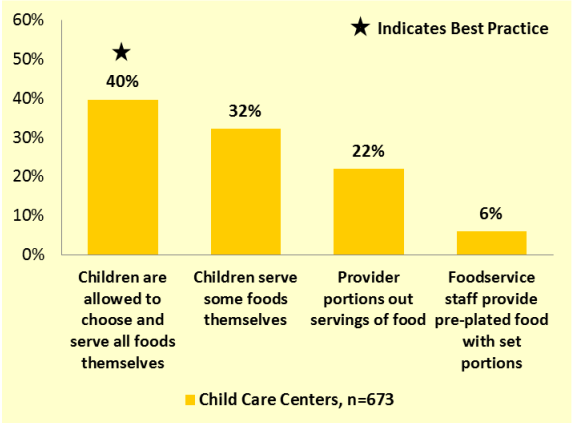


Figure 22. How Centers report serving food to children



[57] During family-style meals, children serve themselves from platters, bowls and pitchers on the table, and eat the meal or snack together. Allowing children to decide how much or how little they eat enables them to eat according to their own internal feelings of hunger and fullness. To role model eating healthy foods is when providers eat healthy foods in front of children and show how much they enjoy them. For example, a provider might say, "Mmm, these peas taste good...!" **Source:** from Ward D et al. *Go NAPSACC.* 2014.

Figure 23. Allow children to decide how much or how little they will eat

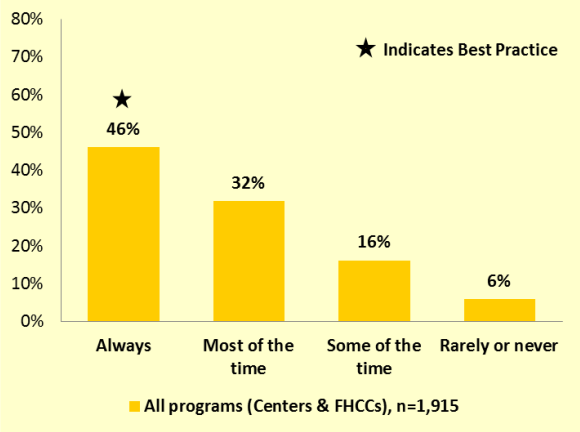


Figure 24. What providers usually do during meal or snack time

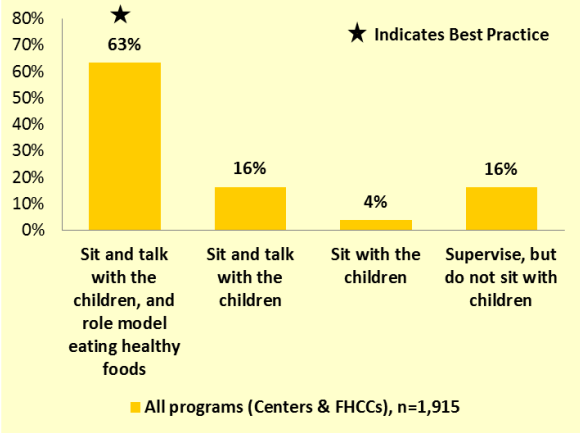
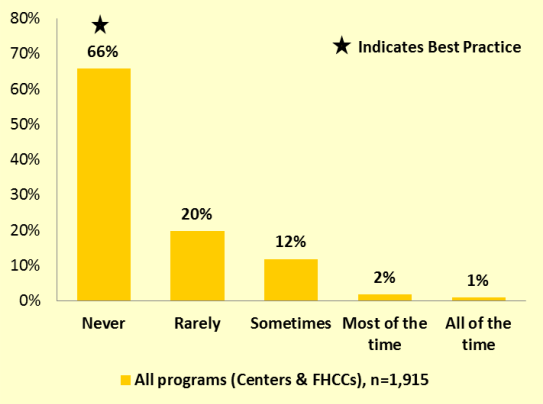


Figure 25. Use food to encourage or reward desired behavior (e.g. giving a treat for potty training)



Nutrition best practices for Centers and FHCCs, by participation in CACFP

The following two tables (**Tables 10-11**) separately show the nutrition best practice findings for Centers and FHCCs. These tables compare the practices of programs participating in CACFP with non-participating programs and report any statistically significant differences. A statistically "significant" difference between CACFP participating and non-participating programs means there is only a 5% chance that the difference in the results is due to error or random chance. Statistically significant differences are indicated by an asterisk (*) in the last column.

For example, Table 10 shows that 33% of all Centers reported to serve whole fruit with no added sugars twice a day (a best practice). A greater proportion of Centers in CACFP follow this best practice compared with non-participating Centers (35% vs. 31%); however, this difference was not statistically significant. Meanwhile, 25% of all Centers reported to serve non-starchy vegetables twice a day, and CACFP Centers were *significantly* more likely than non-CACFP Centers to follow this best practice (35% vs. 19%).

CPHN hypothesized that programs in CACFP would be more likely to follow a nutrition best practice since these programs must follow nutrition guidelines to be reimbursed for the meals and snacks they serve. In general, the findings in Tables 10-11 show a number of significant differences in the nutrition practices of programs in CACFP and non-participating programs. For example, programs in CACFP were significantly more likely to report following the best practices for beverages, fruit with no added sugars, non-starchy vegetables, sugary cereal, and sweet treats. However, programs in CACFP were not always more likely to follow the nutrition best practice. For example, when it came to serving fruit canned in syrup, grains high in added sugars and solid fat grains, and fried potatoes and fatty meat, programs not in CACFP were more likely to report following the best practices for these types of foods.

Table 10. Nutrition best practices and the percent of Centers following them, by participation in CACFP[a]

Best Practice	All Centers[b] (n=673)	CACFP Centers (n=377)	Non-CACFP Centers (n=287)	CACFP and Non-CACFP Significantly Different[c]
Fruits and Vegetables				
Whole fruit with no added sugars served twice a day (for half-day programs: at least once a day)	33%	35%	31%	
Non-starchy vegetables served twice a day (for half-day programs: at least once a day)	25%	31%	19%	*
Fruit canned in syrup (heavy or light syrup) is never served	24%	18%	32%	*
"Powerhouse vegetables" (dark green, orange, red, or deep yellow vegetables) served at least once a day	18%	20%	16%	
Vegetables at snack time at least five times a week	10%	6%	15%	*
Grains				
Sugary cereal is never served	71%	77%	63%	*
Grains high in added sugar and solid fat (muffins, cookies, cakes, brownies, Pop-Tarts®) limited or never served	56%	52%	61%	*
100% whole grain foods served at least once a day	40%	47%	31%	*
Sweet Treats				
Sweet treats (candy, ice cream, frozen yogurt, Popsicles®, gummy fruit snacks) are never served	52%	59%	44%	*
Fried Foods and Processed Meats				
Fried potatoes (french fries, Tater Tots®, hash browns, Jo Jo potatoes) are never served	44%	31%	62%	*
Fried and breaded meat (chicken nuggets, chicken strips, fish sticks, corn dogs) are never served	39%	24%	58%	*
Processed meats (hot dogs, sausage, bacon, salami, bologna, SPAM®, lunchmeat) are never served	32%	19%	49%	*
Beverages				
Sugary drinks (juice drinks, flavored waters, sweet teas, sports drinks, soda) are never served	90%	94%	85%	*
Flavored milk is never served	85%	82%	87%	
100% fruit juice is limited to 4-6 ounce servings twice a week or less	73%	76%	70%	
Low-fat (1%) or fat-free (skim) milk is served to children age two and older	57%	79%	30%	*
Drinking water is indoors and outdoors where it is visible and available for self-serve	54%	56%	53%	
Supporting Healthy Eating				
Staff rarely or never consume sweets, salty snacks, or sugary drinks in front of children	84%	83%	86%	
Food is never used to encourage desired behavior	79%	81%	77%	
Staff sit and eat with children and model healthy mealtime behaviors	68%	78%	56%	*
Children always get to decide how much or how little food they eat	53%	62%	44%	*
Meals and snacks are served family-style	40%	46%	32%	*

[a]Only includes Centers that serve or cater at least one meal or snack to children ages 2-5.
[b]Total includes 9 Centers that responded *I don't know* to the question about CACFP participation.
[c]Difference between CACFP participating and non-participating Centers is significantly different at p<.05 in the two-sided test of equality for column proportions.

Table 11. Nutrition best practices and the percent of FHCC programs following them, by participation in CACFP[a]

Best Practice	All FHCCs[b] (n=1,242)	CACFP FHCCs (n=819)	Non-CACFP FHCCs (n=389)	CACFP and Non-CACFP Significantly Different[c]
Fruits and Vegetables				
Whole fruit with no added sugars served twice a day (for half-day programs: at least once a day)	61%	63%	58%	*
Fruit canned in syrup (heavy or light syrup) is never served	40%	33%	56%	*
Non-starchy vegetables served twice a day (for half-day programs: at least once a day)	40%	44%	33%	*
"Powerhouse vegetables" (dark green, orange, red, or deep yellow vegetables) served at least once a day	32%	30%	35%	
Vegetables at snack time at least five times a week	14%	12%	17%	*
Grains				
Grains high in added sugar and solid fat (muffins, cookies, cakes, brownies, Pop-Tarts®) limited or never served	53%	48%	61%	*
100% whole grain foods served at least once a day	52%	52%	52%	
Sugary cereal is never served	50%	53%	42%	*
Sweet Treats				
Sweet treats (candy, ice cream, frozen yogurt, Popsicles®, gummy fruit snacks) are never served	35%	36%	32%	
Fried Foods and Processed Meats				
Fried potatoes (french fries, Tater Tots®, hash browns, Jo Jo potatoes) are never served	26%	20%	40%	*
Processed meats (hot dogs, sausage, bacon, salami, bologna, SPAM®, lunchmeat) are never served	18%	14%	28%	*
Fried and breaded meat (chicken nuggets, chicken strips, fish sticks, corn dogs) are never served	14%	9%	23%	*
Beverages				
Sugary drinks (juice drinks, flavored waters, sweet teas, sports drinks, soda) are never served	79%	81%	75%	*
Flavored milk is never served	72%	71%	74%	
Low-fat (1%) or fat-free (skim) milk is served to children age two and older	63%	83%	21%	*
100% fruit juice is limited to 4-6 ounce servings twice a week or less	61%	64%	57%	*
Drinking water is indoors and outdoors where it is visible and available for self-serve	48%	50%	46%	
Supporting Healthy Eating				
Staff rarely or never consume sweets, salty snacks, or sugary drinks in front of children	89%	88%	92%	*
Staff sit and eat with children and model healthy mealtime behaviors	60%	60%	61%	
Food is never used to encourage desired behavior	59%	59%	58%	
Children always get to decide how much or how little food they eat	42%	46%	36%	*
Meals and snacks are served family-style	6%	6%	6%	

[a]Only includes FHCCs that serve or cater at least one meal or snack to children ages 2-5.
[b]Total includes 29 FHCCs that responded *I don't know* and 5 FHCCs that did not respond to the question about CACFP participation.
[c]Difference between CACFP participating and non-participating FHCCs is significantly different at p<.05 in the two-sided test of equality for column proportions.

Key Findings for Physical Activity, Screen Time, and Active Play Environments

The survey included questions about the amount of time that child care programs provide to children for outdoor play, physical activity, and screen time. On the survey, screen time was defined as *"any time that is spent in front of a screen, such as a TV, computer, or video game player. This includes programs, videos, or computer games that are educational."*[58] Questions also asked about child care programs' active play environments. For most physical activity and screen time questions, one response choice corresponded with a national best practice child care standard to promote healthy weight in children.

Table 12 shows the rates of all programs (Centers and FHCCs) that reported to follow the best practices for physical activity, screen time, and to encourage active play. The footnotes in Table 12 provide the supporting standard, program, or national campaign for each best practice listed.

Table 12. Physical activity and screen time best practices and the percent of all licensed child care programs (Centers and FHCCs) following them

Topic	Best Practice	All programs (n=1,912)[a]
Outdoor Play	Children go outside even when the weather is rainy, cold, snowy, or hot (with proper clothing and protection from the weather)[b,d]	58%
	Children ages 2-5 play outside for 90 minutes or more each day[b,c]	22%
Physical Activity	Two-year-olds get 90 minutes of physical activity each day[b,c]	32%
	Preschoolers (3-5 year olds) get 120 minutes of physical activity each day[b,c]	18%
	Preschoolers get adult-led physical activity for at least 60 minutes each day (over the course of a full-day)[b]	16%
Active Environment	Staff verbally encourage physical activity and often join in during physically active play time[b,c,d]	45%
	Staff incorporate physical activity into learning activities and transitions every time they see an opportunity[b,c,d]	34%
Screen Time	If screen time is provided, it is rarely or never used to encourage desired behavior[b,c,d]	74%
	Screen time is limited to one hour a week or never offered[e]	54%
	If TV or videos are shown, they are always free from commercials and advertising[b,c,d]	46%

[a]Excludes 61 programs (23 Centers and 38 FHCCs) that reported to exclusively offer half-day care and/or have no children ages 2-5 in care.
[b]Ward D et al. *Go NAPSACC.* 2014.
[c]The Nemours Foundation. *Let's Move! Child Care.*
[d]AAP, APHA, NRC. *CFOC3.* 2011.
[e]According to *CFOC3*, the standard is to limit total screen time to less than thirty minutes once a week, and for educational or physical activity use only. However, the survey tools did not have response categories that exactly matched with this best practice.

[58]Ward D et al. *Go NAPSACC*. 2014.

Outdoor Play

The survey asked programs how long children ages 2-5 play outdoors each day and what children "usually" do if the weather is not ideal (such as rainy, cold, snowy or hot). The minimum standard for daily outdoor playtime is 60 minutes,[59] and the best practice is 90 minutes (**Table 12**). Eighty percent (47% + 10% + 22% = 80%) of all full-time programs reported to meet or exceed the 60-minute minimum standard for outdoor playtime for children ages 2-5 (**Figure 26**). Twenty-two percent (22%) of all full-time programs reported to follow the best practice and provide 90 minutes or more of outdoor playtime daily (**Figure 26**).

If weather conditions are not ideal, the minimum standard is for children to stay inside for vigorous play.[60] The best practice is for children to go outside with proper clothing and protection from the weather (**Table 12**). Eighty four percent (26% + 58% = 84%) of all full-time programs meet the minimum standard or follow the best practice: 26% meet the minimum standard and 58% follow the best practice (**Figure 27)**.

Figure 26. Time provided each day for children ages 2-5 to play outside

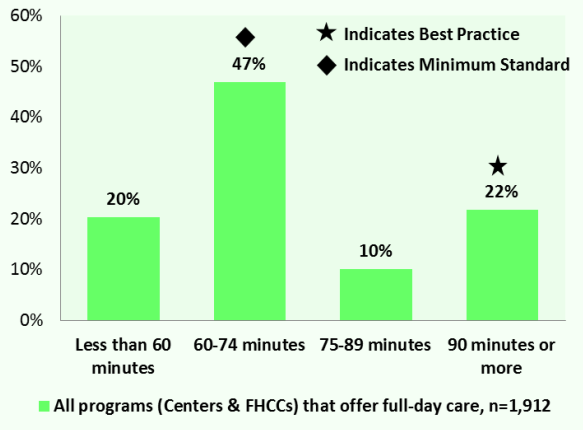
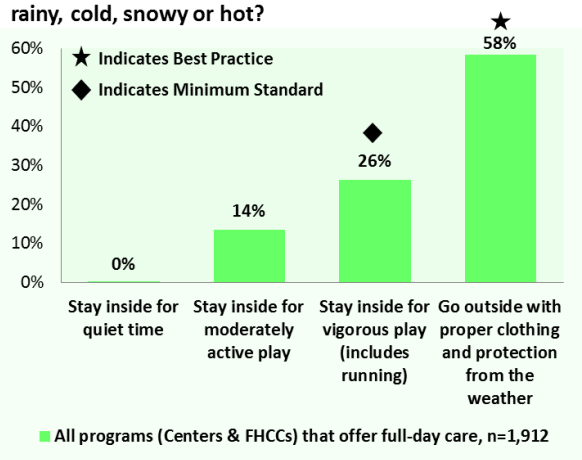


Figure 27. What do children usually do if the weather is rainy, cold, snowy or hot?



Physical Activity

The survey asked respondents how much time their programs provide each day for physical activity for toddlers (children age two) and preschoolers (children ages 3-5). Physical activity was defined on the survey as *"any movement that gets children 'breathless' or breathing deeper and faster than during typical activities. Examples include walking, running, climbing, jumping, and dancing."*[61]

The minimum physical activity standard for children age two is 60 minutes each day,[62] and the best practice is 90 minutes or more (**Table 12**). Seventy-nine percent (37% + 10% + 32% = 79%) of all full-day

[59] For most physical activity standards, *CFOC3* provides a range of time. For example, *CFOC3* says: "*Toddlers should be allowed sixty to ninety minutes per eight-hour day for moderate to vigorous physical activity".* Therefore, the lower end of the range (60 minutes) was used as the "minimum standard". AAP. APHA, NRC. *CFOC3.* 2011.
[60] AAP, APHA, NRC. *CFOC3.* 2011.
[61] Ward D et al. *Go NAPSACC*. 2014.
[62] Ibid.

programs reported to meet or exceed the minimum standard, and 32% follow the best practice (**Figure 27**).

For children ages 3-5, the minimum physical activity standard is 90 minutes each day, and the best practice is 120 minutes or more (**Table 12**). Thirty-nine percent (39%) of all full-day programs reported to meet or exceed the minimum standard, and 18% follow the best practice (**Figure 28**).

Figure 28. Time provided each day for children age 2 for physical activity (both indoor and outdoor)

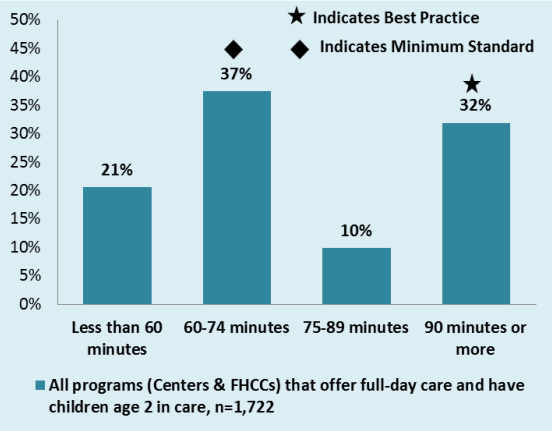


Figure 29. Time provided each day for children ages 3-5 for physical activity (both indoor and outdoor)

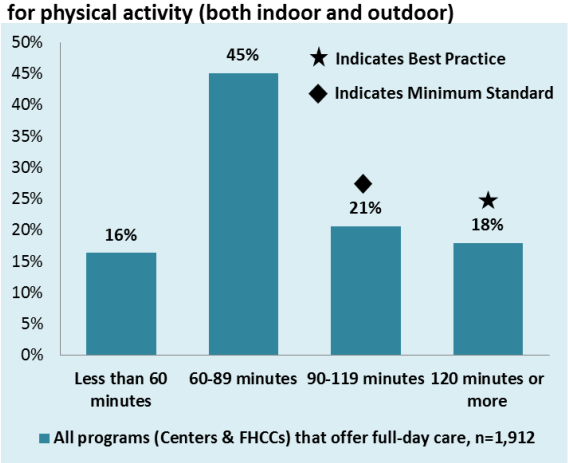
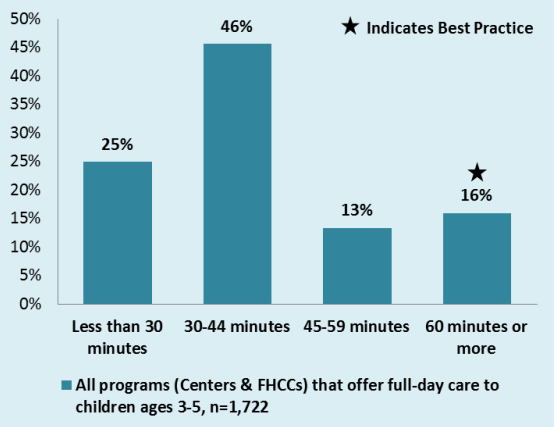


Figure 30 shows how much time programs reported for adult-led, structured physical activity. The best practice is for children ages 3-5 to have adult-led physical activity for 60 minutes or more per day (over the course of a full day) (**Table 12**).[63]

Figure 30. Adult-led physical activity provided for children ages 3-5 each day



[63] There is no minimum standard in *CFOC3* for adult-led or structured physical activity time.

Active Environment

The survey asked several questions related to how the child care environment and staff practices promote children's physical activity and active play. When asked what best describes what staff do during children's physically active playtime, 45% of all programs indicated their staff *supervise, verbally encourage physical activity, and often join in* (the best practice response) (**Table 12**). Another best practice is to incorporate physical activity into classroom routines and transitions (**Table 12**). **Figures 31-34** show the distribution of all provider responses to questions about the active environment in child care.

Figure 31. What staff usually do during children's physically active playtime

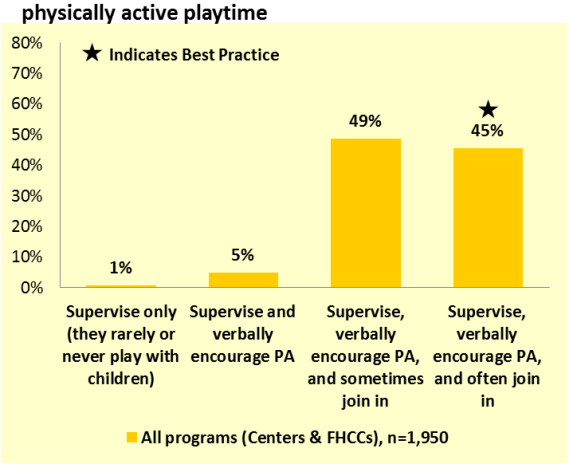


Figure 32. Staff incorporate physical activity into classroom routines and transitions

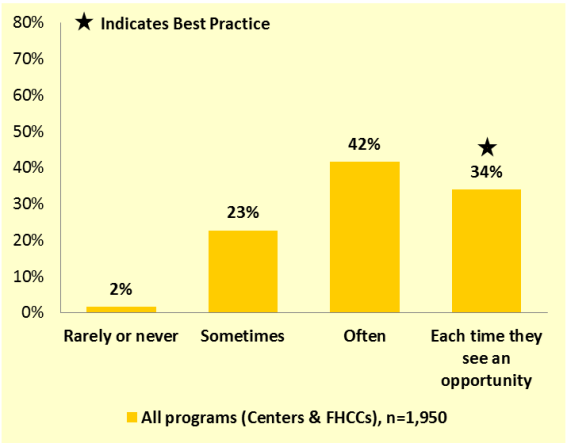


Figure 33. Indoor space available for active play

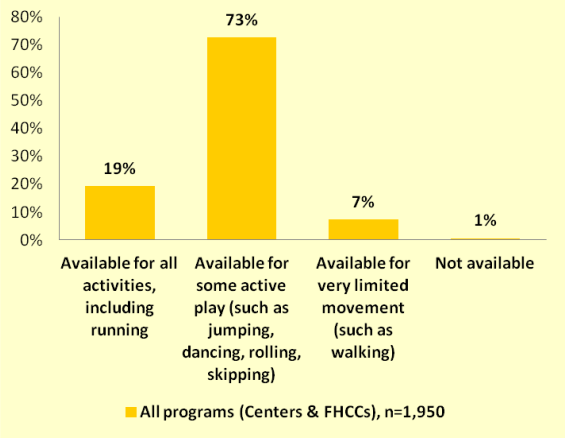
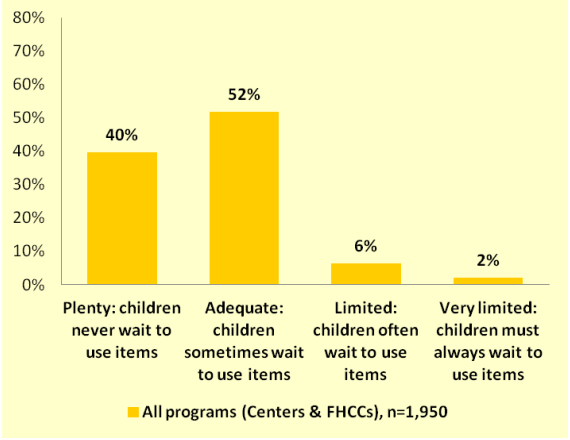


Figure 34. Portable play equipment available for indoor and outdoor use

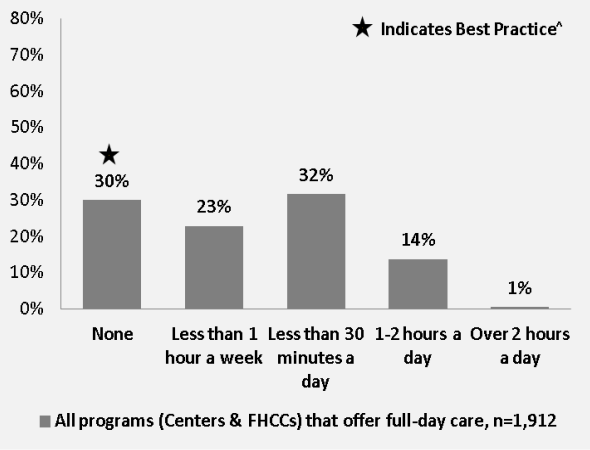


Screen Time

Survey respondents were asked about the amount of screen time children get while in child care. Screen time was defined on the survey as *"any time that is spent in front of a screen, such as a TV, computer, or video game player. This includes programs, videos, or computer games that are educational."*[64] No screen time is a best practice followed by 30% of all programs. About a quarter (23%) of all programs reported that screen time is offered *less than one hour per week*, while 32% said screen time is offered *less than 30 minutes a day* (**Figure 35**).

Figure 35 shows the distribution of all provider responses to the question about the amount of screen time in child care. Of the programs that offer *any* TV or videos, **Figure 36** shows the distribution of TV and videos that are commercial free and **Figure 37** shows the distribution of using screen time to reward desired behavior in child care.

Figure 35. Screen time (TV, computer, video games)



^ According to CFOC3, the minimum standard is to limit total screen time to less than thirty minutes once a week, and for educational or physical activity use only. However, our survey tools did not have response categories that exactly matched with this standard.

Figure 36. TV or videos are free from commercials and advertising

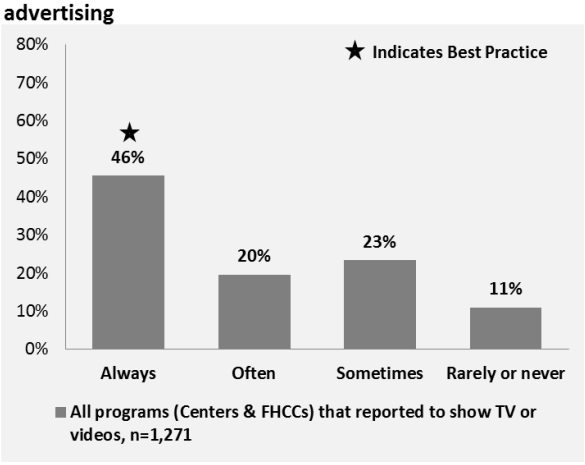
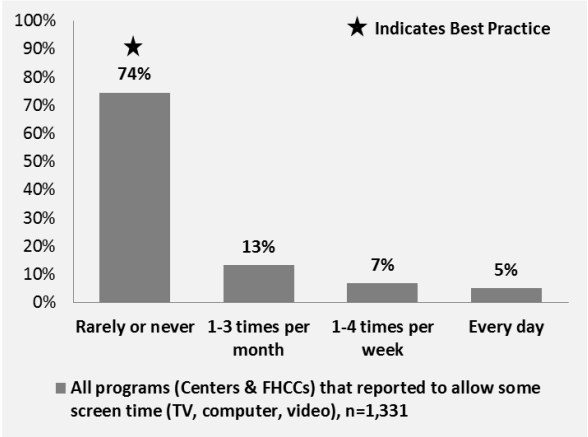


Figure 37. Screen time is used to encourage good or desired behavior



[64] Ward D et al. *Go NAPSACC*. 2014.

Physical activity and screen time best practice findings for Centers and FHCCs

The following table shows the physical activity and screen time best practice findings separately for Centers and FHCCs (**Table 13**).

Table 13. Physical activity and screen time best practices and the percent of Centers and FHCC programs following them[a]

Best Practice	Total Centers (n=669)	Total FHCCs (n=1,243)
Outdoor Play		
Children go outside even when the weather is rainy, cold, snowy, or hot (with proper clothing and protection from the weather)	63%	56%
Children ages 2-5 play outside 90 minutes or more each day	22%	22%
Children ages 2-5 play outside three times per day or more[b]	NA	11%
Physical Activity		
Two-year-olds get 90 minutes or more of physical activity each day	26%	35%
Preschoolers (children ages 3-5) get 120 minutes or more of physical activity each day	12%	19%
Preschoolers get adult-led physical activity for 60 minutes or more per day (over the course of a day)	8%	20%
Active Environment		
Staff verbally encourage physical activity and often join in during physically active play time	33%	52%
Staff incorporate physical activity into learning activities and transitions every time they see an opportunity	32%	35%
Screen Time		
Screen time is limited to one hour a week or never offered	88%	35%
If screen time is provided, it is rarely or never used to encourage desired behavior	86%	71%
If TV or videos are shown, they are always free from commercials and advertising	85%	35%
TV is rarely or never on where children can see it or hear it, even if they are not watching it[b]	NA	56%

[a]Excludes 23 Centers and 38 FHCCs that reported to exclusively offer half-day care and/or have no children ages 2-5 in care.
[b]This question was not asked on the Center Director survey.

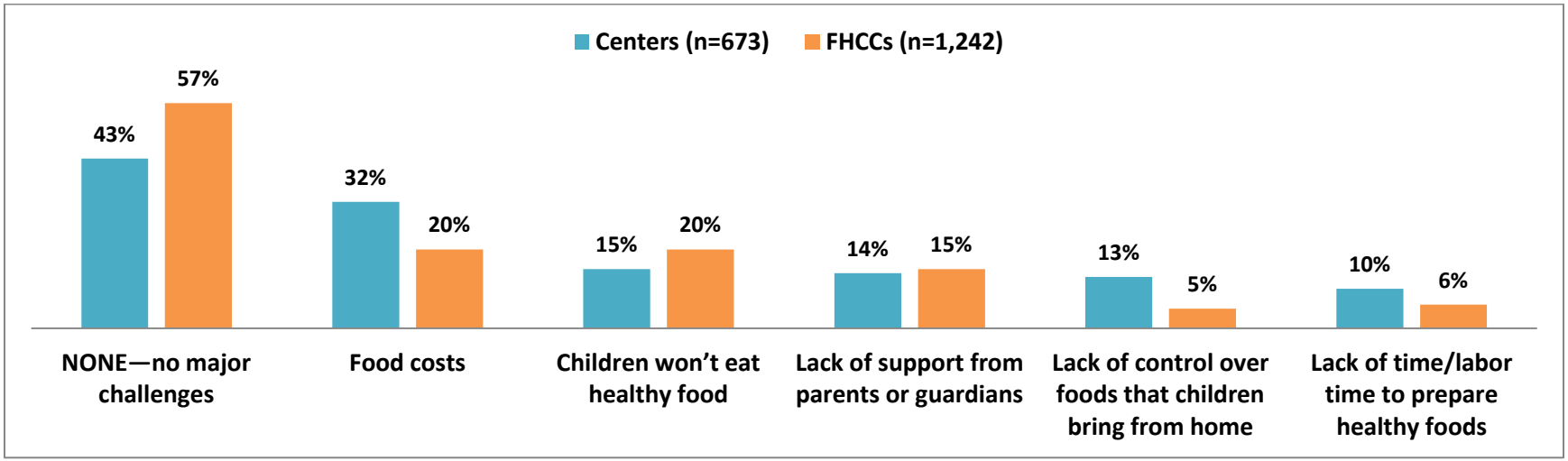
Most (88%) Centers compared with 35% of FHCCs limit children's screen time to less than one hour per week or never offer screen time. Sixteen percent (16%) of FHCC programs and 57% of Centers never offer screen time (data not shown).

Challenges Identified by Child Care Programs

The survey asked Center directors and FHCC owners/providers about any major challenges they face when promoting healthy eating in their child care programs. Respondents were shown a list of factors that can affect the child care nutrition environment. In their responses, they could select up to four challenges or indicate *None—no major challenges*.

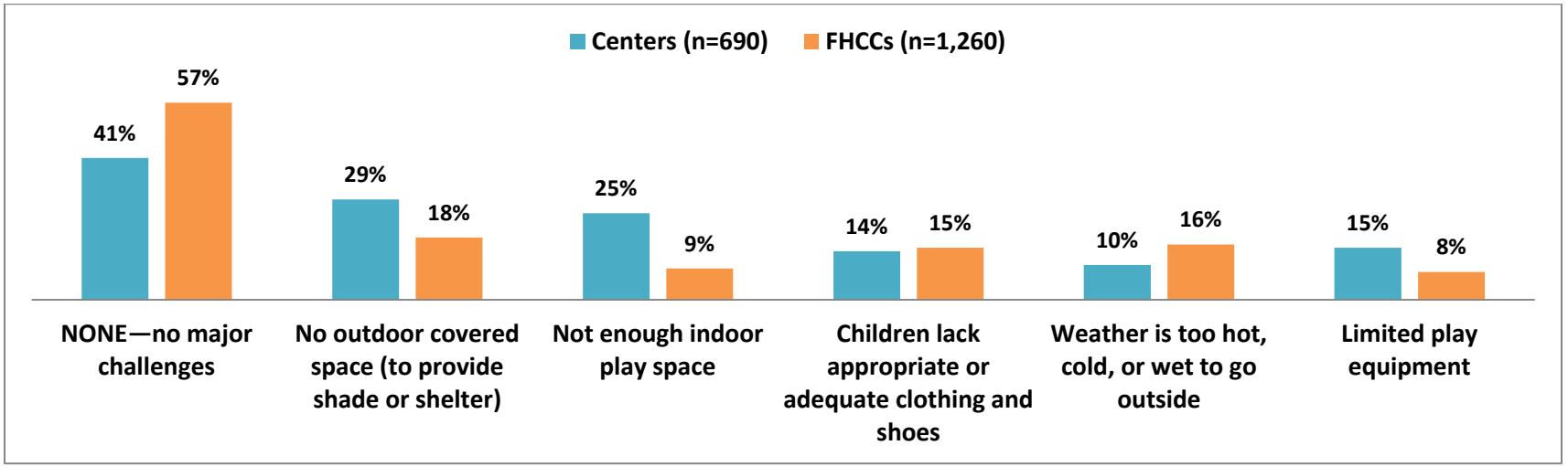
Figure 38 shows the top challenges reported by Centers and FHCCs.

Figure 38. Top challenges to providing a healthy eating environment in child care



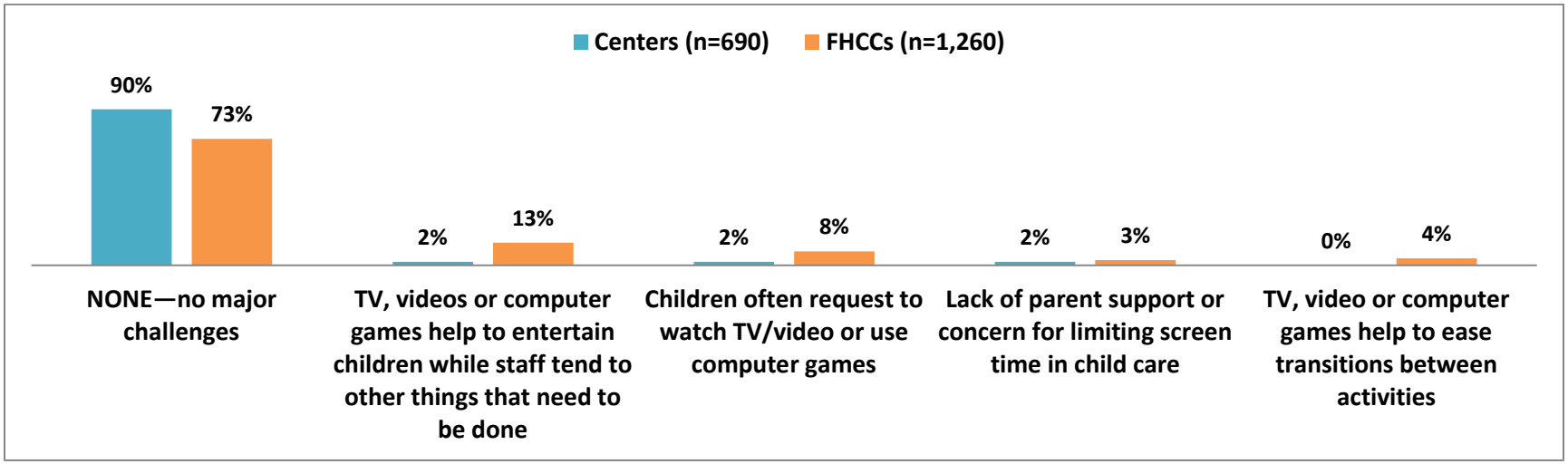
Respondents were also asked about any challenges to providing more physical activity in child care (**Figure 39**). Again, respondents could select up to four challenges from a list of factors that can affect the physical activity environment in child care, or they could indicate *None—no major challenges*.

Figure 39. Top challenges to providing more physical activity in child care



Finally, Center directors and FHCC owners/providers were asked to report any challenges to limiting screen time in child care (**Figure 40**). Respondents could select up to two challenges in a list of factors that can affect screen time in child care.

Figure 40. Top challenges to limiting screen time in child care reported by Centers and FHCCs



Policies

The survey included a section on child care program policies. Center directors and FHCC owners/providers were given a list of seven policy items: five nutrition policies, one physical activity policy, and one screen time policy. For each policy item, respondents could select the answer that "best describes" the type of policy their program has: *No policy*, *Informal policy (spoken, but not written)*, and *Written policy*. Written policy was defined on both survey tools. For example, on the Center Director Survey a written policy was defined as *"written guidelines or statements about your program's operations, practices, or expectations for staff members, children, or families. Policies can be included in the parent handbooks, parent contracts, parent welcome packets, staff manuals, your Center's Health Policy, and other documents."*

Table 14 shows the type of nutrition policies child care programs reported to have. For each nutrition policy item, a greater percentage of Centers have written policies compared with FHCCs. For all programs, written policy was more common than informal policy or no policy to address *nutrition standards that EXCEED current requirements*, *nutrition standards for food brought from home*, and *nutrition standards for food for onsite celebrations*.

When addressing staff practices related to eating and drinking in front of children and using food as a reward for children's behavior, Centers most commonly reported to have written policy whereas most FHCCs reported no policies on these topics.

Table 14. Type of program policies related to nutrition, by child care type[a]

Nutrition Policy Item	Policy Type	Centers (n=673)	FHCCs (n=1,242)
Nutrition standards that EXCEED current requirements[b]	Written policy	50%	43%
	Informal policy (spoken, but not written)	33%	26%
	No policy	16%	16%
Nutrition standards for food brought from home[b]	Written policy	68%	48%
	Informal policy (spoken, but not written)	19%	20%
	No policy	13%	17%
Nutrition standards for food for onsite celebrations[b]	Written policy	66%	38%
	Informal policy (spoken, but not written)	23%	28%
	No policy	11%	19%
Types of food and beverages that staff members consume in front of children[b]	Written policy	41%	12%
	Informal policy (spoken, but not written)	37%	31%
	No policy	22%	41%
Staff use of food as a reward for children's behavior	Written policy	45%	17%
	Informal policy (spoken, but not written)	40%	35%
	No policy	15%	46%

[a]Only includes Centers and FHCCs that serve or cater at least one meal or snack to children ages 2-5.
[b]Omitted data: 189 FHCC responses to the first four nutrition policy questions were omitted due to a printing error in the FHCC paper surveys (English version only). CPHN discovered this error after data collection and it affected the readability of four of the nutrition policy questions. These 189 respondents were excluded from the percent calculation, so the denominator for these questions was1,053.

Table 15 shows the results for type of program policies related to physical activity and screen time.

Table 15. Type of program policies related to physical activity and screen time, by child care type[a]

Physical Activity or Screen Time Policy Item	Policy Type	Centers (n=690)	FHCCs (n=1,260)
Physical education and/or physical activity standards that EXCEED current requirements	Written policy	29%	32%
	Informal policy (spoken, but not written)	39%	30%
	No policy	32%	37%
Screen time limits	Written policy	35%	56%
	Informal policy (spoken, but not written)	44%	29%
	No policy	21%	14%

[a]Only includes Centers and FHCCs that serve or cater at least one meal or snack to children ages 2-5.

Training

Survey respondents were shown lists of training topics related to nutrition, physical activity and screen time. Center directors were instructed to think about their staff's training or continuing education over the past three years whereas FHCC owners/providers were instructed to think about their own training or continuing education over the same time. For each training topic, respondents were asked to indicate if the training they completed was eligible for STARS credit or not. STARS is Washington's training and registry system for licensed child care providers.

The trainings completed (both STARS and non-STARS accredited) are shown in the following tables (**Tables 16-19**). Overall, a greater percentage of FHCCs compared with Centers reported training was completed. Among all the topics, training on how to communicate with families about child nutrition, physical activity, and screen time, and training on developing policies that address best practices had the lowest rates of completion.

Table 16. Nutrition training completed by FHCC programs in the past three years, by participation in CACFP[a]

Nutrition Training Topic	FHCCs (n=1,242)[b]	CACFP FHCCs (n=819)	Non-CACFP FHCCs (n=389)	CACFP and Non-CACFP Significantly Different[c]
Healthy foods and beverages recommended for children	74%	79%	65%	*
Creating healthy mealtime environments (such as role modeling and socializing at meals)	69%	74%	59%	*
Using positive feeding practices (such as family-style meals)	66%	73%	54%	*
How to communicate with families about child nutrition	55%	60%	46%	*
Developing program policies on nutrition best practices	52%	55%	46%	*

[a]Only includes FHCCs that serve or cater at least one meal or snack to children ages 2-5.
[b]Total includes 29 FHCCs that responded *I don't know* and 5 FHCCs that did not respond to the question about CACFP participation.
[c]Difference between CACFP participating and non-participating FHCCs is significantly different at p<.05 in the two-sided test of equality for column proportions. In other words, there is only a 5% chance that the difference in the results is due to error or random chance.

Similarly, significantly more Centers participating in CACFP compared with non-participating Centers reported their staff has completed training on *healthy foods and beverages recommended for children*, *creating healthy mealtime environments*, and *using positive feeding practices* (**Table 17**). More Centers in CACFP also said their staff has completed training on *how to communicate with families about child nutrition* and *developing program policies on nutrition best practices*, but the differences were not statistically significant (**Table 17**).

Table 17. Nutrition training completed Center staff in the past three years, by participation in CACFP[a]

Nutrition Training Topic	Total Centers (n=673)[b]	CACFP Centers (n=377)	Non-CACFP Centers (n=287)	CACFP and Non-CACFP Significantly Different[c]
	%	%	%	
Healthy foods and beverages recommended for children	61%	67%	54%	*
Creating healthy mealtime environments (such as role modeling and socializing at meals)	62%	68%	55%	*
Using positive feeding practices (such as family-style meals)	59%	68%	48%	*
How to communicate with families about child nutrition	45%	49%	43%	
Developing program policies on nutrition best practices	51%	55%	48%	

[a]Only includes Centers that serve or cater at least one meal or snack to children ages 2-5.
[b]Total includes 9 Centers that responded *I don't know* to the question about CACFP participation.
[c]Difference between CACFP participating and non-participating Centers is significantly different at p<.05 in the two-sided test of equality for column proportions. In other words, there is only a 5% chance that the difference in the results is due to error or random chance.

As with each nutrition training topic, a greater percentage of FHCCs compared with Centers reported completing training on the physical activity topics listed in **Table 18**.

Table 18. Physical activity training completed in the past three years, by topic and child care type[a]

Physical Activity Training Topic	Centers (n=690)	FHCCs (n=1,260)
	%	%
Recommended amount of daily physical activity for children	53%	64%
Ways to encourage children's physical activity	59%	67%
How to use outdoor play space for physical activity and learning	57%	63%
How to communicate with families about physical activity for children	40%	51%
Developing program policies on physical activity best practices	42%	52%

[a]Only includes Centers and FHCCs that reported to care for children ages 2-5.

Compared with training on nutrition and physical activity topics, training on screen time had the lowest rates of training completion (**Table 19**).

Table 19. Screen time training completed in the past three years, by topic and child care type[a]

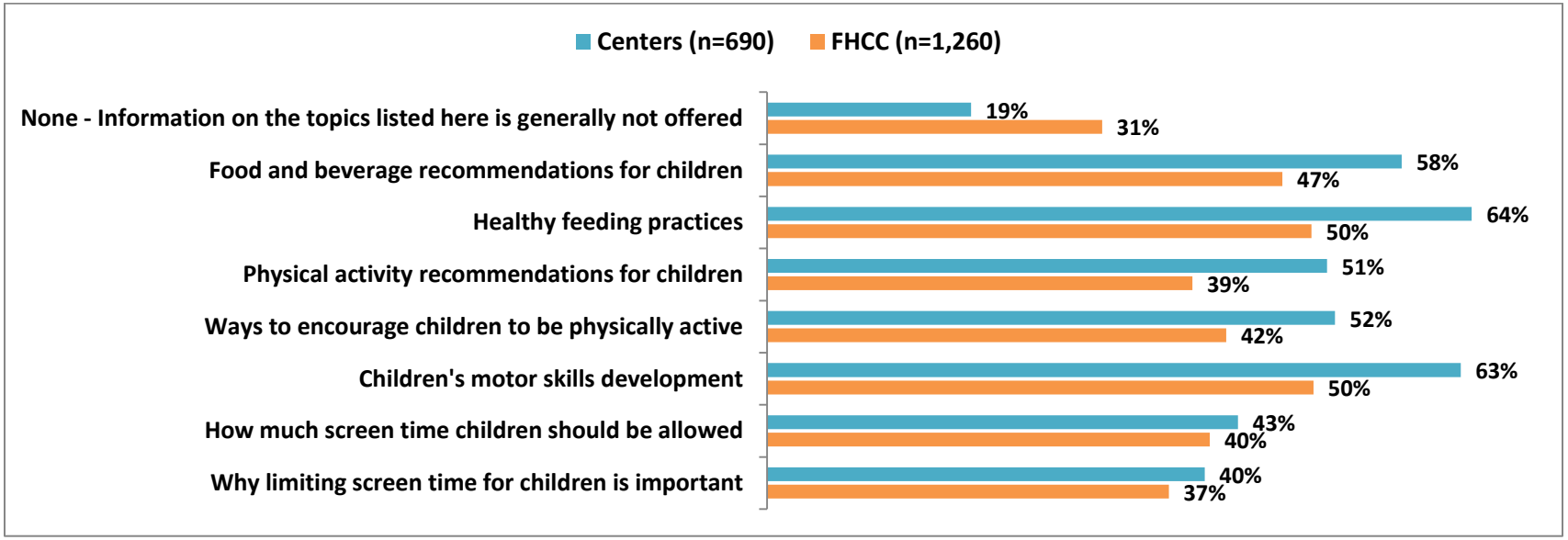
Screen Time Training Topic	Centers (n=690)	FHCCs (n=1,260)
	%	%
Importance of limiting screen time for children	39%	56%
Appropriate use of screen time in child care	37%	55%
How to communicate with families about limiting screen time	31%	44%
Developing program policies on screen time best practices	32%	45%

[a]Only includes Centers and FHCCs that reported to care for children ages 2-5.

Communicating with Families about Nutrition, Physical Activity, and Screen Time

The survey asked about educational information child care programs provide to parents and guardians about appropriate nutrition, physical activity, or screen time for children. Respondents were shown a list of seven topics and there was no limit on how many they could select. If a program did not offer information on the topics listed, there was a response choice for this as well.

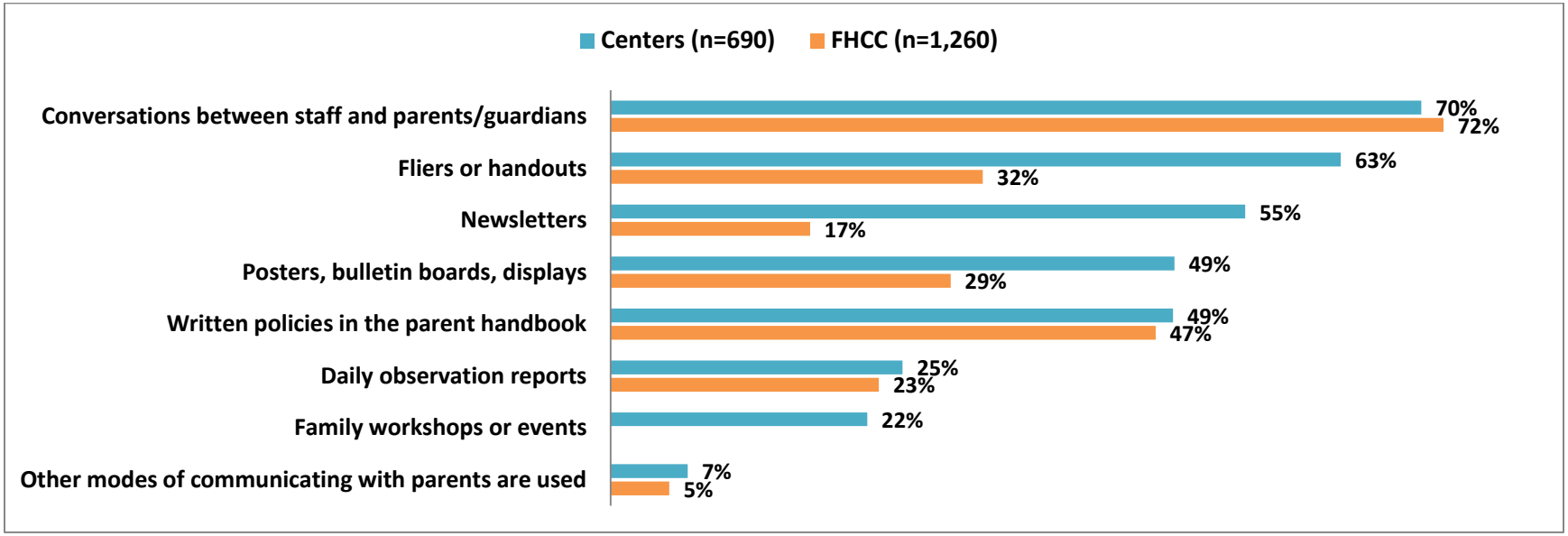
Figure 41. Proportion of Centers and FHCCs offering educational information to families



Overall, a greater percentage of Centers compared with FHCCs provide educational information to families about child nutrition. About one-in-five Centers (19%) and one-in-three FHCCs (31%) reported they generally do not offer any educational information to parents or guardians on the topics listed (**Figure 41**). Twenty percent (20%) of Centers and 16% of FHCCs offer educational information on all of the topics listed (data not shown).

The survey also asked respondents *how* they communicate nutrition, physical activity, and screen time educational information to families. Again, respondents were shown a list of seven (FHCC Provider Survey) or eight (Center Director Survey) common ways child care programs might communicate information to families. There was no limit on how many reposnses respondents could select.

Figure 42. Proportion of Centers and FHCCs using different methods for communicating with families



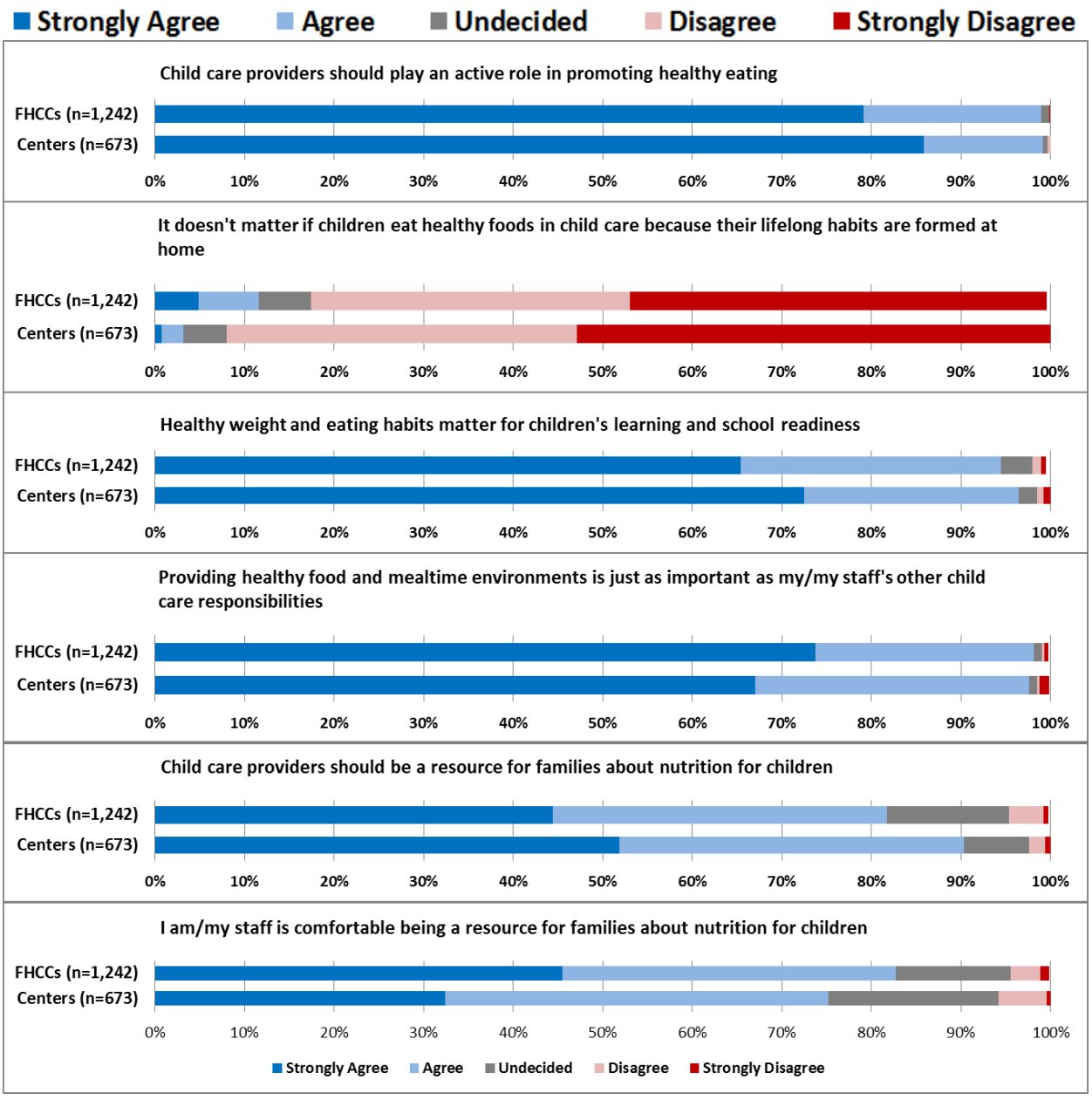
For both Centers and FHCCs, conversations between child care providers and families was the most common way to communicate information about appropriate nutrition, physical activity, or screen time for children (**Figure 42**). Fifteen percent (15%) of all FHCCs said conversation with families is the only way they communicate educational information to families (data not shown).

Attitudes and Beliefs

To collect information about the attitudes and beliefs of respondents, they were asked if they *Strongly agree, Agree, Disagree, Strongly disagree,* or were *Undecided* about statements regarding nutrition and healthy eating, physical activity, and screen time. **Figures 43-45** on the following pages show the results.

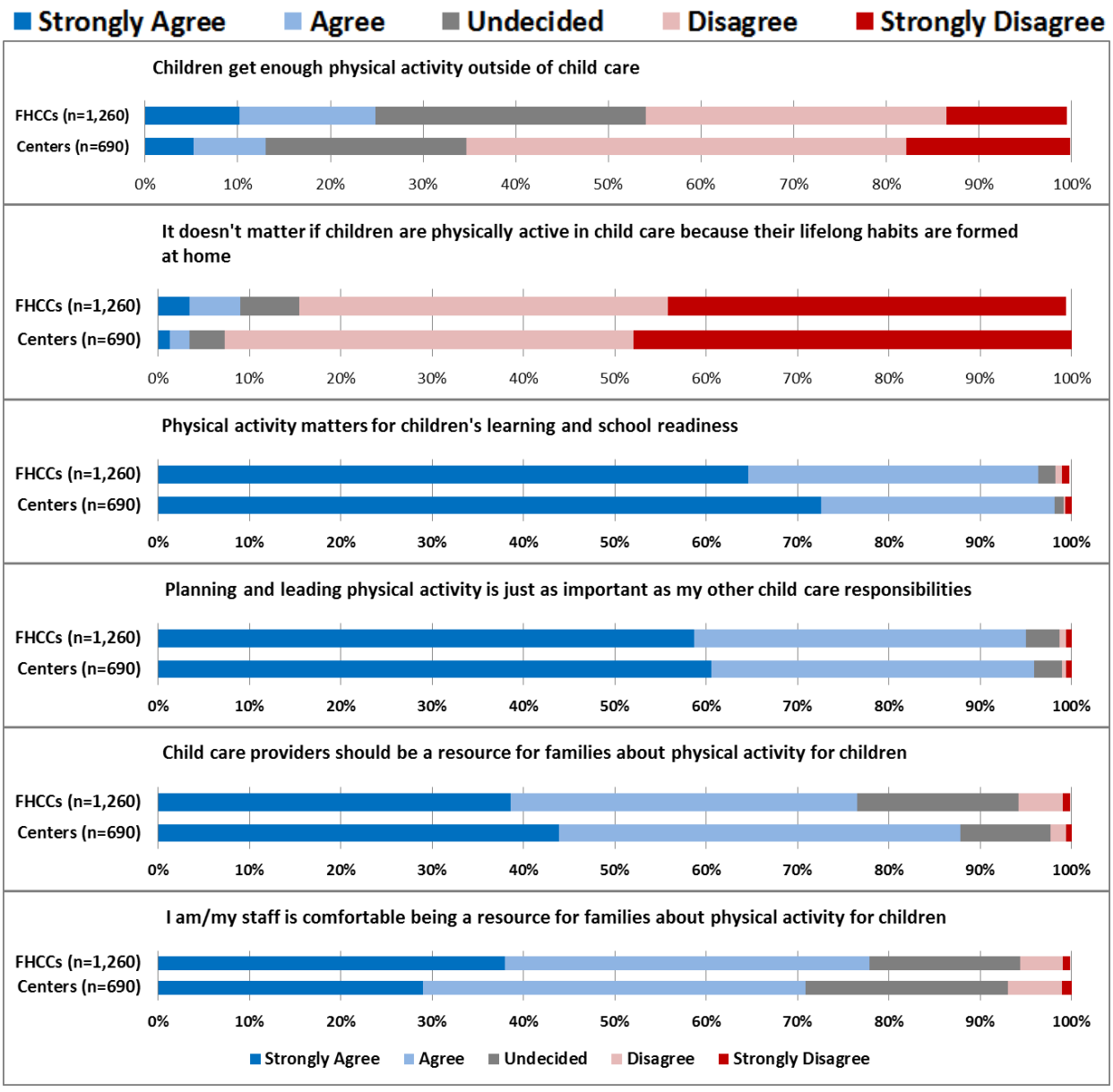
Respondents overwhelmingly agreed that healthy weight and eating habits are important for children's learning and schools readiness (**Figure 43**).

Figure 43. Attitudes and beliefs related to nutrition and healthy eating, by child care type



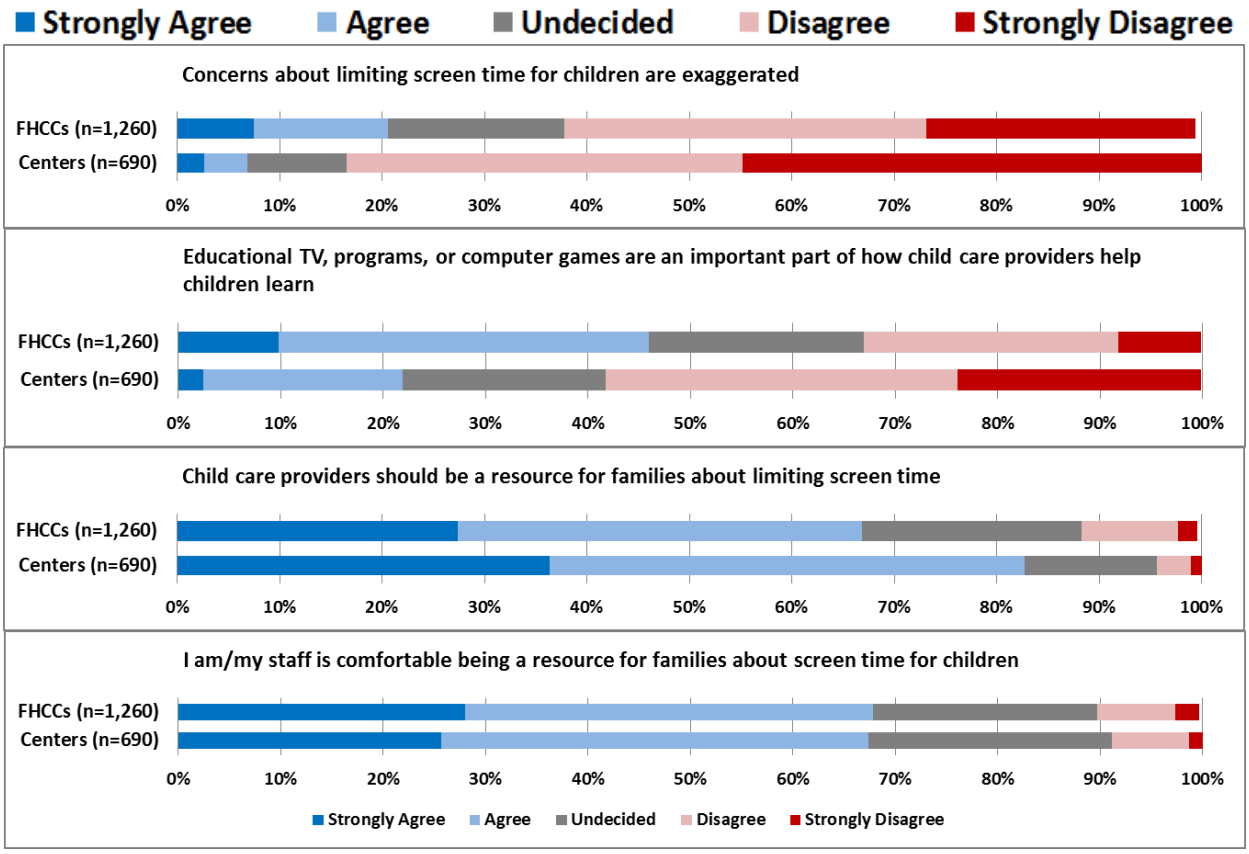
Respondents overwhelmingly agreed that physical activity is important for children's learning and school readiness, and that planning and leading physical activity are just as important as other child care responsibilities (**Figure 44**).

Figure 44. Attitudes and beliefs related to physical activity, by child care type



There was slightly more variation in respondents' agreement with the statements about children's screen time (**Figure 45**). The majority of all respondents disagreed with the statement *Concerns about limiting screen time for children are exaggerated,* but a greater proportion of FHCC owners/providers compared to Center directors agreed that educational TV, video programs, or computer games are an important part of how child care providers help children learn.

Figure 45. Attitudes and beliefs related to screen time, by child care type



Discussion

Child care programs play a critically important role in supporting the development of children's health by providing nutritious foods and beverages, encouraging children's active play every day, and role modeling healthy eating. CPHN used best practice recommendations from evidence-based standards,[65,66,67] programs,[68] or national campaigns[69] as benchmarks to evaluate the nutrition and physical activity practices and environments of child care programs in Washington. The survey findings described above suggest there are a number of strengths as well as areas for improvement when it comes to licensed child care programs offering the best possible healthy eating and active play environments for young children in Washington.

Nutrition

Early childhood is when children develop taste preferences and nutrition-related behaviors that continue to influence their food habits and consumption through adolescence and adulthood.[70,71] Overall, child care programs that responded to this survey follow healthy beverage practices. The vast majority (83 percent) of programs never serve sugary drinks and most programs reported serving low-fat or fat-free milk to children age two and older, limiting 100% fruit juice, and limiting or restricting flavored milk.

Results from the survey questions about types of food offered in child care highlight the need to increase healthy offerings, including fruits and vegetables. A majority of FHCCs compared with one-third of Centers follow the best practice for servings of fruit with no added sugars. Less than half of all programs surveyed follow the best practice for servings of vegetables. In addition, the majority of programs rarely serve vegetables at snack time. This last finding is consistent with the results from a child care study by Copeland et al (2013) and implies that efforts to increase servings of vegetables at snack time are an opportunity to improve the nutritional quality of foods served in child care settings.[72]

Most children in the U.S. consume too few fruits and vegetables, and child care is an important setting to address this issue.[73] In the years 2007 to 2010, 60 percent of children aged 1–18 years did not meet USDA Food Patterns fruit intake recommendations, and 93 percent did not meet vegetable recommendations.[74] While recent national research suggests that from 2003 to 2010 children's consumption of whole fruit increased and fruit juice decreased, children's vegetable intake did not

[65]AAP. APHA, NRC. *CFOC3.* 2011. http://nrckids.org/CFOC3/PDFVersion/preventing_obesity.pdf
[66]IOM. NAP. 2011. Table 4-1. http://www.iom.edu/Reports/2010/Child-and-Adult-Care-Food-Program-Aligning-Dietary-Guidance-for-All.aspx
[67]Boyle M et al. Nemours. 2013.
[68]Ward D et al. *Go NAPSACC.* 2014.
[69]The Nemours Foundation. *Let's move! Child Care.*
[70]Ibid.
[71]Birch LL. *Annu Rev Nutr.* 1999;19(1):41-62.
[72]Copeland KA et al. *Childhood Obesity.* 2013;9(3).
[73]Kim et al. MMWR. 2014;63(31);671-676. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6331a3.htm?s_cid=mm6331a3_w
[74]National Cancer Institute. http://appliedresearch.cancer.gov/diet/usualintakes/pop/2007-10/#findings

change and remained low.[75] Child care programs can consider including fruits and vegetables whenever food is offered, training staff to make fruits and vegetables more appealing and accessible, and providing hands-on learning opportunities for children, such as growing, tasting, and preparing fruits and vegetables.[76,77]

Other opportunities to improve the nutritional quality of food served in child care include increasing whole grains, decreasing grains high in added sugars and/or solid fats, and decreasing servings of fried potatoes and fatty and high sodium meat products. Results from national surveys of dietary intake indicate that children's whole grain consumption is very low and their consumption of foods high in solid fats and added sugars are high.[78] Since children spend so much time in child care, child care settings play a significant role in helping children eat balanced and nutritious diets that meet the national guidelines. However, less than half of all programs surveyed serve whole grains at least once a day. Meanwhile, 42 percent of all programs surveyed serve grains high in added sugars and solid fats twice a week, and roughly a third serve fried potatoes and fatty meats one to two times a week. FHCC programs served sweet treats, sugary cereal, and fried foods and fatty meats more frequently than Centers did. Compared to FHCCs, a greater proportion of Centers meet the best practices for sugary cereal and sweet treats (they never serve these items).

The feeding environment in child care programs presents yet another opportunity to encourage healthy practices. Family-style meal service promotes children's social, emotional, and motor skill development. Children serve themselves from platters, bowls and pitchers on the table, and eat the meal or snack together. Caregivers can engage children in social interaction and conversation during meals to practice language and social skills.[79] Very few FHCCs (6 percent) and less than half (40 percent) of Centers serve meals family style. FHCC programs may need additional support to initiate family-style meal service since lack of space, a wider age range of children, and fewer staff may make it more difficult. Education and technical assistance for family-style meals may be helpful for all programs.

Although family-style meal service is low, the majority (63 percent) of all programs reported that staff usually sit and talk with the children and model eating healthy foods. The presence of an adult during mealtimes who models healthy eating behavior can have a powerful influence on children's eating behavior and food intake.[80]

The survey findings indicate that programs participating in CACFP differ significantly in some key nutrition practices compared with non-participating programs. For example, FHCCs and Centers in CACFP were significantly more likely to follow the best practices for servings of non-starchy vegetables, 100% whole grains, low-fat or fat-free milk, sugary drinks, and family-style meals. Significantly more Centers (but not FHCCs) participating in CACFP never serve sweet treats and serve 100% whole grains at

[75]Kim et al. *MMWR*. 2014;63(31);671-676.
[76]Ibid.
[77]CDC. 2011. http://www.cdc.gov/obesity/downloads/early-care-and-education-policy-review-final_web508.pdf
[78]IOM. NAP. 2011. Table 4-1.
[79]AAP, APHA, NRC. *CFOC3.* 2011.
[80]Savage J. *J of Law Med Ethics.* 2007;35(1):22.

least once a day compared with non-participating Centers. These findings are consistent with previous studies.[81,82,83] It is likely the differences are due to CACFP food requirements and guidelines that specify meal patterns and types of food that are eligible for reimbursement. For example, CACFP will not reimburse for 2% or whole milk served to children over age two or any sugary drinks or sweet treats; CACFP meal patterns do require daily servings of fruit or vegetables.

However, compared to non-participating programs, FHCCs and Centers participating in CACFP were *less* likely to follow the best practices for fruit in syrup, fried potatoes, fatty meats, baked grains high in added sugars and solid fat (muffins, cookies, cakes, brownies, Pop-Tarts®). These findings might be explained by the lack of standards for the nutritional quality of meat and other protein foods or grains in CACFP guidelines. A 2009 statewide survey of licensed child care centers and homes in California also found that programs in CACFP served less healthy meats (hot dogs, chicken nuggets) compared to non-participating programs.[84] At the time of writing this report, the USDA is currently revising the CACFP meal patterns.

Overall, there were slightly fewer significant differences found in the nutrition practices of FHCCs participating in CACFP and non-participating FHCCs compared to Centers participating in CACFP and non-participating Centers. This might be explained by the 2012 revision to the FHCC WACs that now require FHCCs to serve food that meets the CACFP guidelines.

Physical Activity

Physical activity and movement are essential to the development, learning, and growth of young children.[85] Only about one-in-five (22 percent) full-time programs reported to follow the best practices for children's outdoor playtime, and even fewer follow the best practice for physical activity time for preschoolers (children ages 3-5). A majority of all programs (61 percent) did not even meet the 90-minute minimum for daily physical activity for preschoolers.[86] This is concerning because physical activity is critically important to children's physical health, mental function and learning, and psychological wellbeing.[87] Additionally, children who spend more time outdoors are more active than children who spent less time outdoors.[88] Yet a majority of the programs surveyed are not meeting the best practices for time spent outside. A large majority of programs (79 percent) does meet the minimum

[81]Monsivais P et al. *J Am Diet Assoc*. 2011;11(5):721-726.
[82]Hecht K et al. University of California, Berkeley. 2009. http://cfpa.net/ChildNutrition/ChildCare/CFPAPublications/RWJF-StatewideChildCareAssessment-2009.pdf
[83]Richie LD et al. *Childhood Obesity* 2012. 8(3).
[84]Hecht K et al. 2009. California Food Policy Advocates, Samuels & Associates, University of California Berkeley Center for Weight and Health. http://cfpa.net/ChildNutrition/ChildCare/CFPAPublications/RWJF-StatewideChildCareAssessment-2009.pdf
[85]Tomporowski PD et al. *Educ Psychol Rev.* 2008;20:111-31. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2748863/
[86]For most physical activity standards, *CFOC3* provides a range of time. For example, *CFOC3* says: "*Preschoolers should be allowed ninety to one hundred and twenty minutes per eight-hour day".* We used the lower end of the range (90 minutes) as the "minimum standard".
[87]Ibid.
[88]Hinkley T et al. *Am J Prev Med*. 2008;34(5):435–441

standard of 60-minutes for physical activity for toddlers (children age two) but falls short of meeting the best practice of 90 minutes.

Another area of concern is the insufficient time child care programs provide for structured (adult-led) physical activity. Children are more likely to be physically active when they are led by an adult.[89] Structured physical activity also helps children develop basic motor skills that are foundational for future participation in fitness activities.[90] Current recommendations suggest that preschoolers get 60 minutes of structured physical activity over the course of a day,[91] and two or more occasions of structured physical activity daily.[92] Although this survey did not measure the number of occasions for structured physical activity, it did find that most programs (92 percent of Centers and 80 percent of FHCCs) are not providing enough time for structured activity.

An Oregon study of family child care homes and physical activity environments found the following factors were associated with higher levels of children's physical activity: providing enough outdoor play, active play using portable play equipment, having a variety of fixed play equipment, suitable indoor play space, engaging in active play with children, and receiving activity-related training.[93] In the Washington survey, child care programs reported that lack of outdoor covered space, insufficient indoor space, and limited play equipment are top challenges to providing more physical activity opportunities for children.

When it comes to screen time, the survey findings show there are some clear differences between FHCCs and Centers. FHCC programs offered much more screen time than Centers, a finding that confirms what has been reported by Christakis et al (2009)[94] and Gunter et al (2012). Since they operate in private homes, FHCC programs are more likely than Centers are to have one or more devices (e.g. TV, video game player, computer, tablet, and/or E-reader) for screen time in the child care space. The access and availability of screens in FHCC settings may pose more of a challenge for FHCC providers to limit screen time exposure in child care.

Child Care Provider Training and Program Policies

The survey findings for Center staff training and written program policies are similar to those reported by Sisson et al (2013) in a study of a representative sample of child care centers in Oklahoma.[95] However, Washington FHCCs reported considerably higher rates of training and written policies when compared to the findings of Trost et al (2009) and Gunter et al (2012) in surveys of representative samples of family child care homes in Kansas and Oregon. The high rates of training and written policies reported by the Washington FHCCs could indicate there is respondent bias in which highly motivated or resourceful programs, or programs that represent best actors in nutrition and physical activity in child care, completed this lengthy, predominately online survey.

[89]National Association for Sport and Physical Education. 2002.
[90]Hughes D. Nemours. 2010.
http://www.nemours.org/content/dam/nemours/www/filebox/service/preventive/nhps/paguide2010.pdf
[91]National Association for Sport and Physical Education. 2002.
[92]Ibid.
[93]Gunter et al. *J of Extension.* 2012;50(3):3FEA3.
[94]Christakis DA et al. *Pediatrics*. 2009;24(6), 1627-1632.
[95]Sisson SB et al. *J Acad Nutr Diet*. 2012;112:1230-1240.

The Washington survey also found that child care programs participating in CACFP were significantly more likely to report completing training on the nutrition topics featured in the survey when compared with non-participating programs. This finding can be explained by the combination of resources, training, and technical assistance CACFP provides to participating programs. In Washington, the Office of Superintendent of Public Instruction (OSPI) administers CACFP. OSPI has a cadre of CACFP specialists—several are Registered Dietitians—who provide technical assistance and mandatory annual training to new and participating Centers and family day care home sponsors. In anticipation of a new proposed meal pattern for CACFP, many of these trainings have focused on including whole grains and incorporating a wider variety of fruits and vegetables. Two years ago, a new CACFP regulation required that milk served to children two years and older must be low-fat or non-fat milk. Sponsoring organizations monitor all FHCCs that participate in CACFP three times every year. During these monitoring visits, sponsoring organizations may provide nutrition training to their providers.[96]

Of all the training topics addressed in the survey, fewer respondents indicated they or their child care staff have completed training on how to communicate with families on child health topics and developing program policies on nutrition, physical activity and screen time best practices. Child care health consultants and trainers should promote strategies on how to build relationships with parents and families and engage them as partners to support healthy habits in their children.

More studies are needed to assess the impact of policies and training on the physical activity and nutrition practices and environments of child care settings.[97] Future analyses of the Washington survey data should aim to fill this gap. In Georgia, 24 child care centers improved their physical activity and nutrition environments, training, and education after they implemented wellness policies and received training on nutrition and physical activity best practices.[98]

However, it is worth noting that policies and education alone may not contribute to improved practices. A look at the results for screen time reduction policies, training, and practices makes this case. A greater proportion of FHCCs than Centers reported to have written policies on screen time (56 percent vs. 35 percent) and training on appropriate use of screen time in child care (55 percent vs. 37 percent). Meanwhile, it was the Centers that reported higher rates of following screen time best practices. Eighty-eight percent of Centers compared with 35 percent of FHCCs limit screen time to less than one hour per week or less, and 57 percent of Centers compared with 16 percent of FHCCs offer no screen time to children in child care.

Even so, written policies for food and nutrition, physical activity, and screen time are opportunities to communicate to both families and child care staff about the child care program's expectations.[99] Indeed,

[96]Washington State Office of the Superintendent of Public Instruction. http://www.k12.wa.us/childnutrition/Programs/CACFP/TrainingModules.aspx

[97]Institute of Medicine. NAP. 2011. http://www.iom.edu/Reports/2011/Early-Childhood-Obesity-Prevention-Policies.aspx

[98]Lyn R et al. *Prev Chronic Dis*. 2013;10:120232. http://www.cdc.gov/pcd/issues/2013/12_0232.htm

[99]American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education. *CFOC3.* 2011.

roughly half of all programs surveyed indicated they use written policies in the parent handbook to communicate nutrition and physical activity educational information to families.

Attitudes and Beliefs

Finally, to understand factors that may affect child care providers' practices, the survey included three sections about attitudes and beliefs on healthy eating, physical activity and screen time for children. Overwhelmingly, most respondents agreed that child care is an important setting for promoting healthy eating and physical activity. However, the survey findings also suggest that not all programs are comfortable being a resource for families about child nutrition, physical activity and screen time. Child care programs may need more support when it comes to effectively engaging with families on these health topics.

Limitations

This survey has some limitations. Although numerous states and studies have used self-administered surveys to gather information about nutrition and physical activity practices in child care settings, biases can occur several ways. Since this survey relied on a self-report method, it is possible that participants did not respond truthfully or accurately because they could not remember how often they do a certain practice or because they wanted to present their programs in a positive way. Although CPHN assured survey participants any information collected in the survey would remain confidential, fear of DEL or OSPI/CACFP licensors could have biased responses.

This survey was only offered in Spanish and English, and most participants responded to the online version. As a result, the survey may also be prone to "non-response bias". This means the findings might be biased if the responses from programs that were unwilling or unable to participate in the survey would have been greatly different from those who were willing and able to participate. For example, even though CPHN offered hundreds of cash value incentives for taking the survey, the survey was quite long. As a result, it is possible that highly motivated programs or programs most interested in nutrition and physical activity topics were more likely to complete the survey. The survey sample also has a higher proportion of child care programs enrolled in Early Achievers compared with the child care population at large (44 percent vs. 33 percent of all child care programs). It is possible that results over-estimate the degree to which child care programs in Washington are meeting the best practices assessed in the survey.

Finally, although this survey achieved a large sample size and good regional representation, the extent to which the findings accurately reflect the practices of all licensed child care programs in Washington may be limited. The Center findings may be more generalizable to Washington's child care Center population than the FHCC findings are to the FHCC population at large. Compared to a recent statewide child care survey conducted by Washington State University (WSU),[100] CPHN's survey had proportionately more White FHCC respondents, fewer Latino or Hispanic FHCC respondents, and fewer

[100]Moore D. Washington State University. 2012;Technical Report 12-057.

FHCC respondents with less than high school education. However, the comparison to the WSU survey sample also revealed that the Center characteristics in this survey are quite similar (see **Appendix C** for details).

Conclusion

The findings from Washington's first statewide survey of nutrition and physical activity in child care suggest there many strengths as well as opportunities for improvement when it comes to licensed child care programs offering the best possible healthy eating and active play environments for young children. The Centers for Disease Control and Prevention (CDC) outlined a "spectrum of opportunities" by which state and local agencies and communities can support child care programs.[101] These opportunities provide a framework on ways to promote healthy weight in children.

Figure 46. Spectrum of Opportunities for Obesity Prevention in Early Care and Education Settings
(Used with permission from the CDC, Division of Nutrition, Physical Activity, and Obesity)

[101]CDC. N.D. Technical Assistance Briefing Document.

Opportunity[102]	Rationale
Licensing and Administrative Regulations— Washington rules and regulations (or WACs) for licensed child care programs could be enhanced so they uniformly address best practices and national standards for nutrition, physical activity, and screen time. The WACs could also require that the initial and continuing training for child care staff and FHCC providers include healthy eating, physical activity, screen time topics, and family engagement strategies.	The National Resource Center for Health and Safety in Child Care and Early Education (NRC) Assessment demonstrated that Washington's rules and regulations for both Centers and FHCCs include only 6-out-of-47 high-impact components from *Caring for Our Children (CFOC3)*, the most highly regarded resource for early care and education standards. These evidence-based, national standards are expected to reduce childhood obesity if implemented in child care and early education settings. The WACs also do not require that continuing education for child care Center staff or FHCC providers include nutrition, physical activity, or screen time topics.
Child and Adult Care Food Program (CACFP)— State and local efforts could increase CACFP enrollment among programs by reducing barriers to participation and strengthening the sponsor network at the state-level. Program specialists could include in their regular trainings additional technical assistance and strategies on ways to increase the nutritional quality of foods served in child care, as well as information on physical activity and screen time reduction strategies.	CACFP, a federal assistance program, provides reimbursement to participating child care programs for meals and snacks served that meet designated nutrition guidelines. Findings from the survey and previous studies show that, overall, child care programs participating in CACFP provide healthier food and beverages compared to non-participating child care programs. In addition, USDA is expected to revise the CACFP nutrition standards in the near future to better align with national guidance on diet.
Early Achievers, Washington's quality rating and improvement system (QRIS)—Nutrition, physical activity, and screen time standards could be incorporated into the Early Achievers rating system, professional development opportunities, and technical assistance materials.	By definition, the aim of Early Achievers is to improve the quality of child care and to provide consistent and coordinated messages about the components of quality child care. There is currently minimal inclusion of healthy eating, physical activity or screen time limits in the Early Achievers rating system.

[102] Ibid.

Opportunity[102]	Rationale
Training and Technical Assistance—Child care programs in Washington receive training and technical assistance from a variety of sources, including DEL licensing specialists, Child Care Aware of Washington, CACFP specialists, Early Achievers outreach, university programs, and community-based organizations. These training resources could include healthy eating, physical activity, screen time topics and family engagement strategies in their materials. With adequate funding, child care health consultants with public agencies can also help to build the capacity of providers to promote healthy child development by improving policies and practices in nutrition, physical activity, and screen time. In addition to one-on-one training and technical assistance opportunities, early care and education learning collaboratives could be established to align practices of early learning professionals to support healthy eating, physical activity, reduced screen time, and family engagement in child care.	Training on healthy nutrition and feeding practices and physical activity will help to equip providers with skills and strategies to provide the best possible nutrition and physical activity environments for young children. Learning collaborative models are powerful for a number of reasons—they bring together a community of learners, create a network of shared ideas and mutual support, provide access to high-quality resources for quality improvements, and offer opportunities to build important skills and leadership.[103]
Facility-level interventions—There are many interventions available to enhance the policies and practices within child care programs or to support behavior change in children. The *Nutrition and Physical Activity Self-Assessment for Child Care* (NAP SACC)[104] and *Let's Move! Child Care*[105] are two examples of national, evidence-based programs that provide child care resources for childhood obesity prevention. *Start Healthy, Start Now*[106] is a state example of a health promotion and child development training and technical assistance program in six Eastern Washington counties.	Studies have shown that child care programs improve their physical activity and nutrition environments after they implement wellness policies and receive training on nutrition and physical activity best practices.

[103]The Nemours Foudation. *Let's Move! Child Care.* http://www.healthykidshealthyfuture.org/home/collaborate/ecelcproject/about.html
[104]Ward D et al. *Go NAPSACC.* 2014.
[105]The Nemours Foundation. *Let's Move! Child Care.*
[106]Inland Northwest Health Services Community Wellness. *Start Health, Start Now.* https://wellness.inhs.org/Start-Healthy-Start-Now-Grant/

Opportunity[102]	Rationale
Access to Healthy Environments—Access to healthy environments can be increased through joint use agreements, farm/garden to child care initiatives, and centralized kitchens that provide affordable, nutritious meals to child care programs in the service area. In the Seattle metropolitan area, for example, FareStart provides nutritious meals that meet federal nutrition guidelines to child care centers, including Head Start programs.[107]	Providers need access to healthy foods and space for active play, especially if child care licensing regulations are someday enhanced.
Early Learning Leadership and Planning—The 2007 Legislature created Washington's Early Learning Advisory Council (ELAC). This council advises on statewide early learning issues and planning, including the Washington Early Learning State and Local Coordination Project, the state's framework for building an early childhood system to improve outcomes in school and life. ELAC could invite child nutrition and physical activity experts into its membership and incorporate nutrition and physical activity promotion strategies and goals into its early learning planning.	Nutrition, physical activity and screen time affect children's wellness and school readiness. Including healthy eating and physical activity experts in ELAC would help to integrate these issues into DEL's early learning planning.
Wages and Benefits—Child care is a professional business. Providers are educators with professional responsibility for the development and well-being of the children in their care. It takes training, skill, and experience to provide developmentally appropriate approaches to nutrition and physical activity during a busy child care day. Increased wages and improved benefits will acknowledge the value of child care work and keep good teachers in the field.[108]	Raising the status of the child care profession through improved wages and benefits will lead to healthier child care environments, greater opportunity for providers, and increased continuity of care for children.

There is great momentum among child health advocates and practitioners in Washington to support healthy eating, physical activity and limit screen time in early care and education settings. Now is the time for early care and education stakeholders to come together to review these survey findings and discuss coordinated opportunities and innovative partnerships to support child care settings to provide the best possible environments for children.

[107]FareStart. *Contract Meals Overview.* http://farestart.org/meals/about/index.html
[108]Center for Public Health Nutrition. 2009. University of Washington. Issue Brief #3.

Appendix A: Survey Tools

To view the survey tools, please visit:
http://depts.washington.edu/uwcphn/work/ece/waccsurvey.shtml

Table 20. Survey topics and number of questions by survey type

Survey Topics	Center Director Survey	FHCC Provider Survey
	# of Survey Questions	
Child Care Program Characteristics	14	9
Survey Respondent Demographics	7	8
Foods & Beverages Offered to Children Ages 2-5	22	23
Meal and Snack Time Environment for Children Ages 2-5	5	6
Food Procurement	7	7
Time for Indoor & Outdoor Physical Activity for Children Ages 2-5	6	7
Physical Activity Environment for Children Ages 2-5	5	5
Screen Time for Children Ages 2-5	4	5
Challenges, Attitudes and Beliefs	6	6
Provider Training	3	3
Program Policies	1	1
Communication with Families	2	2
Total number of survey questions	**82**	**82**

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Appendix B: Survey Methods

Advisory team called together—CPHN assembled a statewide advisory team of child care and health experts. The advisory team provided input on key decisions about the project, including the design of the survey tools and the main outcome measures (e.g. child care practices). The advisory team decided the survey's focus would be nutrition and physical activity best practices for children ages 2-5. The advisory team also identified and prioritized other topics to include in the survey tools. These topics included child care providers' training, challenges, attitudes and beliefs, communication with families and food procurement.

Survey tool developed—Four published child care assessment tools used in earlier statewide surveys served as the basis for the CPHN's survey tools.[109,110,111,112] Members of the advisory team examined the assessment tools used in previous statewide surveys and identified questions that would meet Washington's survey project aims. CPHN then developed two self-administered survey tools—one for center directors and one for FHCC owners/providers.

Survey tools pilot tested—After the advisory team reviewed the draft survey tools, CPHN pilot tested the English-language online versions of both the center director and FHCC provider surveys. Twenty-one people (8 center directors and 13 FHCC providers) participated in the survey pilot test and follow-up cognitive interviews.[113] CPHN used the feedback collected during the pilot test to revise the survey tools and cover letter. For example, CPHN changed some of the question definitions or explanations, re-ordered several questions, and adjusted the webpage format to make the pages easier to read.

IRB approval obtained—CPHN submitted survey protocols and tools to the University of Washington's Institutional Review Board, which reviewed and approved the project.

Survey census determined—In September 2013, DEL provided CPHN with a complete list of all Washington child care programs licensed to care for children from birth to age 13. This list served as the survey sampling frame and contained basic information about the programs, including names, location, contact information, and child capacity and age range. Based on modeling of different sampling strategies and anticipated response rates, CPHN decided to survey all of the child care programs licensed to care for children ages 2-5 rather than survey only a sample of them. CPHN determined that a census would return the highest number of responses and provide additional information about responders and non-responders that will be useful in future survey efforts. CPHN filtered out any

[109]Ward D et al. 2014. Center for Health Promotion and Disease Prevention and Department of Nutrition, University of North Carolina at Chapel Hill. http://gonapsacc.org/resources/nap-sacc-materials
[110] Yale Rudd Center for Food Policy and Obesity. 2008. Yale University. New Haven, Connecticut http://www.yaleruddcenter.org/resources/upload/docs/what/communities/ChildCareDirectorSurvey.pdf.
[111]Bellanca H. 2011. Oregon Public Health Institute. Portland, Oregon http://www.ophi.org/strategic-projects/healthy-child-care/right-from-the-start-child-care-assessment/
[112]Center for Weight and Health. 2009. University of California, Berkeley. http://cwh.berkeley.edu/sites/default/files/primary_pdfs/Survey_of_Child_Care_Providers_of_2-5_Year_Old_Children_English_Spanish.pdf
[113]Dillman D et al. New Jersey: John Wiley & Sons, Inc. 2009.

programs not licensed to care for children ages 2-5. After removing these records, the list contained the final survey population: 5,540 child care programs (4,013 FHCC providers, 1,522 Centers, and 5 Schools) licensed to care for children ages 2-5. CPHN invited all 5,540 programs to participate in the survey.

Survey promoted— During the last week of September, roughly two weeks before the online survey opened, Child Care Aware of Washington and DEL promoted the survey by sending fliers, in English and Spanish, via their email distribution lists. DEL also promoted the survey in their October newsletter, and the Coalition for Safety and Health in Early Learning (CSHEL) distributed the flier to child care health consultants throughout the state.

Initial contact established with the survey population—CPHN closely followed Dillman's Tailored Design Method for internet and mail surveys to contact the survey population.[38] CPHN had the mailing list processed through the National Change of Address database and the Coding Accuracy Support System of the U.S. Postal Service to make sure the addresses were accurate. CPHN mailed a personalized pre-survey notification letter to every child care program in the survey population. This letter was addressed to the primary contact of each child care program. The pre-survey notification letter was in English and Spanish and included agency logos and signatures from CPHN, Washington State Department of Health, DEL, and Child Care Aware of Washington.

Online surveys distributed—In early October, several days after the pre-survey notification mailing, CPHN staff emailed a survey invitation to any provider who had an email address on record. The bilingual invitation contained a link (URL) to the online survey and a custom ID code (a 4- to 6-digit number) to access the survey. As shown in **Table 2** above, CPHN had email addresses for the majority of Center directors or FHCC providers/owners in the survey population (e.g. 3,852/3,991 FHCC providers and 1,507/1,511 Centers).

Online survey participation tracked—CPHN developed participant tracking systems in Excel to document programs that completed surveys or contacted the office to ask for additional information or technical assistance.

Non-responders reminded—For three consecutive weeks, CPHN sent weekly reminder emails to non-responders. One month after the online survey opened, CPHN sent non-responders a final email reminding them that the deadline for submitting an online survey was approaching, as well as their last chance to enter the drawing for incentives.

Paper surveys mailed—In early November, one month after the online survey opened, CPHN mailed paper versions of the surveys to programs without email addresses on record (n=176), programs with email addresses that bounced back because they were "undeliverable" (n=210), or programs that called CPHN to request a paper survey (n=7). The paper survey package included a cover letter, booklet-style survey (one side in English, one side in Spanish) with custom ID code, and a pre-paid return envelope addressed to CPHN's office. CPHN mailed a reminder postcard several days later.

CPHN also mailed paper versions to a random sample of non-responders. After three weeks of online

survey activity, CPHN assessed the online survey response rate for each DEL licensing region compared with the percentage of Centers and FHCCs in the survey population of each region. Staff identified three areas (King, Pierce, and Yakima counties) where the online survey response rates were lower than the proportion of programs licensed in these areas. CPHN also noticed that the overall response rate for FHCC respondents was low compared with the overall response rate for Center respondents. Assuming a 30 percent response rate for the paper survey, CPHN staff calculated a sample needed from non-responders in each under-represented region, and from FHCCs overall, to achieve a response rate that resembled the survey population in terms of region and type of child care setting. CPHN took a random sample of 255 Centers and 1,331 FHCCs that did not respond to the online survey and mailed paper surveys to all of them. In all, CPHN mailed paper surveys to 1,979 programs (292 Centers and 1,688 FHCCs).

Survey closed—Data collection for the online and paper surveys closed on December 13, 2013

Online survey data processed—CPHN imported the online survey data into Excel and then SPSS. CPHN excluded four online survey submissions (1 Center, 3 FHCCs) for the following reasons: two were duplicate submissions; a provider licensed for children outside ages 2-5 submitted a survey; and a fourth survey had corrupt data that would not import properly.

Paper survey data entered—CPHN hired and trained temporary staff to enter the paper survey data into two online data entry tools. A CPHN research coordinator manually checked for data entry errors in 10 percent of the surveys, randomly sampled. The error rate for all data entry staff was less than one percent. Once staff completed data entry for the paper surveys, the research coordinator checked individual survey submissions for completeness by calculating the percentage of questions left blank or unreadable. CPHN excluded two paper surveys that were less than seventy percent complete.

Data analyzed—CPHN research coordinators used Excel and SPSS software to analyze the data. Staff applied different filters to the data so that only certain types of programs were included in certain analyses. For example, when analyzing the nutrition-related questions, CPHN included only programs that reported to care for one or more 2-5 year old(s) and to serve at least one meal or snack. To analyze questions related to physical activity and screen time, CPHN filtered the data to exclude any programs that reported to offer exclusively half-day care. To test whether the differences between CACFP participating and non-participating programs were statistically significant, CPHN used SPSS to test for the equality of proportions (two-sided Z-test). The p-value for the two-sided Z test was $p<0.05$.

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Appendix C: Sample Comparison with the 2012 WSU Child Care Survey

To assess how closely the survey sample resembles the child care provider population at large, CPHN compared the demographics in this sample with those in the Child Care Rate and Resources Survey conducted by Washington State University (WSU) in 2012.[114] The 2012 WSU survey can be considered a good estimation of the demographics of licensed child care providers in Washington. The sample for WSU's child care survey consisted of all 1,542 Centers and 2,857-out-of-4,435 FHCCs licensed in Washington as of 2012. WSU conducted their survey by telephone and achieved an overall response rate of 75% for the Centers and 61 for the FHCCs.

The comparison reveals several notable differences in the demographics of each FHCC survey sample (**Table 21**). Compared to the FHCC providers who responded to the WSU survey, the CPHN survey sample has a greater proportion of White FHCC respondents (69% vs. 61%), and smaller proportions of Latino or Hispanic FHCC respondents (21% vs. 27%) and Black respondents (5% vs. 9%). A greater proportion of FHCC providers in the WSU survey reported less than a high school education compared to FHCC respondents in this survey sample (17% vs. 9%). Therefore, in this CPHN survey sample, minority FHCC owners/providers are underrepresented and FHCC owners/providers who have completed higher levels of education are overrepresented. Additionally, the average capacity for FHCCs in this survey sample was approximately 10 children compared to six children in the WSU sample, which may indicate that FHCCs with more capacity and resources participated in the survey.

Table 21. FHCC demographic results, a comparison with the WSU 2012 Child Care Survey

		WSU 2012 Rate and Resources Survey
	FHCC Respondents (n=1,260)	**FHCC Respondents (n=1,411)**
Race/Ethnicity		
White	69%	61%
Latino or Hispanic	21%	27%
Black	5%	9%
Asian	4%	6%
American Indian/Alaska Native	1%	2.3%
Other	3%	21%
Highest Level of Education		
Less than high school	9%	17%
Completed high school	21%	45%
Some college-level or advanced courses	36%	12%
Associate degree	15%	14%
College graduate	10%	9%
Some graduate-level education	3%	N/A
Graduate degree or higher	5%	2%
Has one or more families using a subsidy	60%	63%
Average child capacity	9.9	6.1

[114]Moore D. Washington State University. 2012;Technical Report 12-057.

When the Center characteristic results from each survey sample were compared, the results were similar (**Table 22**). The average capacity for Centers in this survey sample was 70 children compared to 69 children in the WSU sample. Directors who responded to this survey reported an average of 18 years employment in child care compared with 17 years in the WSU sample. About half of the Centers in each sample were for-profit, 44% of the Centers in this sample were non-profit compared with 41% in the WSU sample, and 5% of the Centers in this sample were affiliated with government compared with 6% in the WSU sample. However, this survey sample has a greater proportion of multi-site Centers (28% vs. 17%) and a small proportion of Centers has one or more families using a subsidy (76% vs. 79%).

Table 22. Center characteristic results, a comparison with the 2012 WSU Child Care Survey

		WSU 2012 Rate and Resources Survey
	Center Respondents (n=690)	**Center Respondents (n=1,058)**
Average child capacity	69.5	69.1
Center has multiple sites	28%	17%
Center Profit Status		
For-profit	50%	51%
Non-profit	44%	41%
Government[a]	5%	6%
College or university affiliated	1%	4%
Has one or more families using a subsidy	76%	79%
Average Years Directors Employed in Child Care	~18 years	~17 years

[a]"Government" includes tribal, military sponsored, Head Start, community college)

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Appendix D: Center and FHCC participation in CACFP, by DEL region

Table 23: Centers and participation in CACFP, by DEL region[a]

	WA Centers		Northwest Centers		Southwest Centers		Central Centers		Eastern Centers	
	n	%	n	%	n	%	n	%	n	%
CACFP Centers	377	56%	119	39%	141	65%	41	--	76	--
Non-CACFP Centers	287	43%	177	58%	74	34%	15	--	21	--
Don't Know	9	<1%	7	2%	1	<1%	1	--	0	--
Total Centers	**673**	**100%**	**303**	**100%**	**216**	**100%**	**57**	**--**	**97**	**--**

[a]Only includes Centers that serve or cater at least one meal or snack to children ages 2-5.

Table 24. FHCCs and participation in CACFP, by DEL region[a]

	WA FHCCs		Northwest FHCCs		Southwest FHCCs		Central FHCCs		Eastern FHCCs		Region Unknown[b]	
	n	%	n	%	n	%	n	%	n	%	n	%
CACFP FHCCs	819	66%	252	53%	237	71%	169	79%	122	80%	39	--
Non-CACFP FHCCs	389	31%	217	46%	95	28%	29	14%	24	16%	24	--
Don't Know	29	2%	6	1%	3	<1%	13	6%	5	3%	2	--
Total FHCCs[c]	**1,242**	**100%**	**475**	**100%**	**335**	**100%**	**211**	**100%**	**151**	**100%**	**65**	**--**

[a]Only includes FHCCs that serve or cater at least one meal or snack to children ages 2-5.
[b]Missing data: 65 FHCC surveys could not be linked to the sampling frame containing location data.
[c]Missing data: 5 FHCC respondents did not respond to the question about CACFP participation.

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Apppendix E: Center and FHCC food preparation by type of meal and snack

Table 25: Food preparation in Centers by type of meal and snack and participation in CACFP

		All Centers (n= 690)[a,b]	CACFP Centers (n= 378)	Non-CACFP Centers (n= 301)
Breakfast	Center prepares	72%	94%	46%
	Not offered	19%	3%	38%
	Kids bring from home	7%	<1%	15%
	Caterer prepares	1%	1%	<1%
Mid-morning Snack	Center prepares	65%	56%	76%
	Not offered	29%	43%	13%
	Kids bring from home	4%	<1%	7%
	Caterer prepares	2%	<1%	3%
Lunch	Center prepares	70%	94%	40%
	Not offered	5%	1%	9%
	Kids bring from home	23%	2%	48%
	Caterer prepares	3%	2%	3%
Mid-afternoon Snack	Center prepares	91%	96%	87%
	Not offered	4%	3%	5%
	Kids bring from home	2%	--	4%
	Caterer prepares	2%	1%	4%
Dinner	Center prepares	7%	8%	3%
	Not offered	93%	90%	96%
	Kids bring from home	<1%	--	<1%
	Caterer prepares	--	--	--
After-dinner Snack	Center prepares	<9%	12%	4%
	Not offered	91%	88%	95%
	Kids bring from home	<1%	--	<1%
	Caterer prepares	<1%	--	<1%

[a]Only includes Centers that reported to care for children ages 2-5.
[b]Count (n=690) includes 10 Centers that responded *I don't know* to the question about CACFP participation.

Table 26: Food preparation in FHCCs by type of meal and snack and participation in CACFP

		All FHCCs (n= 1,260)[a,b]	CACFP FHCCs (n= 820)	Non-CACFP FHCCs (n= 403)
Breakfast	FHCC prepares	83%	96%	77%
	Not offered	11%	3%	12%
	Kids bring from home	5%	<1%	10%
	Caterer prepares	1%	<1%	<1%
Mid-morning Snack	FHCC prepares	79%	89%	85%
	Not offered	17%	10%	10%
	Kids bring from home	2%	<1%	4%
	Caterer prepares	1%	<1%	<1%
Lunch	FHCC prepares	85%	98%	82%
	Not offered	3%	<1%	4%
	Kids bring from home	11%	<1%	13%
	Caterer prepares	1%	<1%	<1%
Mid-afternoon Snack	FHCC prepares	94%	98%	92%
	Not offered	3%	1%	3%
	Kids bring from home	2%	<1%	3%
	Caterer prepares	2%	<1%	2%
Dinner	FHCC prepares	24%	38%	26%
	Not offered	74%	61%	73%
	Kids bring from home	1%	<1%	1%
	Caterer prepares	<1%	<1%	<1%
After-dinner Snack	FHCC prepares	18%	25%	19%
	Not offered	81%	74%	80%
	Kids bring from home	<1%	--	<1%
	Caterer prepares	1%	<1%	<1%

[a]Only includes FHCCs that reported to care for children ages 2-5.
[b]Count (n=1,260) includes 32 FHCCs that responded *I don't know* and 5 FHCCs that did not respond to the question about CACFP participation.

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