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What Can CCDF Learn from the Research on Children's Health and Safety in Child Care?

Patti Banghart and J. Lee Kreader

- A major goal of CCDF is to provide low-income children with access to high-quality care that supports their health and safety.
- Research underscores the role of health and safety in child care in supporting children's physical, cognitive, and social-emotional development, all of which contribute to their school readiness.
- Regulations vary widely across states, and more needs to be learned about how regulations, enforcement of regulations, and supports could best improve child outcomes.

With large numbers of young children in nonparental care, policymakers and researchers share a strong interest in understanding and enhancing components of quality in child care and early education settings that support children's development and ensure their school readiness. Children's health and safety in child care is an important component and an essential basis of quality, since physical, cognitive, and social-emotional development are inextricably linked and related to children's readiness for school.[1] Children's health, however, is an undermeasured aspect of school readiness.[2] A major goal of the Child Care and Development Fund (CCDF) program, which provided child care subsidies to a monthly average of nearly 1.7 million low-income children in Fiscal Year 2010[3] through a block grant administered by the Federal Office of Child Care, is to provide access to high-quality care—built on a foundation that assures their health and safety.

The statute for the CCDF block grant program requires lead agencies in the states and territories to certify that state or local laws are in place that protect the health and safety of children in subsidized care in three broad areas: prevention and control of infectious diseases (including age-appropriate immunizations), building and physical premises safety, and minimum health and safety training appropriate to the provider settings. Additional statutory requirements support this overarching goal:

> Working through licensing systems, fostering the development of QRISs, and encouraging coordination with other early childhood education programs, CCDF has the potential to influence the health of all children in child care, not just those receiving assistance under CCDF.

NCCP National Center for Children in Poverty
Mailman School of Public Health
Columbia University

www.nccp.org

- Lead agencies must certify that procedures are in place to ensure providers caring for CCDF subsidized children comply with all applicable state and local health and safety requirements. States, at their option, may exempt relative providers from these requirements. In addition, lead agencies must certify that they have in effect licensing requirements applicable to child care services provided within the area served by the lead agency, although these licensing requirements need not be applied to all child care providers.
- The relationship between licensing requirements and health and safety requirements varies by state depending on how comprehensive the licensing system is. In some states, licensing may apply to the majority of CCDF-eligible providers and the licensing standards cover the three CCDF health and safety requirements. In other cases, states have elected to exempt large numbers of providers from licensing, which means that exempted providers who care for children receiving assistance from CCDF will have to meet the CCDF health and safety requirements through an alternative process outside of licensing. The state may also elect to impose more stringent standards and licensing or regulatory requirements on child care providers of services for which assistance is provided under the CCDF than the standards or requirements imposed on other child care providers.
- As shown in table 1, state licensing requirements and CCDF requirements on health and safety vary widely by state, in both what is regulated and which providers must meet those regulations.[4] As is shown there, centers must meet more regulations to be licensed, followed by family child care providers, while license-exempt providers not subject to regulation must only meet certain CCDF health and safety requirements to receive CCDF funds. States also vary in enforcement activities of health and safety regulations and requirements.[5]
- Research indicates that regulations alone are insufficient to support children's health, and many children are in care not subject to regulation. CCDF statute also promotes health and safety by requiring that states use a portion of funds for quality initiatives, including those to improve health and safety and to educate parents on the topic.[6] The Federal Office of Child Care encourages states to coordinate their quality initiatives and strategies into comprehensive quality rating and improvement systems (QRISs). Most QRISs address health and safety simply by requiring that participating providers be licensed, but only four states include additional health and safety requirements. Working through licensing systems, fostering the development of QRISs, and encouraging coordination with other early childhood education (ECE) programs, CCDF has the potential to influence the health of all children in child care, not just those receiving assistance under CCDF.

This brief highlights recent research that can inform lead agencies as they consider ways to support state licensing and other systems that influence children's health and safety (e.g., QRIS, professional development, cross-system partnerships). Studies and reports were included if they addressed key health and safety components that have served as the basis for many recommended health and safety standards (i.e., the American Academy of Pediatrics, the American Public Health Association, and the National Resource Center for Health and Safety in Child Care's *Caring for Our Children* guidelines; Head Start performance standards; and the National Association for the Education of Young Children [NAEYC] accreditation standards), as well as the literature on other children's health supports such as nutrition and physical activity interventions and health and mental health consultation.[7] This research uses a range of methods, including surveys and interviews with directors, providers, health consultants, and parents in child care settings to explore their need for health information and training and the implementation of health promotion activities; observational assessments of child care health and safety; and analysis of injury and illness/infection rates among children in child care from various data sources. Although there were few experimental studies, their findings were given weight in drawing policy conclusions, as were consistent findings across multiple studies. References from older studies are included when they are widely cited studies that have helped establish health and safety standards and when more recent research is not available. Findings related to particular care settings and age groups (e.g., infants and toddlers) are specified when available. The prevalence of state requirements for each component is also noted when available.

What Health and Safety Requirements Lead to Better Care and Healthier Outcomes for Children? In What Areas Do Providers Need Further Support?

The research presented below is broadly grouped according to the key CCDF health and safety categories: prevention and control of infectious disease, building and physical premises safety, and health and safety training. Research on additional components affecting children's health—nutrition and physical activity, health and developmental screenings and consultation, and mental health screenings and consultation—is also included. State licensing regulations for each component are also included and summarized by setting in table 1.[8] While table 1 focuses on licensed settings, some children receiving CCDF subsidized care are in settings exempt from licensing.[9]

The research on health and safety reviewed in this brief predominantly addressed

- children's participation in ECE and health outcomes of illness and injury,
- characteristics in child care settings associated with higher levels of child health, and
- how interventions affect children's health outcomes in child care settings.

A number of patterns were observed across the studies and reports. The majority of studies reviewed look at health and safety in licensed child care centers and some look at licensed family child care homes, with little research available on health and safety in license-exempt, home-based care. Health and safety has also been examined in Head Start centers[10] and is included here where no research in licensed care is available. Few studies focus specifically on health and safety in subsidized care, although research on child care for low-income children is included.

Prevention and Control of Infectious Disease

Child:staff ratios and group size. Research demonstrates a clear link from small group size and low child:staff ratios to children's health and safety.[11, 12] Child care arrangements with larger group sizes (more than six children) are associated with higher rates of upper respiratory illness, gastrointestinal illness, and ear infections for preschoolers.[13] Infants and toddlers have an increased risk of illness with a group size of four or more children compared to children cared for at home.[14] Fewer children per adult may also reduce the transmission of disease by enabling caregivers to better monitor and promote healthy practices and behaviors.[15] Likewise, lower child:staff ratios are associated with lower rates of child injury[16] and child abuse by caregivers.[17]

NAEYC recommends the following high-quality standards for child:staff ratios in centers: 3:1 for infants, 4:1 for children 12–28 months, 5:1 for 21–36 months, 6:1 for 2.5–3 years, 8:1 for 4–5 years, and 10:1 for school-age children. These standards are often difficult for centers to achieve and no state currently meets these requirements (see table 1). All states, however, regulate child:staff ratios in licensed centers. All states that regulate small (43) and large (39) licensed family child care homes set required ratios for these providers as well.

The *Caring for Our Children* National Health and Safety Performance Standards guide recommends the following for small family child care homes: 6:1 if there are no children under the age of 2 in care, 3:1 if there is one child under the age of 2, and 2:1 if there are two children under the age of 2. For large family child care homes, they recommend 2:1 for infants, 2:1 for children 13–23 months, 3:1 for children 24–35 months, 7:1 for 3-year-olds, 8:1 for 4- to 5-year-olds, 10:1 for 6- to 8-year-olds, and 12:1 for 9- to 12-year-olds.[18] Currently, no source compiles information comparing states' family child care regulations on child:staff ratios by age groups.

Hand washing. Studies have shown that young children in out-of-home care have higher rates of illness—such as more upper and lower respiratory infections, more gastrointestinal illness, and more infections caused by viruses.[19] Simple sanitary methods like hand washing help to control the spread of infectious disease in child care,[20] as do infection-control training programs.[21] An experimental study in North Carolina found lower rates of diarrheal illness and a lower rate of absences due to illness in centers that received hygiene and sanitation training.[22] Unfortunately, surveys of child care providers indicate that they may not receive sufficient training in sanitary methods.[23] About half of states (25) require providers in licensed child care centers to have health and safety training that includes training on preventing the spread of communicable illness, while fewer states (12) require this training for large and small family child care homes, and 8 states require it of license-exempt providers who receive CCDF subsidies (see table 1).

Immunizations and medication administration. Nationally, approximately 90 percent of children ages 19–35 months receive routine vaccinations.[24] Immunization laws and rates vary by state. Children in ECE programs are more likely to receive immunizations.[25] To help ensure immunization and protect children, child care centers are generally required to maintain records of children's immunization and to help enforce immunization standards. Child care providers, however, often lack information about infectious disease and the importance of immunizations. Supports may help them comply with regulations and ensure children are immunized. One study found that a one-day training increased provider knowledge about vaccines and the diseases they prevent.[26] A Canadian study found that reviews and monitoring of immunization records by health consultants increase rates of immunized children in centers.[27]

Child care providers may be required to administer medication to children or assist with special health care needs, such as for asthma, one of the most common child chronic illnesses. All states have regulations around medication administration for centers (e.g., centers must maintain records of medications administered) but only nine states require training for the administration of medicine in child care centers (See table 1).[28] Currently, no source has tabulated the number of states that have regulations for family child care homes around medication administration. This may be an area of needed support. Research in one state found that one in five centers did not have a staff member trained in medication administration despite regulations that required training on medication administration, and also showed that safer medication administration was more likely with weekly visits from a health consultant.[29]

Building and Physical Premises Safety/ Injury Prevention

Nearly 2.4 million unintentional, nonfatal injuries of children ages 0–4 were reported in 2009, and falls are the most common type of nonfatal injury for young children.[30] Though few studies have looked at injuries in child care settings, some (but not all) of these studies have shown a higher rate of injury for children in out-of-home care.[31] A study in New York City in licensed centers and homes indicates that falls were the most common nonfatal injury across settings, with more fall-related injuries in licensed homes than in centers. The direct and indirect causes of injury are hard to examine, but one study identified that infants were

falling from furniture (37 percent), car seats (12 percent), child walkers (7 percent), the stairs (10 percent), or being dropped (15 percent).[32]

Research supports several strategies that indirectly help prevent injuries, such as supervision, training, and education. For example, regulations requiring child care center directors to have education beyond a high-school diploma (even by two years), requiring providers to have training beyond high school, lowering child:staff ratios, and requiring inspections of child care facilities are associated with a lower risk of fatal and nonfatal injury.[33] Having more than one annual inspection was also associated with lower rates of injury requiring medical attention.[34, 35]

The most serious injuries, such as fractures and concussions, occur from children falling from playground equipment, which is more likely for children in center-based care who have access to larger playground equipment.[36] Efforts to make playgrounds safer through structural improvements can reduce injury. State licensing revisions on playground safety were associated with lower injury rates requiring medical attention.[37] States are making progress, with 44 states now requiring safe playground surfaces.[38] One study showed that playground safety enhancement grants were associated with a statistically significant reduction in safety hazards.[39]

Emergency procedures. Experts suggest that child care centers have a comprehensive written emergency plan that includes an evacuation plan, a plan for urgent medical care, the immediate availability of equipment and supplies, first aid/cardiopulmonary resuscitation (CPR) training for members of the child care center staff,[40] and more recently (following Hurricane Katrina) disaster planning.[41]

Research indicates that child care providers may need support with emergency preparedness. For instance, a survey conducted in all 50 states and the District of Columbia found less than a quarter meet all of four basic preparedness standards (i.e., states require licensed facilities to have a written plan for evacuation and relocation, for child-family reunification, that accounts for children with special needs, and a K–12 disaster plan), less than half require all licensed child care facilities to have an evacuation and relocation plan, and less than half require all licensed child care facilities to have a family reunification plan.[42]

Additionally, a survey of child care center administrators in Pennsylvania found that nearly all centers (99 percent) were compliant with having a written emergency plan for evacuation and an urgent medical plan, but plans did not always include procedures for external disasters. Only a minority of centers had medications available for urgent medical care, such as to treat an asthma attack or allergic reactions.[43] A Connecticut study of licensed settings (both centers and family child care homes) revealed noncompliance with emergency preparedness, such as having posted fire safety certificates, first aid kits, posted emergency plans, and staff certified in CPR and first aid.[44] Additionally, child care staff (from both centers and homes) in Hawaii indicated that handling emergencies was one of the highest needs for health and safety training.[45]

Health and Safety Training

First aid and CPR. Studies show that first aid and CPR training decrease accidental injuries.[46] A study of providers in four Midwestern states who had completed CPR or first aid training within the past two years showed they were more likely to have higher quality scores (from the Family Day Care Rating Scale [FDCRS] or the Early Childhood Environment Rating Scale Revised [ECERS-R]) in centers and family child care homes.[47] CPR training is required of providers in 45 states for licensed child care centers, of small licensed homes in 35 states, and of large licensed homes in 31 states; 12 states require CPR training for license-exempt providers who receive CCDF (see table 1).

SIDS prevention/safe sleep. Twenty percent of deaths from sudden infant death syndrome (SIDS) occur in out-of-home care.[48] Research suggests that some child care providers continue to place children in the prone position to sleep (i.e., on their stomachs) for three reasons: (1) a lack of knowledge and training on safe sleep practices, (2) not having adequate policies regarding safe sleep practices,[49] or (3) following parents' recommendations about the child's sleep position.[50] Only seven states require providers in licensed child care centers to have training on preventing SIDS, and a similar number of states require it of small licensed child care homes (nine) and large licensed child care homes (six) (see table 1). Other research suggests that regulations may help providers refrain from placing infants in the prone position.[51] More than half of states require infants in centers to be placed on their backs to sleep.

Training has been shown to increase healthy sleep practices. An examination of an in-service training on safe sleep practices found an increase in the percentage of providers who used the supine position (i.e., on the back) exclusively (which was sustained six months later). Additionally, centers' awareness of the supine position as the preferred sleep practice increased, and the percentage of centers with written sleep position policies increased.[52]

Child abuse identification and prevention. Young children are the most likely to experience abuse and neglect.[53] Child care providers and early education programs can play a pivotal role in identifying a child experiencing abuse and neglect at home or in supporting families to prevent child maltreatment. Some research indicates that training on identifying abuse and neglect is limited for child care providers.[54] While most states designate child care providers as mandated reporters, only nine states mandate training on identifying abuse and neglect for licensed centers (see table 1). Moreover, a low rate of reporting of abuse and neglect from child care providers may be due to a lack of training on legal responsibilities and procedures for reporting abuse and neglect.[55] Other research suggests it may be the number of hours of training and the providers' level of education that determine the likelihood of reporting cases of abuse and neglect.[56]

Children can also be at risk for experiencing abuse and neglect in child care arrangements. The majority of states require at least one type of background check for providers in licensed centers (46), small licensed homes (44), and large licensed homes (39) (see table 1). Over half of states (27) require license-exempt providers who receive subsidies to have background checks. The most common types of background checks include those for criminal history, of child abuse and neglect registries, for criminal history using fingerprints, and of sex offender registries. States are less likely to require checks from a state (24) or federal (29) fingerprint record or of sex offender registries (16). Research has shown that increased caregiver support (e.g., low child:staff ratios, sufficient breaks, etc.), a focus on positive behavior, a consumer orientation, training opportunities, program evaluation, and an internal program audit can help foster a safe child care experience.[57]

Health and Safety Components beyond the CCDF-Required Categories

In addition to the current CCDF mandated categories of health and safety (e.g., prevention and control of infectious diseases, building and physical premises safety, and minimum health and safety training appropriate to the provider settings), states are free to include other components relating to health and safety and other components of quality in their regulatory and QRIS frameworks. The following health and safety components reflect newer areas of research on children's health and child care that states might consider in comprehensively addressing children's health and safety.

Nutrition and physical activity. Approximately one of every four children ages 2 to 5 years in the United States has a high body mass index.[58, 59] Associations between dietary intake and obesity have been examined in numerous studies,[60] and low levels of physical activity have also been linked with obesity.[61] With so many children spending significant amounts of time in child care, child care settings can potentially play a large role in preventing child obesity and promoting healthy eating, physical activity, and limited screen time.

Reviews of state regulations suggest that states typically lack sufficient regulations targeted to preventing obesity.[62] For example, only 9 states have regulations prohibiting foods of low nutritional value in licensed centers. However, child care providers serving low-income children who participate in the Child and Adult Care Food Program (CACFP) are required to meet the programs' nutrition standards. Additionally, only 3 states require a specific number of minutes of physical activity. Seventeen states regulate the amount of screen time (i.e., use of television, computer, video, and video or electronic games) in child care centers and 15 do in family child care homes.[63] While this indicates stronger state licensing regulations are needed, research addressing the influence of state regulations on the promotion of nutrition and physical activity is not available.

A small amount of research looks at child care policies and practices that might influence dietary intake and physical activity behaviors. For instance, one study examined the environment and physical activity of preschool children in 20 child care centers. Children in centers with environments considered supportive of physical activity spent more time in moderate-intensity to vigorous-intensity physical activities, spent less time in sedentary activities, and had higher mean physical activity levels than children in centers with environments less supportive of physical activity. Aspects of the environment related to physical activity behavior included active opportunities, portable play equipment, fixed play equipment, and physical activity training and education for staff.[64]

A limited number of obesity interventions for child care settings have been developed to date. A review of evaluations of 18 interventions found that those associated with improved children's nutrition or physical activity outcomes used one or more the following strategies: integrating more opportunities for physical activity into the curriculum, modifying food service practices, providing nutrition education in the classroom, and engaging parents. Five of the evaluations also examined interventions' influence on children's weight status; the two with positive impacts on children's weight were among the more comprehensive interventions that addressed both nutrition and physical activity—energy intake and energy expenditure.[65]

Health screenings and consultation. Research indicates that health training, especially in identifying children's health needs, is a stated need among child care providers. For instance, speech/language, hearing, and vision screenings were the most commonly identified health training needs among child care professionals (from centers and homes) in Hawaii.[66] Health consultants can offer health-related training and effective promotion of specific health practices such as age-appropriate screenings, nutrition, immunizations, infection control, infant sleep position, and safe and active play.[67] However, surveys of child care directors and providers have shown that they lack funds for regular health consultants or health education workshops.[68] Nineteen states require licensed centers to have health consultants available.[69] While no state requires health screenings, four state QRISs require developmental screenings for centers and three require them for licensed family child care providers, mostly at higher quality levels.[70] Head Start programs require preventative health and dental care, including screenings.

In regard to oral health needs, tooth decay is the most common chronic disease of childhood, and three-quarters (73 percent) of preschoolers who have experienced tooth decay have unfilled cavities. Sixty percent of low-income children age 2 to 11 years with cavities have untreated disease compared with 46 percent of children in higher income families.[71] Few child care programs outside Head Start incorporate dental care activities[72] or screen for oral health.[73] A review of state licensing regulations on oral health activities found only three states require nonemergency oral health screening or referral

provisions, three states address tooth brushing in child care programs, and two states require oral health education for staff and children.[74]

Mental health consultation. Research on high rates of preschool expulsion[75] and estimates showing 4 out of 10 preschool-age children exhibit problem behaviors underscore the need for social-emotional supports.[76] Child care professionals have expressed the need for training around managing children's challenging behaviors.[77]

On-site mental health consultation is the main strategy early childhood education programs use to address the mental health needs of young children.[78] Mental health consultants work collaboratively with child care professionals and families—generally in center-based settings—to educate, train, and coach them on effectively addressing the social-emotional needs of a specific child or the classroom as a whole. A review of research on mental health consultation programs shows these programs have a positive impact on children's social-emotional outcomes and decrease the number of preschool expulsions.[79]

Another review of research found that in 9 of 11 studies, teachers rated themselves as significantly more able to manage children's difficult behaviors after consultation services,[80] and a randomized control study of teachers in Chicago's school readiness program who received early childhood education mental health consultant services found significant improvements in teacher sensitivity and enhanced classroom management skills.[81] While no state currently requires that mental health consultants be available to licensed child care providers, nine states used CCDF funds to make health/mental health consultants available as part of their CCDF state plan activities for promoting inclusive care for children with special needs in FY 2008–2009.

Implications for CCDF Policy

Child care health and safety policy at both the federal and state levels has traditionally addressed the baseline of regulations and supports needed to keep children safe from illness and injury in child care. In light of more recent emphasis on how children's health affects their school readiness and success, this brief has also examined research on ways child care can promote various dimensions of children's general health.

Health and safety components that protect children from the spread of illness and infection, prevent injuries, and provide for basic health and safety training are important for children's health. However, state regulation information reveals major variation across states, and more needs to be learned about how regulations, enforcement of regulations, and supports could best improve child outcomes.

Nutrition and physical activity regulations and interventions may help prevent obesity, and health and mental health consultation and screening also supports children's health. While research shows benefits for children, and in some cases providers (e.g., with mental health consultation), there are current gaps in policies to address these more recently emphasized components of health and safety.

Training and other supports have an impact on children's health and safety. The research evidence shows that many types of training, such as on sanitary methods, first aid, and immunizations, lead to lower rates of child illness and injury. Additionally, nutrition and physical activity trainings improve children's diets and activity levels, and child care health and mental health consultants can lead to overall higher quality care(when part of comprehensive quality improvement) and a positive impact on children's social-emotional development.

As states build and refine their quality rating and improvement systems, OCC encourages them to look for opportunities to coordinate quality improvement strategies across program settings—child care centers, Head Start, prekindergarten, family child care homes, and license-exempt homes. This encouragement, along with an overall emphasis on building integrated early learning systems, has created a policy environment conducive to adapting the effective health and safety regulations, trainings, and supports described in this report beyond the programs in which they were initially implemented.

Implications for Future Research

More research is needed on health and safety practices in home-based care. Most studies exploring health and safety focused on licensed centers. While some studies included licensed family child care homes, few studies looked at differences between the two settings. Future studies should explore how impacts of health and safety components may differ by child care setting and should include comparisons between regulated and regulation-exempt care settings. No studies identified for this review focused on health and safety in regulation-exempt home-based settings.

Studies focusing on health and safety practices in subsidized care supported by CCDF are needed. While research has investigated regulations and child health and safety, research exploring how receipt of CCDF funds might impact children's health and safety is currently not available.

A better understanding of how regulations, enforcement, and training supports work together to impact health and safety is needed. Little research looked at how these policies and supports collectively influenced children's health and safety. While the policy context in each state will differ, trying to examine how these policies work in combination could add to our understanding of health and safety.

Studies using child health assessments as quality measures are needed. New research is exploring the development of reliable and valid measures of the health components of quality in early childhood education settings.[82] The research in this brief summarizes the strong link between many health and safety components and child outcomes, and implies that such measures can play a key role in ensuring children's school readiness. ▪

Table 1. State Health and Safety Regulations for Child Care Providers

HEALTH AND SAFETY TOPIC	MINIMAL REQUIREMENT	NUMBER OF STATES WITH EACH REQUIREMENT BY SETTING			
		Licensed child care centers	Large Licensed child care homes[a]	Small Licensed child care homes[b]	License-exempt home care (receiving CCDF)
Licensing policies	States with licensed care	49	39	44	
Education	CDA for center directors	18	6	1	
	Years of experience	39	11	15	
	Bachelor's degree for master teachers	2	4	2	
Child staff ratio + group size	Child:staff ratios	All	39	43	
	Regulated group size for one or more age groups	40	19	12	
	4:1 ratio for infants	32			
	6:1 ratio for 18 months	14			
	8:1 ratio for 27 months	10			
	10:1 ratio for 3- to 4-year-olds	23			
	15:1 ratio for school-age children	14			
Hand washing/sanitation	Health and safety training, including preventing the spread of communicable diseases	25	12	12	8
Immunizations and medication administration	Regulations on medication administration	All			
	Required training for medication administration	9			
Building and physical premises safety/injury prevention	Requirement for safe playground surfaces	44	44	44	
CPR/first aid training	Health and safety training	48	38	42	28
	CPR training	45	31	35	12
	First aid training	46	36	38	12
	At least one staff person to complete first aid or CPR training	29			
SIDS/safe sleep	Infants must be placed on their backs to sleep	30	22	24	
	Training on reducing SIDS	7	6	9	

Table continues on following page.

CONTINUED: Table 1. State Health and Safety Regulations for Child Care Providers

HEALTH AND SAFETY TOPIC	MINIMAL REQUIREMENT	NUMBER OF STATES WITH EACH REQUIREMENT BY SETTING: Licensed child care centers	Large Licensed child care homes[a]	Small Licensed child care homes[b]	License-exempt home care (receiving CCDF)
Abuse/neglect	Training on reporting abuse and neglect for licensed center staff	9	19	16	
	Training on child abuse and neglect prevention	25	25	25	
	Training on identifying abuse and neglect	9	9	9	
	Abuse and neglect training among suggested topics	11	11	11	
	At least one background check for providers	46	39	46	27
Nutrition/physical activity	Regulations prohibiting specified foods of low nutritional value	9			
	Regulations limiting specific foods	12	7	4	
	Restrict sugar-sweetened beverages in both child care centers and family child care homes	7	7	7	
	Require a specific number of minutes of physical activity[c]	3	3	3	
	Regulate screen time[c]	17	15	15	
Health screenings and consultation	Require licensed centers to have health consultants available	19	5	4	
	Require nonemergency oral health screening or referral provisions[d]	3	3	3	
	Address tooth brushing in ECE programs[d]	3	3	3	
	Require oral health education for staff and children[d]	2	2	2	

Sources: Benjamin et al. (2008); Kranz and Rozier (2011); National Child Care Information and Technical Assistance Center (NCCIC) and the National Association for Regulatory Administration Center (NARA) (2010).

Note: For state information on each topic, see http://researchconnections.org/childcare/resources/19303 from NCCIC and NARA (2010).

a. As defined in NCCIC/NARA report, large/group FCC home refers to a child care program located in the licensee's residence that generally includes one provider, an assistant, and a larger number of children. States define FCC homes differently in their licensing regulations.

b. As defined in NCCIC/NARA report, small FCC home refers to a child care program located in the licensee's residence that generally includes one provider and a small number of children. States define FCC homes differently in their licensing regulations.

c. AK and DE require centers and MA requires licensed homes to have a specific number of minutes of physical activity. AL, AK, AZ, CO, DE, GA, IL, IN, MI, MS, NM, SC, TN, TX, VT, WV, and WI regulate screen time in centers. AK, CO, DE, GA, MS, MT, OR, RI, SC, TN, TX, VT, WA, WV, and WI regulate screen time in family child care homes (Benjamin et al. 2008).

d. CA, DC, and MA require nonemergency oral health screening or referral. KS, MA, and WV require ECE programs to address tooth brushing. CT and WV require oral health education for ECE staff and children (Kranz and Rozier 2011).

Notes

1. Friedman et al. (1994).
2. Hegland et al. (2011).
3. http://www.acf.hhs.gov/programs/ccb/data/ccdf_data/10acf800_preliminary/table1.htm.
4. The 2012–2013 CCDF state plan section on health and safety also asks whether lead agencies collect data to track compliance with licensing and health and safety and whether performance measures on health and safety are in place.
5. U.S. GAO (2000).
6. Part 98, "Child Care and Development Fund, Subpart F: Use of Child Care and Development Funds" and "Subpart D: Program Operations (Child Care Services)—Parental Rights and Responsibilities" (http://www.acf.hhs.gov/programs/ccb/law/finalrul/fr072498.pdf).
7. This review includes research from peer reviewed journals, published reports from government agencies and reputable research organizations, and reports from key licensing organizations—found from keyword searches of the health and safety components on the Research Connections web site and from several online journal databases (i.e., EBSCO, JSTOR, and Science Direct).
8. Summaries of state licensing regulations in table 1 are from the National Child Care Information and Technical Assistance Center and the National Association for Regulatory Administration Center (2010).
9. The Federal Office of Child Care collects additional information on health and safety standards for children in CCDF-subsidized care from the CCDF State Plans.
10. Head Start requires grantees to meet Health and Safety Performance Standards (1304.22) in the following areas: health emergency procedures, conditions for short-term exclusion and admittance (for health-related reasons), medication administration, injury prevention, hygiene, and first aid kits.
11. Dunn (1993); NICHD Early Child Care Research Network (1996).
12. Fiene (2002).
13. NICHD (2003).
14. Bell et al. (1989).
15. Hayes, Palmer, and Zaslow (1990).
16. Ibid.
17. Howes, Phillips, and Whitebook (1992).
18. AAP (2011).
19. Alkon and Boyce (2002); Walker and Bowie (2004).
20. Kotch (2007).
21. Niffenegger (1997).
22. Kotch (2007).
23. Obeng (2008); Roberts et al. (2000).
24. CDC (2010).
25. Aronson (1989).
26. Hayney and Bartell (2005).
27. O'Mara and Isaacs (1993).
28. NCCIC (2010).
29. Crowley and Rosenthal (2009).
30. CDC (2010).
31. Aronson (1983); Rivara et al. (1989); Wasserman et al. (1989).
32. Pickett et al. (2003).
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About the Authors

Patti Banghart is a research associate with the Early Childhood team at the National Center for Children in Poverty.

J. Lee Kreader is interim director of the National Center for Children in Poverty and director of its Research Connections initiative.

National Center for Children in Poverty
Mailman School of Public Health
Columbia University

Child Care and Development Fund

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URBAN INSTITUTE
2100 M Street, NW Washington, DC 20037-1231
(202) 833-7200
paffairs@urban.org www.urban.org