Drinking Water Quality in Child Care Facilities

A Review of State Policy

August 2015

ACKNOWLEDGMENTS

This paper was prepared by the Environmental Law Institute (ELI) and funded through cooperative agreement U38OT000131 between the Centers for Disease Control and Prevention and the American Public Health Association. The contents of the document are solely the responsibility of ELI and do not necessarily represent the official views of the American Public Health Association or the Centers for Disease Control and Prevention. ELI also gratefully acknowledges the assistance provided by those who reviewed earlier drafts of the paper.

About ELI Publications

ELI publishes Research Reports and other materials that present the analysis and conclusions of the policy studies ELI undertakes to improve environmental law and policy. In addition, ELI publishes several journals and reports—including the *Environmental Law Reporter*, *The Environmental Forum*, and the *National Wetlands Newsletter*—and books, which contribute to education of the profession and disseminate diverse points of view and opinions to stimulate a robust and creative exchange of ideas. Those publications, which express opinions of the authors and not necessarily those of the Institute, its Board of Directors, or funding organizations, exemplify ELI's commitment to dialogue with all sectors. ELI welcomes suggestions for article and book topics and encourages the submission of draft manuscripts and book proposals.

Drinking Water Quality in Child Care Facilities: A Review of State Policy
Copyright © 2015 Environmental Law Institute®, Washington, D.C., All rights reserved.

An electronic retrievable copy (PDF file) of this report may be obtained for no cost from the Environmental Law Institute Website at www.eli.org; click on "ELI Publications," then search for this report. [Note: ELI Terms of Use will apply and are available on site.]
(Environmental Law Institute®, The Environmental Forum®, and ELR® -- The Environmental Law Reporter® are registered trademarks of the Environmental Law Institute.)

TABLE OF CONTENTS

I. INTRODUCTION

In January 2015, the Environmental Law Institute published *Reducing Environmental Exposures in Child Care Facilities: A Review of State Policy.* The report, prepared jointly by ELI and the Children's Environmental Health Network, discusses state policies addressing exposure to indoor air contaminants in licensed child care facilities. This paper focuses on another important environmental health issue for child care facilities: drinking water quality.

A variety of national policies and program initiatives aim to ensure that children who spend time in child care facilities drink water throughout the day.[1] Ensuring the *quality* of drinking water at child care facilities is important to children's healthy development and helps advance the broad goals of early care and education programs. This paper provides an overview of how existing state laws and regulations across the United States address drinking water quality in the licensed child care context, with a particular emphasis on drinking water from private wells.

Drinking Water Quality and Health

Most people in the United States receive their drinking water from public water systems such as city, county, or private water utilities, which use either surface water or groundwater as their source of supply.[2] A wide range of contaminants could potentially impact these water sources. In addition to the variety of pathogens and chemicals that occur naturally in the environment, contaminants from human activities may include human/animal waste, industrial chemicals, pesticides, water-treatment byproducts, pharmaceuticals, and personal care products.[3] According to the Centers for Disease Control and Prevention (CDC), the top causes of outbreaks in public water supplies are: *Giardia*, *Legionella,* Norovirus, *Shigella, Campylobacter*, copper, *Salmonella,* Hepatitis A, *Cryptosporidium, E. coli*, and excess fluoride.[4]

According to the United States Environmental Protection Agency (EPA), about 15 percent of the U.S. population gets their drinking water from private wells.[5] Wells rely on groundwater and can be affected

[1] *See* Healthy, Hunger-Free Kids Act of 2010, Pub. Law 111–296, at §221 (Dec. 13, 2010) (requiring that child care centers and family or group day care homes participating in the federal Child and Adult Care Food Program "make available to children, as nutritionally appropriate, potable water as an acceptable fluid for consumption throughout the day, including at meal times"); CDC, INCREASING ACCESS TO DRINKING WATER AND OTHER HEALTHIER BEVERAGES IN EARLY CARE AND EDUCATION SETTINGS 3-4 (2014), *available at*: http://www.cdc.gov/obesity/downloads/early-childhood-drinking-water-toolkit-final-508reduced.pdf; NATIONAL RESOURCE CENTER FOR HEALTH AND SAFETY IN CHILD CARE AND EARLY EDUCATION, CARING FOR OUR CHILDREN: NATIONAL HEALTH AND SAFETY PERFORMANCE STANDARDS; GUIDELINES FOR EARLY CARE AND EDUCATION PROGRAMS, 3rd Edition, *available at*: http://cfoc.nrckids.org/.

[2] *Public Drinking Water Systems: Facts and Figures*, U.S. EPA (Apr. 2, 2012), http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm. According to the U.S. Centers for Disease Control and Prevention (CDC), "[a]lthough the majority of community water *systems* (78%) are supplied by ground water, more *people* (68%) are supplied year-round by community water systems that use surface water" (emphasis added). *Public Water Systems*, CDC (updated Apr. 7, 2014), http://www.cdc.gov/healthywater/drinking/public/index.html.

[3] *See generally Safe Drinking Water Act (SDWA),* U.S. EPA (updated Apr. 15, 2015), http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm and CAL. STATE WATER RESOURCES CONTROL BD., SAFE DRINKING WATER PLAN FOR CALIFORNIA: REPORT TO THE LEGISLATURE 13 (June 2015), *available at*: http://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/index.shtml (highlighting some of the ongoing contamination issues that are important for state oversight of public water systems).

[4] *Public Water Systems*, CDC (updated Apr. 7, 2014), http://www.cdc.gov/healthywater/drinking/public/index.html.

[5] *Private Drinking Water Wells*, U.S. EPA (updated Mar. 6, 2012), http://water.epa.gov/drink/info/well/index.cfm.

by many different contaminants that are present on or in the ground near the site of the well. Naturally occurring contaminants found in rock and soil may include bacteria, radon, arsenic, uranium, and minerals such as iron and manganese. Wells also may be affected by contaminants from nearby human activities such as industrial/commercial activities, improper waste disposal, and fuel spills. Common residential activities, such as the use of fertilizers and pesticides and disposal of household chemicals, may contaminate the ground near drinking water wells.[6] In addition, microbiological contaminants may be a concern when water wells are improperly sealed, when there is a release of sewage into groundwater, or when groundwater is under the influence of surface water.[7] CDC lists the top causes of outbreaks in private water systems as Hepatitis A, *Giardia*, *Campylobacter*, *Shigella*, *E. coli*, *Salmonella*, *Cryptosporidium*, arsenic, gasoline, nitrate, phenol, selenium, and *Yersinia enterocolitica*.[8]

Children may be especially vulnerable to the effects of contaminants in their drinking water. It is now widely understood that children are not simply little adults when it comes to environmental exposures. Children may be more highly exposed to chemicals and more vulnerable to their harmful effects because they eat more food, drink more water, and breathe more air relative to their size than do adults, and because their bodies are not fully developed and their growing organs can be more easily harmed.[9] Exposure to environmental contaminants may affect children's health immediately and may also jeopardize their future healthy growth and development. Research studies describe unique developmental "windows of vulnerability," the "critical periods in early development when exposures to even minute doses of toxic chemicals — levels that would have no adverse effect on an adult — can disrupt organ formation and cause lifelong functional impairments."[10]

Some drinking water contaminants may pose especially serious health risks for young children. For example, the EPA notes that "[i]nfants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome."[11]

Legal Framework for Addressing Drinking Water Quality in Child Care Facilities

The regulatory standards that apply to drinking water in child care facilities may differ significantly depending on the type of water system that is used. The large majority of people in the U.S. get their drinking water from public water systems that are subject to federal drinking water quality regulations.[12] The federal Safe Drinking Water Act ("SDWA" or "Act"), enacted in 1974 to protect the quality of public drinking water supplies, authorizes EPA to establish health-based standards to protect public drinking

[6] *See id*.; CONN. DEP'T OF PUB. HEALTH, ET AL., PROTECT YOURSELF AND YOUR FAMILY'S HEALTH: TEST YOUR WELL'S DRINKING WATER QUALITY TODAY, *available at*: http://www.epa.gov/region1/eco/drinkwater/pdfs/ctbrochure.pdf.
[7] CAL. STATE WATER RESOURCES CONTROL BD., SAFE DRINKING WATER PLAN FOR CALIFORNIA: REPORT TO THE LEGISLATURE 42 (June 2015), *available at*: http://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/index.shtml.
[8] *Private Water Systems*, CDC (updated June 17, 2014), http://www.cdc.gov/healthywater/drinking/private/index.html.
[9] U.S. EPA, AMERICA'S CHILDREN AND THE ENVIRONMENT, 3rd Ed. at 8 (2013), *available at*: http://www.epa.gov/envirohealth/children/pdfs/ACE3_2013.pdf.
[10] Philip J. Landrigan & Lynn R. Goldman, "Children's Vulnerability to Toxic Chemicals: a Challenge and Opportunity to Strengthen Health and Environmental Policy," 30(5) *Health Aff.* (Millwood) 842–850 at 843 (2011), *available at*: http://content.healthaffairs.org/content/30/5/842.long.
[11] *Drinking Water Contaminants*, U.S. EPA (updated Oct. 29, 2014), http://water.epa.gov/drink/contaminants/.
[12] *Public Drinking Water Systems: Facts and Figures*, U.S. EPA (Apr. 2, 2012), http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm.

water from potentially harmful contaminants.[13] These legally enforceable standards, known as "National Primary Drinking Water Regulations" (also referred to here as "primary standards"), set limits on the levels of certain contaminants in public drinking water. The limits reflect both the level of a contaminant that is protective of human health and the level that water systems can achieve using the best available technology. EPA sets water testing schedules and methods and lists acceptable techniques for treating contaminated water.[14] The SDWA gives individual states the opportunity to set and enforce their own drinking water standards if the standards are at least as stringent as EPA's primary standards. Nearly all states and territories directly oversee the drinking water systems within their borders.[15]

The primary standards set forth in the SDWA apply to the drinking water at any facility, including a child care facility, whose water supply qualifies as a "public water system" (PWS). The Act defines a PWS as one that serves at least 15 service connections *or* an average of at least 25 individuals per day at least 60 days out of the year.[16] A public water system may be publicly owned (e.g., by a municipality) or privately owned. Thus, in every state, licensed child care facilities with 25 or more children and staff must comply with drinking water standards at least as stringent as the ones set out in the National Primary Drinking Water Regulations, even if the facility has an individual water supply such as a private well.[17]

As noted above, a smaller but considerable number of people in the U.S. get their drinking water from private wells that do not qualify as public water systems and are therefore not regulated under the SDWA.[18] These wells may, however, be subject to certain requirements established under the drinking water regulations of an individual state (or local jurisdiction). Apart from their drinking water regulations, some states have promulgated food service codes and/or environmental health codes that apply to child care facilities and that include requirements for public and private water supplies. In addition, child care licensing regulations, which have been adopted in all 50 states, often address drinking water quality in some fashion.

Scope and Organization of the Paper

This paper describes how these different types of state laws and regulations set drinking water quality standards and establish requirements for demonstrating compliance with those standards through, e.g.,

---

[13] *See generally* MARY TIEMANN, CONGRESSIONAL RESEARCH SERV., CRS REPORT NO. RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS (Feb. 5, 2014), *available at*: https://www.fas.org/sgp/crs/misc/RL31243.pdf The Act, which comprises Title XIV of the Public Health Service Act, is codified at 42 U.S.C. 300f *et seq*. The health-based water quality standards were the focus of the original Act; a set of significant amendments in 1996 added requirements related to risk assessment, source water protection, operator certification, and public information. *See generally* OFFICE OF WATER, U.S. EPA, DOC. NO. EPA 816-F-04-030, UNDERSTANDING THE SAFE DRINKING WATER ACT (June 2004), *available at:* http://water.epa.gov/lawsregs/guidance/sdwa/upload/2009_08_28_sdwa_fs_30ann_sdwa_web.pdf.

[14] *See* OFFICE OF WATER, U.S. EPA, DOC. NO. EPA 816-F-04-030, UNDERSTANDING THE SAFE DRINKING WATER ACT (June 2004), *available at*: http://www.epa.gov/safewater/sdwa/pdfs/fs_30ann_sdwa_web.pdf.

[15] *Id.* Wyoming and the District of Columbia have not been authorized by EPA to administer their own drinking water programs.

[16] 42 U.S. Code § 300f; see also 40 C.F.R. 141.2.

[17] U.S. EPA has developed guidance materials for child care facilities operating their own public water systems. *See, e.g.*, OFFICE OF GROUND WATER AND DRINKING WATER, U.S. EPA, DOC. NO. EPA 816-B-13-001, DRINKING WATER BEST MANAGEMENT PRACTICES: FOR SCHOOLS AND CHILD CARE FACILITIES WITH THEIR OWN DRINKING WATER SOURCE (Apr. 2013), *available at:* http://nepis.epa.gov/Exe/ZyPDF.cgi/P100GOT8.PDF?Dockey=P100GOT8.PDF.

[18] *Private Drinking Water Wells*, U.S. EPA (updated Mar. 6, 2012), http://water.epa.gov/drink/info/well/index.cfm. It is important to note that while this paper refers to "private' water supplies/systems for purposes of general discussion, federal and state laws use this and other terms (e.g., "nonpublic water supply," "individual water sources," "private groundwater supply") to refer to water systems that are not classified as "public water systems" within their jurisdictions.

water testing and site inspections. The paper focuses on requirements relating to the child care licensing process and ongoing oversight of licensed facilities; thus the sections that follow do not review requirements for the siting, construction, and maintenance of wells and other water systems. Nor does the paper address regulatory provisions governing indoor plumbing fixtures.

Review of State Laws. While this paper provides background on key aspects of the federal Safe Drinking Water Act, the focus of the paper is on *state* law. Local law, not covered here, may add an important additional layer of substantive requirements and oversight. State child care agencies often rely on local agencies to conduct inspections of child care facilities. In some jurisdictions, local codes governing drinking water, environmental health, or child care licensing establish independent requirements for the construction, maintenance, operation, and testing of private wells. To understand how drinking water is regulated in a particular community, it is important to identify not only the different types of state laws and regulations discussed here, but also any applicable local codes.

Types of State Laws Reviewed. The information in the following sections of this paper is based on a review of the following types of state laws and regulations:

- *Safe Drinking Water Laws and Regulations.* As noted above, nearly all states implement the federal safe drinking water regulatory framework through their own state laws and regulations. Section II of the paper summarizes key requirements from the national standards and highlights the ways in which some state drinking water laws establish requirements for drinking water quality that are more stringent than the federal regime.

- *State Food Codes*. Section III provides a summary of the drinking water provisions in the federal model Food Code and examples of relevant provisions from state food codes.

- *State Child Care Sanitation Codes*. Section III also describes how state environmental health/sanitation regulations for child care facilities may establish drinking water requirements independent of the requirements found in state child care licensing regulations.

- *Child Care Licensing Laws and Regulations*. Section IV provides an overview of the types of drinking water provisions found in child care licensing regulations across the United States.

There are other types of laws, not covered here, that may address drinking water quality in child care facilities. These include building and plumbing codes and rental housing/property maintenance codes. In addition, state lead laws may establish important requirements related to lead in drinking water.

For each area of state law, the paper notes different types of regulatory strategies and provides examples of state policies, but does not include a state-by-state review. In addition to providing citations for the state policy examples described throughout the paper, the Appendix lists citations to all of the state laws and regulations reviewed in developing the analysis that follows. These citations provide a starting point for understanding the variety of laws and regulations that may contain drinking water requirements applicable to child care facilities in an individual state.

II. STATE DRINKING WATER LAWS AND REGULATIONS

As noted in the previous section, the SDWA authorizes states to assume primary responsibility for implementation of the Act within their jurisdictions (as long as the state's regulations are at least as stringent as the national requirements), and 49 states have received this authority, known as "primacy," from EPA.[19] Thus, oversight of public water systems and enforcement of national primary drinking water regulations occur mostly at the state level. State drinking water programs are also responsible for most risk assessment and public information functions.

This section describes state laws and regulations that implement states' SDWA programs by establishing standards and related procedural requirements for drinking water systems in the state. These state drinking water regulations typically are adopted by the state health or environmental agency and administered and enforced by state or local health or environmental authorities. The regulations apply mainly to the public water systems that serve most child care facilities.

The first part of this section describes EPA's national primary drinking water standards for public water systems, as well as examples of how some states have expanded federal requirements by establishing more stringent standards or by expanding the coverage of drinking water standards to additional water systems/facilities. The second part of this section describes some of the procedural requirements that have been established to ensure water systems comply with drinking water standards, guide agencies' oversight and enforcement actions, and keep consumers informed about the health of their water supplies.

Minimum Drinking Water Standards that May Apply to Child Care Facilities

Standards Established by EPA under the SDWA. EPA's National Primary Drinking Water Regulations ("primary standards") are minimum requirements nationally. EPA has established primary standards for nearly 100 contaminants across various categories: microbial contaminants; chemical contaminants (inorganic and organic); radionuclides; and residual drinking water disinfectants/byproducts.[20] For each regulated contaminant, EPA has adopted a standard in the form of either a Maximum Contaminant Level (the maximum amount of the contaminant allowed in drinking water, referred to as "MCL") or Treatment Technique (way of treating water to reduce the level of a contaminant, referred to as "TT").[21]

Under the federal Act and EPA's regulations, different types of public water systems are subject to varying requirements. The SDWA divides all public water systems into subcategories: *community water systems* serve the same people year-round; *non-community water systems*, which are either "non-

[19] *See* MARY TIEMANN, CONGRESSIONAL RESEARCH SERV., CRS REPORT NO. RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 6 (Feb. 5, 2014), *available at*: https://www.fas.org/sgp/crs/misc/RL31243.pdf. ("To assume primacy, states must adopt regulations at least as stringent as national requirements, develop adequate procedures for enforcement (including conducting monitoring and inspections), adopt authority for administrative penalties, and maintain records and make reports as EPA may require."). In Wyoming, where the state has not received primacy authorization, the national requirements are enforced by EPA directly.

[20] The Act "directs the EPA to select contaminants for regulatory consideration based on occurrence, health effects, and meaningful opportunity for health risk reduction." MARY TIEMANN, CONGRESSIONAL RESEARCH SERV., CRS REPORT NO. RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 4 (Feb. 5, 2014) (citing Section 1412 of SDWA), *at*: https://www.fas.org/sgp/crs/misc/RL31243.pdf.

[21] OFFICE OF WATER, U.S. EPA, DOC. NO. EPA 816-F-04-030, UNDERSTANDING THE SAFE DRINKING WATER ACT (June 2004), *available at:* http://water.epa.gov/lawsregs/guidance/sdwa/upload/2009_08_28_sdwa_fs_30ann_sdwa_web.pdf. Typically, TTs are used instead of MCLs when there is not a reliable method to measure a contaminant at extremely low levels. *Id*.

transient" or "transient," do not;[22] and in general, community water systems (CWS) are regulated more stringently than non-community water systems, while non-transient non-community (NTNC) systems are regulated more stringently than transient systems.[23] In addition, public water systems that use groundwater sources are subject to different requirements than systems that use surface water or groundwater influenced by surface water.[24]

The primary standards also include enforceable monitoring requirements. Typically the standards include detailed protocols for the frequency, method, and location of sampling and schedules for reporting and public notice, though specific sampling (testing) and reporting requirements vary by contaminant or system size and type.[25]

Types of Water Systems Regulated: Selected SDWA Primary Standards

Primary Standard: MCL/TT and Monitoring	Community Public Water Systems	Non-Transient Non-Community Water Systems	Transient Non-Community Water Systems	Private Water Systems
Total coliform	x	x	x	
Inorganic Chemicals (most)	x	x		
Nitrate and Nitrite	x	x	x	
Organic Chemicals (most)	x	x		
Radionuclides	x			

Microbiological Standards. The Primary Standards establish TTs for several different microorganisms[26] and an MCL for total coliform bacteria.[27] The Primary Standards also establish TTs for turbidity and heterotrophic plate count (HPC).

Total coliform bacteria (fecal coliform and *E. coli*) is a particularly useful indicator contaminant, since its "presence indicates that the water may be contaminated with human or animal wastes. Disease-causing microbes (pathogens) in these wastes can cause diarrhea, cramps, nausea, headaches, or other

[22] *Non-transient non-community* systems serve the same people at least six months per year, but not year-round (e.g., a school that has its own water supply); *transient non-community* systems serve the public but not the same individuals for more than 6 months per year (e.g., a campground).

[23] MARY TIEMANN, CONGRESSIONAL RESEARCH SERV., CRS REPORT NO. RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 3 (Feb. 5, 2014), *at*: https://www.fas.org/sgp/crs/misc/RL31243.pdf.

[24] According to EPA, groundwater sources may be particularly "susceptible to fecal contamination," and EPA's 2006 Ground Water Rule was adopted to "provide increased protection against microbial pathogens" by strengthening the primary standards' monitoring requirements for public water systems for microbial contaminants. *Ground Water Rule: Basic Information*, U.S. EPA (Apr. 15, 2015), http://water.epa.gov/lawsregs/rulesregs/sdwa/gwr/basicinformation.cfm. EPA's rules for surface water treatment "require [public] systems using surface water or ground water under the direct influence of surface water to (1) disinfect their water, and (2) filter their water or meet criteria for avoiding filtration so that [certain pathogens] are controlled." *Drinking Water Contaminants*, U.S. EPA (updated Oct. 29, 2014), http://water.epa.gov/drink/contaminants/.

[25] The federal regulations also establish requirements for certification of the individuals and laboratories that perform sampling and analysis.

[26] These microorganisms are *Cryptosporidium*, *Giardia Lamblia*, *Legionella*, and enteric viruses.

[27] *Drinking Water Contaminants*, U.S. EPA (updated Oct. 29, 2014), *available at:* http://water.epa.gov/drink/contaminants/. ("No more than 5.0% samples total coliform-positive (TC-positive) in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Note: Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli if two consecutive TC-positive samples, and one is also positive for E.coli fecal coliforms, system has an acute MCL violation.")

symptoms . . . *and may pose a special health risk for infants [and] young children.*"[28] Since total coliform indicates the presence of pathogens that may cause acute health effects, all public water systems must monitor for total coliform on a regular basis. System-specific sampling plans determine the minimum number and locations of samples, but in general sampling frequency increases in proportion to the size of the population served by the system. Very small community water systems (serving 25-1,000 people) must take, at a minimum, one routine coliform sample per month; non-community systems of the same size must take one routine sample per quarter if using groundwater.[29]

Chemical Standards. EPA has adopted primary standards for over 60 chemical contaminants, including volatile organic chemicals, synthetic organic chemicals, and inorganic chemicals. The SDWA primary standards establish MCLs for several dozen organic chemicals and over a dozen inorganic chemicals (IOCs).[30] Long-term exposure to these contaminants in concentrations above the MCL is associated with a wide range of potential health effects, including: liver, intestinal, skin, and circulatory problems; kidney and nerve damage; bone disease; reproductive difficulties; and increased risk of cancer.[31]

All community water systems and non-transient non-community water systems must monitor for chemical contaminants, but testing requirements vary based on contaminant, system size, type of water source (ground or surface water), and whether a system has obtained a waiver from the state to decrease its monitoring frequency. For most of the inorganic chemicals, systems using surface water supplies must conduct sampling at least once per year, and systems using groundwater supplies must test at least once every three years, unless granted a waiver.[32] For organic chemicals, systems must perform four consecutive quarterly samples during the first compliance period; if no MCL violations are detected, then sampling frequency may be reduced according to contaminant, system size, and compliance history.[33] If a chemical contaminant is detected at a level exceeding the MCL, sampling frequency increases until the agency determines the system's water is reliably and consistently below the MCL.[34]

---

[28] *Id*. (emphasis added).

[29] OFFICE OF WATER, U.S. EPA, DOC. NO. EPA 816-B-06-001, TOTAL COLIFORM RULE: A HANDBOOK FOR SMALL NONCOMMUNITY WATER SYSTEMS SERVING LESS THAN 3,300 PERSONS (JULY 2006), *available at*: http://www.epa.gov/ogwdw/disinfection/tcr/pdfs/stepguide_tcr_smallsys-3300.pdf. For these small systems, when even one routine sample is positive– indicating the presence of total coliforms in any amount— a "monthly MCL violation" has occurred, and a series of repeat samples must be taken. Any repeat sample that is positive for *E. coli* or fecal coliform triggers an "acute MCL violation," which requires the water system operator to notify the agency and the public within 24 hours and may necessitate a boil-water order or other corrective measures until repeat samples are no longer positive. *Id*.

[30] *Drinking Water Contaminants*, U.S. EPA (updated Oct. 29, 2014), http://water.epa.gov/drink/contaminants. The primary standards also establish TTs for two organic chemicals, acrylamide and epichlorohydrin.

[31] *Id.*

[32] OFFICE OF WATER, U.S. EPA, Doc. No. EPA 812-S-94-001, CONSOLIDATED RULE SUMMARY FOR THE CHEMICAL PHASES 15 (Apr. 1994) (citing 40 C.F.R. 141.23), *available at:* http://nepis.epa.gov. U.S. EPA explains, "Monitoring requirements for asbestos, fluoride, nitrate, and nitrite are different from the monitoring requirements for other IOCs because of these chemicals' unusual characteristics." OFFICE OF GROUND WATER & DRINKING WATER, U.S. EPA, DOC. NO. EPA 816-R-03-017, SMALL SYSTEMS GUIDE TO SAFE DRINKING WATER ACT REGULATIONS 17 (Sept. 2003), *at:* http://epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_sdwa.pdf.

[33] OFFICE OF WATER. U.S. EPA, Doc. No. EPA 812-S-94-001, CONSOLIDATED RULE SUMMARY FOR THE CHEMICAL PHASES 18, 22 (Apr. 1994) (citing 40 C.F.R. 141.24).

[34] *Id*. at 15, 18, 22.

Nitrate and nitrite are treated differently from other IOCs because they are contaminants with potentially serious, acute health effects for young children.[35] The primary standards for nitrate/nitrite, which may enter drinking water supplies through fertilizer runoff, sewage and septic leakage, or erosion from natural deposits, establish MCLs of 10 mg/L for nitrate and 1 mg/L for nitrite (measured as nitrogen). All public water systems must monitor for both nitrate (annually) and nitrite (once in the first three years, then as determined by the regulatory agency).[36]

Radionuclides. Radiological contaminants, or radionuclides, are unstable atoms that may enter drinking water supplies through erosion of natural deposits or, less commonly, when human-made nuclear materials are released into the environment (e.g., from power plants or laboratories).[37] Long-term exposure to radionuclides may cause increased cancer risk and kidney problems.[38] As of June 2015, EPA has adopted MCLs for four radionuclides or classes of radionuclides: radium, uranium, alpha particles, and beta and photon emitting particles.[39]

Disinfectants/Disinfection Byproducts. When drinking water is treated with a disinfectant to control microorganisms, the disinfectant can react with naturally-occurring substances in the water and form potentially harmful "disinfection byproducts," which have been linked to serious health effects including increased cancer risk.[40] Aiming to balance the risks from potential harmful effects of microorganisms with risks that can arise from disinfection, EPA has adopted MCLs for several disinfection byproducts – total trihalomethanes, haloacetic acids, chlorite, and bromate.[41]

State Adoption of More Stringent Drinking Water Standards. EPA's national primary standards serve as the minimum required drinking water standards in all states. However, some states have established one or more drinking water standards that are more stringent than the federal standards.

One way that states may adopt standards more protective of health is by setting lower MCLs for individual contaminants regulated under the SDWA. In New Jersey, for example, the state Department of Environment has adopted a lower MCL for arsenic (5 µg/L compared with the federal MCL of 10 µg/L).[42] Other examples include Illinois, which has adopted a more stringent MCL for heptachlor (0.0001 mg/L compared with 0.0004 mg/L); Vermont, which has adopted a lower MCL for uranium (20 µg /L compared with 30 µg /L); and Florida, which has adopted a more stringent MCL for benzene (0.001 mg/L compared with 0.005 mg/L).[43]

States also may establish MCLs for additional contaminants. Examples of states that have established MCLs for contaminants not covered by the federal regulations include: Tennessee (nickel), California

[35] *Drinking Water Contaminants*, U.S. EPA (updated Oct. 29, 2014), http://water.epa.gov/drink/contaminants/ ("Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.").
[36] 40 C.F.R. 141.23.
[37] *Basic Information about Radionuclides in Drinking Water*, U.S. EPA (updated Dec. 03, 2013), http://water.epa.gov/drink/contaminants/basicinformation/radionuclides.cfm.
[38] *Id*.
[39] 40 C.F.R. 141.66.
[40] U.S. EPA, DOC. NO. EPA 815-F-98-010, FACT SHEET ON THE FEDERAL REGISTER NOTICE FOR STAGE 1 DISINFECTANTS AND DISINFECTION BYPRODUCTS RULE (Dec. 1998), *available at*: http://water.epa.gov/lawsregs/rulesregs/sdwa/stage1/factsheet.cfm.
[41] *Id.*
[42] N.J Admin. Code 7:10-5.2.
[43] Il. Admin. Code 611.310; Vt. Code Rules 16-3-500:6.12; Fl. Admin. Code 62-550.310, 550.828.

(hexavalent chromium), and Massachusetts (perchlorate).[44] In addition to setting lower MCLs or establishing MCLs for additional contaminants, states may increase monitoring frequency and response requirements.

Types of Water Systems Subject to State Drinking Water Standards

In addition to adopting more stringent primary standards, states may apply drinking water standards to water systems that are not covered under the federal law. In such cases, child care facilities would be affected to the extent they are located in the commercial or residential buildings whose water systems fall within the expanded coverage provisions.

Some states have expanded their definitions of "public water systems" to reach additional water systems not otherwise covered by the federal SDWA definition. For example, Kansas defines public water systems as those serving at least *ten connections*, and in New York, systems with at least *five connections* qualify as public water systems.[45]

Other states have established additional categories of water systems that bring in smaller systems which may be regulated somewhat less stringently than the SDWA public water system categories. For example, in Alaska, public water systems include any system supplying water for human consumption unless the system serves only one single-family residence or duplex, and "Class C water systems" are those that fall within this expanded definition but outside the SDWA categories. According to the regulations, Class C water systems may not use water that contains contaminants exceeding an MCL and must sample, analyze, and report "at frequencies determined by the department" if a contaminant exceeds an MCL or if the department determines that the potential exists for that contaminant to occur.[46] Mississippi's drinking water law defines "semi-public water systems" as those that provide drinking water to the public "through pipes or other constructed conveyances if the system has more than one but less than fifteen (15) service connections." Under the law, the health department "shall at least annually collect a sample from each semipublic water system and shall analyze … for microbiological contaminants and any other contaminants deemed appropriate by the department. If the department finds levels of contaminants exceeding the Mississippi Primary Drinking Water Standards, the department shall notify the responsible party and shall provide technical assistance to the system to correct the problem."[47]

State requirements for the siting and construction of private wells may also include water quality standards for wells, along with requirements for water quality testing that must be carried out before a

[44] Tn. Comp. Rules & Regs. 1200-5-1-.06; Ca. Health & Safety Code 116365.5, 22 Ca. Code Regs. 64431; 310 Ma. Code Regs. 22.06. EPA is in the process of developing a proposed national primary drinking water regulation for perchlorate. *See Perchlorate, U.S. EPA (updated Sept. 26, 2012),* http://water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm.

[45] Ks. Rev. Stat. 65-162a; 10 N.Y. Comp. Codes Rules & Regs. 5-1.1.

[46] 18 Ak. Admin. Code 80.310, 80.1990. Similarly, in Delaware, public water system means one that supplies water in more than three dwelling units or to "employees, tenants, members, guests or the public at large in commercial offices, industrial areas, multiple dwellings or semi-public buildings including, but without limitation…restaurants, hospitals and other institutions." Water systems brought in through this expanded definition are categorized as "miscellaneous public water systems" in the regulations. De. Code Regs. 16-4000-4462.

[47] Ms. Code. Ann. 41-26-3, 8. Similarly, in California, the state drinking water law mandates the adoption of requirements for "state small water systems" – those serving at least five but fewer than 15 service connections, and fewer than 25 people – which may be less stringent than those set forth in the law for public water systems. Ca. Health & Safety Code 116340; 22 Ca. Code Regs. 64211-64217. Illinois' drinking water law defines "semi-private water systems" as water supplies that are not public water systems and that serve a segment of the public other than an owner-occupied single family dwelling. 415 Il. Comp. Stat. 55/9.

new well is put into service and when there is a change in the population served. State drinking water agencies often rely on local environmental health agencies to oversee these requirements, and local jurisdictions may also have their own requirements governing the siting, construction, operation and maintenance of private water supplies. These types of state and local requirements, not reviewed in this paper, should be consulted in determining the water quality standards that may apply to private water systems used by child care facilities.

Ensuring Compliance with State Drinking Water Standards

Every primary standard for drinking water establishes minimum monitoring requirements, including sampling protocols and reporting schedules, and the SDWA requires drinking water agencies to conduct risk assessments in the form of routine "sanitary surveys."[48] Many states have established additional regulatory mechanisms to promote water systems' compliance with state drinking water standards.

Operating Permits. A number of states require some or all water systems to obtain an operating permit before putting a new system into service and on an annual (or other periodic) basis. Operating permits help state drinking water programs ensure regulated systems' initial and ongoing compliance with applicable standards for well siting and construction/maintenance, source water protection, and national primary drinking water regulations. The permitting process may involve an onsite inspection, water quality analysis, and/or submission of other documentation related to the system's technical, managerial, and financial adequacy. Some states require operating permits for all public water systems; others only require community water systems, or community and NTNC systems, to obtain a permit.

Some states and localities may require operating permits for certain private water systems as well. These permits may include requirements related to maintenance of wells and water quality clearance in addition to siting, design, and capacity standards.

Emergency Powers and Authority to Regulate Additional Systems. The SDWA includes an "emergency powers" provision, which authorizes EPA to take necessary actions to protect public health "upon receipt of information that a contaminant which is present in or is likely to enter a public water system or an underground source of drinking water" may "present an imminent and substantial endangerment to the health of persons."[49] (This authority allows EPA to take enforcement actions even where state/local agencies are primarily responsible for implementation and enforcement.) These actions may include issuing orders requiring corrective actions or provision of alternative water supplies and commencing legal actions for injunctive relief.

Most states have similar provisions in their state drinking water laws, which authorize the drinking water authority to take action to prevent or correct imminent hazards in public water supplies. Some states have expanded the scope of these powers, authorizing the state/local drinking water agency to take

[48] 40 C.F.R. § 141.21. "Sanitary surveys enable States to provide a comprehensive and accurate review of the components of water systems, to assess the operating conditions and adequacy of the water system, and to determine if past recommendations have been implemented effectively. The purpose of the sanitary survey is to evaluate and document the capabilities of the water system's sources, treatment, storage, distribution network, operation and maintenance, and overall management to ensure the provision of safe water. In addition, sanitary surveys provide an opportunity for States to visit the water system and educate operators about proper monitoring and sampling procedures and to provide technical assistance." OFFICE OF WATER, U.S. EPA, DOC NO. EPA 815-R-08-015, SANITARY SURVEY GUIDANCE MANUAL FOR GROUND WATER SYSTEMS (Oct. 2008), *available at*: http://www.epa.gov/ogwdw/disinfection/gwr/pdfs/guide_gwr_sanitarysurvey.pdf (requiring that state drinking water agencies "conduct sanitary surveys for all ground water PWSs with a minimum frequency and scope").

[49] 42 U.S.C. 300i.

action against hazards in private drinking water supplies (e.g., private wells) that may not be subject to regulation otherwise. For example:

- In Vermont, nonpublic water systems that have been found to exceed the state's MCL for total coliform, nitrate/nitrites, arsenic, or uranium – or "that the secretary affirmatively determines as not potable, due to the presence of a contaminated site, a leaking underground storage tank, or other known sources of groundwater contamination or naturally occurring contaminants"— are considered "failed systems," which must obtain a permit and demonstrate compliance with applicable quality standards.[50]
- Indiana's drinking water regulations authorize the state Department of Environmental Management to investigate contamination of private water supplies, issue an advisory order to users/owners of a well found to be contaminated, and take emergency action "to reduce exposure to well water contaminants that pose a threat to human health."[51]
- In Connecticut, the drinking water statute authorizes the local director of health to require a private residential well to be tested for arsenic, radium, uranium, radon, gross alpha emitters, pesticides, herbicides, or organic chemicals "when there are reasonable grounds to suspect" that any such contaminants are or might be present in the groundwater.[52]
- Similarly, New Hampshire's drinking water law authorizes local health officers to test (at the local jurisdiction's expense) any well, spring or other water supply suspected of being polluted and to prohibit use of the well or other source if the testing shows the water to be unfit for drinking purposes.[53]

Public Information: Reporting and Notice Requirements. The 1996 amendments to the SDWA added a key "risk communication" component to the law: public water systems are required to immediately notify customers/consumers of serious violations of primary standards and to inform customers when the PWS fails to comply with applicable monitoring or reporting requirements.[54] Community water systems also must provide an annual "consumer confidence report" to customers about the quality of their water.[55] States that have expanded the coverage of state drinking water regulations to additional types of water systems may require these systems to comply with some or all of the public information requirements.

[50] 10 Vt. Stat. 1972 (defining "failed supply"), 1973 (establishing permit requirements).
[51] 13 In. Admin. Code 18-17-4.
[52] Ct. Gen Stat 19a-37. ("For purposes of this subsection, "reasonable grounds" means (1) the existence of a geological area known to have naturally occurring arsenic, radium, uranium, radon or gross alpha emitter deposits in the bedrock; or (2) the well is located in an area in which it is known that arsenic, radium, uranium, radon or gross alpha emitters are present in the groundwater….[or] "1) the presence of nitrate-nitrogen in the groundwater at a concentration greater than ten milligrams per liter, or (2) that the private residential well is located on land, or in proximity to land, associated with the past or present production, storage, use or disposal of organic chemicals as identified in any public record.")
[53] N.H. Rev. Stat. 485:33.
[54] *See* MARY TIEMANN, CONGRESSIONAL RESEARCH SERV., CRS REPORT NO. RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 5 (Feb. 5, 2014), *available at*: https://www.fas.org/sgp/crs/misc/RL31243.pdf.
[55] 40 C.F.R. 141.151 *et seq*.

III. STATE HEALTH REGULATIONS

State and local health departments often play an important role in ensuring safe drinking water in child care facilities. This section describes two types of state health regulations that may apply to child care facilities and that typically include requirements related to drinking water quality – food service codes and child care sanitation regulations. Such regulations usually are administered independently by health agencies, however, state child care regulations may include an explicit requirement for facilities to meet these requirements in order to obtain or renew a license.

A. FOOD SERVICE CODES

In a majority of states, some or all child care facilities that regularly serve food to children must comply with the state's sanitary standards for food establishments ("food code").[56] Most states' food codes are closely based on the FDA's model Food Code,[57] which defines a "food establishment" as any operation that "provides food for human consumption," but specifically states that the code does *not* cover a "kitchen in a private home, such as a small family day-care provider."[58] Some state food codes, however, do require all licensed child care facilities — including home-based facilities — to comply with the food code's sanitation standards when food is provided. Child care laws/regulations themselves also may specify that certain types of licensed facilities are subject to the standards set forth in the food code.

Almost all state food codes contain requirements related to water supply. In many cases, these requirements address private water supplies that are not covered by state drinking water regulations.

Drinking Water Standards

Chapter 5 of the FDA's model Food Code ("Water, Plumbing & Waste") contains a set of basic drinking water requirements, including:

- *System Approval*: Drinking water must be obtained from an approved source that is: (a) a public water system; or (b) a nonpublic water system that is constructed, maintained, and operated according to law.
- *Standards*: Water from a public water system must meet the National Primary Drinking Water Regulations and state drinking water quality standards; and water from a nonpublic system must meet state drinking water quality standards.[59]

[56] States may refer to these regulations in different terms, such as "food sanitation," "food establishment," or "retail food establishment" standards, rules, or regulations.

[57] All 50 states have adopted a food code based on current or prior versions of the federal model code, but states are free to add, delete, or change provisions of the model code. *See* ASS'N OF FOOD & DRUG OFFICIALS, FOOD CODE ADOPTION BY STATE, *at*: http://www.afdo.org/page-1417772.

[58] U.S. FOOD & DRUG ADMINISTRATION (FDA), FOOD CODE 2013, at Ch. 1, sec. 201.10, *available at*: http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/.

[59] U.S. FOOD & DRUG ADMINISTRATION (FDA), FOOD CODE 2013 at Ch. 5, sec. 101.11, 102.11 (emphasis added), *available at*: http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/. The model Food Code also requires all drinking water systems to be "flushed and disinfected before being placed in service after construction, repair, or modification and after an emergency situation, such as a flood, that may introduce contaminants to the system" and sets out requirements for alternative water supplies if/when the supply is interrupted.

States that have adopted these model Food Code provisions without amendment thus require that private wells and other private water supplies serving small child care facilities have an approved water source that meets applicable state requirements.

A small number of states have amended these basic water supply provisions to include more specific drinking water standards for private systems. For example, Kansas' food code requires that water from a nonpublic system "shall be safe for ingestion, which includes containing less than 20 ppm nitrates as nitrogen, zero colony forming units (CFU) of total coliforms, and zero CFU of fecal coliforms."[60] Maine's food code lists two state drinking water quality standards that must be met by water from nonpublic systems (coliform and nitrate), and adds that "[t]reatment or other mitigation measures may be required" for nonpublic systems if water exceeds the following specific standards: arsenic (10 parts per billion), uranium (30 parts per billion), fluoride (2 parts per billion), or antimony (6 parts per billion).[61]

Water Testing

Many states' food codes require food establishments to perform water quality testing. The model Food Code's drinking water requirements include a sampling provision: water from a nonpublic supply system must be "sampled and tested at least annually and as required by state water quality regulations."[62] Because this provision requires testing for nonpublic systems specifically, in states that have adopted it, the food code may fill a regulatory gap if state/local laws and regulations do not otherwise establish minimum testing requirements for private water supplies.

Some states' food codes list the contaminants to be tested, and a small number require or authorize water quality testing more frequently than once per year. For example:

- In Maine, new food establishments that supply drinking water from their own source must test for total coliform bacteria, nitrate, nitrite, fluoride, chloride, hardness, antimony, iron, pH, manganese, uranium and arsenic; additional testing may be required if there are buried fuels storage tanks or a known contamination site nearby. Establishments using surface water sources must test at the same frequency as a transient public water system for nitrates, nitrites and total coliform bacteria, chlorine residual and turbidity. Those using groundwater must test annually for nitrates and total coliform bacteria, or more frequently depending on initial sampling results.[63]
- Missouri's food code requires private water systems "determined by the regulatory authority to potentially be influenced by surface water or shallow ground water" (such as springs or bored and dug wells) to receive continuous filtration and disinfection; these supplies must be tested for chlorine (weekly) and nitrates (annually). All private water systems must be tested annually for coliform bacteria, and "[a]ny water supply may be sampled by the regulatory authority and be tested for chemical or other contaminants whenever the regulatory authority believes there is a need for such tests."[64]

[60] Ks. Admin. Regs. 5-102-11.
[61] Me. Code Rules 10-144-200, section 5-102.11.
[62] U.S. FOOD & DRUG ADMINISTRATION (FDA), FOOD CODE 2013, at Ch. 5, sec. 102.13, *available at*: http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/. The most recent sample report for a nonpublic system must be retained on file in the food establishment or maintained as specified by state regulations.
[63] Me. Code Rules 10-144-200 at section 5-102.11.
[64] MO. DEP'T OF HEALTH & SENIOR SERVICES, MISSOURI FOOD CODE FOR THE FOOD ESTABLISHMENTS OF THE STATE OF MISSOURI 75-76 (2013) (adopted by reference at 19 Mo. Code Regs. 20-1.025).

- In Ohio, "water from a private water system shall be sampled and tested at least annually for the presence of total coliforms or other tests as required by the director of health or the director of agriculture and as required by Chapter 3701-28 of the Administrative Code."[65]

The model Food Code does not specify actions to be taken when sampling indicates that the supply is contaminated. A few states, however, have additional provisions in their food codes spelling out actions that must be taken – by the food establishment, agency, or both – when water testing shows that the water supply does not meet applicable standards.

Compliance and Enforcement

In a few states, child care facilities must conform to the food code but are not subject to a separate permitting and compliance procedure; in many cases, however, child care facilities must be separately licensed by the health department (or other agency administering the food code) as food service establishments. Most state food codes include requirements related to onsite inspections, permitting, and the health department's authority to correct health hazards, including drinking water problems.

B. CHILD CARE SANITATION REGULATIONS

Some state health agencies have adopted a set of regulations, separate from the child care licensing regulations discussed below in Section IV, that set forth specific environmental health and sanitation standards that must be satisfied in connection with child care licensing. These sanitation regulations, which usually require a separate inspection by the state or local health department, often address drinking water supply among other issues. The remainder of this section reviews the child care sanitation regulations of six states: Alaska, Colorado, Louisiana, North Carolina, West Virginia, and Wyoming.[66] All of these sanitary codes apply to child care centers; in Alaska and Wyoming, the regulations apply to other child care facilities as well.

Drinking Water Requirements

While states with child care sanitation regulations typically include some requirements relating to drinking water supply, these provisions vary by state. In some states, the sanitation regulations simply reference compliance with the state drinking water regulations. In Alaska, the state sanitation regulations require facilities to provide "an ample supply of potable water from a system that complies with applicable provisions" of the state drinking water regulations.[67] Louisiana establishes a similar requirement.[68]

In other states, the sanitation regulations establish requirements for facilities not otherwise covered by the state drinking water regulations for public water systems. For example:

[65] Oh. Admin. Code 3717-1-05.
[66] The term "child care sanitation" regulation is used here to refer to these regulations. In Colorado, North Carolina, West Virginia, Wyoming, the standards have been developed to apply exclusively to child care facilities, however in Alaska and Louisiana, the sanitation regulations apply to other types of licensed facilities as well. In Alaska, the same agency performs the child care licensing inspection and the child care sanitation inspection.
[67] 7 Ak. Admin. Code 10.1020.
[68] La. Admin Code 51:XXI:105.

- Colorado's current sanitation regulations[69] not only require potable water from a system operated in compliance with state law, but also establish requirements specific to private water systems: facilities must "provide adequate treatment on a continuous basis and bacteriological samples at a minimum of once per quarter or at a frequency determined by the Department."[70] In addition, "facilities with water supplies determined to be surface water or under the influence of surface water shall be required to filter their water to 1 mm (micron) using approved equipment to ensure inactivation and/or removal of giardia and viruses" and control residual disinfectant concentrations.
- West Virginia sanitation regulations require all centers to provide potable water from an approved source. If the center is served by a private water system, the water supply must be approved by a health officer.[71]
- North Carolina's sanitation regulations for child care centers require testing of private water supplies by the state: "A water sample shall be collected by the Department and submitted to a state certified laboratory for bacteriological analysis annually if the child care center is not served by a community water supply." Moreover, "[o]ther tests of water quality, as indicated by possible sources of contamination, may be collected by the Department."[72]
- Wyoming's sanitation regulations specify that child care centers must comply with water supply requirements found in the state's food safety rule, while the requirements for family homes and family centers are set forth in the sanitation regulations directly: "Private water supplies serving child caring facilities shall have a bacterial test every six (6) months. If infants under one (1) year are present, the water supply shall be tested for nitrates every three (3) years."[73]

Compliance and the Role of the Health Department

Sanitation regulations may specify actions to be taken by the facility operator in response to drinking water problems. In Colorado, for example, if an imminent health hazard such as a "lack of potable water" exists (or if water service is interrupted for more than two hours), the child care facility must "immediately cease operations" (unless an alternative plan has been approved), and may not resume operations until authorized by the Department of Public Health and Environment. [74]

State sanitation regulations also establish specific procedures for health agencies to ensure compliance, including procedures for conducting inspections and making recommendations to the child care licensing agency. In Colorado, the Department of Public Health and Environment inspects centers for compliance with child care sanitation standards; items not in compliance must be corrected before the Department recommends approval to the licensing agency.[75] In Wyoming, "authorized health inspectors" inspect facilities for compliance with sanitation regulations and may recommend that the licensing agency take action in cases of non-compliance.[76] North Carolina's Department of Environment and Natural Resources is required to make at least one unannounced inspection of child care centers

[69] Colorado's Department of Public Health and Environment is in the process of developing proposed revisions to the state's child care sanitation regulations which may alter the current drinking water provisions discussed here.
[70] Co. Code Regs. 1010-7:4-101.
[71] W.V. Code Rules 64-21-19.
[72] 15A N.C. Admin. Code 18A.2815.
[73] Wy. Code Rules 049-185-09.
[74] Co. Code Regs. 1010-7:11-204.
[75] Co. Code Regs. 1010-7:11-101. In addition, the Department "may, upon inspection, make a recommendation to the Department of Human Services to submit adverse action against a child care facility's license for any violation." *Id.* at 7:11-102.
[76] Wy. Code Rules 049-185-09.

every six months and submit a completed Sanitation Standards Evaluation Form to the child care licensing agency.[77]

Child care sanitation regulations may also give the health department general authority to take action to address potential hazards, which could include drinking water. For example, in West Virginia, "[w]hen a health officer finds insanitary or other conditions which constitute an immediate substantial hazard to public health at a child care center," he or she may issue a written order to the operator specifying the corrective action to be taken by the child care center and, if necessary, may suspend the facility's permit to operate.[78]

[77] 15A N.C. Admin. Code 18A .2834. The inspection results also must be posted in the center in a conspicuous place.
[78] W.V. Code Rules § 64-21-19.

IV. CHILD CARE LICENSING LAWS AND REGULATIONS

State child care laws and regulations establish the process and requirements for obtaining a child care license and the minimum criteria for operating a child care facility. Physical facility conditions are an important component of state licensing requirements, and child care regulations typically address a variety of health and safety issues. In some states, child care regulations contain only limited reference to drinking water and do not add to the requirements found in the state's drinking water laws/regulations, sanitation rules, and food codes described earlier. In a number of states, however, child care licensing regulations themselves include drinking water provisions that supplement these other state policies.

This section describes (1) substantive provisions that explicitly address drinking water quality, (2) procedural requirements that help ensure facilities' compliance with drinking water standards, including water quality testing and site inspections, and (3) requirements for responding to drinking water hazards, including a brief description of recordkeeping and information-sharing (e.g., parental notice) requirements. While this section discusses only those drinking water requirements included explicitly in child care licensing regulations, it is important to note that program guidelines, applications, and other documents developed by licensing agencies may also address drinking water issues.

Including Drinking Water Quality Standards in State Child Care Regulations

Child care regulations in most states address drinking water quality in some way, though these provisions vary widely in terms of their substantive requirements and the types of facilities and water systems they cover. Drinking water standards in child care laws and regulations may reference or reiterate existing state (or local) drinking water standards, expand the reach of those drinking water standards to cover additional facilities (e.g., smaller facilities using their own wells or other private water systems), or establish drinking water standards of their own. In addition to the examples noted below, state child care regulations may incorporate drinking water standards through requirements for water quality testing, described later in this section.

Incorporating State Drinking Water Quality Standards. A common approach taken by state child care regulations is to reference requirements contained in state drinking water laws and regulations.

Referencing Existing Standards and Requirements. In a number of states, child care regulations reference other laws and regulations that apply independently, and are enforced primarily by the state's drinking water or public health agency, as described in Section II. In Connecticut, for example, a child care center or group home's water supply "shall be in compliance with all applicable sections of the Public Health Code."[79] In Idaho, when a child care facility receives water from a public water system, the system must be "maintained according to IDAPA 58.01.08, 'Idaho Rules for Public Drinking Water Systems.'"[80] In Missouri, the water supply system at a licensed child care home "shall conform to state or local requirements, or both."[81] Child care centers in Wisconsin that use private wells qualifying as NTNC water systems "must be in compliance with Chapter NR 809, Safe Drinking Water Act Standards."[82]

[79] Ct. Agencies Regs. 19a-79-7a.
[80] Id. Admin. Code 16.06.02.360.
[81] 19 Mo. Code Regs. 30-61.085.
[82] Wi. Admin. Code DCF 251.06.

Requiring Approved Water Supplies. A considerable number of state child care regulations require that facilities have an "approved" water supply. Most often, this approval must come from an agency other than the licensing agency – commonly a health authority, such as the state department of health, a local health department, or both. In a smaller number of states, approval is required from an environmental agency.

Similar to state food service codes, a fairly common approach taken by child care licensing regulations is to require a child care facility to provide drinking water from a supply that is either: a public water system (or subcategory of public system) regulated under state drinking water standards; or a private water supply that has been inspected, tested, or otherwise "approved" by state or local authorities. Thus, the requirement for approval often is a requirement for private drinking water sources to meet other state or local requirements that may address standards for drinking water quality, well siting and construction, and/or plumbing and distribution. In South Carolina, child care regulations for centers and group child care homes state, "If an individual private well water supply is used, the director shall obtain approval pursuant to [the Department of Health and Environmental Control] to ensure safe location, construction, and proper maintenance and operation of the system."[83] In Massachusetts, "The licensee must provide evidence that any private well or water source has been inspected and approved by the local board of health, health department, or [Department of Environmental Protection] approved private laboratory within one year of licensure and meets Department of Environmental Protection Standards for drinking water, if applicable."[84]

For any particular jurisdiction, the regulations of the state or local approving agency should be consulted to determine the substantive requirements incorporated by reference into the child care licensing program.

[83] S.C. Code Regs. 114-507.
[84] 606 Ma. Code Regs. 7.07.

The Role of Local Codes in Regulating Water Supplies at Child Care Facilities

In addition to the state policies reviewed in this paper, local codes may play an important role in ensuring that child care facilities' drinking water is safe. Many state child care regulations explicitly reference local drinking water requirements. For example, Maryland regulations require child care facilities to "[c]omply with all applicable State and local codes, including but not limited to … drinking water." In Washington, if a child care home receives water from a private well on the premises, the licensee "must follow the local health jurisdiction's requirements for periodic water testing" where such requirements exist. Nevada's child care regulations prohibit the issuance of a license until the licensing authority "is satisfied that the proposed facility will be in compliance with the applicable codes... [of] the appropriate local government." In addition, many state child care regulations reference compliance with local codes generally, and those local codes may include drinking water requirements.

While this paper does not review the substantive drinking water requirements of local jurisdictions, it is important to note that local codes may themselves establish requirements that go beyond state drinking water standards. For example, the Southern Nevada Health District (SNHD) Child Care Program "routinely inspects all licensed child care facilities in Clark County to assure compliance with elements of health, sanitation, and safety in the child care setting" and responds to licensing agency requests and citizen complaints. The SNHD, which has "jurisdiction over all public health matters" in Clark County, has adopted a set of Regulations Governing the Sanitation and Safety of Child Care Facilities, which apply to all licensed facilities (nearly 400) within the district.

The SNHD regulations require that the water supply at a child care facility "be from either a public water system permitted by the State of Nevada Division of Environmental Protection, Bureau of Safe Drinking Water" or a private source meeting the following requirements:

- Prior to commencement of operation, sample the proposed water supply for a bacteriological and chemical analysis as required by SNHD, the results of which must demonstrate compliance with the appropriate standards, as set forth under the Safe Drinking Water Act (SDWA);
- Bacteriological and nitrate analyses must be repeated annually; chemical analysis must be repeated every three years. Copies of all water tests must be submitted to SNHD;
- If the water analysis is positive for coliform or a chemical analysis result exceeds national primary standards, the facility must use bottled water for drinking and cooking until "necessary corrective actions are made" and the water is retested and found to be safe.

The SNHD regulations also establish detailed protocols for loss of potable water service, of which providers must notify SNHD. Any "substantial health hazard" (e.g., a water outage over two hours or use of unapproved water supply) must be reported to SNHD and corrected as soon as reasonably possible.

Sources: *General Information*, SOUTHERN NEVADA HEALTH DISTRICT (2015), http://southernnevadahealthdistrict.org/general-information.php; SOUTHERN NEVADA HEALTH DISTRICT, REGULATIONS GOVERNING THE SANITATION AND SAFETY OF CHILD CARE FACILITIES (adopted Nov. 2009), *at*: http://southernnevadahealthdistrict.org/download/eh/child-care-regs.pdf).

Applying State Drinking Water Standards to Additional Child Care Facilities. In most cases, state child care regulations simply reference existing drinking water requirements found in other laws and regulations. However, a small number of these regulations apply the referenced state drinking water standard somewhat more broadly. For example, Illinois requires child care centers that use a private water supply instead of a public water supply to submit test results "indicating that the water supply is safe for drinking in accordance with the standards specified for non-community water supplies in the Drinking Water Systems Code."[85] New Jersey's regulations for child care centers include a similar provision:

> If the facility or site is not provided a potable water supply by a public community water system, the applicant shall provide potable water sampling results demonstrating compliance with maximum contaminant levels for all contaminants required to be tested pursuant to [requirements] for public non-transient, non-community (NTNC) water systems, including radiological contaminants, regardless of whether they meet the definition of NTNC systems as defined [in the state's Safe Drinking Water Act Rules].[86]

A small number of other states have child care regulations that apply state drinking water standards for specific contaminants to nonpublic water sources.

- In Nebraska, for example, whenever water at a child care facility is obtained from a source other than a public water system, "the water must not contain contaminants that exceed the maximum contaminant levels set for nitrate, or total coliform for public water supply systems in 179 NAC 2-002, and 179 NAC 3."[87]
- New Hampshire's child care regulations contain a similar provision, requiring facilities "which have their own independent water supply and are caring for 24 or fewer children" to provide evidence that bacteria, nitrates, nitrites, and lead are at "acceptable levels in accordance with [public water system regulations]."[88]
- In Wisconsin, child care regulations require that whenever a facility serving infants under six months of age has a private well, it must have the water tested annually for nitrate, noting: "Section NR 809.11 sets the maximum allowable level of nitrate-nitrogen in public drinking water at 10 milligrams per liter (10 parts per million)."[89]
- In Washington, where periodic water testing is required of child care homes with private water supplies, the "test results must indicate no presence of coliform bacteria, and must not exceed ten parts per million (ppm) for nitrate."[90]
- Montana's regulations require all child care centers to demonstrate that their drinking water complies with specific nitrate (10 milligrams per liter) and nitrite (1 milligram per liter) standards, regardless of the type of water supply. Centers must also test for total coliform and fecal coliform or E. coli bacteria.[91]

Establishing General Drinking Water Standards in Child Care Regulations. State child care regulations commonly include general (non-numerical or narrative) standards relating to drinking water quality.

[85] 89 Il. Admin. Code 407.370.
[86] N.J. Admin. Code 10:122-5.2.
[87] 391 Ne. Admin. Code 3-007.02B.
[88] N.H. Code Admin. Rules He-C 4002.15.
[89] Wi. Admin. Code DCF 251.06.
[90] Wa. Admin. Code 170-296A-1400.
[91] Mt. Admin. Code 37.95.225.

These standards require facilities to provide water that is, for example: "safe," "safe and sanitary," "potable," or "adequate in quality."

In most states, these general water quality standards are accompanied in the child care regulations by additional, more specific drinking water requirements – for example, requirements for testing or obtaining approvals from other agencies. In some states, these general water quality standards are the only explicit drinking water-related provision included in a child care regulation or statute. In either case, general standards for safe drinking water (or even more general requirements relating to health and safety in the facility) could provide a basis for licensing agencies to incorporate drinking water systems into facility inspections and require action to address potential drinking water hazards before a license is issued or renewed and during a facility's operation.

Such general standards may also provide a basis for child care agencies to address drinking water quality in their guidance documents and agency forms. In Nevada, for example, child care regulations contain only a general standard that facilities have "drinking water;" the agency's license renewal application form requires applicants using wells to provide water quality test results, and directs applicants serving more than 25 children and adults to contact the state drinking water program to ensure that their water is from an approved source.[92]

Promoting the Use of Public Water Supplies. A small number of states have regulatory provisions that direct child care facilities to connect to a public water supply when it is available or feasible.[93] For example, Kansas' regulations for child care homes provide: "Public water supply systems approved by the state department of health shall be used wherever such supplies are available or can be made available at reasonable cost…. Properly located, constructed and equipped private ground water supplies approved by the department may be used if a public supply is not available.[94] In Tennessee, "[w]ater from a public supply shall be utilized where possible" in all types of child care facilities.[95]

Ensuring Compliance: Onsite Inspections and Testing

The remainder of this section describes the procedural requirements established in child care licensing laws and regulations (and enforced by the licensing authority) to ensure facilities are in compliance with applicable drinking water standards, both prior to initial licensure and during operation. It is common for several parties – including licensees/water system operators, the child care licensing agency, the drinking water authority, and the state or local health authority – to share this responsibility.[96]

A majority of states specifically require license applicants to demonstrate compliance with applicable drinking water standards during the child care licensing process. Such requirements may involve proof of approval of the system by the health department, onsite inspection of the water system, water quality testing, and/or submission of documentation related to the facility's water supply.

---

[92] *See* DEP'T OF HEALTH AND HUMAN SERVICES, STATE OF NEV., RENEWAL APPLICATION FOR FAMILY/GROUP CHILD CARE LICENSE (revised July 2013), *available at*: http://dpbh.nv.gov/uploadedFiles/dpbhnvgov/content/Reg/childCare/Docs/FamilyGroupRenewal.pdf.

[93] In addition, it is not unusual for state drinking water laws to prohibit generally the construction/operation of a private well in areas of the state where a public water connection is available or feasible.

[94] Ks. Admin. Regs. 28-4-50.

[95] Tn. Comp. Rules & Regs.1240-04-01, Appendix E.

[96] As noted in Section II, each water quality standard in the federal Primary Drinking Water Regulation includes testing and reporting provisions, which state regulations must reflect, and some states have established permitting programs or other procedural requirements to promote compliance. State sanitation rules and food codes, discussed in Section III, also include compliance provisions which set out the responsibilities of facilities and health authorities under those laws/regulations.

Onsite Inspections. A majority of states have child care laws or regulations that require center-based and/or home-based facilities to undergo a separate environmental health inspection by the state or local health agency.[97] A few states have provisions in their child care regulations specifically requiring an inspection of water systems or sources as part of the licensing process. For example, in Michigan, an "inspection shall be conducted by the local health department and an approval granted indicating [the water supply's] compliance" with local requirements before issuance of an original license and, if the center uses a private well, every two years thereafter.[98] California's child care regulations state that for all centers using water from a private source, "[a]s a condition of initial licensure, the applicant shall provide evidence of an onsite inspection of the source of the water and a bacteriological analysis that establishes the safety of the water. The inspection and the bacteriological analysis shall be conducted by the local health department, the California Department of Health Services or a licensed commercial laboratory."[99]

A few states specifically require inspection of facilities whose water supply is actually or potentially contaminated. In Virginia, child care homes whose water is not from a municipal supply must have the water system inspected and approved "if there are open and obvious symptoms of water or sewage system problems, such as evidence of cloudy, murky, or muddy water."[100] In New Hampshire, "[w]hen there is information indicating that the building or water supply may contain radon hazards, programs shall submit evidence that the building has been inspected by a licensed radon inspector and is free of radon hazards or submit a plan of action to reduce or eliminate any existing" hazards.[101] California's child care center Policy Manual states, "Sanitation clearance inspections are requested only as required by this regulation [for private water sources, as noted above], or if there are sanitation conditions that could adversely affect children's health and safety... For example, if a center is located in an area where chemical contamination is a concern, an analysis of the water may be requested."[102]

In addition, the general child care licensing inspection itself provides regulators with an opportunity for identifying potential drinking water quality problems, even if the child care regulations do not specifically require the licensing agency to inspect the water supply.

Water Quality Testing. As noted earlier, minimum water testing requirements for public water systems are embedded in the federal and state drinking water regulations, and state food codes often include requirements for testing of non-public water systems. Child care regulations may reference these requirements directly or incorporate the testing provisions through general requirements for drinking water "approvals" or "inspections," described above. In addition, state child care licensing regulations may set forth drinking water testing requirements that apply to child care facilities whether or not they are subject to state drinking water or food service regulations, and applicants are often required to submit documentation of the tests in connection with licensing.

---

[97] NATIONAL ASSOCIATION FOR REGULATORY ADMINISTRATION (NARA), THE 50-STATE CHILD CARE LICENSING STUDY – 2011-2013 EDITION 70 (2013), *at*: http://www.naralicensing.org/Resources/Documents/2011-2013_CCLS.pdf. According to a recent study of child care licensing trends, nearly 40 states require separate environmental health inspections for center-based facilities, while around a dozen states require separate environmental health inspections for home-based facilities. *Id. See also* OFFICE OF CHILD CARE, U.S. DEP'T OF HEALTH & HUMAN SERV., CONTEMPORARY ISSUES IN LICENSING: BUILDING AND PHYSICAL PREMISES SAFETY IN CHILD CARE (Aug. 2014), *available at:* https://childcareta.acf.hhs.gov/resource/contemporary-issues-licensing-child-care-licensing-inspection-policies.

[98] Mi. Admin. Code 400.8305.

[99] 22 Ca. Code Regs. 101172.

[100] 22 Va. Admin. Code 40-111-350.

[101] N.H. Code Admin. Rules He-C 4002.14.

[102] COMMUNITY CARE LICENSING DIVISION, CAL. HEALTH & HUMAN SERV. AGENCY, EVALUATOR MANUAL 15CCC-01, REGULATION INTERPRETATIONS AND PROCEDURES FOR CHILD CARE CENTERS (updated May 2015), *at*: http://www.ccld.ca.gov/res/pdf/ChildCareCenters.pdf.

Testing for Specific Contaminants. The SDWA and state drinking water regulations include primary standards for over 90 drinking water contaminants, most of which are assigned enforceable MCLs. For private wells, there are certain basic water tests that provide "a reasonable approach to determining the overall quality" of the drinking water: total coliform, nitrite/nitrate, pH/color/turbidity, iron, manganese, sodium, chloride, sulfate, and hardness.[103] U.S. EPA and CDC recommend that private well users perform annual testing for total coliform (an indicator) and nitrite/nitrates (an acutely hazardous contaminant).[104]

Most of the states that require water quality testing through their child care regulations require testing for one or more of these contaminants (or categories of contaminant) specifically. The most common approach is to require testing of private water supplies for coliform/"bacteria", nitrates/nitrites, or both. For example, in Washington, if there are no local health jurisdiction requirements for periodic water testing of a child care home's private water supply, "the licensee must have the water tested for coliform bacteria and nitrates by the local public health authority or private testing laboratory certified to analyze drinking water samples."[105]

As mentioned earlier, acute nitrate poisoning can cause severe health problems in children under the age of six months, and several states require nitrate testing at facilities serving infants specifically. For example, in Iowa, all private water supplies must be analyzed for bacterial quality; when the facility cares for children under age two, the tests must also include nitrate analysis.[106] In Wisconsin, where any child care facility with a private well must have water tested annually for bacteria, facilities providing care to children less than six months of age must have the water tested annually for nitrate levels, as well.[107] Kansas also requires its child care facilities to take special precautions to protect infants from nitrate risks: "If children under 12 months of age are enrolled in a facility using water from a nonpublic source, including private well water, commercially bottled drinking water shall be purchased and used until a laboratory test confirms that the nitrate content of the private well water is not more than 10 milligrams per liter (10 mg/l) as nitrogen."[108]

A few states specify a broader range of contaminants for which child care facilities must test. For example, in Connecticut, the water tests required for a family day care home's private water supply "shall include, but not be limited to tests for bacteria, physical parameters (color, odor, turbidity, pH), and sanitary chemicals (nitrogen series, chloride, surfactants, hardness, iron, manganese and sodium)." When child care centers and group day care homes obtain water from "other than a department-approved public water supply," the water must be tested every two years for "bacterial and chemical quality and the results submitted to the local and state health departments."[109]

Timing of Tests: Current Results and Retesting Intervals. Some states have child care regulations that require facilities to perform testing at specific times during the child care licensing process (in addition

[103] NEW ENGLAND REGION, U.S. EPA ET AL., PROTECT YOURSELF AND YOUR FAMILY'S HEALTH: TEST YOUR WELL'S DRINKING WATER QUALITY TODAY (n.d.), *at*: http://www.epa.gov/region1/eco/drinkwater/pdfs/ctbrochure.pdf.
[104] U.S. EPA, DOC. NO. EPA 816-K-02-003, DRINKING WATER FROM HOUSEHOLD WELLS (Jan. 2002), *at*: http://water.epa.gov/drink/info/well/upload/2003_06_03_privatewells_pdfs_household_wells.pdf; *Frequently Asked Questions: Wells*, CENTERS FOR DISEASE CONTROL AND PREVENTION (updated Apr. 10, 2009), http://www.cdc.gov/healthywater/drinking/private/wells/faq.html. CDC recommends testing for pH and turbidity, as well.
[105] Wa. Admin. Code 170-296A-1400.
[106] Ia. Admin. Code 441—109.15 (237A).
[107] Wi. Admin. Code DCF 251.06.
[108] Ks. Admin. Regs. 28-4-50.
[109] Ct. Agencies Regs. § 19a-87b-9.

to routine testing that may be required by the primary standards and/or food code). Many state child care regulations that include water testing requirements indicate that conducting such tests, or providing documentation of sufficiently current tests, is a condition of initial licensure. In some cases, the regulations specify how current the test results must be in order to satisfy the requirement. In New York, when a child care facility uses a private water supply, license applicants must submit "a report from a state licensed laboratory or individual, based on tests performed within the 12 months preceding the date of application, showing that the water meets standards for drinking water established by the New York State Department of Health."[110]

Most states requiring water testing upon licensing also provide for retesting, either at regular intervals or under certain circumstances. The most common approach is to require annual testing. Ohio's child care home regulations, e.g., provide that water that is not publicly supplied must be tested prior to licensure and annually thereafter and meet state health department standards for private water systems.[111] Iowa's child care center and preschool regulations specify that water for the analysis "shall be drawn between May 1 and June 30 of each year."[112] Several states require less frequent retesting intervals – e.g., every two or three years. Some states, including Illinois, New Jersey, and Rhode Island, mandate retesting upon renewal of a child care license.

On the other hand, a few states require child care facilities to retest their water supplies more frequently than once a year. For example, California has set out a retesting protocol in its child care center regulations: "Subsequent to initial licensure, the licensee shall provide evidence of a bacteriological analysis of the private water supply as frequently as is necessary to ensure the safety of the children, but no less frequently than" . . . annually (7-15 children); semiannually (16-24 children); or quarterly (25 or more children).[113] In Montana, child care centers must have water sources tested "prior to beginning operation and at least once each January and once each June for the total coliform and fecal coliform or E. Coli bacteria."[114] In Oregon, certified child care homes must have the required bacterial analysis performed quarterly.[115]

In addition to or in lieu of regular retesting intervals, a number of states require or authorize retesting under certain circumstances. New Jersey, for instance, requires retesting in the event of relocation of an existing licensed center.[116] Wisconsin requires that if "water test results indicate the water contains high levels of lead or is bacteriologically unsafe, the water shall be appropriately treated and re-tested until it is determined to be safe.[117] As noted earlier, Virginia child care homes whose water is not from a municipal supply must have the water system inspected and approved "if there are open and obvious symptoms of water or sewage system problems, such as evidence of cloudy, murky, or muddy water."[118]

Several states' child care regulations give the child care licensing or health authority broad discretion to order retesting, while others authorize the agency to order retesting in certain circumstances. For example, in Minnesota, retesting of a child care home's water supply may be required by the licensing agency "if results exceed state drinking water standards or where the supply may be subject to off-site

[110] 18 N.Y. Comp. Codes Rules & Regs. 418-1.2.
[111] Oh. Admin. Code 5101:2-13-12, 5101:2-12-15
[112] Ia. Admin. Code 441—109.15 (237A).
[113] 22 Ca. Code Regs. 101172.
[114] Mt. Admin. Rules 37.95.225.
[115] Or. Admin. Rules 414-350-0160
[116] N.J. Admin. Code 10:122-5.2.
[117] Wi. Admin. Code DCF 251.06.
[118] 22 Va. Admin. Code 40-111-350.

contamination."[119] Additional procedures for responding to drinking water problems identified during a facility's operation, which may include failed water tests, are discussed below.

Responding to Drinking Water Hazards. A small number of states have provisions in their child care regulations addressing the ways in which licensees, child care agencies, and health departments are required or authorized to respond when drinking water hazards are identified at any time during a facility's operation.

Emergency Planning. A handful of states have child care regulations requiring facilities to prepare formal plans in advance that set out procedures for responding to drinking water problems such as contamination of the water supply or interruption of water service. In Georgia, for example, child care homes must have "a written plan for handling emergencies" such as loss of water service.[120] Utah's regulations for child care centers include a similar provision, which requires the provider to have "a written emergency and disaster plan" that includes procedures for responding to, among other things, "water failure."[121]

Action by Providers. Several states' child care regulations prescribe specific actions to be taken by child care providers if drinking water hazards are identified or suspected during operations. The most common provision requires facilities to notify the licensing agency, though several states' child care regulations explicitly require child care providers to take action directly. Iowa, Washington, and Wisconsin are examples of states that require the provision of bottled water or an alternative approved source of potable water when a facility supply is determined to be unsafe.[122] New Hampshire requires facilities with failed water tests to submit a plan for taking corrective action and for ensuring children will not be at risk.[123] In Indiana, child care centers with contaminated water supplies "must take immediate action to provide for the safety and well-being of children and staff."[124]

Action by Agencies. In addition to the enforcement and oversight authorities of other state agencies, child care licensing agencies may have a role in ordering and approving corrective actions by providers in response to drinking water contamination or failure. For example, in Minnesota, corrective measures may be required by the licensing agency if water testing results exceed state drinking water standards or the supply "may be subject to off-site contamination."[125]

A handful of states specifically authorize the agency to issue closure or suspension orders to ensure that children are not exposed to unsafe water. In Washington, for example, the licensing agency or the local health jurisdiction may either "determine that child care operations may continue with an alternate source of safe water" or direct the licensee to "suspend child care operations until repairs are made."[126] New Hampshire is an example of a state that requires the licensing agency to take action if the child care provider does not:

[119] Mn. Rules 9502.0445.
[120] Ga. Comp. Rules & Regs. 591-1-1-.21.
[121] Ut. Admin. Code 430-100-10.
[122] Ia. Admin. Code 441—109.15 (237A); Wa. Admin. Code 170-296A-1400; Wi. Admin. Code DCF 251.06.
[123] N.H. Code Admin. Rules He-C 4002.15.
[124] 470 In. Admin. Code 3-4.7-10.
[125] Mn. Admin. Rules 9503.0145.
[126] Wa. Admin. Code 170-296A-1400.

> When a program fails to submit a written proposed corrective action plan within 10 days of receiving the unacceptable test result…the department shall initiate action to suspend the license or permit…until such time as laboratory results meeting those requirements are received by the department.[127]

Indiana's child care regulations list "contaminated water supply" as one of the conditions that pose an "immediate threat to the life or well-being of a child in the care of a child care provider" and may subject the provider to an emergency or temporary closure order.[128] If closure is necessary, a child care center must obtain the licensing agency's approval before reopening, contingent on an inspection or the agency's "receipt of two (2) satisfactory water sample reports twenty-four (24) hours apart for private wells or approval by municipal system."[129]

Notice to Parents. As noted above, several states specifically require child care providers to report drinking water-related incidents or hazards to the child care licensing agency. Child care regulations in a few states also require providers to notify parents/guardians in the specific event of a drinking water problem.

The SDWA Amendments of 1996 and EPA's Public Notification Rule require certain public water systems to provide customers with annual Consumer Confidence Reports (CCR), as well as notify customers when they violate drinking water standards or monitoring requirements "or otherwise provide drinking water that may pose a risk to consumer's health."[130] At least two states specifically require in their child care licensing statutes that facilities notify parents and occupants if the facility prepares one of these notices, or receives one from its supplier of water. New Jersey's child care statute and regulations require CCRs and drinking water tests to be posted in at least one conspicuous location "in all buildings at the center when received from a water supply company or prepared by the center, if applicable."[131] Maryland's child care licensing statute requires that "a child care center that receives notice of a contaminated drinking water supply from the child care center's supplier of water…send notice of the drinking water contamination to the parent or legal guardian of each child attending the child care center." The notice must identify the contaminants and their levels and describe the center's plan for addressing the contamination until the water is determined by the appropriate authority to be safe for consumption.[132]

[127] N.H. Code Admin. Rules He-C 4002.15.

[128] 470 In. Admin. Code 3-4.8-1.

[129] 470 In. Admin. Code 3-4.7-10.

[130] *Basic Information: Public Notification Rule*, U.S. EPA (updated Mar. 6, 2012), http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/basicinformation.cfm.

[131] N.J. Stat. 30:5B-5.5. When child care centers supply their own water, but are not required to prepare CCRs pursuant the SDWA, the center "shall post a chart setting forth the results of [any required] water tests, including the level of detection and, as appropriate for each contaminant, the maximum contaminant level, highest level allowed, action level, treatment technique, or other expression of an acceptable level, for each contaminant," in at least one conspicuous location in the center. *Id.*

[132] Md. Code, Fam. Law 5-573.

V. SUMMARY

This paper provides a broad review of how state laws and regulations address drinking water quality in child care facilities, focusing on the standards of quality established and the mechanisms for ensuring compliance with those standards in connection with the child care licensing process. A variety of state laws may apply to licensed child care facilities, and multiple state agencies may be involved in implementing those laws. While the subject of the paper is state policy, local health and other agencies also may play an important role in ensuring the safety of drinking water supplies.

Most licensed child care facilities obtain their drinking water from a public water system governed by federal drinking water standards and requirements that are implemented through state regulation. State food service, child care sanitation, and child care licensing regulations typically reference compliance with these state drinking water regulations.

Across the U.S., approximately 15 percent of the population obtains its water from a *nonpublic water system*, such as a private well. These systems, which may be vulnerable to contamination on or near the child care site, are not covered by federal law. Through the four types of states laws and regulations reviewed in this paper, states have adopted a variety of provisions that aim to ensure the safety of wells and other small private systems used by child care facilities. Where state drinking water regulations do not address private wells, food codes, health/sanitation regulations, and child care licensing regulations may add a layer of oversight to ensure the safety of private drinking water supplies.

Drinking Water Regulations. A small number of states have expanded the definition of public water system, so that additional smaller systems are subject to the national water quality standards. Several other states have established categories of private water systems that are subject to certain drinking water standards and requirements; these new categories generally do not, however, apply to systems serving single family homes. In addition, some state drinking water regulations authorize the state/local drinking water agency to take action against identified or suspected hazards in private drinking water supplies that may not be subject to regulation otherwise.

Food Service Codes. In many states, some or all types of licensed child care facilities are subject to the state's food service code. These codes, which are often similar to the federal model Food Code, require the use of approved public or private water supplies that comply with federal and state law. In some states, the food code specifies that private water supplies must meet some of the drinking water quality standards that apply to public water systems. In addition, many state food codes require establishments with nonpublic water systems to have their water supply sampled and tested for compliance with applicable standards at least annually.

Child Care Sanitation Codes. A number of states have sanitation (health) codes for child care facilities that establish environmental health provisions separate from state child care licensing regulations. For the most part, these regulations are similar to food codes in referencing compliance by private water supplies with state law and, in some states, establishing specific requirements for drinking water treatment or testing.

Child Care Licensing Regulations. All states have child care licensing regulations, and most contain at least some provisions addressing drinking water. In general, these regulations reference compliance with other state laws and regulations. Child care regulations may, however, include specific

requirements for private water systems. Like food service and child care sanitation codes, child care licensing regulations may require facilities to provide safe or potable water and to have an “approved” private water source. In a few cases, the regulations encourage child care facilities to connect to public water supplies when available or feasible.

Most notably, many state child care licensing regulations require compliance with some or all state drinking water quality standards (e.g., priority contaminants such as nitrate or coliform) or include explicit water testing requirements as a condition of initial licensing and at other stated intervals. Some of these testing provisions establish additional, independent requirements; the most common approach is to require testing for coliform/”bacteria,” nitrates/nitrites, or both, though a few states specify a broader range of contaminants for which child care facilities must test. In a small number of states, child care regulations address the ways that providers, licensing agencies, and health departments are to respond when drinking water hazards are identified during a facility’s operation.

In determining the drinking water quality requirements that must be satisfied by child care facilities – in particular the requirements that apply to facilities with private wells – it is necessary to review not only the state drinking water regulations, but also state food service codes, child care sanitation codes, and child care licensing regulations. Local laws, including those governing the siting, construction, and operation of private wells, also establish important protections in many jurisdictions. In addition to explicit drinking water provisions, state and local laws often give child care, drinking water, and public health officials considerable general authority to address actual or suspected drinking water problems that arise prior to or after a child care license is issued.

APPENDIX

CITATIONS TO LAWS AND REGULATIONS REVIEWED

The summary provided in this paper is based on a review of the statutes and regulations listed below. These tables do not include every state statute and regulation that addresses drinking water in child care facilities.

Table A: State Drinking Water Statutes and Regulations

The following table includes citations to drinking water statutes and regulations in every state. In some cases, the statute or regulation listed here incorporates the National Primary Drinking Water Regulations by reference. *Note*: Most citations below refer to the first section in the applicable statute or regulation, rather than a specific provision.

State	Drinking Water Statutes and Regulations
ALABAMA	Al. Code 22-23-30; Al. Admin. Code 335-7-1-.01
ALASKA	Ak. Stat. 46.03.020; 18 Ak. Admin. Code 80.005
ARIZONA	Az. Rev. Stat. 49-351; Az. Admin. Code R18-4-102
ARKANSAS	Ar. Code 20-7-109; Ar. Code Rules 007 04 005, 007 18 002
CALIFORNIA	Ca. Health & Safety Code 116270; 17 Ca. Code Regs. 7583; 22 Ca. Code Regs. 64400
COLORADO	Co. Rev. Stat. 25-1.5-2035; Co. Code Regs. 1002-11
CONNECTICUT	Ct. Gen. Stat. 22a-471; Ct. Gen. Stat. 5-32; Ct. Agencies Regs. 19-13-B101
DELAWARE	16 De. Code 122; De. Admin. Code 16-4000-4462
FLORIDA	Fl. Stat. 381.0062, 403.850; Fl. Admin. Code 62-550.102, 62-560.101, 64e-8.001
GEORGIA	Ga. Code 12-5-90, 12-5; Ga. Comp. Rules & Regs. 391-3-5-.01
HAWAII	Hi. Stat. 340E-1; Hi. Code Regs. 11-20-1
IDAHO	Id. Code 37-2102; Id. Admin. Code 58.01.02.252, 58.01.08.000
ILLINOIS	415 Il. Comp. Stat. 5/14, 40/1.1, 55/9; 35 Il. Admin. Code 611.100; 77 Il. Admin. Code 900.10
INDIANA	In. Code 13-18-16-1; 327 In. Admin. Code 8-1-1
IOWA	Ia. Code 455B.171; 567 Ia. Admin. Code 40.1
KANSAS	Ks. Stat. 65-162a; Ks. Admin. Rules 28-15-16, 28-15a-2

State	Drinking Water Statutes and Regulations
KENTUCKY	Ky. Rev. Stat. 224.10-100; 401 Ky. Admin. Rules 8:010
LOUISIANA	La. Rev. Stat. 40:4.11, 40:4.13, 40:4.15, 40:5.9; La. Admin. Code 48:V.1305, 48:V.7701, 51:XII.101
MAINE	22 Me. Rev. Stat. 2601; Me. Code Rules 10-144-231, 10-144-233
MARYLAND	Md. Code, Envt. 9-261, 9-401; Md. Code Regs. 26.04.01
MASSACHUSETTS	Ma. Gen. Laws 111 § 160; 310 Ma. Code Regs. 22.01
MICHIGAN	Mi. Comp. Laws 325.1001; Mi. Admin. Code 325.10101
MINNESOTA	Mn. Stat. 144.381; Mn. Rules 4720.0010
MISSISSIPPI	Ms. Code 41-26-1; Ms. Code Regs. 15-020-001
MISSOURI	Mo. Rev. Stat. 640.100; 10 Mo. Code Regs 60-1.010
MONTANA	Mt. Code 75-6-101; Mt. Admin. Rules 17.38.201
NEBRASKA	Ne. Rev. Stat. 71-5301; 179 Ne. Admin. Code 22-001
NEVADA	Nv. Rev. Stat. 445A.800; Nv. Admin. Code 445A.450
NEW HAMPSHIRE	N.H. Rev. Stat. 485:1; N.H. Admin. Rules, Env-Ws 100, 500, 700, 800
NEW JERSEY	N.J. Stat. 58:12A-1; N.J. Admin. Code 7:10-1.1
NEW MEXICO	N.M. Stat. 74-1-12; N.M. Admin. Code 20.7.10.1
NEW YORK	N.Y. Pub Health Law 1100; 10 N.Y. Comp. Codes Rules & Regs. 5-1.1
NORTH CAROLINA	N.C. Gen. Stat. 87-97, 130A-311; 15A N.C. Admin. Code 18C.0100
NORTH DAKOTA	N.D. Cent. Code 61-28.1-01; N.D. Admin. Code 33-17-01-01
OHIO	Oh. Rev. Code 3701.344, 6109.01; Oh. Admin. Code 3745-81-01
OKLAHOMA	27A Ok. St. 2-6-301; Ok. Admin. Code 252:631-1-1
OREGON	Or. Rev. Stat. 448.131; Or. Admin. Rules 333-061-0005
PENNSYLVANIA	35 Pa. Cons. Stat. 721.1; 25 Pa. Code 109.1
RHODE ISLAND	R.I. Gen. Laws 46-13-1; R.I. Code Rules 14-180-003
SOUTH CAROLINA	S.C. Code 44-55-10; S.C. Code Regs. 61-58
SOUTH DAKOTA	S.D. Codified Laws 34A-3A-1; S.D. Admin. Rules 74:04:11:01

State	Drinking Water Statutes and Regulations
TENNESSEE	Tn. Code 68-221-701; Tn. Comp. Rules & Regs. 0400-45-01-.01
TEXAS	Tx. Health & Safety Code 341.031; 30 Tx. Admin. Code 290.38
UTAH	Ut. Code 19-4-101; Ut. Admin. Code 309-100-1
VERMONT	10 Vt. Stat. 1671; Vt. Code Rules 16-3-500:1
VIRGINIA	Va. Code 32.1-167; 12 Va. Admin. Code 5-590-10
WASHINGTON	Wa. Rev. Code 70.116.010, 70.119A.080; Wa. Admin. Code 46-290-001
WEST VIRGINIA	W.V. Code 16-1-9a; W.V. Code Rules 64-3-1
WISCONSIN	Wi. Stat. 280.11; Wi. Adm. Code NR 809.01
WYOMING	Wy. Stat. 35-4-220

Table B: State Food Codes

The following table includes citations to the food codes from every state. Some of these food codes do not apply to licensed child care facilities; some require only certain types of child care facilities to comply (e.g., centers) while exempting other types (e.g., homes). In some cases, the statute or regulation incorporates the FDA's model Food Code, or another state document, by reference. *Note*: Most citations below refer to the first section in the applicable statute or regulation, rather than a specific drinking water provision.

State	Food Codes
ALABAMA	Al. Admin. Code 420-3-22-.01
ALASKA	18 Ak. Admin. Code 31.010
ARIZONA	Az. Admin. Code R9-8-101
ARKANSAS	Ar. Code Rules 007.10.17-1
CALIFORNIA	Ca. Health & Safety Code 113700
COLORADO	6 Co. Code Regs. 1010-2:1-101
CONNECTICUT	Ct. Agencies Regs. 19-13-B42
DELAWARE	De. Admin. Code 16-4000-4458
FLORIDA	Fl. Admin. Code 61C-1.001
GEORGIA	Ga. Comp. Rules & Regs. 290-5-14-.01

State	Food Codes
HAWAII	Hi. Code Rules 11-50-1
IDAHO	Id. Admin. Code 16.02.19.001
ILLINOIS	77 Il. Admin. Code 750.10
INDIANA	410 In. Admin. Code 7-24-1
IOWA	Ia Admin. Code 481-31.1(137F)
KANSAS	Ks. Admin. Regs. 4-28-8
KENTUCKY	902 Ky. Admin. Regs. 45:005
LOUISIANA	La. Admin Code. tit. 51, pt. XXIII, § 101
MAINE	Me. Code Rules 10-144-200
MARYLAND	Md. Code Regs. 10.15.03.01
MASSACHUSETTS	105 Ma. Code Regs 590.001
MICHIGAN	Mi. Comp. Laws 289.6101
MINNESOTA	Mn. Rules 4626.0010
MISSISSIPPI	Ms. Code Regs. 15-013-752
MISSOURI	19 Mo. Code Regs. 20-1.025
MONTANA	Mt. Admin. Rules 37.110.261
NEBRASKA	Ne. Admin. Code 81-2245.01
NEVADA	Nv. Admin. Code 446.010
NEW HAMPSHIRE	N.H. Code Admin. Rules He-P 2304.01, 2304.06
NEW JERSEY	N.J. Admin. Code 8:24–1.5
NEW MEXICO	N.M. Admin. Code 7.6.2
NEW YORK	10 N.Y. Comp. Code Rules & Regs. 14-1.20
NORTH CAROLINA	15A N.C. Admin. Code 18A.2650, 2655
NORTH DAKOTA	N.D. Admin. Code 33-33-04-61
OHIO	Oh. Admin. Code 3717-1-01
OKLAHOMA	Ok. Admin. Code 310:257-1-2
OREGON	Or. Admin. Rules 603-025-0010

State	Food Codes
PENNSYLVANIA	7 Pa. Code 46.4, 46.212
RHODE ISLAND	R.I. Admin. Code 31-3-11:1-1
SOUTH CAROLINA	S.C. Code Regs. 61-25
SOUTH DAKOTA	S.D. Admin. Rules 44:02:07:01
TENNESSEE	Tn. Comp. Rules & Regs. 1200-23-01-.01
TEXAS	25 Tx. Admin. Code 229.161
UTAH	Ut. Admin. Code 70-530-1
VERMONT	Vt. Code Rules 13-140-018
VIRGINIA	12 Va. Admin. Code 5-421-10
WASHINGTON	Wa. Admin. Code 246-215-01100
WEST VIRGINIA	W.V. Code Rules 64-17-1
WISCONSIN	Wi. Admin. Code DHS 196.12
WYOMING	Wy. Code Rules 010-100-008

Table C: State Child Care Sanitation Regulations

The following table includes the child care sanitation regulations of six states. *Note*: Most citations below refer to the first section in the applicable regulation, rather than a specific drinking water provision.

State	Child Care Sanitation Regulations
ALASKA	7 Ak. Admin. Code 10.1000
COLORADO	6 Co. Code Regs. 1010-7:1-101
LOUISIANA	La. Admin Code. tit. 51, pt. XXI, § 101
NORTH CAROLINA	15A N.C. Admin. Code 18A .2801
WEST VIRGINIA	W.V. Code Rules 64-21-1
WYOMING	Wy. Code Rules 049-185-09

Table D: State Child Care Licensing Statutes and Regulations

The following table includes child care licensing regulations from every state. A small number of these states do not have drinking water standards or drinking water-related procedural requirements in their child care regulations. The table also includes child care statutes that have explicit drinking water provisions. *Note*: Most citations below refer to the first section in the applicable statute or regulation, rather than a specific drinking water provision.

State	Child Care Statutes and Regulations
ALABAMA	Al. Admin. Code 660-5-26-.01, 660-5-27-.01
ALASKA	7 Ak. Admin. Code 57.010
ARIZONA	Az. Admin. Code R9-5-101, R9-3-101
ARKANSAS	Ar. Code Rules 16-22-1-101, 016.22.4-101, 016.22.6-101
CALIFORNIA	Ca. Health & Safety Code 1596.70; 22 Ca. Code Regs. 101151
COLORADO	12 Co. Code Regs. 2509-8:7.707
CONNECTICUT	Ct. Agencies Regs. 19a-79-1a, 19a-87b-1
DELAWARE	9 De. Admin. Code 101-1.0
FLORIDA	Fl. Admin. Code 65C-20.008, 65C-22.001
GEORGIA	Ga. Comp. Rules & Regs. 290-2-1-.01, 290-2-3-.01, 591-1-1-.01
HAWAII	Hi. Code Rules 17- 892.1-1, 17-895-1, 17-891.1-1
IDAHO	Id. Code 39-1101; Id. Admin. Code 16.06.02.000
ILLINOIS	89 Il. Admin. Code 406.1, 407.40, 408.1
INDIANA	470 In. Admin. Code 3-1.1-0.5, 3-4.7-1
IOWA	Ia. Admin. Code 441-109.1(237A), 441- 110.1(237A)
KANSAS	Ks. Stat. 65-501; Ks. Admin. Regs. 28-4-113, 28-4-420
KENTUCKY	922 Ky. Admin. Regs. 2:100, 2:120, 2:180
LOUISIANA	La. Admin Code. tit. 67, pt. III, § 7301, 7355
MAINE	Me. Code Rules 10-148-32, 10-148-33, 10- 148-36
MARYLAND	Md. Code, Fam. Law 5-573; Md. Code Regs. 13A.15.01.01, 13A.16.01.01, 13A.17.01.01, 13A.18.01.01
MASSACHUSETTS	606 Ma. Code Regs. 7.01

State	Child Care Statutes and Regulations
MICHIGAN	Mi. Admin. Code 400.8101, 400.1901
MINNESOTA	Mn. Rules 9502.0315, 9503.0005
MISSISSIPPI	Ms. Code Regs. 15-11-55:1.1.1, 15-11-55:2.1.1
MISSOURI	19 Mo. Code Regs. 30-60.010, 30-61.010, 30- 62.010
MONTANA	Mt. Admin. Rules 37.95.201, 701
NEBRASKA	391 Ne. Admin. Code 1-001, 2-001, 3-001, 5- 001
NEVADA	Nv. Admin. Code 432A.010
NEW HAMPSHIRE	N.H. Code Admin. Rules He-C 4002.01
NEW JERSEY	N.J. Stat. 30:5B-5.5; N.J. Admin. Code 10:122–1.1, 10:126–1.1
NEW MEXICO	N.M. Code Rules 8.16.2.20, 8.16.2.30
NEW YORK	18 N.Y. Comp. Codes Rules & Regs. 416.1(1), 417.1(1), 418-1.1
NORTH CAROLINA	10A N.C. Admin. Code 9.1701
NORTH DAKOTA	N.D. Admin. Code 75-03-08-01, 75-03-09-01, 75-03-10-01, 75-03-11-01
OHIO	Oh. Admin. Code 5101:2-12-01, 5101:2-13-01, 5101:2-14-01
OKLAHOMA	Ok. Admin. Code 340:110-3-1, 340:110-3-35, 340:110-3-80
OREGON	Or. Admin. Rules 414-205-0000, 414-300-0000, 414-350-0000
PENNSYLVANIA	55 Pa. Code 3270.1, 3280.1, 3290.1
RHODE ISLAND	R.I. Code Rules 03 000 016, 03 000 018, 03 000 019
SOUTH CAROLINA	S.C. Code Regs. 114-500, 114-510, 114-520
SOUTH DAKOTA	S.D. Admin. Rules 67:42:03:01, 67:42:11:01
TENNESSEE	Tn. Comp. Rules & Regs. 1240-04-01-.01, 1240-04-03-.01, 1240-04-04-.01
TEXAS	40 Tx. Admin. Code 746.101, 747.101
UTAH	Ut. Admin. Code 430-100
VERMONT	Vt. Code Rules 12-3-101:1, 12-3-102:1, 12-3-103:1
VIRGINIA	22 Va. Admin. Code 40-111-10, 40-185-10

State	Child Care Statutes and Regulations
WASHINGTON	Wa. Admin. Code 170-295-0001, 170-296A-0001
WEST VIRGINIA	W.V. Code Rules 78-1-1, 78-19-1
WISCONSIN	Wi. Admin. Code DCF 202.01, 250.01, 251.01
WYOMING	Wy. Code Rules 049-185-06, 049-185-07, 049-185-08