

## Environments and Contaminants

### Drinking Water Contaminants

Table E7: Estimated percentage of children ages 0 to 17 years served by community water systems that did not meet all applicable health-based drinking water standards, 1993-2017

1993-1998						
Type of standard violated	1993	1994	1995	1996	1997	1998
Any health-based standard	17.9	14.5	10.4	9.4	9.2	8.2
Total coliforms	9.3	7.7	4.0	4.2	3.5	2.9
Surface water treatment <sup>#</sup>	6.0	5.2	3.7	3.2	3.0	2.6
Lead and copper <sup>†</sup>	2.8	1.8	2.1	1.9	1.9	1.7
Chemical and radionuclide	0.8	0.7	1.2	0.8	1.0	0.9
Nitrate/nitrite	0.2	0.1	0.2	0.2	0.4	0.7
1999-2004						
Type of standard violated	1999	2000	2001	2002	2003	2004
Any health-based standard	7.5	8.2	4.9	10.5	8.0	8.3
Total coliforms	3.1	3.1	2.1	2.5	3.0	3.4
Surface water treatment <sup>#</sup>	2.2	3.0	1.1	4.8	1.4	1.4
Disinfectants and disinfection byproducts	NA <sup>‡</sup>	NA <sup>‡</sup>	NA <sup>‡</sup>	1.4	2.7	2.4
Lead and copper <sup>†</sup>	1.6	1.2	1.1	0.8	0.7	0.9
Chemical and radionuclide	0.7	0.7	0.6	0.7	0.7	1.0
Nitrate/nitrite	0.3	0.6	0.2	0.6	0.3	0.1
2005-2010						
Type of standard violated	2005	2006	2007	2008	2009	2010
Any health-based standard	11.1	10.2	7.7	6.3	7.2	7.5
Total coliforms	3.3	2.7	2.4	2.3	2.5	2.4
Surface water treatment <sup>#</sup>	4.3	4.0	2.5	1.2	1.9	2.7
Disinfectants and disinfection byproducts	2.1	1.6	1.4	1.4	1.3	1.3
Lead and copper <sup>†</sup>	0.8	0.6	0.4	0.5	0.8	0.3
Chemical and radionuclide	0.9	1.2	1.1	1.0	1.1	0.8
Nitrate/nitrite	0.1	0.5	0.2	0.1	0.1	0.1
2011-2016						
Type of standard violated	2011	2012	2013	2014	2015	2016
Any health-based standard	4.9	7.9	6.7	7.4	8.7	5.1
Total coliforms	2.4	2.3	2.7	3.7	3.0	0.3
Surface water treatment <sup>#</sup>	0.6	3.7	0.9	0.6	1.3	0.9
Disinfectants and disinfection byproducts	1.1	1.1	2.4	2.7	3.6	2.9
Lead and copper <sup>†</sup>	0.2	0.2	0.3	0.2	0.2	0.2
Chemical and radionuclide	0.8	0.6	0.5	0.4	0.3	0.3
Nitrate/nitrite	0.1	0.1	0.1	0.0	0.5	0.5

2017	
Type of standard violated	2017
Any health-based standard	6.2
Total coliforms	0.4
Surface water treatment <sup>#</sup>	3.1
Disinfectants and disinfection byproducts	2.0
Lead and copper <sup>†</sup>	0.2
Chemical and radionuclide	0.3
Nitrate/nitrite	0.1

DATA: U.S. Environmental Protection Agency, Office of Water, Safe Drinking Water Information System Federal Version

<sup>#</sup> “Surface water treatment” includes violations of the Surface Water Treatment Rule and of the Interim Enhanced Surface Water Treatment Rule.

<sup>†</sup> Lead and copper represents the lead and copper rule, which is a set of standards and implementation measures.

<sup>‡</sup> The standard for disinfectants and disinfection byproducts was first implemented in 2002.

NOTE: A new standard for disinfection byproducts was implemented beginning in 2002 for larger drinking water systems and 2004 for smaller systems.<sup>1</sup> Revisions to the standard for surface water treatment took effect in 2002.<sup>2</sup> A revised standard for radionuclides went into effect in 2003.<sup>3</sup> A revised standard for arsenic went into effect in 2006.<sup>4</sup> Revisions to the Total Coliform Rule took effect in 2016. No other revisions to the standards have taken effect during the period of trend data.

**Table E8: Estimated percentage of children ages 0 to 17 years served by community water systems with violations of drinking water monitoring and reporting requirements, 1993-2017**

1993-1998						
Type of standard violated	1993	1994	1995	1996	1997	1998
Any violation	17.9	13.4	11.5	10.4	9.9	15.0
Chemical and radionuclide	6.4	5.2	5.1	4.3	3.6	5.6
Lead and copper	6.3	3.7	3.0	3.5	3.9	6.5
Total coliforms	5.5	5.7	4.4	3.7	3.6	3.9
Surface water treatment <sup>#</sup>	1.8	1.1	0.4	0.3	0.3	0.3
1999-2004						
Type of standard violated	1999	2000	2001	2002	2003	2004
Any violation	14.5	13.6	14.7	17.7	16.1	18.0
Chemical and radionuclide	5.3	4.4	5.1	6.5	5.7	6.8
Lead and copper	6.5	7.0	6.0	5.8	5.9	6.3
Total coliforms	3.5	3.0	4.4	2.7	4.3	4.1
Disinfectants and disinfection byproducts	NA <sup>‡</sup>	NA <sup>‡</sup>	NA <sup>‡</sup>	1.8	1.6	5.8
Surface water treatment <sup>#</sup>	0.8	0.4	0.3	3.0	2.7	2.2
2005-2010						
Type of standard violated	2005	2006	2007	2008	2009	2010
Any violation	20.6	19.5	21.4	20.4	16.3	16.1
Chemical and radionuclide	6.4	7.7	8.3	7.0	6.7	6.3
Lead and copper	6.8	6.9	6.6	6.6	3.2	3.6
Total coliforms	4.3	4.1	4.4	4.1	2.5	2.8
Disinfectants and disinfection byproducts	5.3	4.3	5.6	4.6	5.1	4.5
Surface water treatment <sup>#</sup>	3.4	2.3	1.9	2.3	1.1	4.0
2011-2015						
Type of standard violated	2011	2012	2013	2014	2015	2016
Any violation	16.3	17.9	17.9	20.2	18.4	19.8
Chemical and radionuclide	7.1	5.4	3.7	4.3	3.5	3.1
Lead and copper	3.8	3.9	5.5	6.0	7.0	7.2
Total coliforms	2.2	2.4	2.4	3.4	2.7	3.1
Disinfectants and disinfection byproducts	3.7	4.6	5.8	7.4	5.4	4.5
Surface water treatment <sup>#</sup>	3.7	5.4	1.8	2.2	2.0	4.0
2017						
Type of standard violated	2017					
Any violation	12.0					
Chemical and radionuclide	0.8					
Lead and copper	4.6					
Total coliforms	2.4					
Disinfectants and disinfection byproducts	3.3					
Surface water treatment <sup>#</sup>	1.3					

DATA: U.S. Environmental Protection Agency, Office of Water, Safe Drinking Water Information System Federal Version

<sup>#</sup> "Surface water treatment" includes violations of the Surface Water Treatment Rule and of the Interim Enhanced Surface Water Treatment Rule.

‡ The standard for disinfectants and disinfection byproducts was first implemented in 2002.

NOTE: A new standard for disinfection byproducts was implemented beginning in 2002 for larger drinking water systems and 2004 for smaller systems.<sup>1</sup> Revisions to the standard for surface water treatment took effect in 2002.<sup>2</sup> A revised standard for radionuclides went into effect in 2003.<sup>3</sup> A revised standard for arsenic went into effect in 2006.<sup>4</sup> Revisions to the Total Coliform Rule took effect in 2016. No other revisions to the standards have taken effect during the period of trend data.