

# EARLY ADOPTERS

## State Approaches to Testing School Drinking Water for Lead in the United States



### STATE PROFILE **Vermont**

#### **Summary of Program Features**

Vermont initiated a school drinking water lead testing program in 2017. This summary is based on a review of program documents collected between January 2018 – June 2018 and communication with Vermont state contacts.

# School Drinking Water Testing Policy/Program Overview

Policy/Program Feature	Information from Policy/ Program Documents	Additional Information from Communication with State
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## Background

<b>Name</b>	Lead in School Drinking Water Initiative <sup>1</sup>	
<b>Date(s) of Water Policy/Program</b>	2017 to 2018 <sup>1</sup>	
<b>Issuing Authority</b>	State government department <sup>1</sup>	
<b>Agency Responsible for Program Management</b>	Vermont Department of Health <sup>1</sup>	Vermont Department of Health and Vermont Department of Environmental Conservation <sup>2</sup>
<b>Policy or Program</b>	Program <sup>1</sup>	
<b>One-time or Surveillance Program</b>	One-time <sup>1</sup>	
<b>Mandatory/Voluntary for Schools</b>	Voluntary <sup>1</sup>	
<b>Partnership with Local/Community Water Supplier/System</b>	Yes, encouraged <sup>1,3</sup>	
<b>Other Key Partnerships</b>	Not specified	Vermont Agency of Education <sup>1,2</sup>
<b>References or Uses the EPA 3Ts</b>	Yes <sup>1,3</sup>	

## Program Coverage

<b>School Type (Public, private, charter)</b>	Not specified	Public <sup>2</sup>
<b>Grade Levels</b>	Not specified	Elementary School (all schools contained at a minimum a pre-Kindergarten or Kindergarten, some schools went to grade 12) <sup>2</sup>
<b>Includes Testing for Lead</b>	Yes <sup>1</sup>	
<b>Includes Treatment/Remediation</b>	Yes <sup>1</sup>	
<b>Schools Eligible to Participate</b>		
<b>Schools of a certain building age</b>	Not specified	
<b>Schools that serve certain ages/demographics</b>	Not specified	Yes, elementary schools (all schools contained at a minimum a pre-Kindergarten or Kindergarten) <sup>2</sup>
<b>Schools that are their own local/community water supplier</b>	Not specified	No <sup>2</sup>
<b>Schools that use local/community water supplier</b>	Not specified	Yes <sup>2</sup>
<b>Schools that have not received a waiver</b>	Not specified	

## Funding

<b>Funding Source</b>	State government <sup>1</sup>	
<b>Funding Amount</b>	Not specified	
<b>Covers Sampling at Taps</b>	Yes <sup>1</sup>	
<b>Covers Testing in Lab</b>	Yes <sup>1</sup>	
<b>Covers Treatment/Remediation</b>	No <sup>1</sup>	

# Sampling Information

Policy/Program Feature	Information from Policy/Program Documents	Additional Information from Communication with State
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## Background

<b>Sampling/Testing Process One-Time or Recurring</b>	Not specified	One-time <sup>2</sup>
<b>Number of Buildings/Facilities Sampled (All or a Portion?)</b>	Not specified	A portion (16 buildings) <sup>2</sup>
<b>Types of Taps Sampled</b>	Drinking, cooking <sup>1,3</sup> and other (classroom sinks) <sup>3</sup>	Drinking and cooking <sup>1,2</sup>
<b>Number of Taps Sampled Per School/ Building (All or a Portion?)</b>	A portion (each tap used for drinking or cooking) <sup>1</sup>	

## Initial Sampling at Taps

<b>Stagnation Period</b>	8 to 18 hours <sup>1,3</sup>	
<b>First Draw</b>	Yes <sup>1,3</sup>	
<b>Flushing Period</b>	30 seconds <sup>1,3</sup>	
<b>Second Draw (Flushed Sample)</b>	Yes <sup>1,3</sup>	
<b>Additional Initial Samples</b>	Not specified	
<b>Sample Size of Water</b>	250 mL <sup>1,3</sup>	
<b>Action Level for Lead</b>	15 ppb <sup>1,3</sup>	15 ppb, * Vermont Health Advisory of 1 ppb <sup>2</sup>

## Action Required When Samples Exceed Action Level for Lead

<b>Follow-Up Draws</b>	Yes, if initial results are elevated <sup>3</sup>	
<b>Flushing Period</b>	Not specified	30 seconds <sup>2</sup>
<b>Sample Size of Water</b>	250 mL <sup>1,3</sup>	
<b>Additional Draws</b>	Yes, after remediation <sup>1</sup>	

\*Action level used for further analysis in Early Adopters study

## Testing/Remediation/Communication Information

Policy/Program Feature	Information from Policy/Program Documents	Additional Information from Communication with State
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### Testing

<b>Type of Lab Used for Testing</b>	Certified lab, <sup>1,3</sup> or state lab <sup>1</sup>	
<b>Sample(s) that Require Action if Results are Elevated</b>	Not specified	

### Remediation

<b>Short-Term Measures</b>	Yes, EPA-approved measures are listed <sup>1,3</sup>	
<b>Long -Term Measures</b>	Yes, EPA-approved measures are listed <sup>3</sup>	

### Communication

<b>Groups Notified of Test Results</b>	School staff and parents <sup>3</sup>	School staff, parents and water system operator <sup>2</sup>
<b>Type of Results Shared (outlet level, building level, school level)</b>	Not specified	Outlet level <sup>1,2</sup>

### Sources:

1. Vermont Department of Health. Lead in School Drinking Water. HealthVermont.Gov. <http://www.healthvermont.gov/environment/school/lead-school-drinking-water>. Accessed April 16, 2018.
2. Communication with Vermont Department of Health Contact. June 2018.
3. Vermont Department of Health. 3Ts for Reducing Lead in Drinking Water in Schools: Vermont Summary. October 2017. [http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV\\_HS\\_Lead\\_VTSummaryEPA3Ts.pdf](http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_HS_Lead_VTSummaryEPA3Ts.pdf). Accessed April 16, 2018.

## Other Highlights of Vermont's Lead in School Drinking Water Initiative

As a result of this initiative, 19 additional schools have inquired about how to test their school drinking water for lead and six of them have already done so using their own resources.<sup>2</sup>

# Summary of Water Test Results

This report features data collected through Vermont's Lead in School Drinking Water Initiative of 2017. Data provided by the state program in April 2018 documented findings from 895 drinking water samples that were collected from 16 organizations that the state invited to participate in the program. The state's program was ongoing through 2018. While many states may collect water quality data from a number of organizations, this state profile is focused on water quality testing completed in public schools serving grades pre-Kindergarten (PK)-12. Summary results reported in this state profile may differ from those reported by the state program due to differences in the types of organizations included and/or the period of test results covered.

## Table 1: Vermont's Lead in School Drinking Water Initiative Results Summary

In Vermont, the level of lead found in a drinking water sample that warrants action, or the "action level," is 15 ppb for a water sample of 250mL. This summary describes "first draw" samples taken in Vermont's Lead in School Drinking Water Initiative. The "first draw" is a sample that is taken from the tap as soon as the water is turned on. Additional "draws" may be taken according to the state's procedures.

In Vermont, data were reported by fixture. Each school reported the date and time of collection, building name, location of fixture, and the result from the draw.

- ◇ In Vermont, thirty-three percent (33%) of public schools serving grades PK-12 and participating in the program had one or more draws at or above the state's action level for lead.
- ◇ In Vermont, three percent (3%) of first draw samples tested from participating public schools serving grades PK-12 had a lead content that was at or above the state's action level for lead.

	All schools providing drinking water quality testing results	Public schools serving grades PK-12 providing drinking water lead testing results*
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### School-Level Summary

Number of schools with test result for lead	16	15
Average (min/max) number of samples taken at each school	55.9 (11, 156)	58.4 (11, 156)
Number (%) of schools with one or more samples at or above the State's "action level"	5 (31%)	5 (33%)

### Outlet/Tap-Level Summary

Number of samples	895	876
Number (%) of samples at or above the State's "action level"	27 (3%)	27 (3%)

\* See table 3 for characterization of schools



## Additional Details on Findings from Vermont

### School Eligibility for Vermont's Lead in School Drinking Water Initiative

Eligible schools according to available program documents:

- ◇ Public schools serving grades PK – 12 (elementary schools; all schools contained at a minimum a PK or K) that were selected to participate in program
- ◇ Schools that use a community water source

Excluded schools:

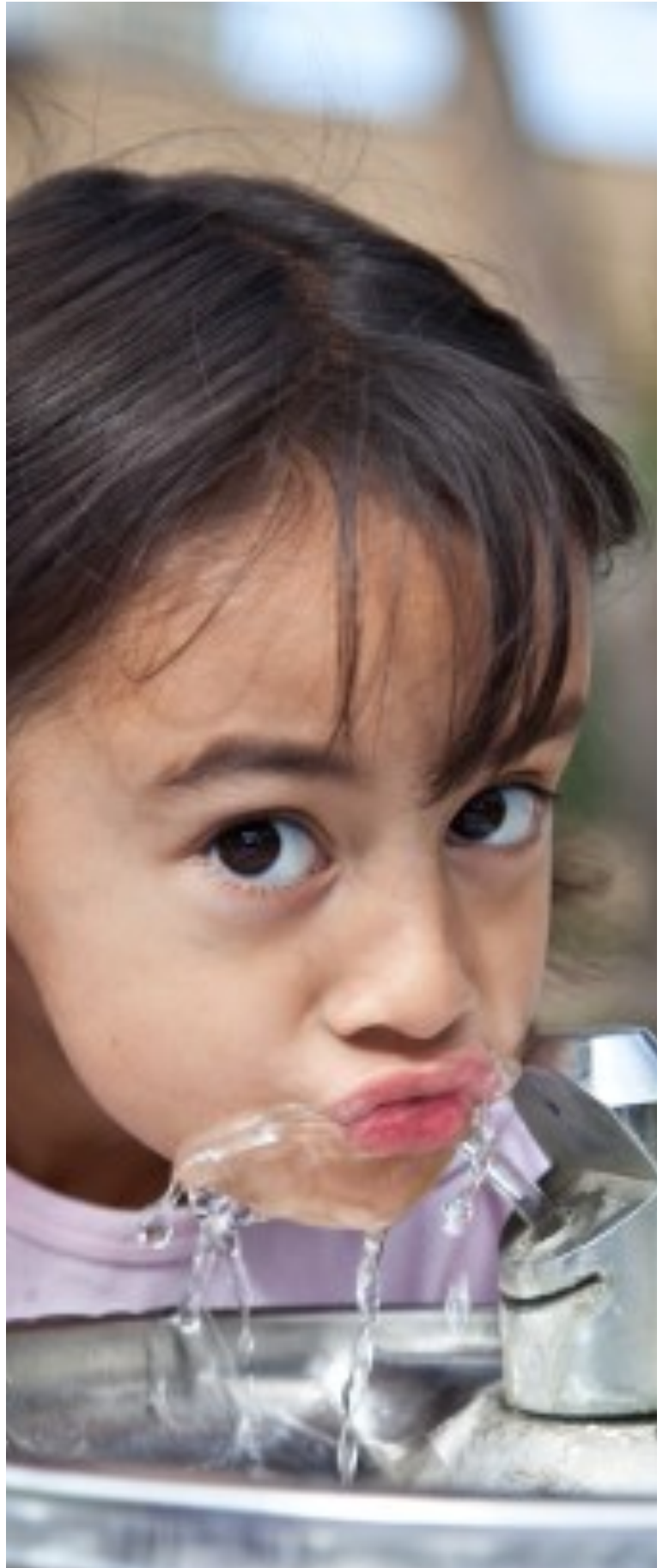
- ◇ Schools that are their own community water source

### Characteristics of Schools in the Vermont's Lead in School Drinking Water Initiative

The National Center for Educational Statistics (NCES) is the primary federal entity for collecting and analyzing educational data in the United States. Each year, the NCES reports a directory of all public schools in the United States and their characteristics in the Common Core of Data.

In order to better understand the characteristics of schools that were being served by Vermont's Lead in School Drinking Water Initiative, we matched demographic data on the schools and students available in the NCES Common Core of Data (2015-2016) school directory to the schools present in the data available from the state's drinking water testing program. We matched these schools using the school and district names and other public data sources.

We identified 15 Vermont schools with drinking water lead testing results provided by the Vermont's Lead in School Drinking Water Initiative that were also present in the 2015-2016 NCES Common Core of Data. These 15 schools represent 94% of the 16 schools serving grades PK-12 that had drinking water lead testing results reported in the state program data.



**Table 2: Number and Types of Organizations Represented in Vermont's Lead in School Drinking Water Initiative Data<sup>1</sup>**

Type of Organization	Number	Category Definition
<b>Schools Serving Grades PK-12</b>	<b>16</b>	<b>Sum of all school types serving grades PK-12</b>
<b>Public schools serving grades PK-12 (including public charter), with identifiable school characteristics</b>	15	All public schools with grades PK-12, including public charter schools, with identifying information in the national census of public schools (National Center for Education Statistics (NCES) Common Core of Data, 2015-2016)
<b>Other public schools serving grades PK-12, without identifiable school characteristics</b>	1	All other public schools with grades PK-12, including public charter schools, without identifying information in the national census of public schools (NCES Common Core of Data, 2015-2016)
<b>Total number of organizations where data were collected</b>	<b>16</b>	<b>Total number of organizations where data were collected as of April 2018</b>

1. Vermont schools with drinking water lead test results provided by the Vermont program were matched to the 2015-2016 NCES Common Core of Data database using school and district names and other information provided by Vermont's Lead in School Drinking Water Initiative data or other public data sources (i.e., state school directory, school district websites)

## Characteristics of Public Schools in Vermont Serving Grades PK-12

In Vermont,

- ◇ Sixteen public schools serving grades PK-12 were invited to participate in the state's drinking water testing program.
- ◇ There are 223 public schools serving grades PK-12, according to the National Center for Education Statistics Common Core of Data 2015-2016.
- ◇ Of these, 15 (7%) schools had lead testing findings that were collected via Vermont's Lead in School Drinking Water Initiative schools as of April 2018. These 15 schools represent 11% of Vermont's PK-12 students.

**Table 3: Number and Characteristics of Vermont Public Schools Serving Grades PK-12 (NCES Common Core of Data 2015-16)<sup>1</sup>**

	Schools Eligible to Participate in Vermont's Lead in School Drinking Water Initiative <sup>1</sup>	Schools with Drinking Water Lead Test Results (2017 to April 2018 ) <sup>2,3</sup>
<b>NUMBER OF SCHOOLS<sup>2</sup></b>	223	15 (7%)
<i>School-Level<sup>4</sup></i>		
<b>Primary</b>	223 (100%)	15 (100%)
<b>Middle</b>	0	0
<b>High</b>	0	0
<i>Metro Status/Locale<sup>4</sup></i>		
<b>City</b>	9 (4%)	0
<b>Suburban</b>	10 (4%)	0
<b>Town</b>	30 (13%)	7 (47%)
<b>Rural</b>	174 (78%)	8 (53%)
<b>NUMBER OF STUDENTS IN GRADES PK-12</b>	51,739	5,803 (11%)
<i>Number (%) of students eligible for free or reduced price meals</i>	21,200 (41%)	3,299 (57%)
<i>Number (%) students by race and ethnicity<sup>4</sup></i>		
<b>White</b>	47,333 (91%)	5,260 (91%)
<b>Black</b>	876 (2%)	73 (1%)
<b>Asian</b>	833 (2%)	49 (1%)
<b>Hispanic</b>	889 (2%)	152 (3%)
<b>Hawaii Native/Pacific Islander</b>	36 (<1%)	4 (<1%)
<b>American Indian/Alaska Native</b>	67 (<1%)	4 (<1%)
<b>Two or More Races</b>	1,705 (3%)	261 (4%)

1. Public schools and their characteristics were identified using the National Center for Education Statistics Common Core of Data 2015-2016, Public Elementary/Secondary School Universe Survey Data, downloaded March 22, 2018 from <https://nces.ed.gov/ccd/pubschuniv.asp>.
2. Only schools identified in the 2015-2016 NCES Common Core of Data database are included here.
3. Vermont schools with drinking water lead test results provided by the Vermont program were matched to the 2015-2016 NCES Common Core of Data database using school and district names and other information provided by Vermont's Lead in School Drinking Water Initiative data or other public data sources (i.e., state school directory, school district websites).
4. Percentages may not add up to exactly 100% due to rounding.

### Citation:

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