

The Centers for Disease Control and Prevention (CDC) works with state and local education and health agencies to assess school health policies and practices in states, large urban school districts, and US territories through the School Health Profiles.<sup>1</sup> Data on epilepsy for 2014 indicate that, across the states:

- The percentage of secondary schools that had a lead health education teacher who received professional development on epilepsy or seizure disorder in the past 2 years ranged from 9.1% to 38.3% (median: 18.2%).
- The percentage of secondary schools that had a lead health education teacher who wanted professional development on epilepsy or seizure disorder ranged from 32.9% to 71.7% (median: 49.0%).

# School Health Policies and Practices Brief: Epilepsy and Seizure Disorder



## Introduction

The term *epilepsy* is a broad term used for conditions that affect the brain and cause recurring seizures. About 0.6% of children aged 0 to 17 years have active epilepsy in the United States.<sup>2</sup> In 2013, that was about 460,000 children.<sup>3</sup> If you picture a school with 1,000 students, about 6 students would have epilepsy. For many children, epilepsy is easily controlled with medication, and they can participate in the same activities as other children and perform as well academically. For others, this condition can be more challenging. Early detection, intervention, and access to supportive services may prevent academic problems in children with epilepsy or seizure disorder.<sup>4</sup>

A 2015 CDC study, based on 2009–2010 national data, found that 36% of students aged 6 to 17 years with epilepsy were more likely to have missed 11 or more days of school in the past year, compared with 18% of students with other health concerns.<sup>4</sup> Students with epilepsy were also more likely to have difficulties in school (such as problems communicating), use special education services, and have activity limitations (such as less participation in sports or clubs) compared with students with other medical conditions, such as autism or intellectual disability.

CDC also found that, compared with those without the disorder, a larger percentage of children with epilepsy lived in very low income households (below 200% of the federal poverty level). This finding suggests that families of children with epilepsy may have unmet needs.<sup>4</sup> In addition, children and adolescents with epilepsy have been shown to have an additional \$9,100 a year in associated medical costs than those without the disorder.<sup>5</sup>



*“Because young people attend school about six hours a day, approximately 180 days per year, schools are in a unique position to help improve the health status of children and adolescents throughout the United States.”*

—*School Health Profiles 2014: Characteristics of Health Programs Among Secondary Schools*<sup>6</sup>

## School Health Profiles

CDC has collaborated with state and local education and health agencies to implement the **School Health Profiles** (known as Profiles) biennially since 1996. Profiles is a system of surveys that collect information from principals and lead health education teachers in middle and high schools (referred to as secondary schools in Profiles) in each state, selected large urban school districts, US territories, and tribes.

Data from Profiles help education and health agencies assess and monitor characteristics of and trends in school health education, physical education and physical activity, school health policies, school-based health services, family engagement, community involvement, and school health coordination.

Schools were asked to provide information related to epilepsy or seizure disorder for the first time in the 2014 Profiles. Principals and lead health education teachers in middle and high schools were asked if they had participated in the following activities for multiple chronic health conditions (e.g., asthma, diabetes), including epilepsy or seizure disorder:

- Tried to increase student knowledge on specific health-related topics in a required course during the 2013–2014 school year.
- Provided professional development (e.g., workshops, conferences, continuing education, other in-service training) for the lead health education teacher on specific topics.
- Wanted to receive additional professional development for the lead health education teacher.
- Provided referrals to any organizations or health care professionals not on school property (including referrals to school-based health centers, even if they were located on school property) for students diagnosed with or suspected to have selected chronic conditions.
- Used school records to identify and track students with a current diagnosis of selected chronic conditions.

This document, *School Health Profiles and Practices Brief: Epilepsy and Seizure Disorder*, highlights the epilepsy-related data from the 2014 Profiles and shares resources for schools, parents, and communities. For more information about the sampling strategies and the data collection and analysis methods used for Profiles, see the Technical Information section at the end of this document. For full details and results of the 2014 Profiles, see the ***School Health Profiles 2014: Characteristics of Health Programs Among Secondary Schools*** report.

## What Do the Data Tell Us?

States and large urban school districts varied widely in their responses to the questions related to epilepsy or seizure disorder in the 2014 Profiles. The table below provides responses from large urban school districts for selected questions. For state-specific information, see Figures 1–4.

SCHOOL DISTRICT	PERCENTAGE OF SECONDARY SCHOOLS:			
	In which teachers tried to increase student knowledge on epilepsy or seizure disorder in a required course during the 2013–2014 school year	In which the lead health education teacher received professional development on epilepsy or seizure disorder during the 2 years before the survey	In which the lead health education teacher wanted to receive professional development on epilepsy or seizure disorder	That provide referrals to any organizations or health care professionals not on school property for students diagnosed with or suspected to have epilepsy or seizure disorder <sup>a</sup>
Baltimore, MD	32.6	22.0	63.5	78.4
Boston, MA	16.5	22.3	51.2	86.3
Broward County, FL	47.7	30.1	65.1	46.5
Chicago, IL	33.7	36.5	72.5	67.3
Cleveland, OH	17.7	11.1	50.1	38.8
DeKalb County, GA	51.5	25.3	85.1	30.3
Detroit, MI	52.0	32.6	81.4	52.5
District of Columbia	29.9	27.0	72.8	72.0
Duval County, FL	54.3	21.3	63.8	40.0
Fort Worth, TX	35.5	20.6	64.5	73.5
Houston, TX	51.2	37.6	82.3	73.0
Los Angeles, CA	40.7	10.7	65.8	87.2
Miami, FL	37.1	17.6	63.1	52.9
Oakland, CA	17.8	20.9	47.4	69.6
Orange County, FL	28.1	7.6	48.8	42.4
Philadelphia, PA	26.4	21.8	74.2	75.3
San Diego, CA	16.1	24.1	22.4	86.2
San Francisco, CA	25.2	26.3	54.5	93.4
Shelby County, TN	45.2	46.1	72.8	58.6
<b>Median<sup>b</sup></b>	<b>33.7</b>	<b>22.3</b>	<b>64.5</b>	<b>69.6</b>

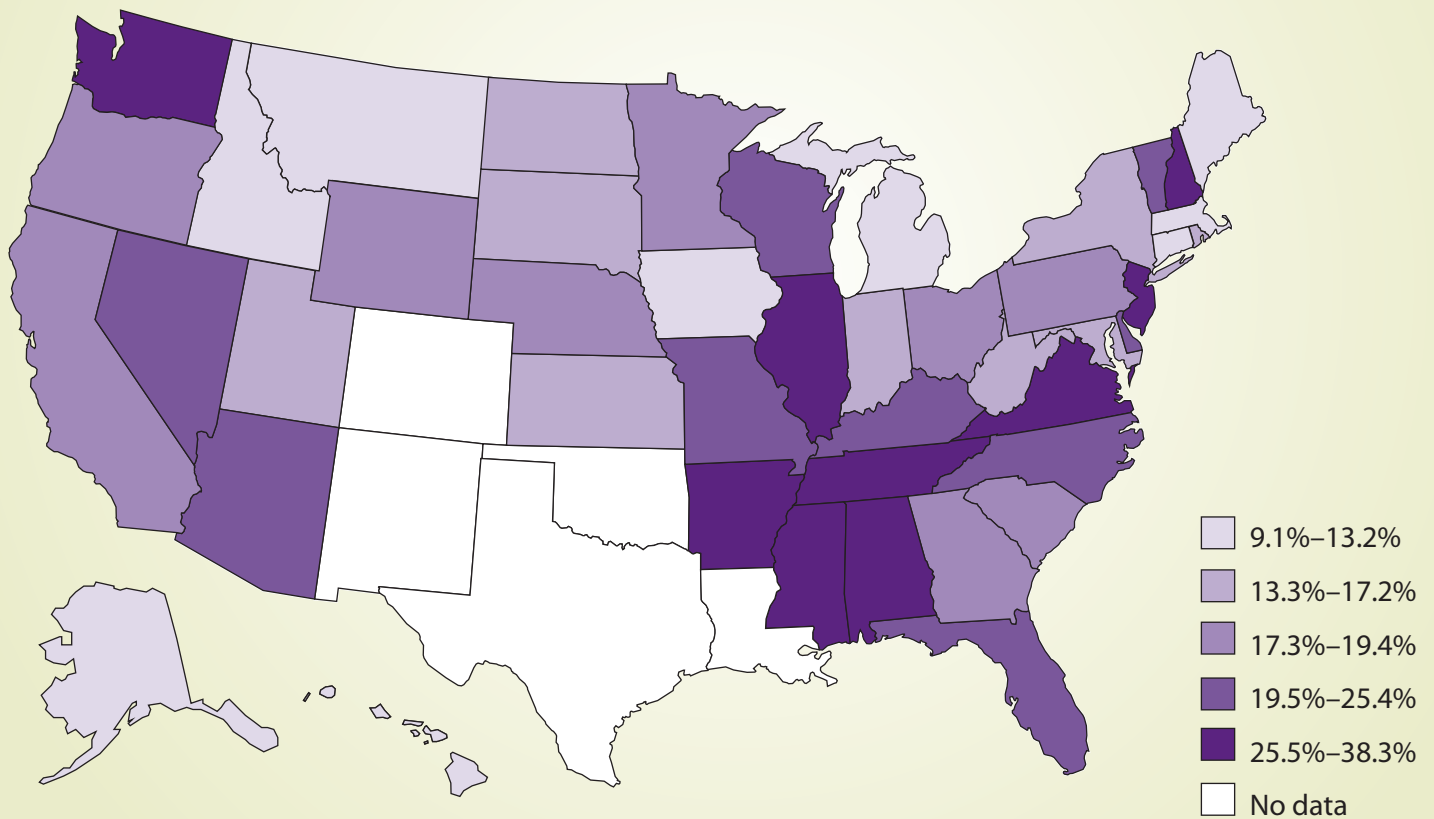
<sup>a</sup> This question included referrals to school-based health centers, including those located on school property.

<sup>b</sup> The median is calculated by sorting the data from lowest to highest value, and then identifying a middle value at which half of the numbers are larger and half are smaller than the middle point.



## Professional Development Received

Figure 2. Percentage of secondary schools in which the lead health education teacher received professional development on epilepsy or seizure disorder during the 2 years before the survey, 2014 School Health Profiles



### Teachers Receiving Professional Development

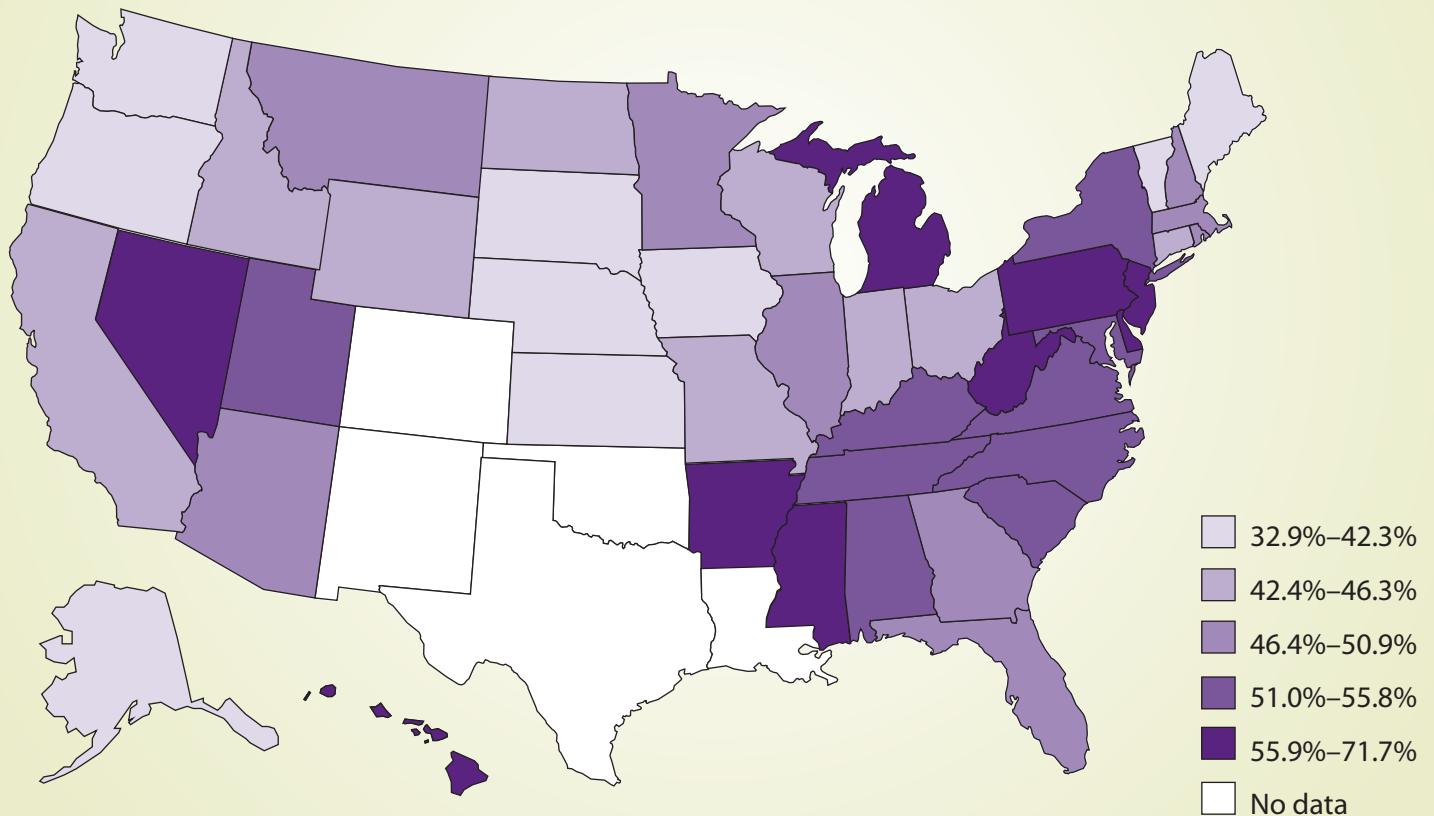
- Across states, responses to the Profiles survey question about professional development received ranged from 9.1% in Maine to 38.3% in Tennessee (median: 18.2%; see Figure 2). Across large urban school districts, responses ranged from 7.6% in Orange County, Florida, to 46.1% in Shelby County, Tennessee (median: 22.3%; see Table).

Professional development is a critical tool that can help school staff maintain the knowledge, abilities, skills, and attitudes they need to teach most effectively. Lead health education teachers may receive professional development in the form of workshops, conferences, continuing education, or other in-service training on a variety of health topics.



## Professional Development Wanted

Figure 3. Percentage of secondary schools in which the lead health education teacher wanted to receive professional development on epilepsy or seizure disorder, 2014 School Health Profiles



### Teachers Wanting Professional Development

- Across states, responses to the Profiles survey question about professional development wanted ranged from 32.9% in Oregon to 71.7% in Mississippi (median: 49.0%; see Figure 3). Across large urban school districts, responses ranged from 22.4% in San Diego, California, to 85.1% in DeKalb County, Georgia (median: 64.5%; see Table).

Teachers' reasons for wanting more training (e.g., more students with a particular condition, lack of available training programs) are unknown because the 2014 Profiles did not collect this contextual information.

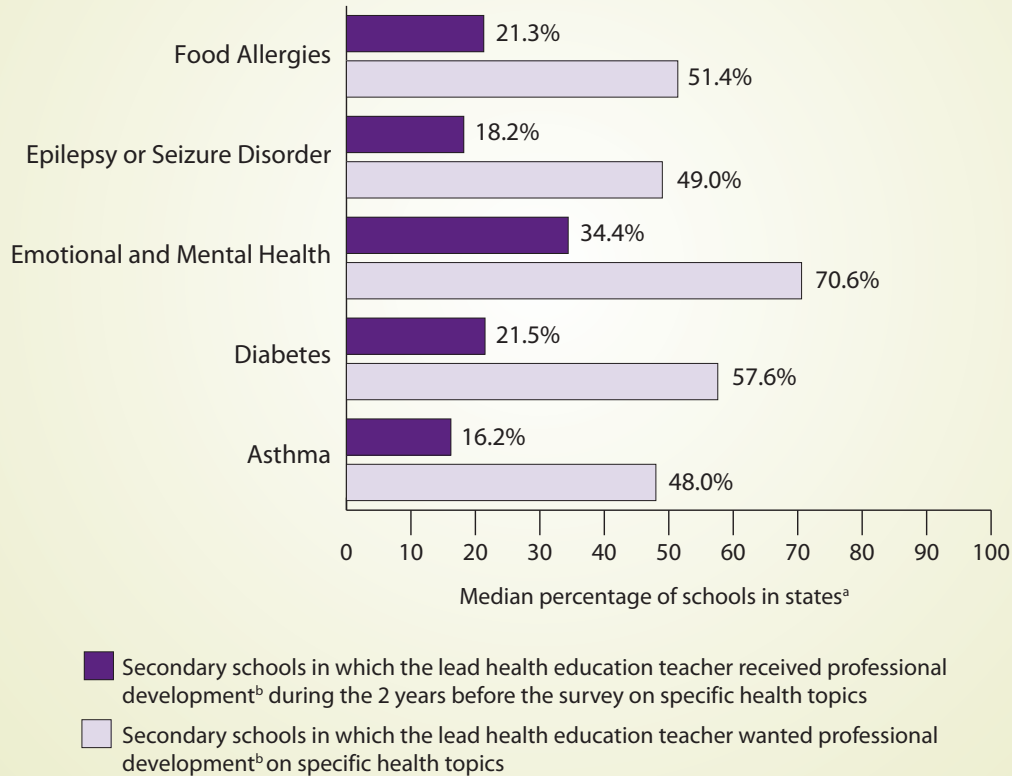
#### RESOURCE

The Epilepsy Foundation used CDC funds to develop a program called **Seizure Training for School Personnel**. This program gives teachers and other school staff the knowledge and skills to recognize seizures, respond with appropriate first aid, and understand the effect seizures have on students. This program is for staff working in elementary, middle, and high schools, including teachers, administrators, cafeteria workers, security guards, custodians, and other staff members who may come in contact with students.

## Professional Development

Figure 4 shows that the percentage of lead health education teachers receiving and wanting professional development was similar for epilepsy or seizure disorder compared with other chronic health conditions, notably asthma, diabetes, and food allergies.

Figure 4. Comparison of lead health education teacher training received and wanted for selected conditions, 2014 School Health Profiles



<sup>a</sup> See Figures 2 and 3 for state-specific responses for epilepsy or seizure disorder.

<sup>b</sup> Examples include workshops, conferences, continuing education, or other in-service training.

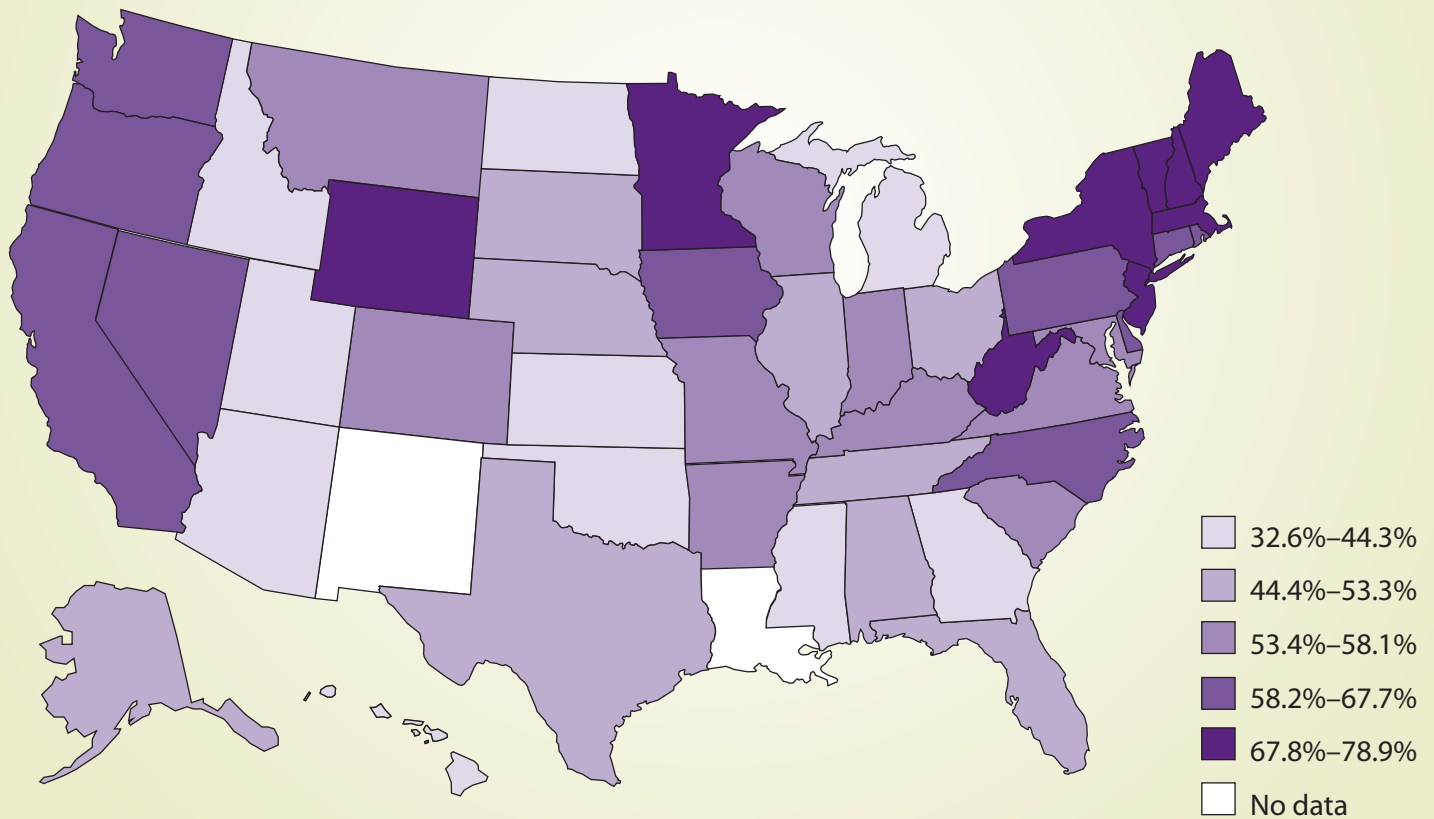


## Schools Tracking Students with Epilepsy or Seizure Disorder

The 2014 Profiles also examined the percentage of schools that routinely identified and tracked students with a current diagnosis of selected conditions. For epilepsy or seizure disorder, responses across states ranged from 74.9% in Alaska to 99.0% in New Jersey and North Carolina (median: 96.7%; complete data not shown). Across large urban school districts, responses ranged from 82.7% in Oakland, California, to 100.0% in Fort Worth, Texas (median: 94.1%; complete data not shown).

## Referrals

Figure 5. Percentage of secondary schools that provided referrals to any organizations or health care professionals not on school property (including referrals to school-based health centers, even if they were located on school property) for students diagnosed with epilepsy or seizure disorder, 2014 School Health Profiles



### Schools Providing Referrals

- Across states, responses to this Profiles survey question ranged from 32.6% in Hawaii to 78.9% in Vermont (median: 56.0%; see Figure 5). Across large urban school districts, responses ranged from 30.3% in DeKalb County, Georgia, to 93.4% in San Francisco, California (median: 69.6%; see Table).
- Organizations and health care professionals in surrounding communities can address health, mental health, and social service gaps that schools might not have the resources or expertise to address adequately.

### RESOURCES

Schools, parents, and other stakeholders can contact the [Epilepsy Foundation](#) to find out about community services and resources related to epilepsy in their local area. CDC's [School Health Index: A Self-Assessment and Planning Guide](#) offers suggestions to schools on how to use a systematic approach to refer students to school- or community-based health services, as needed.



## Taking Action

The data in this brief provide a snapshot of the percentage of secondary schools in states and large urban school districts that have policies, practices, and procedures in place to address epilepsy and seizure disorder in their schools.

Schools can help students with epilepsy or seizure disorder by becoming educated about these conditions, tracking and addressing students' needs, and making appropriate referrals to community resources. Schools can assess their existing policies, practices, and procedures for supporting students with epilepsy or seizure disorder and other chronic conditions, both during and after the school day, by using tools such as CDC's *School Health Index: A Self-Assessment and Planning Guide*.<sup>7</sup>

Epilepsy stakeholders, such as Epilepsy Foundation affiliates, can work with their local school health coordinators to ensure that information and educational programs about epilepsy are available to school staff. They can also work with officials in their state and local departments of education and health to ensure that questions on epilepsy are routinely included in School Health Profiles surveys to monitor progress.

CDC will continue to partner with organizations such as the Epilepsy Foundation to make resources and tools available to schools and families to ensure that all children with epilepsy are able to be safe and healthy at school.

## Managing Epilepsy and Seizures at School

Effective management of epilepsy and seizures at school may require the following actions:

- **Educating** school nurses, teachers, other staff members, and students about epilepsy and its treatment, seizure first aid, and the possible stigma associated with epilepsy.
- Following the individualized **seizure response plan** created for each student and administering **first aid**, including the use of rescue medications, when needed.
- Understanding the importance of medication adherence and supporting students who take daily medications.
- Helping students avoid seizure triggers, such as flashing lights or other triggers identified in their seizure response plan.
- **Monitoring and addressing** any related medical conditions, including mental health concerns such as depression.
- Providing case management services for students whose medical condition disrupts their school attendance or academic performance.
- Referring students with uncontrolled seizures to medical services in the community or to the **Epilepsy Foundation** for more information.
- Understanding the **laws** related to disability, medical conditions, and special education to ensure that children with epilepsy are able to access the free and appropriate education required by law.
- Monitoring student behavior to prevent bullying of students with epilepsy.<sup>8</sup>





## Technical Information

The School Health Profiles uses random, systematic, equal-probability sampling strategies or censuses to produce representative samples of schools that serve students in grades 6 through 12. In 2014, 48 states (all except Louisiana and New Mexico), 19 large urban school districts, and 2 US territories collected data during the spring semester and obtained a sufficient response rate for their data to be weighted. Participation in the survey was voluntary and confidential.

Data collected for Profiles have some limitations. First, the data apply only to public middle schools and high schools, as policies and practices in nonpublic schools are not assessed. Second, policy and practice differences between middle and high schools might be masked because the data are combined. Third, the data are self-reported by school principals and lead health education teachers and therefore might be subject to bias toward the reporting of more positive policies and practices. Finally, Profiles data do not provide an in-depth assessment of all elements of school health.

For a full description of the sampling strategies and data collection and analysis methods used, as well as the complete results of the 2014 Profiles, see the *School Health Profiles 2014: Characteristics of Health Programs Among Secondary Schools* report.

*“The opportunity for academic success is increased when communities, schools, families, and students work together to meet the needs of students with chronic health conditions and provide safe and supportive learning environments.”*

*—School Health Profiles 2014:  
Characteristics of Health Programs  
Among Secondary Schools<sup>6</sup>*



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**US Department of Health and Human Services**

Centers for Disease Control and Prevention  
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