CDC Healthy Schools
Chronic Health Conditions in School Settings
Presentation Goals

- Describe the relationship between chronic health conditions and academic achievement.
- Discuss ways schools can help support students with chronic health conditions.
Presentation overview

• U.S. children and adolescents with chronic health conditions

• Relationship between chronic health conditions and academic achievement

• Strategies for managing chronic health conditions in schools

• CDC resources
Introduction

- Students spend many hours every week in school.

- Some children and adolescents with chronic health conditions may have lower academic achievement than those without those conditions.

- Managing chronic health conditions can be challenging for school systems, educators, and clinicians.
Estimated Prevalence of Chronic Health Conditions Among U.S. children aged 0-18 years*

<table>
<thead>
<tr>
<th>Chronic health condition</th>
<th>Estimated percentage of U.S. students affected*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>7.3-9.5% of all children</td>
</tr>
<tr>
<td></td>
<td>18% of children living in poverty</td>
</tr>
<tr>
<td>Seizure disorders</td>
<td>0.7%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>0.3% (Includes type 1 and type 2)</td>
</tr>
<tr>
<td>Poor oral health</td>
<td>15.6%[untreated dental caries (cavities)]</td>
</tr>
<tr>
<td>Food allergies</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

*Estimates reflect populations from various studies—specific age groups may vary

Introduction

• Published scientific evidence shows the benefits of school-based management of chronic health conditions.

• Managing chronic health conditions may help improve health and academic outcomes.

• Schools can use several strategies to support students with chronic health conditions.

Coordinated School Health

- Health Education
- Physical Education
- Health Services
- Nutrition Services
- Counseling, Psychological, and Social Services
- Family and Community Involvement
- Health Promotion for Staff
- Healthy and Safe School Environment
Whole School, Whole Community, Whole Child Model

https://www.cdc.gov/healthyschools/wssc/index.htm
Chronic Health Conditions and Academic Achievement
Chronic Health Conditions and Academic Achievement

Research Brief

Chronic Health Conditions and Academic Achievement

Introduction
This brief describes the relationship between certain chronic health conditions and academic achievement, based on a review of the scientific literature. These include seizure disorders, asthma, diabetes, poor oral health conditions, and food allergies. These are examples of chronic health conditions that are commonly observed among school-aged youth, possibly affect academic achievement, or use significant resources when addressed at school. Academic achievement refers to academic performance, educational behaviors, and cognitive skills. This brief also makes recommendations for future research.

Students and Chronic Health Conditions
About 22% of children in the United States aged 2 to 8 years have a chronic health condition such as asthma, obesity, other physical conditions, and behavior learning problems. Although it is difficult to estimate and there is not one single source of information for chronic conditions in school-aged children, various studies state that for children aged less than 18 years, about 36% have poor oral health, 7% to 10% have asthma, 4% have food allergies, 6.7% have seizure disorders, and 6.8% have diabetes (Table 1). Students with chronic health conditions may face lower academic achievement, increased disability, fewer job opportunities, and limited community interactions as they enter adulthood. Because these youth spend a significant amount of their time in schools, it is important to understand the relationship between chronic health conditions and academic achievement. Previous reports show that students who are able to manage their chronic health conditions tend to have better academic outcomes.

Studies show that some students with chronic health conditions have lower academic achievement than students who do not have such conditions; although this relationship varies by condition and can be influenced by additional factors. In this brief, "academic achievement" refers to academic performance, education-related behavior, and cognitive skills. "Academic performance" refers to class grades, grade point average (GPA), standardized test scores, and graduation rates. "Education-related behavior" includes attendance, dropout rates, and behavior problems. "Cognitive skills" include students' concentration, language ability, and short-term and long-term memory.

Sources for Information in This Brief
We searched PubMed and Medline for peer-reviewed research on academic achievement and chronic health conditions. This brief summarizes studies published from 1990 through 2014 that focused on school-aged youth (i.e., grades K–12; age 5–19 years), included at least one of the five chronic health conditions (seizure disorder/
• Academic achievement includes:
  • Academic performance
    ➢ class grades, standardized test scores, and graduation rates
  • Education behavior
    ➢ attendance, retention, and classroom behavior
  • Cognitive skills
    ➢ concentration and memory

Centers for Disease Control and Prevention (2017). *Chronic Health Conditions and Academic Achievement*.
Chronic Health Conditions and Absenteeism

• Attendance is linked to student progress and academic achievement.

• Poor attendance can lead to dropping out.

• Chronic absenteeism (missing 10% or more of school days for any reason, excused or unexcused) is an early warning sign of academic risk.

Chronic Health Conditions and Academic Achievement: Asthma

- Asthma has been the focus of most studies that have student outcome data
  - most frequently associated with school days missed

- Students in schools with a higher percentage of low-income students are more likely to miss school because of asthma.

- Having asthma alone does not cause absenteeism or lower academic achievement.

Centers for Disease Control and Prevention (2017). *Chronic Health Conditions and Academic Achievement*. 
Both asthma education programs and having a full-time school nurse lead to improved symptom management and fewer school absences.

Chronic Health Conditions and Academic Achievement: Diabetes

- Diabetes does not have any association with lower academic achievement.

- Socio-economic status (SES) and gender have a stronger effect on test scores for students with diabetes than the condition itself.

Chronic Health Conditions and Academic Achievement: Seizure Disorders

- Some students with epilepsy also have impaired cognitive function and lower academic achievement.
- Medications can contribute to impaired cognition.

Centers for Disease Control and Prevention (2017). *Chronic Health Conditions and Academic Achievement*. 
• There can be variation in academic achievement by age.

• Students with both ADHD and seizure disorders may have lower academic achievement than students with only one of these conditions.

Centers for Disease Control and Prevention (2017). *Chronic Health Conditions and Academic Achievement*. 
Chronic Health Conditions and Academic Achievement: Food Allergies

• No current studies link food allergies and academic achievement.

• Food allergies are associated with bullying, which can lead to students' feeling less connected to school and to lower grades.

Chronic Health Conditions and Academic Achievement: Poor Oral Health

- Poor oral health conditions are associated with more school absences and a reduction in overall ability to learn.

- It does not cause poor academic achievement.

Centers for Disease Control and Prevention (2017). *Chronic Health Conditions and Academic Achievement*. 
Managing Chronic Health Conditions in Schools
Strategies to address the needs of students with chronic conditions

https://www.cdc.gov/healthyschools/schoolhealthservices.htm
Strategies to address the needs of students with chronic conditions

1. Plan and develop a coordinated system
2. Provide school-based health services and care coordination
3. Provide specific and age-appropriate education to students and their families
4. Provide professional development opportunities for school staff
5. Provide appropriate counseling, psychological, and social services
6. Provide a safe physical environment with appropriate nutrition, physical education, and physical activity opportunities

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Plan and develop a coordinated system

- Assess existing school health policies and practices
- Designate a leader at the district level
- Identify a person in the school building to coordinate the implementation systems that support students with chronic health conditions
- Leverage and strengthen school-community connections

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide school-based health services and care coordination

- Screen students for chronic conditions
- Identify, track and regularly monitor cases
- Coordinate care with family and providers and create individual health plans
- Provide access to medications or directly observed therapy (DOT)
- Help students and their families establish care with a primary care provider

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide school-based health services and care coordination (cont’d.)

• School-based health centers (SBHCs) provide comprehensive care, that can include medical, dental, mental health, and sexual health services

• SBHCs are linked to improved health, fewer emergency department visits, and reduced absenteeism

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide specific and age-appropriate education to students and their families

• Education for students should include
  • Age-appropriate information about their chronic health condition to improve self-management
  • How to recognize symptoms and the need for medication
  • How to use medication correctly
  • How to find help at school when they need it

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide specific and age-appropriate education to students and their families (cont’d.)

- Education for families and coordination with health-care providers can
  - Help reduce symptoms
  - Reduce hospitalizations

- Ideal education for families is culturally and linguistically appropriate

- Consider web-based education or an external organization

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide professional development opportunities for school staff

- Create emergency protocols and inform all school staff about the signs and symptoms of chronic health conditions that require immediate action.

- Provide training for appropriate school staff on resources that support students with chronic health conditions.

- Consider allowing staff time to participate in off-site learning opportunities, e-learning modules, or webinars.

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide appropriate counseling, psychological, and social services

- Identify and track students with emotional, behavioral, and mental health needs.

- Provide or refer students and families to school- and community-based counseling services.

- Help students during transitions such as changes in schools or in family structure.

- Promote a positive school climate where respect is encouraged and students can seek help from trusted adults.

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
Provide a safe environment with appropriate nutrition, physical education, and physical activity

• Provide a safe physical environment, both outside and inside school buildings.

• Ensure that foods are labeled and that menus are available to students and their families. In addition, food allergens, such as peanuts, should be prohibited in the classroom.

• Encourage all students to participate in physical activity, regardless of ability, unless medical needs prevent it.

• Align activities with provisions in local wellness policies and with national or state physical education standards.

Centers for Disease Control and Prevention (2017). Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools
The Role of the School Nurse

- Provide direct care, such as giving children medications
- Provide case management
- Advocate for students and their families to help them get the resources and support they need.
- School nurses help improve academic achievement and decrease absenteeism
- For every dollar invested in a school nursing program, society gains $2.20
Health Insurance for Children

- Identify students without insurance and those who may have a chronic health condition
- Help students and families obtain coverage
- Refer Families to School-based or Community-Based Medical Care Providers and other Resources
- Identify and assist at-risk or vulnerable populations students and their families
Additional Resources
CDC Food Allergy Toolkit for Schools

- 6 audience-specific tip sheets
- 6 audience-specific customizable PowerPoint presentations
- 7 audience-specific podcasts
- Select Resources list for schools
Strategies for Addressing Asthma in Schools
School level assessment tool:
CDC School Health Index

www.cdc.gov/HealthySchools/SHI
Family Engagement

Healthy Students Do Better in School

- Students that are
  - Physically active
  - Eating healthier and eating fruits
  - Having better grades

Parent Engagement

Strategies for Involving Parents in School Health

Parents for Healthy Schools

A Guide for Getting Parents Involved from K-12

November 2022

Healthy Events and Classroom Celebrations

How Can You Help?

Children and Adolescents

With Asthma

How Can You Help?

What’s at School?

Physical Education

How Can You Help?
CDC Division of Adolescent and School Health (DASH)

School–Based Surveillance

• School Health Profiles

• Youth Risk Behavior Surveillance System

http://www.cdc.gov/healthyyouth/data/index.htm
An online interactive school building that will visualize how the ten components of the WSCC model are integrated into the classroom, staff break room, hallways, cafeteria, gymnasium, recreational field, community, and home.
CDC Healthy Schools Website: www.cdc.gov/healthyschools
Conclusion

• Studies show that school services can help school-aged youth and their families with chronic health conditions

• Student whose symptoms are controlled are more likely to have higher school achievement

• School nurses and school-based services can help schools increase students' overall health and academic success

• Teacher and staff training should include accurate expectations about the academic potential of children with chronic health conditions – Try not to underestimate!
Thank you!

For more information, please contact the Centers for Disease Control and Prevention:
4770 Buford Highway NE, Atlanta Georgia 30341 USA
Visit: [http://www.cdc.gov/healthyschools/](http://www.cdc.gov/healthyschools/)
Email CDC-INFO: [www.cdc.gov/cdc-info](http://www.cdc.gov/cdc-info)
Call: 1-800-CDC-INFO (232-4636);
TTY: 1-888-232-6348