

THE CONNECTION BETWEEN HEALTH AND HIGH SCHOOL DROPOUT

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Highlights:

- ▶ **Poor health in childhood and adolescence is associated with high risk for high school dropout.**
- ▶ **Childhood physical illnesses, such as Asthma and Type 1 Diabetes, impact education largely through disparities in access to medical care.**
- ▶ **California children with asthma missed a total of 1.9 million days of school in 2005.**
- ▶ **Students with early mental health problems are likely to have educational difficulties, including low achievement and high school dropout.**
- ▶ **Students who receive low grades or low scores on standardized achievement tests are more likely than other students to engage in risky behaviors as adolescents.**
- ▶ **Educators and health providers should work together to develop strategic interventions that improve both health and educational performance.**

Health and education are connected. Children with poor health are likely to have difficulty learning throughout their school careers, culminating for many in failure to graduate from high school. Students who fail to graduate from high school are then at even higher risk for future health problems throughout adulthood. These connections suggest that improvements in child health can have positive effects on educational attainment, leading to further improvements in health in adulthood. Such improvements are particularly urgent in light of new research revealing that more than a quarter of U.S. children have chronic health conditions.

Research evidence suggests that health and education are connected through three distinct pathways (see Figure, page 3). These pathways start with distinct initial triggers: 1) childhood physical illnesses, 2) childhood and adolescent mental health problems, and 3) poor academic performance. Despite these diverse initial triggers, each pathway leads to the same, shared outcome: increased risk for high school dropout. Policies that successfully target specific links in these pathways are most likely to achieve the greatest long-term results.

▶ **Pathway 1: Childhood Physical Illnesses**

Many childhood physical illnesses can have negative effects on education, including relatively common illnesses, such as Asthma and Type 1 Diabetes, and relatively rare ones, such as Sickle Cell Disease and Phenylketonuria (PKU). The illnesses in this diverse group have some important common characteristics: many begin very early in life and are already present when children first enter school. In addition, children with these illnesses are not acutely ill most of the time; long periods of relatively good health are punctuated by episodes of acute, often life-threatening illness.

The impact of these conditions on education is largely determined by disparities in access to medical care. In fact, with effective management using existing medical treatments, there is no medical reason for any of these conditions to have negative educational effects. Effective management, however, can be complex and onerous, and treatment regimens must be strictly followed, regardless of whether the child is acutely ill at the time. Lapses in adherence to disease management dramatically increase the risk for serious acute episodes, and these can have a negative impact on education.

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For instance, most cases of asthma can be well managed with inhaled controller medications. However, if a student's family is unable to obtain the medication—a much more common occurrence among low income families—then the student is much more likely to be absent from school due to acute asthma flares than a student with well-managed asthma. Estimates suggest that in 2005, the 900,000 school-age children in California who suffered from asthma missed a total of 1.9 million days of school, with poor children with asthma more than twice as likely to miss a week or more of school as non-poor children with asthma.

The strategies most likely to improve the educational performance of students with childhood chronic physical illnesses are those that expand access to medical care and provide support for disease management in and out of school. School-based strategies, such as school-based health clinics, are particularly attractive because they offer stable and consistent access to care for virtually all young children, regardless of their parents' ability to obtain medical care and follow through with complex management procedures.

► Pathway 2: Childhood Mental Health Problems

Childhood mental health problems are among the most common health conditions, affecting an estimated one of every five school-age children and adolescents. Epidemiological studies report that students with any of a wide range of early mental health problems are

likely to have educational difficulties, including low achievement and high school dropout. These findings are particularly troubling given the high prevalence of mental health problems and the fact that as many as 80% of children with mental health problems are likely to be un-diagnosed and untreated. In a study of 18 populous U.S. states, California had the highest level of unmet need for child mental health services.

Research has identified two distinct pathways linking mental health problems to education. First, there is evidence that children who have problems with inattention, a cardinal symptom of Attention Deficit Hyperactivity Disorder (ADHD), perform poorly on standardized achievement tests relative to their peers. Their poor academic achievement in the early grades may then play a role later on, increasing the risk of dropping out.

Second, children with externalizing behavior disorders in the early grades, including oppositional defiant disorder and conduct disorder, are also at high risk for dropping out of high school. Contrary to expectation, research shows that these students do not perform poorly on tests of academic achievement; rather, these children have persistent problems with school discipline that are likely to lead to negative attitudes toward educational goals.

Early identification and support can be an important strategy for both types of children. By avoiding or reducing academic

deficits in the early grades, interventions may reduce deficits in academic achievement later on, thereby improving students' chances of graduating. Children with behavior disorders may also require integrated mental health and educational support services throughout their schooling careers.

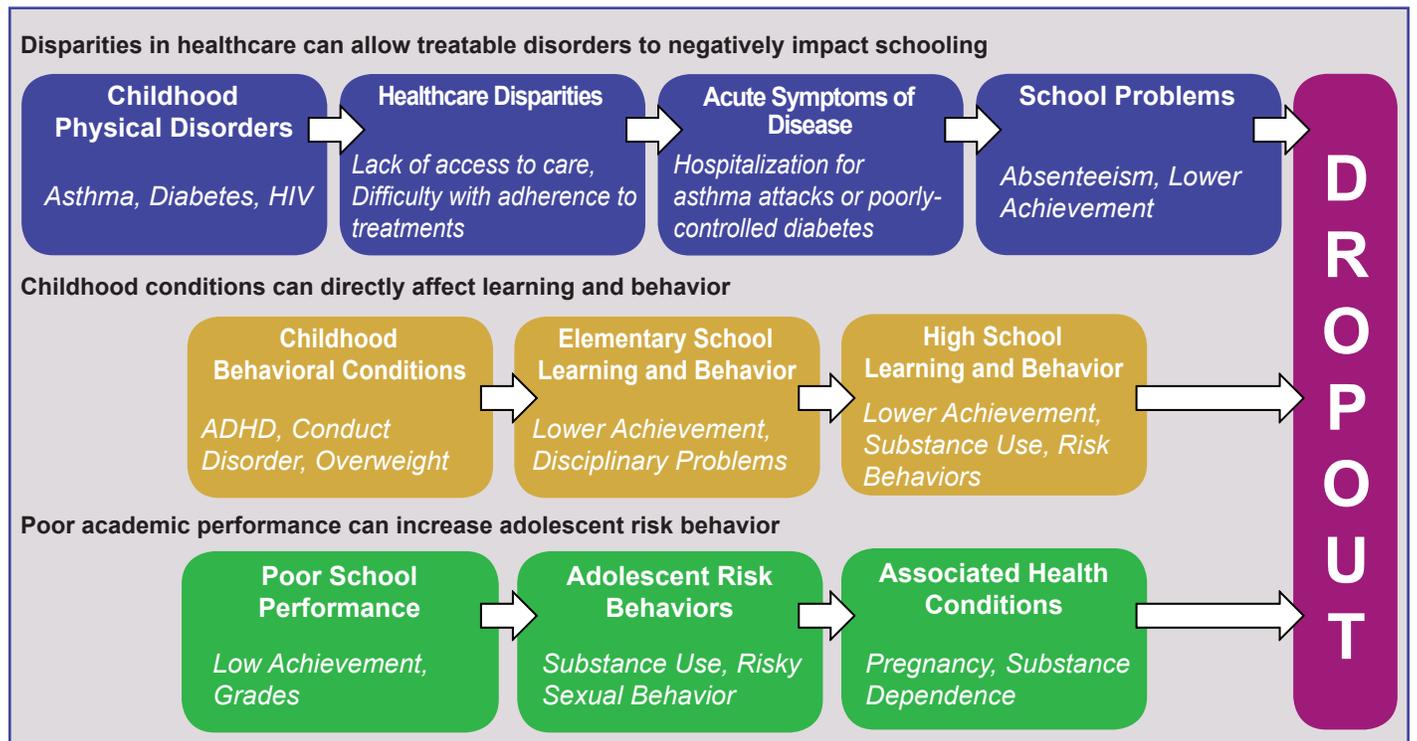
► Pathway 3: Adolescent Risk Behaviors

During adolescence, many students begin to engage in a wide range of behaviors that expose them to additional risks for health and educational difficulties. While associations between risky behaviors—such as substance use and unprotected sex—and dropout are not surprising, it is important to know whether there is evidence that specific behaviors adversely impact education so they can be directly targeted.

The bulk of empirical evidence to date, however, suggests that the primary pathway connecting adolescent risk behaviors and educational problems is in the reverse direction, from education to behavior. Students who receive low grades or test scores are more likely than other students to initiate risky behaviors. Substance use and early sexual behavior may thus be indicators that a student is *already* on a hazardous educational trajectory, rather than contributory causes of educational failure.

Even if adolescent risk behaviors are not causes of educational failure, interventions that target these behaviors can still improve educational outcomes. For instance, current evidence suggests

Three Pathways from Poor Health to High School Dropout



that smoking is associated with dropout because students who start to smoke are likely to have already been doing poorly in school. An intervention that targeted adolescent smokers, perhaps combining smoking cessation treatment with academic support, might have positive effects on both health and dropout.

► Future Directions

While these three pathways can be identified based on existing literature, there is little actual evidence from experimental studies testing the educational effects of health interventions or the health effects of educational interventions. Much more research is needed to advance from the description of these relationships to actual policies. Nonetheless, the literature reviewed supports the following recommendations:

1. Educators and health providers should pursue strategic collaborations to develop interventions for children that bridge the divide between these two separate institutional sectors. Educational interventions should consider the challenges of ill health to educational performance, and health interventions should consider improvement of educational performance as an important goal of medical treatment.

2. The potential for schools to provide accessible, stable health care for children with serious chronic physical illness should be examined through well-designed intervention studies. School-based health centers for students are of particular interest because they can provide a broad range of services.

3. Interventions to improve academic achievement in the early grades among students with at-

tention problems should be tested. Previous studies have tested only a narrow range of potential intervention models.

4. The connection between childhood disruptive behaviors and educational attainment should be studied in greater detail. If these students do not have academic deficits, then they may have more potential for academic success than is being realized.

5. Educational interventions should examine methods for maintaining school connectedness among students with low academic achievement in order to reduce subsequent adolescent high-risk behaviors. While it is not possible to do away with evaluations in which some students perform poorly, it may be possible to address the connection between low grades and risky behavior among adolescents.

Research Reports and Policy Briefs in Print

1. **THE ECONOMIC LOSSES FROM HIGH SCHOOL DROPOUTS IN CALIFORNIA** (*August 2007*)
2. **THE RETURN ON INVESTMENT FOR IMPROVING CALIFORNIA'S HIGH SCHOOL GRADUATION RATE** (*August 2007*)
3. **DOES STATE POLICY HELP OR HURT THE DROPOUT PROBLEM IN CALIFORNIA?** (*October 2007*)
4. **CAN COMBINING ACADEMIC AND CAREER-TECHNICAL EDUCATION IMPROVE HIGH SCHOOL OUTCOMES IN CALIFORNIA?** (*November 2007*)
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6. **CALIFORNIA SCHOOLS THAT BEAT THE ODDS IN HIGH SCHOOL GRADUATION** (*December 2007*)
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