

**Utilizing School Health Services  
To Improve Educational Capacity and  
Provide a More Effective Public Health Response**

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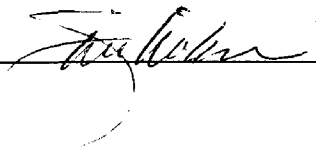
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**“To promote student achievement  
and preparation for global competitiveness  
by fostering educational excellence  
and ensuring equal access”**

The U.S. Department of Education’s current mission statement  
(FY 2007 Performance and Accountability Report, 9)

**“A child must be physically and emotionally healthy  
in order to learn, and a child and the child's family  
must be educated in order to stay healthy.”**

Former Surgeon General, Dr. Antonia Novello  
(Healthy Children Ready to Learn, 3)

## Abstract

Public schools throughout the United States and its territories are under pressure to meet the mandates of No Child Left Behind legislation. The education of children is influenced by a variety of factors, many of which are not in the control of the very people whose responsibility it is to educate, i.e. accessibility to health care, socio-economic status, or home environment. This paper will look at the dimension of school health response: what is required, what is needed, and how a coordinated response between schools and health providers can yield positive results for everyone involved, including society as a whole.

There is widespread acknowledgement that good health is a cornerstone to effective learning, yet the state and local education response to the health needs of students is as diverse as the students themselves. This paper explores the history and purpose of public education, legislation and public programs aimed at improving the condition of at-risk individuals, the relationship between health and the ability of students to learn, and the societal costs associated with education failure. Also addressed are several examples of responses some schools have chosen to make in order to better serve their students. Ultimately, this paper will introduce a concept that presents a paradigm shift in the education and health fields: that decisions regarding an appropriate school-related health response, and the actual school health response, should be shared by parents, (public) health professionals and school representatives, allowing each to make contributions in their own area of specialization.

## Executive Summary

There is no debate, in either the education or health care communities, that children need to be healthy in order to learn, yet many school districts do not employ interventions to adequately address health-related concerns while children are in school. Coordinated school health programs (CSHP) are a proven means with which to provide health services to children. These programs operate in diverse forms, but each is aimed at ensuring the health of children so that they can improve the likelihood of educational success. In addition to operating in a manner that addresses the daily needs of children, CSHPs, especially through school-based health centers (SBHC), can address urgent need situations that arise due to illness or injury as well as address generalized health concerns related to the school environment.

A major benefit of coordinated programs is that they can address the education-related health response that is mandated under current education and civil rights laws. A dominant protection, offered through Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act, is that schools must adequately address the needs of a student that might otherwise inhibit them in fully participating in their education. Unfortunately, while the IDEA emphasizes the requirement for schools to provide health-related service, they leave it up to the school to determine what qualifies an individual to perform that function; for many students, this is a major flaw in the legislation and one that prevents them from benefitting from adequate care.

Schools are not entirely to blame when they do not adequately address health needs of students. The specialization of schools is to educate, therefore their decision making would favor education over health care, especially when faced with the realities of budget limitations. Congress showed great insight when they put the requirement for a health response appropriate to education squarely in the province of schools, but they missed a critical aspect by not including the public health department as a health advocate in the process. Public health departments have the expertise that makes them an appropriate choice for determining necessary health responses, budgeting resources and providing health-related services in schools.

For many state and local education agencies, the stipulations put forth in laws do not necessarily translate into seamless integration at the service delivery level. In an attempt to demonstrate the viability and necessity of a dramatic paradigm shift in how public services are offered, this paper will examine education legislations, various public health concerns, and how the concerns affect different agencies. Current education-related health responses are as diverse as the students themselves; some state and local agencies are currently addressing the health needs of students with full service clinics while others rely on minimally trained laypersons to address the health-related needs of students with chronic conditions, such as catheterizations and tracheotomy maintenance.

Meshing educational and health responses weaves a societal fabric that lessens the likelihood of childhood needs going unmet and threatening the ability of a child to learn. This logical connection provides lifelong benefits to children,

families, and communities alike. Likewise, a lack of adequately addressing the health needs of students puts children at risk of educational failure and schools at risk of failing to meet their progress goals under No Child Left Behind (NCLB). The cycle does not end there; it extends to society through dropouts and individuals that do not achieve their full educational ability. Ultimately, education failure produces detrimental stress to the public health response, the justice response, and the economic security of the country. Congress, and agencies charged with meeting the needs of at-risk students, need to view the scope of the problem from a lens outside of their own area of concern and address the problem through an interagency approach that best utilizes limited resources in an effort to build the public capacity to serve the long-term interest of society.

## List of Acronyms

AYP	Annual Yearly Progress
CMS	Centers for Medicare and Medicaid Services
CSHCN	Children with Special Health Care Needs
EEOC	Equal Employment Opportunity Commission
ESEA	Elementary and Secondary Education Act
FAPE	Free and Appropriate Education
HHS	US Department of Health and Human Services
IDEA	Individuals with Disabilities Education Act
IEP	Individualized Education Plan
LEP/ELL	Limited English Proficiency/English Language Learner
MCHB	Maternal and Child Health Bureau
NASN	National Association of School Nurses
NCES	National Center for Education Statistics
NCLB	No Child Left Behind
NSKC	National Safe Kids Campaign
OESA	Office of Elementary and Secondary Education
OSERS	Office of Special Education & Rehabilitative Services (OSERS)
PCI	Per Capita Income
SASA	Student Achievement and School Accountability
SCHIP	State Child Health Insurance Program
SES	Supplemental Educational Services
SSI	Supplemental Security Income
TTR	Total Taxable Revenue
YRBSS	Youth Risk Behavior Surveillance System

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## Introduction

Amongst the 30 nations that participate in the Organization for Economic Cooperation and Development, the United States appears to be lagging well below the average in education

performance. In the category of Reading

Literacy, Korea ranked first and Mexico

last; the United States did not participate

in rankings in 2006, but in 2003, they ranked 15<sup>th</sup>. In Science and Math, Finland ranked first and Mexico ranked last, with the United States 21<sup>st</sup> and 25<sup>th</sup>

respectively. A detailed table of the results can be found in Appendix 1. These results are disturbing for a country that is considered an economic leader in the world and would like to maintain that position. In 2001, Congress demonstrated their concern that public schools were somehow failing students by passing the No Child Left Behind Act (NCLB) as a means to ensure all children receive a quality education; schools would either demonstrate that their students have achieved State-determined levels of competency, or their very existence would become threatened. The concern for many schools became one of how to best use their limited resources to improve student educational outcomes.

Teachers, especially in a public school system, will tell you that when children struggle to achieve an education the causes can be varied and numerous. Challenges may include hunger, stress, illness, disability, unmet physical, mental or emotional needs, a lack of motivation, or numerous other social, medical or physical factors. Regardless of what influences affect a child's

Country	Reading	Science	Math
USA	15* (495)	21 (489)	25 (483)
Finland	2 (547)	1 (564)	1 (548)
Korea	1 (556)	7 (522)	2 (547)
Mexico	29 (410)	30 (410)	30 (406)

Source: OECD cited in Census-1, Table 1302

**Table 1 World Education Rankings-2006**

ability to learn, schools remain accountable for opening the doors to education as well as the achievement of continuous improvement in student performance.

This paper acknowledges that most students attend primary and secondary school without the negative influence of major functional health limitations. For these students, there are still occasions when they become unexpectedly ill, injured or intermittently in need of some type of health-related service in the school setting. When students become ill or experience an injury, most parents have the reasonable expectation that the school is prepared to provide an appropriate and timely medical response.

For some students chronic physical and health challenges have greatly impeded their ability to receive a quality education. Fortunately, the future for these students is looking better. Current federal legislation aims to open the doors of education to those with physical, emotional and cognitive impairments. For some children, impairments and their appropriate response are fairly easily identified and addressed, for others that task is fraught with uncertainty.

When the needs of a child with educational impairments are not met, the primary victim is the individual children. However, the effect these children have on their environment quickly spreads to teachers/staff, fellow students, parents, and siblings; these effects are typically in the form of stress, behavioral challenges, missed work days, loss of attention to others, etc. Communities and society as a whole also are affected, typically in an economic sense stemming from a wide variety of activities and interventions such as excessive public health response (e.g. emergency visits rather than office visits), judicial interventions

(e.g. reckless or illegal behavior, or incarcerations), public assistance (e.g. unemployment, welfare and/or Medicaid), and more. It is because of this ripple effect that parents and community stakeholders should take a proactive role that invests in the success of every child in the educational setting.

This paper will review how Federal laws and interventions apply to health-related concerns of students, both inside and outside of schools, but especially those with special health care needs. It will also look at the relationship between education and health, responses from state and local education agencies, and economic considerations that should play a role in validating services to students at risk of educational failure. The paper will conclude with an approach that has the potential of serving all the nation's children, especially those that are the most vulnerable, while improving the overall economic impact.

## **The Federal Role in Education**

### *Public Schools to Serve the Public Interest*

In the history of our nation, the education of U.S. schoolchildren has not been as much of a focus as it is today; however, that focus has taken nearly two centuries to achieve. In the early 19<sup>th</sup> century, citizen groups began to clamor for publicly funded education as a means to strengthen social stability and build a stronger nation. Early leaders of our nation wisely realized that the education of the masses was a matter of public concern and the costs borne upon society would be an investment in freedom and economic strength. The following quotes,

from Thomas Jefferson, portray critical concepts behind the establishment of the public mass education system (Coates, np):

The general objects [of a bill to diffuse knowledge more generally through the mass of the people] are to provide an education adapted to the years, to the capacity, and the condition of every one, and directed to their freedom and happiness. --Thomas Jefferson: Notes on Virginia Q.XIV, 1782.

The object [of my education bill was] to bring into action that mass of talents which lies buried in poverty in every country for want of the means of development, and thus give activity to a mass of mind which in proportion to our population shall be the double or treble of what it is in most countries. --Thomas Jefferson to M. Correa de Serra, 1817.

The words of Thomas Jefferson still hold true today. The question that continues to befuddle bureaucrats, administrators and other practitioners appears to be how to maximize the mass educational opportunities of diverse individuals, in a fair and equitable manner, through the use of limited resources. This paper will attempt to make the following connections to the public interest:

- student educational outcomes will improve when their health needs are better met;
- schools can be used as a medium to effectively address the basic health needs of students;
- schools will benefit through improved Annual Yearly Progress (AYP) scores; and
- resources will be more effectively utilized through interagency cooperation.



## Transformation of Schools through Federal Influence

The Department of Education was first authorized by Congress in 1867, with the purpose of collecting and disseminating information to help the States establish effective school systems. "Beginning with Massachusetts (1852) and New York (1853), all states had passed compulsory school attendance laws by 1918" (Education in the United States, np).

Throughout the 20<sup>th</sup> century, the Federal influence in schools greatly increased through numerous programs aimed at strengthening the nation. Key legislations include the National School Lunch program, the Elementary and Secondary Education Act (ESEA), and the Individuals with Disabilities Education Act (IDEA). In 2000, ESEA became the No Child Left Behind Act (NCLB). This change strengthened the Great Society ideals set forth in ESEA by making all schools accountable to the public through the announcement of student achievement scores of *all* students. These legislations were passed in an effort to ensure an equal access to education for all American children regardless of individual distinctions.

Today's worldwide economic struggle, combined with the decline of our schools compared with other industrialized nations, strengthens the need for our youth be fully prepared to lead our nation as educated adults. The Department of Education's current stated mission is:

To promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access (Ed-1, np).

This mission continues to support the original ideals of the public education system as supported by Thomas Jefferson and maintained for nearly two hundred years.

#### Federalism: Balance between Federal and State Governments

Tasked with the responsibility of maintaining a strong nation, our Federal government has to accomplish their lofty mission while working within the requisite confines of shared power required of a federalist nation. Public education is a good example of how the Federal and State governments have to work toward achieving necessary balance. For example, while the Federal government has set forth, in NCLB legislation, a requirement for states to plan for and work toward the achievement of annual yearly progress toward a stated goal, it leaves each State the flexibility to determine its own standards for proficiency.

Each State plan shall demonstrate  
that the State has adopted challenging academic content  
standards and challenging student academic achievement

(P.L. 107-110, Section 1111(b)(1)(a))

Although States do not always welcome the challenges put forth by Congress, the Court has confirmed that, under certain conditions, Congress does own the privilege to pass legislation aimed at the general welfare of the nation. When ruling in the case of *United States v. Butler*, the Supreme Court determined “that Congress has authority to do indirectly, through the grant mechanism, what it cannot do directly under its enumerated powers [Article I,

Spending for the General Welfare, Scope of the Power]” (Wise and O’Leary, as cited in Wise, 349).

Briefly summarized, the Court set forth:

A four-part test...to use in evaluating provisions conditioning grants to states...

1. The exercise of the spending power must be in pursuit of the general welfare;
2. Conditions on federal grants might be illegitimate if they are unrelated to the federal interest in particular national projects or programs;
3. Other constitutional provisions may provide an independent bar to the conditional grant of federal funds;
4. If Congress wishes to condition the states’ receipt of federal funds, it must do so unambiguously, enabling the states to exercise their choice knowingly cognizant of the consequences of their participation (483 U.S. 206-207[1987] as cited in Wise, 349).

While State and local education agencies are historically responsible for the delivery and financing of public education (Ed-1, np), the Department of Education is tasked with the dual responsibility of providing technical and financial support as well as the enforcement of rules put forth by Congress. Throughout this paper you will see evidence of the principles of Constitutional Federalism as State and Federal governments work out their competing interests to balance fiscal and social priorities.

As the Department of Education establishes protocols and procedures with which to guide State and local education agencies, they will be building on the fundamental foundation set forth in the following strategic performance goals:

Goal 1: Create a Culture of Achievement

Goal 2: Improve Student Achievement

Goal 3: Develop Safe and Drug-Free Schools

Goal 4: Transform Education into an Evidence-Based Field

Goal 5: Enhance the Quality of and Access to Postsecondary and Adult Education

Goal 6: Establish Management Excellence (Ed-2, np)

Each of these goals combine to provide the foundation of educational excellence that is needed to sustain the United States as an economic superpower in the global society.

## **Federal Legislation**

### *The No Child Left Behind Act (NCLB)*

The No Child Left Behind Act, P.L. 107-110, was signed into law by President G.W. Bush, in January of 2002, with a driving intent to ensure the assessment, accountability, and improvement of all publicly funded schools (Ed-3, 30461). The legislation received significant bi-partisan support in both houses of Congress with a 384-45 vote in the House of Representatives (House Roll Call 145) and 91-8 vote in the Senate (Senate Vote 192). A key component of NCLB, “requires states to set proficiency targets in increments from the percentage of students scoring proficient at the point at which NCLB went into effect in 2001–02 to the ultimate goal of 100 percent in 2014” (Ed-4, 21). As a national

measurement, the NCLB Interim Report identified the following concerns related to the State implementation of NCLB:

- Seventy-five percent of the nation's schools made Adequate Yearly Progress (AYP) in 2003–04; of the 25 percent that did not make AYP, half (51 percent) did not succeed because the school as a whole (i.e., the “all students” group) or multiple student subgroups did not meet achievement standards. When schools did not make AYP for a single subgroup, it was usually for students with disabilities.
- About one-third of schools that did not make AYP failed to do so for students with disabilities or Limited English Proficiency (LEP) student groups. About two-thirds of those schools reported needing technical assistance to improve instruction for these subgroups.
- Thirteen percent of the nation's schools were identified for improvement in 2004–05. Those schools were most likely to be high-poverty, high-minority, large, urban schools to which Title I has historically directed substantial resources (Ed-4, xvii).

NCLB, Part A - Improving Basic Programs Operated by Local Educational Agencies, identifies the need for continuous monitoring of NCLB benchmarks and State implementation measures and the hierarchy of how technical support will be channeled to State education agencies, local education agencies and local schools. It is anticipated that the monitoring of benchmarks and AYP will help identify where States are struggling to meet their goals.

#### Annual Yearly Progress (AYP)

Under NCLB legislation, each State education agency must determine its own definition of proficiency as well as its own definition of adequate yearly progress to meet proficiency. Key to the legislation is that annual academic

assessment data is measured and monitored for *ALL* students. "Individuals interviewed for the National Council on Disability's 2004 NCLB and IDEA Progress Report unanimously agreed that reporting student outcomes by subgroup was the most positive and important feature of NCLB and that exposing the true performance data was essential in order to bring about instructional changes" (National Council on Disability, 22). "Too often in the past, students with disabilities were excluded from assessments and accountability systems, and the consequence was that they did not receive the academic attention they deserved" (Ed-5, 68698). NCLB specifically aims at minimizing the education gap of at-risk children by making schools accountable for measuring and improving the academic progress of statistically significant subgroups of students: economically disadvantaged students, students from major racial and ethnic groups, students with disabilities under the IDEA, and students with limited English proficiency (LEP) (Paige).

Appendix 2 provides state-by-state data as to the number of LEP students and the number of students being served with individualized education plans (IEP) under IDEA. The percentage of children reported with LEP/ELL range from a low of 0.7 percent in West Virginia, to a high of 24 percent in California. The percentage of children reported with IEPs range from a low of 10.1 percent in Colorado to a high of 26.7 percent in New Jersey. The U.S. averages are 8.6 percent and 13.6 percent for LEP/ELL and IEP categories, respectively. In terms of AYP requirements, these subgroups present some distinct challenges to schools. Relative to the Individuals with Disabilities Education Act (IDEA), a

national average of 13.6 percent is translates to a mandate for a multitude of diverse accommodating services.

Schools were given the responsibility of defining their own plans, no later than the 2002-2003 academic year, taking into consideration their own individual circumstances. However, the plans had to be built in a manner that would enable them to achieve *continuous and substantial* progress toward the NCLB goal of 100 percent proficiency by 2014 (Paige). Each year, local and state education agencies monitor their progress toward reaching their goals. "These regulations are designed to ensure that schools are held accountable for the educational progress of students with the most significant cognitive disabilities, just as schools are held accountable for the educational results of all other students with disabilities and students without disabilities" (Ed-5, 68698).

Five indicators are used in determining AYP:

- 1) the percent of students who are proficient in reading;
- 2) the percent of students who are proficient in mathematics;
- 3) the percent of students who participate in reading assessments;
- 4) the percent of students who participate in mathematics assessments; and
- 5) at least one other academic indicator at each school level (elementary, middle, and high school). (Ed-5, xxi)

Schools must assess at least 95 percent of the students enrolled in each subgroup to be eligible to meet their AYP goal. If a school does not achieve their AYP through scheduled measures, there is a failsafe built into the accountability protocol. Schools can still meet the statewide proficiency goals required for AYP

if they show a 10 percent reduction in the number of students in that subgroup that do not meet the statewide proficiency (Paige).

There are four graduated stages of improvement for those schools that do not meet AYP goals for at least two consecutive years (Ed-4, 4 and Paige) (see Appendix 3). Year one of school improvement begins after a second consecutive year of not achieving AYP. At each step, the school is to receive technical assistance to help them realize their annual goal of achievement, but beginning in the first year of school improvement they must offer public school choice as an option to families. Starting in the second year of school improvement, the school must also offer supplemental education services, including tutoring. If a school cannot achieve their goal after six years of failure to meet AYP, they will be forced into a dramatic restructuring of the school (Paige).

Tying the achievement data of subgroups to an accountability standard that requires continuous improvement ushers in a new era for education communities. While there are numerous factors that play a role in building the foundation of education, schools now have the responsibility for ensuring that a standard of educational rigor and accomplishment is achieved.

### *Federal Legislation Protecting Students with Disabilities*

In September of 2008, the ADA Amendments Act of 2008 was passed by both houses of Congress and signed into law. This particular legislation is aimed at correcting interpretations of the Americans with Disabilities Act (ADA) of 1990. "The Act retains the ADA's basic definition of disability as an impairment that substantially limits one or more major life activities, a record of such an



impairment, or being regarded as having such an impairment” (EEOC, np).

However, the Act redefines how several key terms are interpreted. For instance, the EEOC has been “directed to revise that portion of its regulations defining the term substantially limits” (EEOC, np). The new legislation also broadens the interpretation of major life activities to include a non-exhaustive list of bodily functions that constitute a significant impairment. Negative actions, based on the perception of disability, under the term ‘being regarded as having such an impairment’ are still considered illegal, but reasonable accommodation is no longer required (EEOC, np).

These interpretations are of concern to students with disabilities because the ADA serves as a concept umbrella over two key Federal legislations that protect the rights of students with disabilities and impairments in an education setting: the Individuals with Disabilities Education Act and the Section 504 of the Rehabilitation Act.

#### The Individuals with Disabilities Education Act (IDEA)

The Individuals with Disabilities Education Act 2004 (IDEA), PL 108-446, is enforced through the Office of Special Education & Rehabilitative Services (OSERS). The IDEA protects the rights of children who face significant academic challenges attributable to mental, physical and/or cognitive impairments through the mandate for a free and appropriate education (FAPE) for all school-aged individuals with qualifying disabilities; Part B applies to those aged 3-21.

The Condition of Education 2008 Report, Indicator 8, reports that the number of students served under IDEA legislation has increased from 3,692,000 (8.3%) in 1976-77 (the first year of the IDEA) to 6,686,000 (13.5) in 2006-2007 (p13). That amount reflects an increase of 81% in the 30 years that students have been served with the protections offered through IDEA. The report goes on to show that students with specific learning disabilities make up 5.4 percent of students, which is the largest number of students receiving services under IDEA. Students with a “specific learning disability have a disorder of one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations” (Ed-6, 13). Table 2 identifies the conditions reported under IDEA and a comparison of the percentages of the population between the ages of 3-21 that are served under IDEA (Ed-6, 94). While two categories (orthopedic impairments and mental retardation) actually declined, the overall population of students, who receive services for at least one disability, remains significant and is growing.

Condition	% of Public School Enrollment Served under IDEA	
	1976-77	2006-07
Total Disabilities	8.3	13.5
Specific Learning Disabilities	1.8	5.4
Speech/Language Impairments	2.9	3.0
Mental Retardation	2.2	1.1
Emotional Disturbance	0.6	0.9
Hearing Impairments	0.2	1.02
Orthopedic Impairments	0.2	0.1
Other Health Impairments	0.3	1.2
Visual Impairments	0.1	0.1
Multiple Disabilities	—	0.3
Deaf-Blindness	—	#
Autism	—	0.5
Traumatic Brain Injury	—	0.1
Developmental Delay	—	0.7

# rounds to zero

— not available

Source: Table 18.1 Condition of Education 2008 (Ed-6)

**Table 2 Comparison of growth in students served under IDEA as a percentage of public school enrollment.**

*School Exit Data for Students under IDEA: The 18<sup>th</sup> Annual Report (2006)*

to Congress on the Implementation of IDEA reflects some troublesome data: in

2003-04, only 54.5 percent of students, covered under IDEA, aged 14-21 exited school with a regular high school diploma, 31.1 percent dropped out of school, and the remaining 14.4 percent either received a certificate of completion, reached the maximum age of service, or died (Ed-7, xix). The highest percentage of students who completed school with a high school diploma were those with visual

impairments (73.4 percent) followed by hearing impairments (67.6 percent). The least successful, in terms of a regular high school diploma, were those with emotional disturbance (38.4) who actually had fewer graduates than those with mental retardation (39.0 percent). On a positive note, the number of students served under IDEA, that graduated with a regular diploma increased from 42.2 percent in 1995 to 54.5 percent in 2004 (Ed-7, 92). Table 3 has more detail on the IDEA categories of students who received a regular diploma. The data appears to substantiate the requirement for schools to be accountable to annual

<b>Percentage of Students served under IDEA who Graduated with a Regular High School Diploma</b>	<b>1995</b>	<b>2004</b>
All Disabilities	42.2	54.5
Specific Learning Disability	47.7	59.6
Speech/Language Impairment	41.8	61.3
Mental Retardation	33.7	39
Emotional Disturbance	26	38.4
Multiple Disabilities	30.3	48.1
Hearing Impairments	58.4	67.6
Orthopedic Impairments	55.4	62.7
Other Health Impairments	52.4	60.5
Visual Impairments	64.6	73.4
Autism	35.3	58.5
Deaf-blindness	30.1	51.6
Traumatic Brain Injury	52.1	61.9
Source: Table 1-18 28th Annual Report to Congress on the Implementation of IDEA (2006)		

**Table 3 Percentage of students under IDEA that graduated with a regular H.S. diploma**

reporting of statistically significant subgroups of students; when children struggle, they are less likely to be successful in their education.

*Child Find:* Part B, Section 612 of the IDEA presents the Child Find requirement wherein public schools are responsible for similarly identifying and serving the needs of elementary and secondary students that attend private or religious schools. The purpose is to ensure that all children with disabilities, regardless of their placement, receive fair and equitable services. As finances are always a concern for public schools, the legislation specifically states that the cost of meeting this obligation cannot be a consideration as to whether the obligation of child find has been met (Ed-8, np).

*FAPE:* The requirement of a free appropriate public education is a guarantee of fair and equitable participation to every child served under IDEA or Section 504 of the Rehabilitation Act. The term has been the subject of debate and even court challenges as the legislation gets clarified over time. Essentially the term applies to special education and related services necessary to an education being provided at no additional cost to the family of the child.

*Related Services:* The concept of *related services* is closely tied to FAPE in that FAPE assures that related services, necessary to education, will be provided to children with disabilities without cost to the child's family. A legal case that helped define the extent of FAPE and *related services* is Cedar Rapids Community School District v. Garret F. In this case, a child suffered a spinal cord injury in an accident rendering him dependent on consistent care services throughout the day. The parents provided for a caretaker in his first years of

schools, but then requested the school district to provide for a nurse. The district denied the parent's request on the basis that *the combined and continuous character of the required care* would cause an extraordinary financial and staff burden upon the school.

The Court looked to the example decided in *Irvine Independent School District v. Tatro*, where it was determined that the term '*medical services*' referred to medical services rendered by a physician, and that school health services were those that could be performed by a '*nurse or otherwise qualified individual.*' The Court found no legal support of the district's argument and determined that, while continuous services would indeed be costly to the district, they were not *medical* and therefore covered by the statute requiring *related services* (Wright, 347). The above ruling is a landmark decision in determining to what extent a district must provide for an individual student's needs. Ultimately, school districts must find ways to provide related services to disabled children so they may benefit from meaningful access to an education.

It is expected that districts independently evaluate each student with a disability to determine what special education and related services will help the child gain meaningful access to an education. Following that determination, the district has an obligation to ensure that the related services are provided, regardless of cost. Related services depend on the unique needs of each student with a disability. They may include technical aids such as listening assist devices, services of occupational, physical or speech therapists, psychological services or health services (Ed-9, 4). The key to resolving what services will be provided is

the determination of what services are necessary to appropriately respond to the child's education needs.

### Section 504 of the Rehabilitation Act of 1973

Section 504 is an accessibility law that secures the right of an otherwise qualified individual to fair access to any program or service that receives Federal funding. Under this law, individuals with disabilities are defined as:

Persons with a physical or mental impairment which substantially limits one or more major life activities. People who have a history of, or who are regarded as having a physical or mental impairment that substantially limits one or more major life activities, are also covered. Major life activities include caring for one's self, walking, seeing, hearing, speaking, breathing, working, performing manual tasks, and learning (HHS-1, 1).

For students in elementary and secondary education settings, Section 504 is a critical safety net offering protections and services to students who have an impairment that affects their ability to learn, but do not receive services under the IDEA. This legislation is enforced through the Office of Civil Rights.

### **Federal Programs to Address At-Risk Children**

Federal legislative programs aimed at addressing the needs of at-risk children include: Title I of No Child Left Behind, the National School Lunch program, and Title V of the Social Security Act. Note that each of these programs serves at-risk children from a different vantage point and through different

agencies, but they all share the same intent of alleviating the challenges of children who are economically disadvantaged.

Appendix 4 shows the 2005 state-by-state breakdown of student percentages in areas of special assistance along with the average ratio of students to teachers and state spending level. The following are the reported highs and lows in each category. Nevada reports the lowest percentage of Title I schools at 16.5 percent while Oregon and Indiana report astoundingly high percentages of 99.9 and 96.1, respectively. Colorado reports the lowest number of individualized education plans (IEP) at 10.1 percent, while New Jersey was the highest at 26.7 percent. Free and reduced price lunch data shows New Hampshire having the lowest level at 17.1 percent and Louisiana the highest at 61.2 percent. Student-to-teacher ratios were the lowest in Vermont at 10.9:1 and the highest in Utah at 22.1:1. New Jersey reported the highest overall spending at \$14,978 and Utah the lowest at \$5,516 (NCES). These figures are presented to provide a view of the scope of the economic challenges faced by school districts and the students that are tasked with completing their education.

### *Title I of NCLB*

Title I, Part A, is a critical component of NCLB and the source of most Federal funds shared with State education agencies. Title I legislation is aimed at providing targeted resources for the purpose of improving the “achievement of all students, especially educationally at-risk students who attend school with high concentrations of students from low-income families” (Stevenson and Laster, i). Schools comprised of students where 40 percent or more are in poverty can use

Title I funds for school-wide programs, otherwise funds are to be used directly with those students who are at the greatest risk of failing (Ed-10, np). Following are some facts taken from the Summary of Key Findings of the 2007 Final Report of the National Assessment of Title I:

- In 2004-05, Title I funds reached 93 percent of school districts and 56 percent of public schools.
- From 1994-95 to 2004-05, Title I funding increased nearly 300 percent (from \$6.7 million to \$20 million).
- While funding can be directed to all levels, pre-K through grade twelve, of the \$20 million that was distributed, 74 percent was used in elementary schools.
- In 2004-05, 87 percent of Title I participants were in school-wide programs (5,050 school-wide programs in 1994-95 to 31,782 school-wide programs in 2004-2005) (Stullich, Eisner & McCrary, 6-7).

Additionally, Section 1120 of Title I, Part A of the Elementary and Secondary Education Act (ESEA) requires that participating local education agencies (LEA) provide Title I services, to eligible children attending private elementary and secondary schools, equitable to those provided to eligible public school children (Ed-10, np).

Funding for Title I programs is provided through four formula grants (see Table 4). The formulas are derived to provide Title I funding for all qualified students but recognize the increased demands placed upon districts with higher numbers and percentages of children in poverty. By having four separate formulas, it is expected that limited funds are directed in the fairest possible manner to where they are most needed (Ed-10, np).



Type of Grant	LEA Conditions to Receive Title I Grants
Basic Grant	At least 10 formula children and at least 2 percent of school-age population
Concentration Grant	At least 6,500 formula children and at least 15 percent of school-age population
Targeted Grant	At least 10 formula children and at least 5 percent of school-age population, but data is weighted to award more money to schools with higher numbers and percentages of poor
Education Finance Incentive Grant	Based on two key measures: (1) the state's provision of financial support compared to per capita income, and (2) the degree to which the state equalizes expenditures amongst LEAs

**Table 4 Title I grant formulas**

## Participation and Accountability

Local education agencies are not only tasked with utilizing Title I funds to provide academic enrichment services to the children in their own buildings, they must also serve eligible children enrolled in private schools (Ed-5, np).

Administration of Title 1 is performed through the office of Student Achievement and School Accountability (SASA) in the Office of Elementary and Secondary Education (OESA).

Title I funding exists because “closing the achievement gap between high- and low-performing children, especially the achievement gaps between minority and nonminority students, and between disadvantaged children and their more advantaged peers” (Title 1, Section 1001 (3)). Between 2000 and 2007, funds appropriated through Title I, Part A, (adjusted for inflation) have increased 35 percent from \$9.5 billion to \$12.8 billion (Stullich et al, 6). This increase accompanied the increasing demands of accountability to at-risk children placed upon State and local education agencies.

In an effort to ensure quality implementation of Federal funds, the SASA office was charged with monitoring compliance in three functional areas of implementation (Accountability, Instructional Support and Fiduciary Responsibilities) in each of the fifty states, the District of Columbia, Puerto Rico and the Bureau of Indian Education. It was anticipated that scores would improve over time as schools worked toward achieving the instructional achievement goals of NCLB. Somewhat contrary to expectations, the report presents measurements that show schools scored highest in the area of accountability, but lowest in the area of instructional support where, over time, the scores were getting weaker rather than stronger. Overall, states were in compliance with only 58 percent of the instructional support indicators. (Stevenson and Laster, i) (see Table 5).

**Title I Indicators and Percentages that States Were in Compliance, 2003-2006**

Indicator Area	Percentage of Indicators for Which States Monitored Were in Compliance				
	School Year	2003-04	2004-05	2005-06	All Years
All Indicators		79	62	58	65
Accountability		86	68	70	73
Instructional Support		66	46	62	58
Fiduciary Responsibilities		83	68	44	64
Source: Table S.1 of SASA Monitoring Cycle Report 2003-2006 (Stevenson and Laster)					

**Table 5 Title I indicators that States were in compliance 2003-06**

On a positive note, the report discussed that education agencies excelled in the area of accountability in that they “provided a focus on and formalization of the implementation of accountability requirements that appear to have supported improvement” (Stevenson and Laster, iii). Adherence to accountability

requirements would indicate that schools show good bureaucratic tendencies in that they are able to follow the rules attached to receiving Title I funds.

**Numbers and Percentages of States in Compliance with Instructional Support Program Components, 2003-2006**

Program Component (Number of States Monitored)	All Years (53)*	
	Number	Percent
Requirements for targeted assistance programs	45	87
Committee of Practitioners	37	71
Supplemental educational services	35	69
Statewide system of support	33	62
Public school choice	32	62
Hiring and retention of qualified paraprofessionals	30	58
Requirements for improvement, corrective action and restructuring	25	47
Requirements for school-wide programs	24	45
Parental involvement requirements	16	30

Source: Table 6 of SASA 2003-2006 Monitoring Cycle Report (Stevenson and Laster)

**Table 6 Percentage of States in compliance with Title I instructional supports 2003-06**

In none of the years monitored were States in compliance with more than two-thirds of the instructional support indicators (see Table 6). Fifteen states were in compliance with less than half of the indicators in this area, and 10 states were in compliance with 25 percent or fewer of the indicators. Most states (45) were in compliance with requirements for targeted assistance programs. However, the number of states that were in compliance with parental involvement requirements was at 50 percent or less (Stevenson and Laster, iii).

*Supplemental Education Services (SES):* State education agencies are responsible for developing their own criteria for SES providers, approving their own SES providers and distributing a list to local education agencies (Ed-11, 2). "From May 2003 to May 2005, the number of state-approved Title I supplemental

educational service providers in the nation more than tripled from 997 to 2734” (Ed-11, 5). Obviously, Title I requirements have spurred tremendous growth in this industry.

Under Title I, supplemental services must be provided outside the normal school day through activities such as tutoring, after-school programs and summer school programs. In 2004-05, the average number of hours that supplemental education services were delivered to children was 57 hours per student (Ed-11, 5). Interestingly, despite the fact that twice as many students were eligible to transfer to another school than were eligible for SES, nearly ten times as many students participated in SES (Stullich et al, 15). Unfortunately, services only reached a small percentage of eligible students. According to the Title I, SES Interim Report (2008), of the 1.8 million children eligible for SES in 2004-2005, only 17 percent actually took advantage of the free service (Ed-11, 10). Still, there is evidence that growing numbers of families are participating in expanding the options for their children: participation in school choice more than doubled (18,000 to 48,000) from 2002-2005 and participation in SES showed a ten-fold increase (42,000 to 446,000) in that same period (Stullich et al, 15).

### *National School Lunch and Breakfast Program*

The National School Lunch and Breakfast program has had several faces since the Great Depression era in the 1930's. Originally it was a creative means to bridge the gap between farmers with surplus food and children who were going hungry (Gunderson, 1). By the time Congress passed the National School Lunch Act in 1946, thereby giving it permanency over year-to-year

appropriations, it was considered a "measure of national security, to safeguard the health and well-being of the Nation's children" (Food Research and Action Center, np).

In 1966, the Child Nutrition Act extended formal support to include: school breakfasts; preschool programs; women, infant and children programs; homeless programs; and more"(P.L. 110–246). During the 2006-07 school year, 30.5 million children participated in the National School Lunch Program through more than 99,800 schools and residential child care institutions. On a typical school day, almost 18 million of these 30.5 million total participants were receiving free or reduced price lunches" (FRAC, np) (See

Appendix 5).

### *Social Security Act*

The Social Security Act embodies twenty-one separate, yet often interrelated, Titles of social support for at-risk Americans. Four key support programs for children include:

- Title V — Maternal and Child Health Bureau (MCHB),
- Title XVI — Supplemental Security Income (SSI),
- Title XIX — Medicaid, and
- Title XXI — SCHIP (State Child Health Insurance Program)

*Title V:* Starting in the mid-1930's, Title V of the Social Security Act brought much needed care to women and children through the first Federal medical grants-in-aid program. In 1982, the Maternal and Child Health Services Block Grant consolidated seven categorical child health programs under Title V. Operated through the Department of Maternal and Child Health Bureau (MCHB), Title V is the only Federal program that aims at improving the health of all women and children (van Dyck, v).

Title V spending requires that at least 30 percent of funds must be directed to preventative and primary care services for children and at least 30 percent of funds must be directed to children with special health care needs (CSHCN) (Walker, 24). In addition to providing services to low income women and children, or those with limited access to assistance, other purposes of Title V include:

- Reducing infant mortality

- Reducing disease and disability through preventative measures
- Providing services to blind or disabled children, not covered under Title XVI-Supplemental Security Income, and
- Promote family-centered, community-based care for CSHCN  
(Walker, 20)

Ultimately, Title V-supported programs provide gap-filling prenatal health services to two million women and primary and preventive health care to more than 17 million children, including almost one million children with special health needs (van Dyck, v; and Walker, 20).

*Title XVI – Supplemental Security Income (SSI):* As it pertains to children with disabilities, SSI provides payments to children who have physical or emotional disabilities that result in *marked and severe functional limitations* that have lasted, or are expected to last, at least twelve months, or result in death. Additionally, children and families must have very limited income and resources. Children who qualify for SSI receive information on where to obtain state managed health care services, typically Medicaid (SSA, np).

*Title XIX Medicaid:* “Medicaid is now the single largest insurance program in the United States” (MDHS, 34). Guidelines for Medicaid programs are set forth by the Federal government, but States determine specific eligibility requirements and are free to broaden the scope of reach. Current recipients of Medicaid dollars fall into one of three categories: Categorically Needy, Medically Needy or Special Groups (CMS-1, 1).

While Medicaid is jointly funded by the Federal and State governments, Federal funding to States is based on a weighted matching scale based on per capita income (PCI) of the State. There is some debate surrounding the weighted match formula (Appendix 6) that is likely to get much more attention as the economic situation of the country worsens and puts greater pressure on State resources. If there is a determination to incorporate a health response in public schools through the public health departments, this is likely an area that will receive much attention.

Appendix 7 is a representation of Medicaid participation in 2005 relative to the Federal poverty level (FPL). It indicates that the average percentage of the total U.S. population living in poverty is 12.6 percent with a range from 7.5 percent in Minnesota to 18.3 percent in Mississippi. For the subcategory of children under 18 years of age, the nationwide average rises to 17.6 percent with a range of 8.8 percent in New Jersey to 30.7 percent in Mississippi (Census-2; Census-3; Ellis, Smith, Rousseau, and Schwartz, 8). The percentage of children under 18 years who are covered by Medicaid was 53.6 percent, with a range from 39.2 percent in New York to 70.9 percent in New Mexico.

The participation of the 0-18 age group in Medicaid relative to the population that is living at <100% FPL (Appendix 8) indicates that Medicaid currently appears to be accessible to children in need. The national percentage of Medicaid enrollees, above the percentage living below the FPL is 4.7 percent. The state with the greatest percentage below the FPL is Louisiana at 34.8 percent and the state with the least percentage below the FPL is Utah at 3.3



percent. Overall, while the percentage of enrollment in Medicaid has only increased by 0.1 percent from June 1997 to June 2005, the total number of people enrolled in Medicaid rose from 22,200,000 to 30,603,600 (Ellis et al, 8).

In 2007, the Michigan Department of Human Services reported receiving an average of 39,254 applications each month (p35). The caseload of medically needy recipients increased from 402,464 in 2000 to 666,963 in 2007 (65.7 percent) (p36) and the expenditures for Medicaid in Michigan rose from \$4.73 billion in 1998 to \$7.65 billion in 2007 (61.7 percent) (p37). Clearly, participation in Medicaid and public expenditures to support the program continue to rise at a troubling rate.

According to Spencer Johnson, of the Michigan Health and Hospital Association, "Never has the state's [Michigan] health care safety net been so fragile." Unreimbursed hospital care absorbed by hospitals in 2008 will surpass the 2007 record of more than \$2 billion as Michigan residents continue to lose private health insurance. Between 1999 and 2007, private health insurance dropped by 727,000 people who are now uninsured or covered by public health care (MHA, np). These statistics indicate that it would be prudent for public agencies and health care providers to work cooperatively to bring changes in the public health care infrastructure, especially in the current economy where the numbers of needy and uninsured rise daily.

*Title XIX:* In 1997, the State Child Health Insurance Program (SCHIP) was added to programs provided through the Social Security Administration. SCHIP has proven to be an important safety net for families with children who are

uninsured: typically working poor who do not qualify for Medicaid services. In a study published in 2003 it was noted that prior to enrolling in SCHIP, “a high proportion of all SCHIP enrollees (25 to nearly 50 percent depending on the state) had some kind of unmet health care need during the year before” (Szilagyi, Shenkman, Brach, LaClair, Swigonski, Dick et al., e514). A second major finding was that CSHCN had more unmet needs than those that did not have special health care needs. The third major finding was that the major barriers to health access were financial, practice-level and system-level barriers (Szilagyi et al, e514).

Similar to Medicaid, SCHIP is jointly financed by the Federal and State governments. “Within broad Federal guidelines, each State determines the design of its program, eligibility groups, benefit packages, payment levels for coverage, and administrative and operating procedures” (HHS-2, np). As part of that administration, States have the option of expanding current Medicaid programs, creating programs that are separate from Medicaid, or creating combination programs. “As of July 2006,..., 11 states had Medicaid expansion programs, 18 states had separate child health programs, and 21 states had a combination of both approaches” (GAO-07-501-T, 14).

SCHIP participation and Federal expenditures have grown each year since its inception (see Table 7). By FY2002, five years into the SCHIP program, Federal expenditures began exceeding appropriations and SCHIP has outspent appropriations every year since (GAO-07-051T, 24). On February 4, President Obama signed the reauthorization of the Children's Health Insurance Program and expanded the scope from the existing seven million children to include an additional four million children in need. In his speech, he "refuse[d] to accept that millions of our kids [will] fail to reach their full potential because we fail to meet

<b>SCHIP Summary</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Number of Children ever Enrolled	6,102,784	6,114,018	6,745,194	7,144,794
Percent Increase in Enrollment		0.2%	10.3%	5.9%
Federal SCHIP Allocation	\$3,180,000	\$4,080,000	\$4,080,000	\$5,040,000
Percent Increase in Allocation		28.3%	0.0%	23.5%
Federal SCHIP Expenditure	\$4,640,000	\$5,090,000	\$5,480,000	\$6,400,000
Percent Increase in Expenditure		9.7%	7.7%	16.8%

Enrollment data: Centers for Medicare & Medicaid Services

Expenditure and Allocation data: GAO-07-051T

**Table 7 SCHIP summary 2004-2007**

their basic needs" (Obama, np). Under S. 275, appropriations for FY 2009 would increase to \$10.562 billion and would increase annually until FY 2013 with an anticipated allocation of up to \$17.406 billion. In addition to the current programs, the additional funding would help cover the cost of programs that are part of S. 275, including dental and mental health services (RWJF-1, np).

*SCHIP and Medicaid Concerns: A 2001 GAO report (GA-01-883)* on SCHIP and Medicaid practices in ten states identified some concerns regarding children's access to care. Several of the more vital concerns include:

- 1) Not all physicians accept both plans, yet children frequently move from one plan to the other as children age and family income changes – thereby changing status. Children and families may find themselves needing to change physicians or visiting separate offices in the case of children in the same family being covered under different plans (p23).
- 2) Reimbursement rates to physicians vary from state-to-state and between plans. In a nationwide survey, pediatricians cited low fees as a key factor in determining to what extent they would participate in Medicaid. In some instances, SCHIP reimbursed at higher rates than Medicaid (p23).
- 3) Federal funding matches varies from state-to-state and between programs (Medicaid Federal match ranges from 50 to 77 percent and SCHIP matching rate varies from 65 to 84 percent). Medicaid match is weighted upon the state's per capita income in relation to the national average. SCHIP match correlates to, and exceeds, each State's Medicaid rate (p8).

In each of the situations above, it was feared that children's access to care could be compromised due to the irregularities of programming within each state and the differences between states (GAO-01-833, 11).

*Department of Health and Human Services – Performance Concerns:* In their *2009 Budget Highlights*, the Department of Human Resources sets forth four Strategic Goals.

- 1) Health Care: Improve the safety, quality, affordability and accessibility of health care, including behavioral health care and long-term care.
- 2) Public Health Promotion and Protection, Disease Prevention, and Emergency Preparedness: Prevent and control disease, injury, illness and disability across the lifespan, and protect the public from infections, occupational, environmental and terrorist threats.
- 3) Human Services: Promote the economic and social well-being of individuals, families and communities.
- 4) Scientific Research and Development: Advance scientific and biomedical research and development related to health and human services (HHS-3, i).

These strategic goals apply to each program area within the Department of Health and Human Services. Given the rate of increase for public health care services, the Department will need to think creatively and cooperatively within their own agencies as well as with other Federal and State agencies to find cost effective practices that meet the health needs of Americans, within realistic budget constraints.

## **Child Health Considerations**

### *Public Health Considerations for Child Health*

Healthy People 2010, is a health promotion initiative that involves Federal, State and Territorial governments in addition to many private, public and nonprofit organizations. Through the combined efforts of these people a set of Leading Health Indicators, that is believed to be key to the good health of our Nation, have been adopted (HHS-4, np):

- Physical Activity
- Overweight and Obesity
- Tobacco Use
- Substance Use
- Responsible Sexual Behavior
- Mental Health
- Injury and Violence
- Environmental Quality
- Immunization
- Access to Health Care

It is the goal of the Healthy People initiative to encourage private and public groups, agencies and leaders to adopt the principles of the initiative and to use their resources to try to focus attention toward improving these areas of health. While these health indicators are meant for the entire U.S. population, each is applicable to the 0-18 year old population.

Following is a brief discussion of some categorical considerations that have the potential to pose a negative affect on children's health. The individual harm associated with not adequately addressing the problems can be quite harsh, but the societal and economic costs can be far greater.

### **Economic Considerations of Child Health**

Children represent the most economically vulnerable segment of our population. For moral and economic reasons, society has an obligation to serve

the needs of this very susceptible population. Listed below are some statistics that express the degree to which this population our nation should be concerned about the health of our nation:

- In 2007, both the poverty rate and the number in poverty increased for children under 18 years old (18.0 percent and 13.3 million in 2007, up from 17.4 percent and 12.8 million in 2006);
- Children represented 35.7 percent of the people in poverty and 24.8 percent of the total population;
- The percentage of people covered by government health insurance programs increased to 27.8 percent in 2007, from 27.0 percent in 2006; and
- The number of people covered by government health programs increased to 83.0 million in 2007, from 80.3 million in 2006.

(DeNavas-Walt, Proctor and Smith, 12)

The global economic crisis has created a remarkable increase in the vulnerability of American citizens and has caused a dramatic increase in the number of people needing public assistance. In Michigan alone, Governor Granholm has proposed budgeting \$6.9 billion for Medicaid medical service for the 2010 budget; this represents a five percent increase over the amount budgeted in 2009. Medicaid accounts for 70 percent of the entire \$13 billion budget for the Michigan Department of Community Health. The next largest spending categories are Medicaid Mental Health at 20 percent, Public Health at 4 percent, and non-Medicaid Mental Health at 3 percent (Granholm, B5-7).

## Mental/Emotional Health Risk

According to the Surgeon General's report on children's mental health services, one out of every five children has a diagnosable mental, emotional, or behavioral disorder and up to one in ten suffer from a serious emotional disturbance. Yet, seventy percent of children with a diagnosable disorder do not receive mental health services (Barkan et al, 4). The inaccessibility of mental health services is also noted by Janice Cooper and Rachel Masi in their 2007 follow up report for the National Center for Children in Poverty. In their report, Cooper and Masi point out that emergency visits for child mental health concerns have increased in the past decade and place the blame on the unavailability of community-based services (1). The authors go on to point out that hospitals are ill-equipped to deal with the mental health needs of children and adolescents who arrive with mental health concerns (4).

Preventive strategies recommended by the American Academy of Pediatrics, Committee on School Health (Taras, Frankowski, McGrath, Mears, Murray, and Young) in their School-Based Mental Health Services policy statement include:

- Behavior and discipline plans should be school-wide and provide clear and consistent behavior expectations and consequences (p1840).
- Schools should have multidisciplinary student-support teams that include school nurses, school personnel, mental health consultants, and school physicians to review and plan evaluations and intervention strategies for students experiencing problems at school or otherwise identified as having potential mental health problems (p1840).



- School can develop relationships with agencies that assist them with external stressors for students, including but not limited to housing, nutrition, clothing, employment, safety in their neighborhood, and after-school care (p1841).

“Mental health services provided to special education students through IDEA are funded through federal, state and local sources.... Of concern is that services provided under IDEA are only for children that are eligible for special education, and not for children with certain less serious [or undiagnosed] mental health problems or those at risk for mental health disorders” (MDCH, as cited by Sorenson and Lower, 7).

Possibly more troublesome than the children who are not receiving services, are those who may not be closely monitored for medications they are taking. Results from a survey of school counselors demonstrate the range of psychotropic medications that are being distributed to students in the school setting as part of a response to a psychiatric diagnosis (Table 8). The use of stimulants, to treat ADHD, began in the 1960s (Bauer and Ingersoll, 202).

Psychotropic Medications Used to Treat Mental Disorders
Stimulants - 94%
Antidepressants - 78%
Antipsychotics - 28%
Anti-anxiety - 25%
Mood stabilizers - 25%
Other - 7%
Source: Bauer and Ingersoll, 2004

**Table 8 Psychotropic drugs in schoolchildren**

Studies from 1971 to 1997 showed an increase in the use of psychotropic medications of 100 percent every four to seven years (Gadow, as cited in Bauer and Ingersoll, 202).

Table 9 shows the various mental health diagnoses that students are being treated along with the level of frequency for which they are diagnosed. When nurses were asked if their school had guidelines addressing students

taking psychotropic medications, only 19 percent responded, “yes” (Bauer and Ingersall, 205). When asked if their school had helped prepare them to address an issues related to student’s psychotropic drugs, 91 percent of the counselors responded, “no” (Bauer and Ingerall, 207). From a practical standpoint, this statistic is very disturbing. If nurses are not informed as to potential side effects, it inhibits their ability to monitor children. Additionally, the nurses would not be able to work with teachers to help them comprehend behaviors they might observe in the classroom, and understand that they are outside of the student’s ability to control. These are issues that should be dealt with in a students Individualized Health Plan (IHP).

<b>Mental Health Conditions</b>	
Listed in order of frequency reported)	
Most Frequent	Attention-Deficit Hyperactivity Disorder
Next Most Frequent	Depression
	Attention Deficit Disorder
Moderately Frequent	Hyperactivity
	Bipolar Disorder
	Anxiety Disorder
	Obsessive Compulsive Disorder
	Mood Disorder
Less Frequent	Oppositional Defiant Disorder
	Behavior Disorder
	Conduct Disorder
	Post Traumatic Stress Disorder
Least Reported	Adjustment Disorder
	Borderline Personality Disorder
	Social Adjustment Disorder
Source: Bauer and Ingersoll, 2004	

**Table 9 Mental health conditions of students**

If children are not emotionally safe and secure they cannot put their mental focus on the task of education. “Schools should have multidisciplinary

student-support teams that include school nurses, school personnel, mental health consultants, and school physicians to review and plan evaluations and intervention strategies for students experiencing problems at school or otherwise...” (Taras et al, 1841).

### Behavioral Considerations

The Centers for Disease Control and Prevention (CDC) has identified “six critical types of adolescent health behavior that research shows contribute to the leading causes of death and disability among youth and adults” (CDC, cited by Wessel, np). The behaviors and their potential consequences, noted in Table 10, can impede educational achievement and put individuals at greater risk of participating in criminal activity (Wessel, np).

Behavior	Significance
Alcohol and drug use	Related to 41% of motor vehicle crashes, diseases, disabilities, accidents, crimes, and spread of sexually transmitted diseases (STDs)
Injury and violence (including suicide)	Leading cause of death among youth aged 5-19 years: motor vehicle crashes (31% of all deaths), all other unintentional injuries (12%), homicide (15%), and suicide (12%)
Tobacco use	Approximately 4000 youth aged 12-17 years try their first cigarette. It is estimated that smoking causes 435,000 deaths each year in the United States.
Nutrition	Nearly 9 million youth in the United States aged 6-19 years are overweight. Most (80%) young people do not eat the recommended servings of fruits and vegetables.
Physical activity	Nearly 70% of 9th graders but only 55% of 12th graders participated in sufficient vigorous physical activity on a regular basis. Physical inactivity is related to overweight and obesity and other health issues.
Sexual behavior	Of the approximately 19 million new STD infections reported annually, almost half occur among youth aged 15 to 24. Thirty-four percent of young women become pregnant at least once before they reach the age of 20.
Source: CDC, as cited in Wessel, 2006	

**Table 10 Critical adolescent health risk behaviors**

The potential consequences of not adequately addressing these behaviors in children and adolescents are significant. The direct costs of negative behaviors include emotional and physical health costs as well as capital costs, e.g. car crashes. Indirect costs to the negative behaviors can potentially be much more significant when you consider broad-based repercussions such as long-term health costs, reduced income potential, and societal burdens of unexpected childbirths.

Aside from economic, emotional and behavioral risk factors, which are briefly revealed in Table 10, there are numerous other risk categories, including child abuse and neglect, motor vehicle accidents, recreational accidents, poisonings, choking, and dating violence (CDC-1, np). Whether they are directly or indirectly related to school behavior, each one can have a significant impact on the overall well-being of a child and the ability of a child to learn in school. Additionally, they can have a considerable impact on public and private health spending.

#### Long Term Impact of Adverse Childhood Experiences

In 1995, the CDC's National Center for Chronic Disease Prevention and Health Promotion began an extensive study that has collected data from over 17,000 people who have suffered from child maltreatment, which they have termed adverse childhood experiences (ACE). According to the study, almost two-thirds of their participants reported at least one ACE, and more than twenty percent reported three or more adverse experiences (Table 11) (CDC-3, np).

<b>ACE Study Categories of Mistreatment</b>		<b>Women</b>	<b>Men</b>	<b>Total</b>
		(N = 9,367)	(N = 7,970)	(N = 17,337)
Abuse	Emotional Abuse	13.1	7.6	10.6
	Physical Abuse	27.0	29.9	28.3
	Sexual Abuse	24.7	16.0	20.7
Neglect	Emotional Neglect*	16.7	12.4	14.8
	Physical Neglect*	9.2	10.7	9.9
Household Dysfunction	Mother Treated Violently	13.7	11.5	12.7
	Household Substance Abuse	29.5	23.8	26.9
	Household Mental Illness	23.3	14.8	19.4
	Parental Separation or Divorce	24.5	21.8	23.3
	Incarcerated Household Member	5.2	4.1	4.7
Source: <a href="http://www.cdc.gov/nccdphp/ace/prevalence.htm">http://www.cdc.gov/nccdphp/ace/prevalence.htm</a> Retrieved 10/18/2009 (CDC-4)				
*Collected during the second survey wave only (N=8,667)				

**Table 11 Incidence of adverse childhood experiences (ACE)**

The ACE study has demonstrated that the “ACE score has a strong and graded relationship to health-related behaviors and outcomes during childhood and adolescence including early initiation of smoking, sexual activity, illicit drug use, adolescent pregnancies, and suicide attempts...” (CDC-2, np). The short- and long-term outcomes of these childhood exposures also include a multitude of health and social problems (Table 12).

<b>Health Issues Co-Occurring with Incidence of Adverse Childhood Experiences (ACE)</b>	
• alcoholism and alcohol abuse	• risk for intimate partner violence
• depression	• multiple sexual partners
• smoking	• sexually transmitted diseases (STDs)
• health-related quality of life	• fetal death
• illicit drug use	• chronic obstructive pulmonary disease (COPD)
• ischemic heart disease (IHD)	• suicide attempts
• liver disease	• unintended pregnancies

**Table 12 Health issues co-occurring or co-morbid to adverse childhood experiences (CDC-3)**

ACE scores, which represent the total number of adverse childhood experiences reported, are used to assess the total amount of stress during

childhood. As the number of incidents increase the number of co-occurring or “co-morbid” conditions increases (Table 13) (CDC-3, np).

In addition to the health and social costs associated with child maltreatment, the economic impact is considerable.

Economic costs include: “direct medical costs, lost earnings and

tax revenue due to premature death, special education, psychological and welfare services, protective services, foster care, preventive services, and adult criminality and subsequent incarceration related to child maltreatment” (Butchart, Phinney, Mian, and Furniss, 11). This evidence decidedly supports the need to be proactive with observation, screening and monitoring of children for lifestyle threats that may cause both immediate and long-term physical and psychological harm.

### School-Related Injuries and Emergencies

In terms of injuries in the home environment versus those in the school environment, schools are generally pretty safe environments. However, there are occasions when students become ill or injured while at school. Annually, one in fourteen students suffers a medically attended or temporarily disabling injury at school. While school violence garners the most public attention, studies indicate that school-age children are nine times more likely to sustain an unintentional injury than to be the victim of an intentional injury while at school. For elementary

Number of Adverse Childhood Experiences (ACE Score)	Women	Men	Total
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.6	9.5
4 or more	15.2	9.2	12.5

Source: <http://www.cdc.gov/nccdphp/ace/prevalence.htm> (CDC-4)

**Table 13 ACE scores experienced by men and women**

students, playgrounds are associated with the majority of injuries. For secondary students, athletics (both physical education classes and organized sports), account for the majority of injuries (National Safe Kids Campaign, 1).

The following are statistics taken from the National Safe Kids Campaign:

- An estimated 2.2 million children ages 14 and under sustain school-related injuries each year.
- Eighty percent of elementary school students will see a school nurse for an injury-related complaint over a two-year period.
- The most frequent causes of school-related injuries requiring hospitalization are falls (43 percent) and sports activities (34 percent).
- Approximately 715,000 sports- or recreation-related injuries occur in and around schools each year.
- Approximately 13,000 playground equipment-related injuries occur on school playgrounds during school hours.

“Annually, 67 percent of schools activate emergency medical services (EMS) systems for an emergency involving a student and 37 percent activate EMS for an emergency involving an adult ” (Sapien, as cited in CSH-1, 888). In terms of school-related health emergencies, injuries are the chief complaint listed for two thirds of EMS dispatches to schools and medical emergencies, such as breathing difficulties and seizures, account for one quarter of school calls to the EMS system (Loyacona, as cited in CSH-1, 888). Even in the case of CSHCN, “approximately half of the EMS responses are unrelated to the child’s special needs and include traditional causes of EMS calls, such as an acute injury” (Hazinski, Markenson, Neish et al, as cited in CSH-1, 888).

“Any child can have a medical emergency in school. Children with special health care needs carry additional risks of emergencies related to their

diagnoses” (CSH-1, 888). The Council on School Health has developed a guide for schools and practitioners to use in preparing a school to respond appropriately to medical emergencies. Some of the key preparations include:

- Developing policies, regulations and protocols to cover all areas of the school (classroom, playground, transportation, etc.).
- Collect emergency data on all children, including medications, allergies, contact info, etc.
- Develop protocols to distinguish minor illnesses and injuries from those that require emergency services.
- Approve procedures and protocols in compliance of state guidelines for handling some more likely medical emergencies, e.g. asthma, anaphylaxis, and diabetic emergency.
- Train staff on EMS-activation protocols and conduct drills.
- Maintain and inspect emergency response equipment, e.g. automated external defibrillators (CSH-1, 888-890).

In addition to preparations for the general population, schools should perform additional preparation for CSHCN. These preparations should include:

- An individualized health plan (IHP) prepared by a school nurse with input from the family and primary care physician,
- Develop an individual emergency care plan (ECP) from the IHP to be used in the event of an emergency,
- Access to equipment that may be necessary to manage a medical emergency until EMS responders arrive, e.g. an epinephrine autoinjector,
- Ensure that staff working with CSHCN are familiar with the condition and, in the case of an emergency, are trained to respond until a health care professional arrives.

(CSH-1, 890)

The guidelines listed above are not all inclusive of the arsenal prepared by the Council on School Health. They should be considered as a valuable tool in



the technical support arsenal available to them. Obviously, all schools would be better able to respond to a medical emergency if they adopted these basic strategies as a standard in every local education agency.

### *Public Health Response to Child Health Needs*

Public health interventions for children are typically considered to be programs and services provided through public health insurance (Medicaid and SCHIP), community health clinics that serve children, schools that provide health-related one-on-one or clinic services through the utilization of public dollars, and agencies that provide health-related services with publicly funded grants. In the state of Michigan, where one in four children were covered by Medicaid (in 2002), the program is the single largest source of health care for school-aged children (Sorenson & Lower, 9). Yet, the Urban Institute determined that, of the 225,000 uninsured children in the state, 70 percent remained uninsured even though they were eligible for Medicaid (Sorenson & Lower, 2). Obviously, there needs to be a better connection between publicly available services and those who are at risk.

Schools have increasingly found it necessary to offer a variety of risk-prevention interventions to their regimen of programs in an effort to improve learning outcomes. A look at the interventions in Table 14 reveals that schools have been partnering in the public health arena as service providers for some time. These are not activities that schools sought to address but, rather, have developed to fill an obvious void where student needs have interfered with the ability of students to learn. The Youth Risk Behavior Surveillance System

(YRBS) initiative, in addition to tracking risk behaviors amongst youth, also tracks various school-based interventions across the nation.

The National Governor's Association policy position for Human Health Services is that the "goals of our nation's public health system are to prevent disease and disability, promote health lifestyles, and prevent and mitigate the results of both unintentional and intentional public health threats..." (National Governor's Association, np). Taken in context with the interventions identified in Table 14, and various other services offered through publicly funded schools, we can show that many schools are actively participating in the area of public health response; the question that remains is whether the intervention is comprehensive enough.

<b>Interventions to Youth Risk Behaviors</b>	
Overall	69% required students to receive instruction on health topics
Tobacco Prevention	46% provided tobacco-use cessation services as school
	88% prohibited all tobacco advertising
	66% prohibited all tobacco use in all locations
	60% posted signs marking a tobacco-free school zone
Violence Prevention	77% required student to receive instruction on violence prevention
	59% had or participated in a program to prevent bullying
	80% used staff or adult volunteers to monitor school halls between classes
	73% maintained a "closed campus" during the day, including lunchtime
	77% enforced a student dress code
Sexual Risk Prevention	87% taught abstinence as the most effective method to avoid pregnancy, HIV, and STDs
	85% taught how HIV is transmitted
	39% taught how to correctly use a condom
	45% provided HIV counseling, testing and referral services at school
	24% provided services for gay, lesbian, or bisexual students
Obesity and Dietary Risk	53% taught 14 nutrition and dietary behavior topics in a required course
	95% required a physical education course
	45% offered opportunities for intramural activities or physical activity clubs
	52% excluded foods/beverages high in fat, sodium, or added sugars during school lunch periods
	77% offered a choice between 2 or more fruits or 100% juice each day for lunch
	49% eliminated fried foods as school lunch choices
Note: the list above is a partial listing of interventions taken from multiple tables from the CDC Healthy Youth web page at <a href="http://cdc.gov/HealthyYouth/yrbs/index.htm">http://cdc.gov/HealthyYouth/yrbs/index.htm</a> , accessed 2/29/2009	

**Table 14 Interventions to youth risk behaviors**

### *Children with Special Health Care Needs (CSHCN)*

Identifying under what circumstances a child should be described as having special health care needs is not always a simple task, and is further complicated when different agencies and programs utilize diverse independently-determined criteria. In 1994, the Maternal and Child Health Bureau of the Health Resources and Services Administration put together a work group of professionals to help create a definition that they could use as a tool to help develop program. The new definition, which they adopted in 1995 after much deliberation, defines children with special health care needs as:

Those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally (McPherson, 3).

In developing this new definition, the committee made a shift away from condition-specific populations and moved toward a service-based concept. The committee felt that a condition-specific list would be too unwieldy and include children who did not require special services. They also rejected using a functional status protocol because it would potentially exclude children who could function sufficiently, but needed special services to maintain that ability. The new definition is one that is “based on elevated service needs...and does not require making individual judgments concerning the appropriateness of including each of a large number of childhood chronic conditions...[nor does it] leave out children who function well but need special services to maintain that level of functioning” (McPherson, 3). The new definition purposely includes children who are “at risk

for a condition that results in a need for elevated services” (McPherson, 3). As such, agencies adopting to use this definition will be able to more readily serve children at risk, before their problems become so extreme as to cause more difficulty and, potentially, greater intervention.

The new definition is “currently being used at the federal level for program development and interagency policy planning. State Title V programs are expected to use this definition in meeting federal legislative requirements for needs assessments and development of plans for community systems of services for CSHCN” (McPherson, 5).

**Prevalence of CSHCN**

The 2005-2006 National Survey of Children with Special Health Care Needs reports that CSHCN account for an average of 13.9 percent of children between the ages of 0-17. As shown in Table 15, CSHCN are fairly uniformly identified at all school ages and income levels. Aside from Asian populations and Spanish speaking Hispanic households, they are fairly uniformly identified amongst racial groups. There is, however, a noticeable difference between male and female populations

<b>2005-2006 National Survey of Children with Special Health Care Needs</b>	
Percent of children with special health care needs	13.9
<b>CSHCN Prevalence by Age</b>	
Age 0-5	8.8
Age 6-11	16
Age 12-17	16.8
<b>Prevalence by Gender</b>	
Male	16.1
Female	11.6
<b>Prevalence by Poverty Level</b>	
0-99% FPL	14
100-199% FPL	14
200-399% FPL	13.5
400+ FPL or more	14
<b>Prevalence by Race and Hispanic Origin</b>	
Non-Hispanic	15
White	15.5
Black	15
Asian	6.3
American Indian/Alaskan	14.5
Native Hawaiian/Pacific Islander	11.5
Multiple Races	17.9
Hispanic	8.3
Spanish Language Household	4.6
English Language Household	13.1

**Table 15 National survey of CSHCN – 2005-06**

with more males affected by special health care needs.

In terms of state-by-state representation, Appendix 9 shows that California and Nevada are on the lowest end of the spectrum (10%) of states with identified CSHCN and Arkansas, Kentucky, Maine and West Virginia are on the highest end of the spectrum (18%) (CAHMI-1, np). The average translates to approximately one CSHCN for every seven children, or four students in a standard-size classroom. The same survey reports that, “of the 85 percent of CSHCN that report functional difficulties, 41 percent have trouble learning, understanding or paying attention (2-17 yrs old)” (CAHMI-2, 1).

Table 16 reveals some valuable characteristics of children with specific common conditions: children with Attention Deficit (Hyperactivity) Disorder; children with depression, anxiety, eating or other emotional disorder; children with general allergies; and children with food allergies. Note that in each category the child utilizes a substantial amount of prescription medication and elevated service delivery. The data in this table demonstrates that (1) conditions commonly associated with children affect them in multiple dimensions, and (2) many children take prescription medications to help control debilitating conditions (CAHMI-3).

Of particular concern, is that prescription medications potentially have a multitude of behavioral or physiological side effects, it can be inferred that these could be problematic in an education setting where a student spends about one-third of their wakeful hours. Secondly, educators are not medical specialists and

should not be expected to perform in a manner that compels them to make medical judgments. Third, the priority and specialization of educators is teaching, so it may not be in the best health interest of the child to make educators responsible for an appropriate health response.

<b>Condition Specific Profiles of CSHCN - 2005-2006</b>				
	Attention Deficit (Hyperactivity) Disorder	Depression, anxiety, eating disorder or other emotional problem	Allergies	Food Allergies
Prevalence: % of CSHCN	29.8%	21.1%	53.0%	11.0%
Estimated Number	2,986,481	2,147,200	5,373,570	1,098,190
By Age Group				
0-5 years	7.9%	7.3%	51.1%	13.7%
6-11 years	34.0%	20.6%	55.7%	10.9%
12-17 years	36.9%	28.6%	51.5%	9.8%
By Gender				
Male	35.7%	20.6%	52.8%	11.1%
Female	21.3%	22.0%	53.3%	10.9%
Receives SSI for Disability	48.8%	39.0%	45.5%	8.6%
Emotional or Behavioral Difficulty	72.5%	95.5%	37.3%	38.9%
Difficulty Participating in any activity	65.8%	79.9%	42.2%	43.1%
Difficulty with bodily function	42.8%	59.0%	68.6%	75.6%
Managed by prescription medication alone	23.4%	10.9%	51.5%	47.1%
Above routine need/use of services	13.5%	22.1%	8.6%	7.4%
Rx medications and use of elevated service	37.5%	32.8%	19.4%	18.9%
Data retrieved 2/14/2009 from CAHMI-3				

**Table 16 2005-06 Condition Profiles of CSHCN**

*Asthma as a Major Chronic Health Issue:* Asthma prevalence among children is a major chronic health factor for families and society. In 2006, 5.6 million school-aged children and youth (about 1 in 10) were reported to currently have asthma and 3.1 million had an asthma episode or attack within the previous year (American Lung Association, as cited in CDC-5, np). In 2003, an estimated 12.8 million missed school days were attributed to four million children who had

at least one asthma attack (Akinbami, 3). According to data from the National Ambulatory Medical Care Survey asthma accounted for a total of 95 visits per 1,000 children (7,000,000) for non-urgent ambulatory visits in 2004 (Akinbami, 4). In the same year, asthma accounted for about 2.8% of all emergency department visits for children between 0-17 years (National Hospital Ambulatory Medical Care Survey, as cited in Akinbami ,5). As asthma is the leading chronic illness of children in the United States (CDC-5, np), all schools should have a formal directive on how staff should appropriately respond to an asthma emergency.

*Comparisons of Asthma and Attention Deficit Hyperactivity Disorder*

(ADHD): In a study comparing health care costs and health care use between children with asthma and children with ADHD and a regular population, it was noted that both groups of children with special needs had significantly higher total mean health costs than children in the general population (\$712). While comparable in cost, children with ADHD are associated with higher health costs (\$1151) than children with asthma (\$1091) (Chan, Zhan and Homer, 507). Children with ADHD also had a higher number of outpatient visits and prescriptions than the other two populations. Prescriptions for ADHD included stimulants (51.8%) and medications for psychiatric conditions (16.6%), e.g. depression (Chan et al, 507). Each of the special health care conditions are readily treated and managed in an outpatient setting. If health-related services were available in the school setting, access to maintenance care and early response care would be heightened. Additionally, teachers would have access to

professionals to ask questions related to behavior and medication, potentially improving classroom affect.

**Comparisons of CSHCN to Those without Special Health Needs**

In making comparisons of CSHCN to those without special health care needs, the data in Table 17 was reported in the 2003 National Survey of Children's Health. The figures clearly demonstrate that additional stress is often placed on CSHCN and their families. Time spent away from school due to illness, physician visits, etc. places additional burdens of time and money of families that are already strained from the demands of child with special needs. The discouragement experienced through academic uncertainty and grade retention adds to the helplessness felt by students who struggle academically due to physical, emotional or cognitive challenges.

Health Status and Utilization Profile			School and Home Profile		
	CSHCN	Non-CSHCN		CSHCN	Non-CSHCN
Missed 2+ weeks of school due to illness	13.5%	3.0%	Repeated 1 or more grades in school (6-17 yrs)	17.7%	9.6%
3+ doctor visits for sick care in past 12 months	43.4%	19.9%	Parent contacted MORE than once about problems child is having at school	37.2%	13.6%
2 or more ER visits in past 12 months	13.1%	4.1%	Family members cut back or stopped working due to child's health*	23.8%	3.9%

Table Source: (CAHMI-1)

\* Source: 2005-2006 National Survey of Children with Special Health Care Needs

**Table 17 Comparison of children with and children without special health care needs - 2003**

Appendix 10 shows data (from 2003) comparing CSHCN with and without accompanying emotional and behavioral diagnoses compared to the non-CSHCN population. The rate at which children were diagnosed with special health care needs averaged 10.3 percent and the average rate that CSHCN had



accompanying emotional and behavioral diagnoses was 4.3 percent. This relationship shows that 42 percent of CSHCN had a diagnosed emotional or behavioral disorder that further compounded educational challenges. Reflecting back to Table 15 reveals that the average rate of CSHCN rose from 10.3 in 2003 to 13.9 in 2006.

The National Survey of Children with Special Health Care Needs (2005-2006) provides some additional news for concern:

- 16.1 percent had unmet need for specific health care service
- 21.1 percent had trouble getting a necessary referral
- 6.5 percent did not have a personal doctor or nurse (CAHMI-1, np)

For both ethical and practical considerations, it is in the interest of schools to be aware of the health status of children, knowledgeable as to whether they are attaining an appropriate response to their health needs, and proactive to ensuring that health care is accessible.

### **Health and Education Connection**

Health and success in school are interrelated. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially (NASBE, np)

Health and education clearly have a relationship that continues to evolve over time. Yet, ironically, in a report by the Committee on School Health, published in 1954, it states that, "the appraisal and guidance of health, growth and development during the school years is a continuous process. It is not

accomplished solely by periodic examinations by a physician” (p75). The report goes on to say that the essential members of the school health team are, “parents, teachers, nurses, private physician and school physician” (p75); apparently, some things have not changed in the past 50 years.

Today, there are two major branches from which all health-related initiatives develop in the health and education relationship. The first is the general knowledge that all children learn better when they are healthy and have their basic needs met. The second is what is legislatively mandated, especially under such laws as IDEA and Section 504 of the Rehabilitation Act. The conundrum for schools is where they draw the line in terms of what health-related activities specifically need to be supported and provided as part of the education process; are the goals of educators simply those that are being tested in state-mandated assessments for AYP, or do education goals include a well-rounded, healthy and educated individual. When schools are tasked with prioritizing funding to either education or health care, the natural inclination of schools will be to fund education.

### *Maslow's Hierarchy of Needs*

In terms of addressing how students could perform better, educators should go back to Maslow's simple concept of the hierarch of needs, shown here in Figure 1 (Wagner, np). All children, but especially children



**Figure 1 Maslow's Hierarchy of Needs**

served by Title I and CSHCN, must have certain basic needs met before growth to the next level (or hierarchy) can be achieved. For children who have unmet emotional and physiological needs the realization of a comprehensive education is simply not realistic. Before a child can experience the desire to learn and explore their world, they must first be comfortable and secure in their surroundings and with who they are as an individual. Once students achieve the level where their dependent needs are met and they have a desire to realize their education, they can begin the pursuit of self-actualization.

The health and welfare of children is, first and foremost the responsibility of parents. Unfortunately, many parents are unable or unwilling to respond to the needs of their children, or the scope of need is far greater than the parents can meet on their own. Ultimately, it is economically and ethically in the best interest of our children for communities and governments to provide services where they are lacking.

### *The Education Environment*

A positive school environment is critical to the ability of a child to learn. Components of the school environment include the physical environment, the psychological environment and the learning environment (CDC-6, 1).

*Physical Environment:* The physical environment for a school involves looking at numerous factors from safety to comfort, each affecting a student's ability to learn. It involves the actual building, the grounds, the air quality (inside and out), pest control, food preparation and eating areas, the cleanliness of desks and floors, temperature control, and more. According to a report in *Urban*

*Education*, the physical condition of a school is statistically related to student academic achievement. An improvement in the school's condition by one category, say from poor to fair, is associated with a 5.5 point improvement in average achievement scores (Berner, 6).

*Psychological Environment*: Inputs to the psychological environment, such as student perceptions of ability, teacher-student relationships, gender beliefs, socio-economic status, and feelings of belonging help form the basis of student behavior and attitudes toward education (Roeser, Midgley and Urdan, 409).

“Feeling positively about how teachers and students interact in school may provide a secure emotional basis from which students can both come to enjoy school and also develop their academic competence (Boekaerts, 1993, Connell, 1990, as cited in Roeser et al, 419). Thus, psychological environment plays an important role in educating all children, but makes it especially important that the psychological environment for CSHCN help them feel emotionally secure with a sense of belonging, rather than as a drain on academic resources.

*Learning Environment*: A well rounded education is supported by incorporating elements of life skills in the learning environment of children helping them to connect to educational goals and realize their placement in their lives.

In a high-achieving learning environment, teachers engage students in complex problem solving and exploring ideas and issues, and classroom activities draw on students' culture, experiences, and knowledge. At-risk students, in particular, need environments that engage them in authentic tasks and offer them significant opportunities to develop knowledge (Peterson, np).

Academic learning can be optimized through the networking of physical, social, and academic components, e.g. service learning activities as part of the course curriculum. In each environmental category, a relationship with the physical and emotional well-being of the participants exists and has the potential to influence the outcome. Together, these school environments help shape the capacity of educational institutions to meet their goal of educating students. It is because of this relationship, that meeting the physical, emotional and mental health needs of students should become part of the fabric of the educational institution.

### *Education and Health as a National Priority*

Linking education and health is not a new concept. As discussed previously, linking education and health started with such initiatives as the National School Lunch program and continues to evolve today. The foundation of the first National Education Goal, adopted in 1992, was the concept that “all children, including the disadvantaged and those with disabilities, must have their health and education needs assessed throughout their growth and development years...and that, throughout their lives, the health and education needs of children should be addressed in tandem” (Novello, DeGraw, and Kleinman, 4). “The Healthy Children Ready to Learn (HCRL) initiative was conceived from the underlying concept that “health is a critical partner to optimum education” (Novello et al, 8).

The HCRL initiative follows three operating principles. The first is that “all children have a right to be healthy” (Novello et al, 8). Within this principal is the

goal to promote optimum use of available and effective preventive measures such as immunizations, preventing injuries, early identification of disease and disabilities, and prompt intervention and treatment to minimize the progression of problems. The second operating principle is to apply the concept that “good science [makes] good sense” (Novello et al, 8). This concept encourages identification, dissemination and replication of effective programs and interventions. The third principle employs the concept that “healthy children, ready to learn, come from healthy families” (Novello et al, 8). Surgeon General Novello elaborated on the cyclical relationship of family health, education, and healthy communities by stating that families need to be supported in their effort to raise healthy and educated children, that communities need to be encouraged to promote health, and that policies and programs should be designed to meet the needs of families (Novello et al, 8). This third principle emphasized the dependent relationship between health and education: “A child must be physically and emotionally healthy in order to learn, and a child and the child’s family must be educated in order to stay healthy” (Novello et al, 3).

### Potential Conflicts

*School Health and School Nursing Services:* As legislation for CSHCN has evolved, Congress has plainly included schools as health partners when they stated that *school health services are a related service* that is essential and required in order to provide equal access to education:

*School health service and school nurse services* means health services that are designed to enable a child with a disability to receive FAPE as described in the child’s IEP. School nurse

services are services provided by a qualified school nurse. School health services are services that may be provided by either a qualified school nurse or other qualified person (IDEA, Sect. 300.34(c)(13), cited in NICHCY, np).

The first part of this statement is a godsend for parents of children who have health needs that must be addressed while they are in school. However, in writing the last sentence, Congress weakened the first statement and may have put special needs children at risk.

In NCLB legislation (Section 7801(11)(B)), the term *highly qualified*, has had a tremendous impact for schools in that it is used for teachers, principals and paraprofessionals. While there are several methods to develop highly qualified status for teachers, the basic requirements set forth by the Department of Education include:

- 1) A bachelor's degree,
- 2) Full state certification or licensure, and
- 3) Demonstrated competency of the subject they teach.

Unfortunately, when Congress inserted the term '*or other qualified person*' in IDEA legislation for related services, they neglected to give similar credence those delivering health-related or nursing services to students. Rather, Congress gave educational administrators the authority to determine what qualifies another individual to provide health-related and school nursing services. Such a statement undermines the intent of including school nurse services as a related service because when education administrators are faced with budgeting

decisions, they will be hard put to prioritize a higher standard than what is required.

*Distribution of Limited Resources:* Schools logically look at education funding as resources intended to teach. When tasked with providing health services, most districts will quickly tell you that the cost of providing health services places a financial burden on schools, thereby draining away valuable and limited education dollars. An example would be meeting the requirements of IDEA; the Federal government made a promise to provide 40 percent of the funds for special education but, in reality, funding level seldom went over 25 percent of the program costs (Wong, 4).

Schools across the nation face a conundrum every day when they have to decide how best to direct limited funds. When Congress set up Title I alternatives for failing schools they devised a formula of set-asides (up to 20 percent of Title I funds) to fund school choice and SES interventions (Ed-12, np). No such formula exists for health-related or behavioral responses unless earmarked for a specific program such as anti-bullying initiatives. Ultimately, schools are faced with ever increasing list of interventions and services that are not being adequately funded, but are a requirement to continue receiving other necessary Federal supports.

*Need for a Paradigm Shift:* Now that Congress has recognized the interrelationship of education and health services, their next step should be a paradigm shift that looks to partner these two activities in a manner that supports the relationship while recognizing that they each have different priorities. Since the 1980s, increasing numbers of local education agencies have been working



on this type of partnership to better serve the health and education needs of their students and families. While some education agencies continue to resist these partnerships, Coordinated School Health Programs (CSHP) throughout the United States have proven to be quite beneficial to a growing number of schools.

### *Coordinated School Health Programs (CSHP)*

The CSHP model was developed in 1987, by Lloyd Kolbe and Diane Allensworth researchers for the CDC (Satcher & Bradford, 1), in order to serve the dual purpose of improving children's health and improving the learning capacity of children (Kolbe, as cited in CDC-2, 8). The CSHP is a systems model aimed at addressing health and learning challenges of today's students. The programs support academic learning, reinforce positive social behaviors, and help students make smart health choices while engaging parents, teachers, students and communities to work together to keep students healthy.

Competing demands may interfere with the motivation of educators and administrators to develop a comprehensive school health program, however, "coordinated programs offer many advantages. They increase efficiency, reduce redundancy, and are more cost-effective" (CDC-2, 8). The model for a CSHP includes eight components of health programming:

- Comprehensive school health education
- Physical education
- School health services
- School nutritional services
- Healthy school environment
- School counseling, psychological, and social services

- School-site health promotion of staff
- Family and community involvement in schools

(Satcher & Bradford 1, CDC-2, 7)

Incorporating health programming in schools has shown that the “investment in health is an investment in better academic performance” (Satcher & Bradford, 1). The CDC recommends a two pronged approach to prioritizing a CSHP. The first is that States needs to adopt standards around the components to ensure accountability and prioritization at the local level. “At the core of accountability are academic standards, which drive curriculum development, instruction, and assessment... Standards reflect the state’s educational priorities, and priorities drive resources” (CDC-2, 8).

The second prong of prioritizing a CSHP is that they consider the unique needs of the community, thereby providing the best use of limited funds. Districts should aim for a commitment to keep children and schools healthy, by planning programs around the individually assessed needs of the children, the school and the community (Satcher & Bradford, 4 and CDC-2, 9).

#### National Support for Coordinated School Health Programs

There is widespread support from diverse education, youth and health-related groups in support of coordinated school health programs. Many of these same groups have also publicly spoken out in support of adopting a national standard school-nurse to student ratio. Table 18 is a list of organizations that have publicly support CSHPs.

<b>National Organizations Supporting Coordinated School Health Programs</b>	
American Academy of Pediatrics	Council of Chief State School Officers
American Association for School Administrators	Children's Environmental Health Network
American Cancer Society	Girl Scouts of America
American College of Preventive Medicine	National Assembly on School-Based Health Care
American Dietetic Association	National Association of State and County Health Officials
American Heart Association	National Association of School Psychologists
American Psychological Association	National Association of State Boards of Education
American Public Health Association	Partnership for Prevention
American School Food Service Association	National School Boards Association
American School Health Association	National Education Association Health Information Network
Association for Supervision and Curriculum Development	Society for Public Health Education
American Alliance for Health, Physical Education, Recreation and Dance	
Association of State and Territorial Health Officials	
Association of State and Territorial Chronic Disease Program Directors	
Society of State Directors of Health, Physical Education and Recreation	
(SSDHPER)	

**Table 18 National organizations that publicly support coordinated school health programs**

### Transition Services as Part of a CSHP

Many secondary schools currently utilize formal transition programs to prepare all their students (disabled or not) for their adult life and postsecondary school years. A school-based health center, available to all students, is an excellent mechanism for transitioning young adults into seeking their own medical services when sick, to assess health status, or for preventative care. Getting students used to the concept seeking their own medical assistance and acting as their own advocate would be an extremely useful benefit to all students as they prepare for their lives outside of the secondary school setting.

In addition, IDEA legislation also holds a requirement for effective transition services as part of a student's Individualized Education Plan. As part of their plan, students are to be given appropriate support and resources to help them effectively transition to their life after secondary school, including knowledge of the change in legal status as they lose protections (particularly FAPE) offered under IDEA and become covered under the American's with

Disabilities Act and Section 504 of the Rehabilitation Act. Guiding children to take on the responsibility to self-advocate should be a component of the transition plan for every child with a disability.

An effective educational system serving students with disabilities should—

(C) promote transition services and coordinate State and local education, social, health, mental health, and other services, in addressing the full range of student needs, particularly the needs of children with disabilities who need significant levels of support to participate and learn in school and the community (Sect 300.43).

Transition services are an area where a coordinated community health team can be a great service to the school. When students with special needs leave secondary school, either with a regular diploma, or because they exceed age eligibility under State law, they need to understand that the parent's right to advocate for the child ends and the child becomes their own advocate. If a district has a coordinated health team in place, it becomes a simpler task to bring community members into the transition process by utilizing members of the community health team who are already committed to the success of students with special challenges.

### *School-Based Health Centers (SBHC)*

School-based health centers are essentially hybrid environments where education and health services meet to serve the interests of children, their families, and their community. First emerging in the 1970s, SBHCs grew to 120 in 1988 to about 1400 in 2001 (Geierstanger and Amaral, 4). Of that total, only

about 15 percent were administered or sponsored by the school system (Juszczak, Schlitt, Odlum, Barangan & Washington, as cited in Geierstanger and Amaral, 4).

The last census of SBHC by the National Association of School Based Health Centers (2007) had a reported total of 1,915 health centers (see Table 19 for a state-by-state representation of SBHC). While the number seems significant, as you can see from **Error! Reference source not found.**Figure 2, SBHCs have not yet made a huge impact in terms of the total number of public elementary and secondary schools. There are a number of types of SBHCs that exist, depending on the needs determined by the various stakeholders, but the primary goal is to provide health-related services that enable children to improve

<b>School Based Health Centers 2007-2008</b>			
<b>Total No. of Open SBHCs: 1915</b>			
<b>State</b>	<b>No. of open SBHCs</b>	<b>State</b>	<b>No. of open SBHCs</b>
Alabama	9	Nebraska	1
Alaska	3	Nevada	6
Arizona	92	New Hampshire	1
Arkansas	1	New Jersey	41
California	186	New Mexico	84
Colorado	49	New York	195
Connecticut	83	North Carolina	52
Delaware	31	Ohio	28
District of Columbia	5	Oklahoma	11
Florida	159	Oregon	48
Georgia	3	Pennsylvania	25
Illinois	65	Puerto Rico	2
Indiana	88	Rhode Island	7
Iowa	14	South Carolina	9
Kansas	2	South Dakota	5
Kentucky	19	Tennessee	20
Louisiana	67	Texas	72
Maine	28	Utah	4
Maryland	65	Vermont	5
Massachusetts	66	Virginia	12
Michigan	95	Washington	20
Minnesota	18	West Virginia	51
Mississippi	40	Wisconsin	15
Missouri	3	Saskatchewan	2

Source: NASBHC. Retrieved 3/7/2009 from [http://ww2.nasbhc.org/census/census\\_sbhcNatstats.asp](http://ww2.nasbhc.org/census/census_sbhcNatstats.asp)

**Table 19 State-by-state school-based health centers 2007-2008**

their capacity to learn. Aside from the benefit to schools, a CSHP improves access to care that children may not otherwise achieve.

**Improving Access**

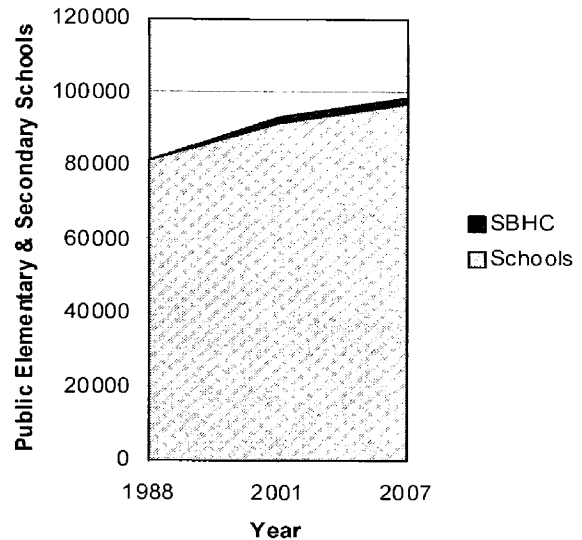
“School-based health centers have a proven track record for improving children’s access to health care, especially to students who are the most vulnerable and least likely to obtain care through a traditional health care delivery system” (NASBHC, np).

In June of 2008, Senator Smith of

Oregon submitted S. 600, School Health Clinic Establishment Act of 2008, for consideration. The Act would provide for the Secretary of HHS to award grants to fund operating expenses of school-based health centers in an effort to provide better access to health care, especially for underserved and at-risk populations.

Unfortunately, despite widespread support from national organizations, dedicated

**Penetration of SBHC in Schools**



**Figure 2 Number of SBHC serving the total number of public K-12 schools**

<b>National Organizations in Support of the School Health Clinic Establishment Act</b>	
American College Health Assn	Nat'l Alliance on Mental Illness
American College of OB & BYN	Nat'l Assn of Chronic Disease Directors
American Counseling Assn	Nat'l Assn of Community Health Centers
American School Health Assn	Nat'l Assn of County & City Health Officials
Assn of Maternal and Child Health Programs	Nat'l Assn of Pediatric Nurse Practitioners
Asthma and Allergy Foundation	Nat'l Assn of Pupil Services Administrators
Center for Health and Health Care in Schools	Nat'l Assn of School Nurses
Child Welfare League of America	Nat'l Assn of School Psychologists
Children's Defense Fund	Nat'l Assn of State Directors of Special Education
Coalition for Community Schools	Nat'l Network of State Adolescent Health Coordinators
Families USA	School Social Work Assn of America
First Focus	Society for Adolescent Medicine
Healthy Teen Network	The Children's Health Fund
Nat'l Business Group on Health	

Source: SCHA-MI.org, retrieved 2/15/2008

**Table 20 National organization in support of the School Health Clinic Establishment Act**

to children and/or health concerns (Table 20), the bill was sent to committee and there has been no further reported action (GovTrack-1, np).

### Demographics of SBHC

The National Assembly on School-Based Health Care conducted a census of SBHC in 2004-2005. Following are some interesting demographics of SBHC:

- 87% of SBHC are located in school buildings, another 11% are located on school property and 2% are mobile. Of these, 30% are located in high schools, 20% in elementary, 15% in middle schools; the remaining are mixed school levels.
- 59% of SBHCs are located in urban communities, 27% rural and 14% suburban. Forty one percent are located in Title I schools.
- Ethnic/racial populations served are fairly evenly divided between Hispanic (34%), Black and White (30% each) populations.
- 55% of the SBHCs provide services to patients other than enrolled students; these ranged from a diverse list that included school staff (19%), families of students (29%), and students from other schools (33%).

(Juszczak, Schlitt, and Moore, 1-2)

### Services and Providers in SBHC (as shared in the NASBHC census)

A representation of the types and levels of services provided through the SBHCs is shown in Table 21. The groupings of services fall into three categories: primary care only account for 31 percent of the SBHC, primary care with mental health services account for 34 percent of the centers, and primary care with

mental health and other augmented services account for 31percent of the centers. Four percent were reported as unknown (Juszczak et al, 2).

<b>SBHC Staff and Mean Hours (Hrs/Week by Model)</b>					
<b>Provider Type</b>	<b>N</b>	<b>% of All SBHCs</b>	<b>Primary Care Hours</b>	<b>PC-Mental Health Hours</b>	<b>PC-MH+ Hours</b>
Primary Care	1235	100	26	26	33
Mental Health	805	65	0	29	36
Nursing/Clinical Support	1071	87	44	55	59
Dental	153	12	24	0	25
Health Education	186	15	11	0	24
Nutrition	163	13	11	0	25
PC only: 31% of SBHCs comprise this model which does not provide mental health professional, typically staffed by nurse practitioner or physician assistant with medical supervision by a physician; clinical support provided by a registered or licensed practical nurse					
PC-MH: 34% of SBHCs are staffed with primary care providers in partnership with mental health providers (licensed clinical social worker, psychologist, or substance abuse counselor); otherwise staffing is similar to PC model					
PC-MH+ model: 31% of SBHCs provide this most comprehensive model where primary care and mental health staff are joined by other disciplines to complement the health care team; most common addition is a health educator, followed by social service case man					
Source: NASBHC National Census of SBHCs 2004-05					

**Table 21 School-based health centers - types and hours of service**

Primary services, in 90 percent or more of the SBHCs, included diverse and fairly comprehensive services including:

- |                                  |                              |
|----------------------------------|------------------------------|
| Immunizations                    | Treatment of Chronic Illness |
| Nutritional Counseling           | Medication Administration    |
| Sports Physicals                 | Asthma Treatment             |
| Anticipatory Guidance            | Prescriptions for Medicines  |
| Screenings                       | Treatment of Acute Illness   |
| Comprehensive Health Assessments |                              |

In the 80 percentile range, services included:

- Assessment of Psychological Development
- Lab Tests
- Standardized Behavioral Risk Assessment (Juszczak et al, 3)

Of the SBHCs that operated in middle and high schools (n=977), 76 percent offered abstinence counseling and 62 percent offered on-site treatment for sexually transmitted diseases. Seventy percent of the middle and high school SBHCs were prohibited from offering contraception. Within that group, 66 percent



of the time it was the school district that prohibited the dispensation of contraception (Juszczak et al, 3).

### Benefits of SBHC

The benefits of a comprehensive SBHC are shared by the students, the teachers and staff, the families, and the communities. The following list of benefits was taken from the presentation *Making the Connection: Health and Student Achievement* presentation from the Society of State Directors of Health, Physical Education and Recreation (SSDHPER) and the Association of State and Territorial Health Officials (ASTHO):

- Improving school performance and academic achievement (p30)
- Improving high school completion rates (p30)
- Lowering juvenile crime (p30)
- Increasing school attendance (p31)
- Decreasing drop-out and suspension rates (p31)
- Increasing graduation rates (p31)

Additionally, health promotion for school staff results in the following benefits:

- Enhancing the ability to handle job stress (p45)
- Creating a higher level of general well-being (p45)
- Fostering more energetic teachers (p46)
- Decreasing teacher absenteeism (p46)
- Creating a more optimistic school climate (p46)

These benefits provide both direct and indirect influences that are positive to the ability to successfully educate children and to improve the environment in which children live.

Finally, SBHCs have demonstrated cost savings generated from reduced emergency room and after-hour clinic visits, as well as better preventative care that results in fewer hospitalizations (NASBHC-2, np, and SCHA-MI, np). It would appear that SBHCs would be an enticing option for the Federal and State governments who fund Medicaid and SCHIP insurance as well as private insurance companies, each of whom has a vested interest in providing the most efficient methods to serve their client base.

### *School Nurses*

School nurses are universally recognized as an integral part of the school health team. Amazingly, what is probably the most detailed acknowledgement of the role of the school nurse is referenced in the 1954 report from the Council on School Health. Their description is briefly outlined in the following:

The *nurse* in a school is a very important special health person in a school health program...she has direct relationships with teachers, physicians, health officials and parents...prepares teachers to carry out their functions of observation and screening procedures...reviews the health status of pupils and makes final selections for medical examinations...prepares records and medical histories...is counselor and friend to the parents and...encourages follow through to diagnosis and treatment...[and] is the interpreter or coordinator of health activities within the school (CSH-2, 674).

Nurses were also recognized as serving a role for CSHCN, before the ADA and IDEA laws were even enacted: "She has an important role in interpreting handicapped children to the school staff, and she works with

guidance, psychological and special education services on their behalf' (CSH-2, 674). The role of a school nurse also includes coordinator of care and nurse manager:

Much of her work can be accomplished through the *School Health Council*. On it the nurse is usually the motivating and coordinating force...she can determine the health problems and the unmet needs of her school; she can prepare a list of objectives, taking into account the exigencies and limitations of the local situations; she can outline the activities by which these objectives can be accomplished; and she will be directly concerned with seeing that these activities are carried out by appropriate personnel (CSH-2, 674).

Just as teachers should be highly qualified in the areas they teach, health care providers should be highly qualified. The National Association of School Nurses (NASN) recommends:

That all school nurses have a minimum of a baccalaureate degree and achieve School Nurse Certification. The school nurse needs expertise in pediatric, public health and mental health nursing and must possess strong health promotion, assessment, and referral skills. School nurses also need to have knowledge of laws in education and health care that impact children in the school setting (NurseSource, np).

### Recommended Nurse to Student Ratio

The US Department of Health and Human Services and the NASN, supported by many national child and health groups, recommend a standard nurse to student ratio of 1:750 in a general population environment and a ratio of 1:125 in schools with a high population of students with chronic illnesses or



developmental disabilities (Murphy, 1). Despite this recommendation, the Healthy Youth! State Report Cards of schools reports that only four states had adopted the standard. See Appendix 11 for more information on how states scored on several key health-related items.

In June of 2008, Rep. McCarthy of New York, with Rep. Capps of California, introduced H.R. 6201, the Student to School Nurse Ratio Improvement Act of 2008. The bill would amend “the Public Health Service Act to allow the Secretary of Health and Human Services, acting through the Director of the Centers for Disease Control and Prevention (CDC), to make grants to states to reduce the student-to-school nurse ratio in public secondary schools, elementary schools, and kindergarten” (GovTrack-2, np). The bill was referred to the Committee on Energy and Commerce and has seen no movement since that time (LOC, np).

Appendix 12 shows a state-by-state representation of the number of school nurses compared to the number of schools and the population of students. States highlighted in light gray (Alaska, Delaware, Massachusetts, New Mexico, North Carolina, Vermont and Wyoming) represent good potential ratios while the states with dark highlights (California, Kentucky and Louisiana) appear to have the worst potential ratios. Keep in mind that this data assumes that the reported numbers of nationally certified school nurses for each state are working in that capacity, it does not include any nurses who may hold other certifications that may be providing health service in the schools.

## Preparedness of Schools (with Nurses) to Respond to Medical Emergencies

A nationwide study of school nurses, who were members of the NASN, was conducted in an effort to determine the readiness of schools to respond to various medical emergencies. The data questions were based upon school response recommendations put forth by the American Academic of Pediatrics (AAP) and the American Heart Association (AHA). A wide array of issues were addressed in the survey ranging from the availability of a nurse throughout the school day to the types of issues addressed by school nurses, as well as the confidence perceptions of the nurses to address various medical emergencies (Olympia, Wan, & Avner, e738).

Of the one thousand questionnaires that were sent, 573 responses were appropriate for analysis (still employed as a school nurse in no more than one school). One hundred and eight of the nurse respondents worked in an inner city setting and 465 worked in rural/suburban schools. Four of the six most common reported school emergencies were related to trauma: extremity sprain, extremity fracture, head/neck injury, and laceration. The two most common medical complaints (not trauma related) were shortness of breath and seizures. Of all the nurses surveyed, 68 percent had managed a life threatening incident in the previous year (Olympia et al, e738).

Overall, study evaluators were pleased with the level with which the schools followed recommendations by the APA and the AHA, but pointed out important areas in need of improvement (Table 22). The areas for improvement, such as periodic practicing of Medical Emergency Response Procedures

(MERP), having appropriate medical response equipment and assuring up-to-date training for nurses, indicate that, despite having nurses in the school setting, school administrators do not appear to be appropriately supporting their nurses in terms of adequately preparing for emergencies.

Recall that the responses in the survey were obtained from nurses employed in a single school either for a full or partial day. From an emergency preparedness standpoint, it is very troubling to consider that a large number of schools do not even employ a school nurse, let alone one that is not sufficiently supported. This study lends support to the concept that, to best serve the students, the school health response should be meshed as part of the fabric of the school entity as well as adequately supported.

<b>Recommendations of APA and AHA for Better Emergency Response in Schools</b>
Establish and practice Medical Emergency Response Procedures (MERP) several times a year; of the 86% who had a MERP, 35% never practiced the plan, of the remainder 32% only practiced once a year
<ul style="list-style-type: none"> <li>• Link all areas of the campus directly with emergency medical services (EMS); only 32% of respondents had an effective campus wide communication system connected with EMS</li> </ul>
<ul style="list-style-type: none"> <li>• Assign roles among school staff when faced with a life-threatening emergency; in 64% of the schools it is the nurse, 22% of the schools named the administrator, 13% do not have a designated person, and in 1% of the schools it is the teacher's responsibility</li> </ul>
Increase availability of automated external defibrillators (AED) in schools; only 32% of the respondent schools had AED devices in their buildings
Increase education of school nurses in assessment and management of life-threatening emergencies to raise level of confidence; only 60% of the nurses were comfortable dealing with a seizure and only 50% were comfortable with a head injury
Recommend communities, including physicians, EMS staff, and school staff work together to assess the state of school preparedness to ensure compliance with published guidelines
Olympia, Wan, and Avner, <a href="http://pediatrics.aappublications.org/cgi/reprint/116/6/e738">http://pediatrics.aappublications.org/cgi/reprint/116/6/e738</a>

**Table 22 Recommendations following national school nurse survey**

School nurses are an excellent initial provider of health-related services but to consider them the only provider would be short-sighted. Nurses need to have the support of administrators, teachers, parents, and community providers as diverse as the students' needs. The task of school nurses does not stop with putting on band-aids, as many seem to think; their task is quite large when you consider them to be medication administrators, care providers (and plan coordinators) for those with special health care needs, first responders to urgent and acute care needs, screeners, educators, and connectors to broader community services.

#### *Successful Models of Coordinated School Health Programs*

Coordinated school health programs realize the interrelationship of school and health. Some schools welcome a few programs, while others try to meet more comprehensive student needs. The schools that look to provide a comprehensive program appreciate that significant school outcomes involve more than being able to have students successfully pass a tests of basic skills; these schools utilize a variety of services as part of their education system to produce a climate that supports students in a manner that encourages them to be "happy, believe in themselves, like school, value education and respect others" (Hoy and Hannum, 307) despite forces that might impede their ability to learn.



## Schools as Part of a Social System

If we look at schools as part of a network of social systems aimed at producing well-rounded young adults ready to transition into adulthood, we can easier comprehend ways to incorporate other components of the social network to complement education. In a systems approach, each component works to complement other components, thereby supporting the whole system. Whether conscious or not, successful CSHPs model a systems approach by networking various social interventions into the school environment to support students, families and staff. Rather than compete for limited resources, agencies in successful school-health programs coordinate their resources to best serve the interests of the child and family (Novello et al, 5).

## Healthy School Initiatives

*Grand Rapids: Health Advocacy in the Schools:* An excellent example of the concept of collaboration is showcased in the Healthier Communities program operated by Spectrum Health in Grand Rapids, Michigan. In their 2007 annual report, Mary Kay Kempker-VanDriel, program director for the Healthier Communities initiative, credits much of the program success to their model of “cooperation rather than competition.” They worked with community organizations to create an environment where organizations worked smarter by working together to address core concerns affecting persistent health issues (p 5). Key to the working smarter concept was a push for programs that measured their success and tracked progress on an annual basis, thereby assuring that limited funds were directed to programs with demonstrated efficacy (p 10).

Spectrum's programs involve a four-pronged approach involving schools, churches, neighborhoods and businesses. The Health Advocacy in the Schools program began with a single school back in 1997. As of 2007, the program employed 32 full-time staff members serving over 25,000 students in 55 schools covering six districts (p 12). Each agency works cooperatively to complement each others objectives. Programs such as this thrive under the understanding the health and education are dependent upon each other.

*Denver Health Care:* The Denver Health safety-net health system serves approximately 25 percent of Denver county residents who otherwise lack access to health care (Allison, Crane, Beaty, Davidson, Melinkovich & Kempe, e888). A cohort study of administrative databases maintained by Denver Health and the Denver Public Schools included adolescents who were uninsured or insured through Medicaid or SCHIP, because it was felt that these student would have the least access to health care outside of school. Table 23 presents some of the demographics of the population in the cohort, which represented 21 percent of Denver Public School students (Allison et al, e889).

<b>Denver Health Care Cohort Study - Participants</b>	<b>Number</b>	<b>Percentage</b>
Total in Cohort Study	3,599	100%
Students enrolled in SBHC - where one was available		94%
Enrolled students that actually used the SBHC		35 to 60%
Students who did not use any of the Denver Health clinics (school-based or not) during the study period	1,615	45%
Visited either a SBHC or community health center	1,715	48%
Students determined to be SBHC users	790	22%
Students determined to be "other" users	925	25%
Of the SBHC users, visited school center exclusively	456	58%
Allison, Crane, Beaty, Davidson, Melinkovich & Kempe, <a href="http://pediatrics.aappublications.org/cgi/reprint/120/4/e887">http://pediatrics.aappublications.org/cgi/reprint/120/4/e887</a>		

**Table 23 Demographics of Denver Health cohort study**

A 94 percent enrollment demonstrates that parents are willing to accept the availability of the SBHC should the need arise, but during the study period (2002-2003) nearly half of the students in the cohort did not use any of the health clinics in the Denver Health system. While one quarter of the students, who received health care, did not use the SBHC more than half of the students that did use the SBHC used it exclusively. Key findings of the study are shown in Table 24.

Comparison of Health Care Enrollment	SBHC Users	Non-SBHC Users
SBHC Visits	70%	n/a
Community Clinic	23%	83%
Urgent Care or Emergency Department	7%	17%
Received health maintenance visit	47.5	33.2
Insurance: SCHIP	3.2	8.0
Insurance: Medicaid	33.7	65.1
Uninsured	63.1	26.9
Students with chronic illness	15.8	15.7
Students with asthma	73	61
Source: ( Allison, Crane, Beaty, Davidson, Melinkovich & Kempe, <a href="http://pediatrics.aappublications.org/cgi/reprint/120/4/e887">http://pediatrics.aappublications.org/cgi/reprint/120/4/e887</a> , e891-892)		

**Table 24 Comparisons of SBHC users versus non-SBHC users**

Students that were SBHC users gained broader access to non-emergency services thereby saving dollars spent in urgent and emergency care settings. SBHC users were also more likely to have had a health maintenance visit and to have received recommended vaccines even though all the services were not received at a SBHC (Allison et al, e892). Students with chronic illnesses used services fairly equally, but students with asthma, in particular, more readily utilized the services SBHC. Compared to other users, "SBHC users made more

primary care visits and were less likely to use urgent/emergency department sites, although they were more likely to be uninsured” (Allison et al, e892).

Students with no insurance more readily used the services offered through the SBHC than did students receiving public insurance. This is somewhat troubling because the students who participated in the SBHC had better preventative care and fewer urgent and emergency visits, indicating that public funds were better utilized. The data in this study demonstrates that SBHC are a feasible option for accessing preventative, chronic and acute care for adolescents. The option reduced overall costs while achieving better preventative care. More should be done to encourage students, especially those on public insurance, to utilize the services of available school-based care.

*Case Management in a Rural North Carolina Region:* In the 1996-1997 school year, North Carolina school nurses identified 5 percent of their students as having a chronic illness. By the 2006-2007, that number had risen to 17 percent of the student population. Some of the rise was attributed to improved case finding, but the consensus is that the number of students suffering from a chronic illness (asthma, diabetes, obesity and attention deficit/hyperactivity disorder) has increased significantly. The situation is further complicated by the fact that minority children are affected by these chronic illnesses at a higher rate than non-minority children and management of their illness is adversely affected because of poverty and a lack of access to quality health care (Engelke, Guttu, Warren & Swanson, 205).

As a response to the situation, a school nurse consultant teamed up with a local college of nursing and implemented a case management trial as an approach to health services intervention. This type of intervention is supported by the National Association of School Nurses (NASN) as a means to “decrease fragmentation and duplication of care, enhance the quality and cost effectiveness of care, and improve the health and quality of life of children with chronic illnesses (Engelke et al, 206). One hundred and fourteen students were accepted into the first year of a study to determine how case management might benefit them in an educational setting. Demographics of the students included 54% African American and 63% came from low-income families. The most prominent health conditions were asthma (53.5%) and diabetes (32%) (Engelke et al, 209).

While the number of student participants was relatively small and the overall results were varied, a number of students experienced an increase in their end-of-year grades as well as their quality of life scores (Engelke et al, 210). Related, but aside from direct care, nurses for about one third of the children felt that the parents were unwilling or unable to support optimal health for their child; some nurses felt that one of their most positive accomplishments, in the first year, was to help parents learn how to collaborate in providing care, with actions as simple as returning phone calls. A second year of the study is currently underway with changes that include improved data collection as well as pre and post evaluations by parents and at least one teacher (Engelke et al, 212).

*McComb, Mississippi:* The 3,000 students in McComb’s school system are decidedly high risk coming from predominantly poor, single parent households

where 99 percent qualify for free and reduced lunch. The dropout rate was high and only 11 percent of the students could read at grade level (Satcher and Bradford, 1).

In 1998, the superintendent began planning for a coordinated health system that would serve each of the district's five schools, including a wellness center in each building. Along with incorporating each of the CDC's eight components of a coordinated school health system the superintendent added his own item: academic opportunity. The academic opportunity component involved identifying individual children who showed signs that indicated a need for additional support; these children were provided appropriate intervention through the coordinated system (Satcher and Bradford, 1).

- By 2000, 82 percent of the students were reading at grade level, by the time they entered second grade.
- At the end of 2001, dropouts had declined by nearly 82 percent from their level in 1997 (from 52 in 1997 to 10 in 2001).
- From 1997-98 to 2001-02, suspensions and in-school detentions dropped by nearly 44 percent (4,568 to 2,568).
- Discipline referrals dropped 60 percent.

(Satcher and Bradford, 1)

Emphasis on providing interventions that addressed the social, behavioral and health needs of the children, along with extra academic support where needed, allowed the children in McComb schools to become better students.

*Comparison study of student utilization in Whitefoord (Georgia)*

*Elementary SBHC vs. other health care sources:* The Whitefoord Elementary School-Based Health Clinic (WESBHC) has been in operation in the metro Atlanta area since 1994. An administrative study of the clinic involving children with Medicaid coverage noted that the school-based health clinic successfully changed the utilization patterns of children and achieved a reduction in Medicaid costs. An abbreviated summary of Medicaid savings is shown in Table 25; note that there is a distinction in the table between the overall Medicaid expenses of Whitefoord children who utilized the services of the SBHC as a convenience and those who used the clinic as their primary source for health services. The “other” category portrays Medicaid expenses for nearby students who did not have access to a SBHC. It is important to note that 1994 was the first year of the study and thus that data should be considered the baseline. The only data included in

<b>Average Cost for Whitefoord SBHC vs. non-SBHC Comparison Children (data includes the cost of medications)</b>	<b>SBHC</b>	<b>Other</b>	<b>Ratio</b>	<b>t Test</b>
1994 - Average yearly expense per individual	\$1741.97 (n = 269)	\$1772.38 (n = 594)	1.02	-.155
1995 - Average yearly expense per individual	\$1206.46 (n = 262)	\$1493.74 (n = 632)	1.24	-1.090
1996 - Average yearly expense per individual	\$898.98 (n = 274)	\$2360.46 (n = 349)	2.63	-4.133*
1994 - Average yearly expense per individual (P)	\$1796.62 (n = 166)	\$1772.38 (n = 594)	.99	.101
1995 - Average yearly expense per individual (P)	\$901.26 (n = 166)	\$1493.74 (n = 632)	1.66	-3.003*
1996 - Average yearly expense per individual (P)	\$727.30 (n = 169)	\$2360.46 (n = 349)	3.25	-4.619*

P = students who use the clinic as a primary care provider

\* = t value significant at .01 level  
784)

(Adams & Johnson, 783-

**Table 25 Study of cost savings through a SBHC - Whitefoord Schools**

this study is that of children who were enrolled in Medicaid. Also of note is that a subset of data (Early and Periodic Screening, Diagnostic and Treatment and some other primary care services) for the Whitefoord students was somewhat underrepresented due to a period of inaccurate billing in late 1996 (Adams & Johnson, 782-784).

While there were relative few asthmatic students in the Whitefoord school the overall expenses reveal that, while asthmatics are more expensive to treat than the average student, the cost for Whitefoord SBHC students is still significantly lower than those associated with non-SBHC students. Table 26 represents a subset study of the total costs associated with students with a diagnosis of asthma (Adams & Johnson, 786).

<b>Average Costs of Children with ASTHMA Diagnosis: Whiteforord vs. Comparison Children</b>	<b>SBHC</b>	<b>Other</b>	<b>Ratio</b>	<b>t Test</b>
1994 - Average yearly expense per individual	\$2372.77 (n = 26)	\$2414.42 (n = 68)	1.02	-.052
1995 - Average yearly expense per individual	\$1757.80 (n = 34)	\$2540.93 (n = 81)	1.45	-1.030
1996 - Average yearly expense per individual	\$1966.77 (n = 34)	\$4078.38 (n = 53)	2.07	-2.176

**Table 26 Asthma costs in the Whitefoord SBHC vs. other sources of care**

The final summary of the Whitefoord study concluded that while the cost of preventative services increased with utilization of the SBHC, there was a significant accompanying reduction in emergency room visits, therefore a reduction in the expenses associated with an emergency response service (Adams & Johnson,787).

SBHCs are often the result of creative and persistent searches for funding, usually through grants and partnerships with non-profit organizations and health



care facilities. Schools are not equipped to deal with this problem on their own, nor should they be; they need structure and guidance from their federal and state and local leaders and they need to build partnerships within their communities. An effective health-care response can be built into schools to address the needs of students so that they better benefit from their education by being both physically and mentally present.

### Michigan Full-Service Schools Initiative

The State of Michigan piloted a full-service schools initiative in 20 high priority school districts in the state that was expanded to an additional 20 sites in 2004. Of the schools that participated, some had school-based health centers (SBHC) and others had school-linked health centers (SLHC). The differences between the two are made obvious in their name; school-based health centers are located within the school itself and school-linked health centers linked to a center within the community. Both types are staffed by trained professional caregivers with knowledge of the specific age group and how to provide or refer for services appropriate to the student's needs (Haller and Tarry, 6). Following are brief summaries of several programs throughout the State of Michigan.

*Ann Arbor's HP101:* In 2003, Ann Arbor schools introduced HP101 in Scarlett Middle School. The mission of HP101 was to promote the health and holistic growth of students and families in the school. In its first year, the school-based health center increased adolescent immunization rates by 68 percent and 50 percent of the students who completed the asthma program had three fewer absences from school. Greater than 90 percent of teachers took advantage of

the program by making student referrals: 70 percent for both medical and social work services, 25 percent for medical only services and 5 percent for social work only services (Haller-1, 6).

*Pontiac, Michigan's High Need Response:* Pontiac is a high poverty, high minority district that is has recognized that a healthy response has improved their ability to teach students. In 1999, they developed partnerships with local organizations to address health conditions such as type II diabetes, asthma and obesity. Since then, they have increased attendance, decreased suspensions, and improved their MEAP scores (Haller-2, 8).

*Detroit Edison's Comprehensive Health School Team:* Detroit Edison Public School Academy, a charter school of 1,100 students, has adopted a Comprehensive Health School Team (CHST) as a means to help improve student outcomes. The school has instituted individual emergency care plans and tracking of students with chronic illnesses, as well as improved nutritional management of meals and physical activities for all the students. Their team has also developed a staff wellness program offering health management programs to school employees with monthly acknowledgment of success. It is expected that improving the health of staff and children will help the students feel more secure, resulting in academic improvement (Murphy, np).

The programs at Detroit Edison are designed to support academic learning, reinforce positive social behaviors, and help students make smart health choices while engaging parents, teachers, students and communities to work together to keep students healthy. Model programs include: health

education; physical education; health services; nutrition services; family involvement; health promotion for staff; counseling, psychological and social services; health school environment; and academic support (Haller-2, 8).

Initial reactions from local communities have been overwhelmingly positive with anecdotal evidence that both classroom behavior and family stability increased (Haller and Tarry, 6). Expected outcomes of this intervention program include improved attendance, decreased dropouts, decreased substance abuse and violence, and decreased needs for emergency room and urgent care services. A key belief is that through prevention, early detection and prompt intervention to health and related concerns, children will be more successful students (Haller and Tarry, 12).

#### Tools to Enhance Coordinated School-Health Programs

*Safe Schools/Health Students Initiative:* When provided “effective health services, students engage in less risky behaviors and have better health outcomes, which influence their educational behaviors, and ultimately, educational outcomes” (Geierstanger and Amaral, 13). Since 1999, the U.S. Departments of Education, Health and Human Services, and Justice have collaborated with the Safe Schools/Healthy Students (SS/HS) Initiative. Eligible local education agencies (LEAs) and consortiums of LEAs can apply for federal funds to help support programs and activities at the local level that meet the goals of the SS/HS initiative. Programs submitted for funding must include five required focused areas of concern:

- Safe school environments and violence prevention activities

- Alcohol and other drug prevention activities
- Student behavioral, social, and emotional supports
- Mental health services
- Early childhood social and emotional learning programs

For the year 2008, 55 new initiatives were funded in 27 states at a total cost of over \$74 million. Two districts in Michigan (Waterford and Muskegon) were selected as recipients of funding just short of \$1.5 million each (SS/HS, np).

*Tools from the Centers for Disease Control and Prevention:* The Centers for Disease Control and Prevention have developed a plethora of tools and resources that schools can use to help them address health-related concerns in the school environment. Following are brief summaries of some of the tools:

- *The School Health Index (SHI)* is a self-assessment tool that enables schools to identify their strengths and weaknesses with regard to their school health promotion policies and promotions. The SHI inventory results can then be used to develop school health action plans by involving administrators, staff, parents, students and interested community members.
- *The Food-Safe Schools Action Guide* can be used by the school health team to help them determine measures to prevent, manage and respond to food borne illnesses.
- *The Health Education Curriculum Analysis Tool (HECAT)* helps schools align their health education programs to National Health Education Standards.
- *Improving the Health of Adolescents and Young Adults: A Guide for States and Communities* helps guide schools and other interested parties to build collaborative efforts that align with the Healthy People 2010 objectives.

- *Making It Happen!* is a guidebook for nutritional advocacy in the schools.
- *Physical Education Curriculum Analysis Tool (PECAT)* aligns physical education classes to national standards and best practices.

(CDC-5, np)

*Learning from the Evidence:* While there are many outside resources for self-assessment, there is much to be learned by keeping communication lines open for school stakeholders to address concerns. Much can also be gained by making critical observations about what activities or behaviors are interfering with the ability of students to focus and learn.

A survey through the School Health Unit of the Massachusetts Department of Public Health (September 2001 to August 2003) revealed a total of 115 reports of epinephrine injections for severe allergic reactions in 48 school districts. Although the majority of injections (18) occurred in the month of May, there were reports for every month of the school year. In 60 percent of the cases, the allergic reaction was related to food exposure but the trigger was only identified in 43 percent of the cases. In 24 percent of the cases, school personnel were unaware of a life-threatening allergy and no individualized health care plan (therefore no physician order for medication) was on file for the individual. Additionally, four of the cases were to adult staff members of which only two were aware they had a life-threatening allergy (McIntyre, Sheetz, Carroll, and Young, 1136). This study revealed opportunities for improving preparation, education and care of individuals with life threatening allergies (McIntyre et al, 1139).

Local and State education agencies need to be constantly vigilant about changes in the quality of life factors facing their students, families and communities. As social, health and economic influences change, responses from school and community organizations will need to be flexible in order to best meet changing needs. By having coordinated school-health-community teams in place, each of the entities can better flex and change to address dynamic situations.

## **Economic Considerations**

### *The Growing Need*

Federal expenditures for education are greater than ever (Ed-13, 3) and Federal expenditures for public health care are growing at such a fast rate that they have become a major economic concern (HHS-5, 25; and HHS-6,np). These factors, combined with studies that conclusively show that good health is imperative to effective learning (Costante, 1; and Novello et al, 3) and that better educated individuals have better health (Novello et al, 9; and RWJF-2, 16) and both are imperative to a strong economy (RWJF-2, 24; DeNavas-Walt et al, 4; Ed-2, 145), bring proof that the most efficient use of public resources is to address student needs in an integrated fashion. Ultimately, the responsibility for the health and education of children is shared by all in the community and should be addressed accordingly; ignoring the problem of unmet needs does not make it go away, it just prolongs the problem and exacerbates the damage that occurs.

The burden upon society for people who are ill equipped to be productive citizens is quite large. Welfare, Medicaid, foster care and prison costs are just a

few of the major societal expenses that we incur when people are not prepared to sustain themselves. Aside from these direct costs, the economic snapshot must also include considerations such as marginalized incomes and a reduced tax base from people who are not able to achieve their full potential. Our own economy will be strengthened if can avoid negative outcomes by investing in fully preparing today's children for their adult lives with a solid educational foundation.

### Applying Economic Theories

Governments, schools, parents, businesses and community organizations can work cooperatively to determine how best to allocate scarce resources. In a paper comparing and contrasting the relationship of bureaucracies and school performance, Smith and Larimer (2004) discuss the argument of economies of scope as a challenge for schools. The economies of scope argument states that, "it is more cost-effective for a single firm to produce two or more outputs jointly rather than have these outputs produced separately by different firms" (Browning and Zupan, as cited by Smith and Larimer, 731). If this economical perspective is applied to the direct goals of education and public health, it strengthens the argument that the two agencies can, and must, make better use of their funds by learning to work more cooperatively so they can more efficiently meet their shared goals.

Baumol and Binder (as cited in Smith and Larimer, 731) go on to state that "if an organization has limited resources and is expected to produce multiple outputs, it will be forced to make trade-offs if it wants to maximize the production of one particular output." This economic argument, widely accepted in areas such

as manufacturing, can also be applied to the education perspective. If education institutions try to achieve AYP goals, without partnering with other agencies and throughout communities, they will be forced to make tradeoffs; many schools fall into this category today where academic activities (to pass the test) are supported, but non-academic activities that are proven to strengthen education, do not get prioritized because they are not as visible, or they are not viewed as important enough to warrant resource allocations. For instance, schools spend large amounts of Title I funds on SES activities such as tutoring, yet students are still held back because of unmet health-related needs. With careful consideration, this argument can be fundamental to school-health modeling.

### Economic Cost of Dropping Out of School or Not Reaching Full Educational Potential

Economically at-risk students and students with disabilities have been traditionally those most likely not to complete their education or barely complete their education (Ed-6, Indicator 12; and Novello et al, 7). The Pew Partnership for Civic Change cites some startling statistics about the economic costs of dropouts.

- 2,500 students leave high school every day (1,000,000 a year) (p1)
- Annual lost wages, productivity and taxes attributed to dropouts amounts to >\$200 billion (p1)
- More than two-thirds of inmates in state prisons are school dropouts (p1)
- Only two-thirds of students who enter 9<sup>th</sup> grade will graduate with a regular diploma four years later; even among the most



advantaged, one in four students will drop out of school (p4, p6)

- Almost half of all African-American men who drop out of high school have a prison record by the time they are in their early 30s (p7)
- Nearly 80 percent of dropouts depend on the government for health care (p7)
- Each youth that drops out and turns to crime or drugs, costs the nation \$1.7 to 2.3 million in crime control and health expenditures (p7)
- For those who work, the lower wages of dropouts translates to a reduction in state and local taxes amounting to \$36 billion (p7)

(Melville)

The negative forces that put demands on the nation's economy far outweigh the cost of intervention. These statistics alone, provide reasonable need that our public system needs to do a better job of provide the services to children that are shown to improve educational success.

### Combined Employment, Income and Health Prospects

The Department of Education has shown that students that are not educated to their full potential earn less than their educated counterparts and will likely live their lives with a much less secure economic outlook.

Table 27 reflects the relationship between earnings potential to and an individual's level of

Relationship Between Education and Income Potential		
Level of Education	Annual Income	Percent change from baseline
< H.S. Diploma	\$22,000	baseline
H.S. Diploma	\$29,000	32%
Assoc Degree	\$34,000	55%
Bachelor Degree	\$43,500	98%

Source: Condition of Education 2008 (Ed-6), Sect 2, p 30

**Table 27 Relationship between education and annual income - 2006**

education; it indicates a direct relationship between education and the average achieved annual income.

In addition to income, Table 28 demonstrates that an individual's level of education directly relates to their ability to maintain employment. Those with the highest education levels possess far more security in their employment prospects. In addition to education being directly related to income and the ability

		<b>Employment Data compared to Education Levels</b>								
		2002	2003	2004	2005	2006	2007	2008	% Change from 2002-2008	2009 (Feb)*
< H.S. Diploma	1	40.6	41.0	41.2	42.0	43.2	43.3	42.4	4.4%	40.5
	2	8.4	8.8	8.5	7.6	6.8	7.1	9.0	7.1%	12.6
H.S. Diploma	1	60.8	60.3	60.0	60.3	60.4	60.1	59.1	-2.8%	57.1
	2	5.3	5.5	5.0	4.7	4.3	4.4	5.7	7.5%	8.3
Some College	1	67.7	67.3	67.1	67.3	67.4	67.2	66.0	-2.5%	67.1*
	2	4.8	5.2	4.5	4.2	3.9	3.8	5.1	6.3%	7.0*
Assoc Degree	1	74.1	73.6	73.8	74.2	73.9	73.8	73.5	-0.8%	67.1*
	2	4.0	4.0	3.7	3.3	3.0	3.0	3.7	-7.5%	7.0*
Bachelor Degree or Higher	1	76.3	75.8	75.8	76.1	76.3	76.3	75.8	-0.7%	74.4
	2	2.9	3.1	2.7	2.3	2.0	2.0	2.6	-10.3%	4.1

1=employment-population ratio  
2=unemployment rate

\* in monthly statistics. "some college" and "associates degree" are combined  
Source: <http://www.bls.gov/cps/tables.htm#charunem> (annual data-Table 7); <ftp://ftp.bls.gov/pub/suppl/empsit.spseea5.txt> (monthly data-Table A-5); retrieved 3/14/2009

**Table 28 Relationship between education and ability to maintain employment**

to maintain employment, Appendix 13 demonstrates evidence that there is an undeniable relationship between the level of education attainment and adult health. In every category, a higher the level of education resulted in a larger percentage of people with excellent or very good health. The largest increase (44%) was between those who did not complete high school and those who had a high school diploma. Clearly, "education is the stepping stone to higher living standards for American citizens, and it is vital to national economic growth. Education improves health, promotes social change, and opens doors to a better

future for children and adults” (Ed-2, 145). These data tables demonstrate that a lack of educational achievement perpetuates itself into a financial drain on society. The cyclical nature of the two socioeconomic elements (health and education) provides the foundation for the argument that schools must be partners in assuring the health of their students.

### *Funding for Education*

Of the total fiscal year 2007 revenues collected for public elementary and secondary education (\$555.3 billion), state and local governments provided 91.5 percent (508.3 billion) and the Federal government provided 8.5 percent (\$47.0 billion). The Federal contribution included funds channeled through the Department of Education, the Department of Human Services and the Department of Agriculture (Ed-2, 142; and Zhou, 2). Yet, less than ten percent of total funding to public primary and secondary schools comes from Federal agencies (Zhou, 2; Ed-1, np; and Census-1, 5).

Redistributive program spending (Title I, Head Start, school lunch programs, bilingual, and Native American education), from 1970 to 2002, has produced a shift in Federal expenditures as it increased from 36 per cent to 63 per cent of the total federal spending in elementary and secondary schools. For example, the school lunch program increased funding from \$299 million in 1970 to \$10.3 billion in 2002 and the Head Start program funding went from \$326 million to over \$6.5 billion in real dollars during the same period (Wong, 3).

As the Federal government has made greater demands on schools to better meet the needs of at risk students, Title I funding has become a huge part

of Federal support to education institutions. In FY 2005, Federal Title I expenditures to schools amounted to \$20 million, which was a 199 percent increase from FY 1995 (Stullich et al, 6). Within Title I, the maximum funding per student, for supplemental education services, as reported by districts, was \$1,434 in 2004-05 (Stullich et al, 17). “In the 2004-05 school year, nearly three-fourths (73 percent) of district and school Title I funds were spent on instruction, 16 percent were used for instructional support, and another 11 percent were used for program administration and other support costs such as facilities and transportation. About half (49 percent) of local Title I funds were spent on teacher salaries and benefits, with an additional 11 percent going for teacher aides” (Stullich et al, 7).

As is shown in Table 29, funding for primary and secondary schools rests primarily with local and State governments, but the contribution from the Federal government goes beyond the actual appropriations. There is tremendous value to the technical support, dissemination and guidance that originate from a variety of Federal agencies to help strengthen education in a broader sense.

<b>Percentage Distribution of Revenues for Public Primary and Secondary Schools by Source of Funding</b>			
Year	Federal	State	Local
1970-71	8.4	39.1	52.5
1980-81	9.2	47.4	43.4
1990-91	6.2	47.2	46.7
2000-01	7.3	49.7	43.0
2005-06	9.1	46.5	44.4
NCES 2009-337 (Zhou)			

**Table 29** Percentage distribution of revenue for public primary and secondary schools, by source

### *Economic Considerations of Providing Health Care*

Health care expenditures are a critical domestic issue for Americans, but expenditures are only one side of the economic coin; the other consideration is

cost. Costs can be diverse and far reaching; they include elements such as the cost of not having medical insurance, the cost of not having access to care, the sacrifices that are made in order to pay for premiums or copayments, the societal cost associated with providing for those who cannot provide for themselves. In their 2008 publication, *Obstacles to Health*, the Robert Wood Foundation states that “medical spending consumes 16 percent of the U.S. gross domestic product (GDP), much more than any other industrialized nation, and by 2015 it is expected to reach 20 percent of GDP” (p12).

With the current economic crisis health care is becoming more and more questionable for American families. More and more children are losing access to health care at a time when more is expected of them on the education front. Parents, as primary caregivers, are certainly the people ultimately responsible for the health and wellbeing of children. Unfortunately, more and more parents are not in a position to provide health care for their children. “Children in poor families are about seven times as likely to be in poor or fair health as children in the highest-income families” (RWJF-2, 16). Job instability often prohibits parents from simply affording health care. Just as NCLB aims to provide access to quality education for all children, all children should have access to basic health care: preventative care, chronic care and acute care.

The modicum of very diverse responses that are occurring around the nation do not reach enough children, nor do they provide needed services to enough individuals. Just as the Federal government has provided an avenue for children to have access to adequate education, it is time for them to do the same

with access to adequate health care. The answer is not to simply appropriate more funds, but to make the funds work more effectively.

At some point, society must intervene because the cost of not providing health-related services to children is far greater than the expenditure to do so. “Although it is difficult to quantify the full economic toll, poor health can limit a person’s—and a family’s—educational, career and financial opportunities, creating a cycle of disadvantage that extends across lifetimes, generations and racial lines” (RWJF-2, 3). The question quickly becomes one of what are the limits, if any, for society when the financial burden continues to skyrocket with no end in sight. “The debate over possible solutions has focused largely on the spending side of the ledger—the rising price of care and who pays” (RWJF-2, 3). One’s health “is as much about where you live and work and play as it is about whether you have access to good quality care” (Marks, as cited in RWJF-2, 7). While schools cannot control where a person lives, they can help determine if children get good health-related care, they can help provide appropriate academic support, and they can help provide an environment that helps children feel safe and secure.

The optimum public response may well lie in providing more access to care while exerting better control over expenditures by shifting some responsibilities from agency to agency and expecting service providers to work more cooperatively toward their shared goals. With children spending a bulk of their waking hours in school, it becomes a likely location to delivery many necessary health-related services. Additionally, schools must be able to respond

appropriately to the health needs of children while they are in their care. There are both legal and moral imperatives for schools to have established protocols and trained staff to recognize and effectively deal with sudden onset of illness or injury and for meeting the needs of students with chronic illnesses. The mandate established in NCLB is that all children will have improved performance. In order to succeed in that mandate, schools must consider what factors impede effective learning.

### The Cost of Chronic Health Care

In a study published by Chan et al, in 2002, the comparative costs of caring for a child without asthma or ADHD was compared to the cost of a caring for a child with asthma or ADHD. It appears that this was the first study to attempt to produce national estimates of health care use and costs for children with these common chronic conditions. The study determined that the average additional expenditure for children with each of the conditions was similar: asthma expenditures averaged \$437 and ADHD averaged \$479 (CI 95%) (p508). The researchers extrapolated the cost across the population of children who are in treatment for ADHD and determined the annual additional cost of these children is \$1.5 billion (p510).

In another study that involved asthma, researchers sought to identify both direct and indirect costs of asthma. The study involved data collected from a 1996 Medical Expenditure Panel Survey. A review of the data showed over 2.5 million children between the ages of 5 to 17 were being treated for asthma with a medical cost of over \$1009 million. Of these children, the average school

absence days were about two and a half days. Parents' loss of productivity from missing work was factored in at over \$719 million. When lifetime lost earnings were factored in for the children who died from asthma, it amounted to nearly \$265 million. In all, the economic cost was determined to be nearly \$2 billion (Wang, Zhong, and Wheeler, 1). A review of the asthma-related services that children received allowed the researchers to determine that, of the amount spent on treating asthma, 21 percent (over \$211 million) was preventable had children received effective interventions. The resulting decrease in absences would lead to fewer parent work loss days; therefore nearly \$934 million in lost productivity was preventable (Wang et al, 8).

These studies are but two examples of why chronic illness response should be an important consideration in the coordinated school health concept. Since these children spend a large portion of their day at school, effective treatment is an important consideration for the individual child, but also to overall classroom management and the ability of all children to learn. If families are unable to obtain or participate in effective treatment, then all children that are in the same learning environment are affected by the condition because of its disruptive nature. It is in the best interest of all children in an education setting for administrators and staff work toward designing and implementing effective protocols that replicate effective practices that can be used in the school and reinforced in the home.



## Potential Savings through School-Based Health Centers

Preventative care and routine check ups are an important aspect of keeping children healthy and preventing the onset of chronic or acute conditions. However, “children whose families earn less than \$20,000 per year had fewer physician contacts than those whose families earn more. Children from families earning less than \$20,000 had 40 percent more hospital days, suggesting that children from poorer families do not receive health care until later in the course of their illnesses and as a result require more hospitalizations” (HRSA, as cited in Novello et al, 5). To be clear on the earnings level mentioned above, the Bureau of Labor Statistics’ inflation calculator puts the equivalent value of \$20,000 in 1990 at \$32,470 in 2009.

Rather than simply looking at access as an issue for children and families, perhaps it is best viewed as bi-directional, with health care professionals needing access to children. If health care professionals can gain access to children, who are not otherwise receiving care, they can provide better preventative and chronic care services. Avoiding acute care situations, involving illness or injury, are a key component to reducing overall health costs. Through cooperative efforts and partnerships, agencies can pool their resources to provide education and care that better addresses preventative needs and chronic conditions where children spend the bulk of their day. If health care professionals can monitor and identify signs that afford them early intervention, health care costs can be minimized. Public schools are a logical venue to provide regular monitoring of

children in order to address the public interest in (1) maintaining a healthier populace, and (2) using public resources effectively.

The *Fiscal Year 2007 Performance and Accountability Report* for the U.S. Department of Education reveals appropriations of over \$10 billion to each of their three largest programs: Title 1 Grants to elementary and secondary education; Pell Grants to postsecondary financial aid; and Special Education Grants to States under the Individuals with Disabilities Education Act (IDEA) (p17). In looking for ways to get more impact per dollar, it is important to recall that there is some naturally occurring overlap in the population of students who receive benefits under both Title I and IDEA. For instance, an investment into a SBHC or a CSHP would be an intervention that addresses shared goals of both programs but through its implementation can make a tremendous impact for all students, e.g. with Title I students, a SBHC would be an intervention that allows students to be healthier and better prepared to learn, for IDEA students, it effectively meets the mandate for health-related services that must be offered so that students are able to attend school, including individual health response plans for the most medically fragile students. Ultimately, a SBHC can benefit all students by being able to effectively and appropriately deal with any health-related issue that arises during the school day, including education programs for students and families, urgent care response, and helping teachers better understand student needs.

## Concern Regarding Medicaid Reimbursement for Mandated Services

The ability to seek compensation from Medicaid, for reimbursement of medical expenses is a valid concern and a subject of some confusion for education institutions. In 2007, the National Governors Association passed a position statement regarding the ability of schools to receive reimbursement through Medicaid of IDEA mandated related-health services:

To provide these mandated services, school districts should be able to legitimately claim reimbursement from Medicaid... Failure to create systems that allow all schools to participate fully and reimburse school districts at a reasonable rate contributes to the huge shortfall in IDEA funds. Governors urge the Centers for Medicare and Medicaid Services (CMS) to:

- work with states to ensure that all school districts have access to Medicaid funds to cover the costs of providing IDEA health and related services;
- permit school districts to use flexible billing methods that meet the needs of children and school districts; and
- allow states to oversee the integrity of such transactions through state plans or practices.

(National Governor's Association, np)

The concerns of the Governors are certainly valid; however, care should be taken to ensure that reimbursement is limited to services provided by trained and appropriately certified health professionals. Schools should not be encouraged to develop practices that shortcut the integrity of health care by having services provided by unqualified professionals; once again, the issue of

highly qualified status should apply to health providers in schools, not just teachers and related education staff. Having services provided through local partnerships and/or through public health departments would ensure safety, appropriate standards of care, and the ability to bill Medicaid for public health services. Separating health and education at the administrative level, while meshing services for optimum effectiveness, would create a much simpler system in the long term by eliminating a potentially thick layer of bureaucracy.

#### Potential Sources for Agency Assistance

Throughout their lives, the health and education needs of children should be addressed in tandem (Novello et al, 2). There are a number of agencies already working in communities and supporting children. If education agencies were to set up strategic partnerships and alliances with other health and social service agencies, they would be able to make the combined efforts part of the fabric of the educational institution. In some cases, like the National School Lunch and Breakfast program, this is already being done. If health-related services were similarly aligned through the public health departments, they too could help eliminate confusion and provide a more uniform program of intervention to students.

Current methods of providing school-health responses are quite diverse and often built for the sole purpose of addressing a mandate that schools are forced to meet as part of the IDEA. Unfortunately, this type of service does not seem to adequately support the intent that brought about its inclusion. Congress used exceptional insight when they mandated that students with special health

needs are entitled to receive accommodating services in the school environment so that they are better able to benefit from their education. Unfortunately, rather than formally writing public health professionals into the mandate as health partners, Congress left it to education institutions to determine an appropriate health response. Empowering educators to make health-related decisions too often results in the inadequate utilization of health care professionals, the utilization of inappropriately trained health responders to provide services to children already struggling with complicated medical problems, and a lack of appropriate funding with which to perform services.

If education institutions were to partner with other agencies, they would be able to delineate activities appropriate to the interests and goals of the various agencies from a funding perspective, but maintain the integration of services providing a response to the whole child. Funding for a school-based health-response could come from other agencies when they develop partnerships with schools, i.e. Medicaid funding, or even private insurance funding, could be brought in through partnerships with health agencies. Additionally, many program areas under NCLB, which are currently underutilized in terms of a potential health-related response, could also be used as a conduit to provide services. Possible program areas that could be utilized as a partner in providing services include supplemental education services, school dropout prevention, comprehensive reform (Title I), 21<sup>st</sup> century schools (Title IV), innovative programs (Title V), educating homeless children (Title X), and Indian, Native Hawaiian & Native Alaska programs (Title VII). Once the old mold is shattered

and schools become partners with health care providers, many doors for health-related service opportunities open.

*Safe School Programs should include Health Response:* A large number of school districts, especially secondary schools, have police liaisons and security personnel on staff throughout the school day and at afterschool activities. Although an incidence of violence is much rarer than incidents of injury or illness school nurses or medical personnel are found much less frequently in schools. It's incomprehensible why the same attention for safety is not focused on addressing the health needs of students while they are in school to learn (Ed-14, 3-5).

The Safe Schools/Healthy Students (SS/HS) initiative, which is jointly provided by the Departments of Health and Human Services, Education, and Justice, has developed some very positive programs, but their own website states their focus is "to prevent violence and substance abuse among our Nation's youth, schools, and communities" (SS/HS, np). While mental and social well being are components of the SS/HS program, their perspective is more of a global approach to reducing the affects that result in violence and substance abuse. While laudable from an education environment perspective, the generalized approach does not attempt to address the most basic health and safety needs of children that help create better individual students. Despite the name, basic health needs like immunizations and preventative care, along with services for chronic care do not seem to be component of the Safe

Schools/Healthy Student initiative. This initiative, with its affiliation to three Federal agencies would be an excellent partner to a CSHP.

### *Expenditures for Health Care*

Data from the Department of Health and Human Services Bureau reveals that the total amount of funds spent on personal health has had significant growth from 1987 to 2004 (ranging from 5.7% to 8.3%). Table 30 shows the amount reported to have been spent on children from 0-18 years relative to the total amount spent by all age groups combined. While the percentage of expenditures for the 0-18 age group has remained steady as a part of total health.

<b>Child Health Expenditures as a Category of Total Health Expenditures</b>					
	1987	1996	1999	2002	2004
Total Health Expenditures (millions)	\$442,771	\$910,273	\$1,068,313	\$1,341,226	\$1,551,255
Total Child Health Expenditures (millions)	\$58,965	\$120,985	\$142,964	\$184,240	\$206,025
Percentage of Total	13.3%	13.3%	13.4%	13.7%	13.3%
Percent Annual Growth	8.30%	5.70%	8.80%	5.70%	7.60%

<http://www.cms.hhs.gov/NationalHealthExpendData/downloads/2004-age-tables.pdf>, retrieved 2/19/2009  
(CMS-2)

**Table 30 Child health expenditures relative to total health expenditures**

The portion of health care that is provided through public funds (Table 31) has grown from 8.4 percent to 12.3 percent. In particular, note that Medicaid expenditures for the 0-18 age group went from 15.8 percent of the total Medicaid expenditures to 23.6 percent. Among all providers in the 0-18 age group, the CMS reports that the portion of funding for health care in the 0-18 age group that was provided through public sources has grown from 25% in 1987 to 41% in

2004. Clearly there is a breakdown in the public sector provision of health benefits and the public is absorbing an ever growing amount to compensate for that change.

<b>Distribution of Public Dollars for Personal Health Care in 0-18 Year Olds</b>						
(Dollars in millions)	1987			2004		
	Total	0-18 Yrs	Percentage	Total	0-18 Yrs	Percentage
Medicaid	\$47,719	\$7,555	15.8%	\$269,892	\$63,655	23.6%
Medicare	\$80,481	\$65	0.1%	\$303,417	\$191	0.1%
Other Public Funding	\$46,509	\$7,026	15.1%	\$119,046	\$21,051	17.7%
Total	\$174,709	\$14,646	8.4%	\$692,355	\$84,898	12.3%

Source: CMS-2

**Table 31 Distribution of public dollars for personal health care in 0-18 year olds**

The four largest categories of expenses in health care, attributed to children in the 0-18 age group, include Hospital Care, Physician/Clinic Care, Dental Care and Prescriptions. Table 32 shares the changes that have occurred between 1987 and 2004, most notably a significant rise in prescription usage and a significant drop in physician/clinic care. These numbers should warrant cause for further investigation, because it may indicate that while prescription use has increased, a corresponding rise in visits to physicians and clinics, to monitor the effects, does not appear apparent.

<b>Service Distribution, 0-18 Age Group</b>		
Service	1987	2004
Hospital Care	39%	38%
Physician/Clinic	32%	28%
Dental Care	11%	12%
Prescriptions	5%	8%

Source: CMS-2

Note: total does not add to 100% because only the major categories are represented in this table

**Table 32 Distribution of services within 0-18 age group**

Finally, Table 33 provides a representation of the expenditure outlays by both public and private funds in 2004. It shows that in the 0-18 age group, total private expenditures amounted to 59 percent of all outlays and public



expenditures amounted to 41 percent. The breakdown shows that private health insurance covered 41 percent of children while Medicaid covered 31 percent of children.

<b>Personal Health Care Spending for the 0-18 Yr Age Group and Source of Payment, 2004</b>									
<b>Total Payer (in millions)</b>	<b>Total</b>	<b>Total Private</b>	<b>PHI</b>	<b>OOP</b>	<b>Other Private</b>	<b>Total Public</b>	<b>Medicare</b>	<b>Medicaid</b>	<b>Other Public</b>
Total	\$1,551,255	\$858,900	\$558,108	\$235,765	\$65,028	\$692,355	\$303,417	\$269,892	\$119,046
0-18 yrs	\$206,025	\$121,128	\$85,187	\$26,313	\$9,628	\$84,898	\$191	\$63,655	\$21,051
Distribution by Payer	13%	14%	15%	11%	15%	12%	0%	24%	18%
Distribution within Age Group	100%	59%	41%	13%	5%	41%	0%	31%	10%

PHI-Private Health Insurance; OOP-Out of Pocket

<http://www.cms.hhs.gov/NationalHealthExpendData/downloads/2004-age-tables.pdf>, retrieved 2/19/2009 (CMS-2)

**Table 33 Personal health care spending for 0-18 year olds, by source of payment - 2004**

## Public Health Care Expenditures

The *2008 Actuarial Report on the Financial Outlook for Medicaid* projects that “cumulative spending on Medicaid benefits [were] projected to reach \$4.9 trillion over [the next] ten years” (HHS-5, 15). The same report projected an annual Medicaid rise of 7.9 percent with a projected growth in the economy of only 4.8 percent in comparison (HHS-5, 15). In FY2007, Medicaid spending was \$333.2 billion with the Federal government providing 57 percent of the total (HHS-5, 15). In the October 17, 2008, news release for the report, Secretary Leavitt was quoted as saying, “This report should serve as an urgent reminder that the current path of Medicaid spending is unsustainable for both federal and state governments. We must act quickly to keep state Medicaid programs fiscally sound... If nothing is done to rein in these costs, access to health care for the nation’s most vulnerable citizens could be threatened” (HHS-6, np).

On average, there were 49.1 million people receiving Medicaid benefits, but there were as many as 61.9 million at some point during the year (HHS-5, 10). Twenty-three and a half million non-disabled children account for 49 percent of Medicaid enrollees, but only 19 percent of expenditures at an average cost of \$2,435 per enrollee. Eight and half million blind and disabled individuals make up 18 percent of enrollees but accounted for 48 percent of expenditures at a cost of \$14,858 per enrollee (HHS-5, 12). Upon submitting the report, acting CMS Administrator, Kerry Weems, stated that, "As a nation we must tackle the difficult job of bringing health care costs under control and assuring that our health care dollars are buying the highest quality, most efficient health care services" (HHS-6, np).

At the Federal level, Medicaid does not have a dedicated source of funds, so any increases in spending affect the general budget by taking funds from other programs (HHS-5, 25). For States, public primary and secondary education is the only category of spending that exceeds Medicaid contributions (HHS-5, 24). The recommendation of the actuary, following the same recommendation by the Medicare Board of Trustees regarding Medicare, was that Congress realize the implications of the rapid growth of Medicaid and undertake measures to slow the growth, most likely in the generation of new laws (HHS-5, 25).

### *Education and Incarceration Correlation*

There is a clear correlation between education level and the likelihood of incarceration in prison. The report on Correctional Populations in the United

States, 1997 (2000) reveals the following populations in Federal and State prisons:

	Prison Population	≤8 <sup>th</sup> grade education	No H.S. diploma	GED	Total
State Prison	1,075,167	14.2%	23.9%	25.1%	63.2
Federal Prison	101,755	12.0%	17.4%	19.8%	49.2
Source: DOJ, 2-3 & 48					

**Table 34 Population of prison inmates that did not receive a H.S. diploma**

The Pew Partnership for Civic Change reports that the public cost of crime control and health services for every person who drops out of school and turns to crime is \$1.7-\$2.3 million (Melville, 7). Further evidence of indirect costs associated with not completing high school is the 68 percent rate of inmates in State and Federal prisons that are high school non-completers (DOJ, 48). Taking the number of persons in prison in 2007 and multiplying it by 68 percent, it can be inferred that 800,307 inmates are non-high school completers. Taking that population and multiplying by the average annual cost of providing for an inmate (\$22,650) (Stephan, np), the relative cost for inmates that are non-high school completers appears to be \$18.1 billion. That is not to say that these costs would be eliminated with better education, but research shows it could be dramatically reduced.

### *Hypothetical Applications of Data*

A situational application of data to try to estimate costs associated with providing school nurses to all public primary and elementary school children, relative to current school expenditures, is presented in Table 35. The hypothetical average expenditure for salary and benefits for a school nurse was

estimated to be \$70,000 (average salary \$40,000-\$60,000 x .40 for benefits). If the total population of primary and secondary students is divided into the recommended ratio, the result is a need for approximately 65,485 nurses to meet minimum health-related needs of children during the school day. Completing the calculation, it appears that the relative cost of providing a school nurse would be \$4.5 billion dollars. Dividing that cost by the number of students enrolled, gives an average annual cost of \$93 per student.

<b>Hypothetical Application of Actual 2005 Data</b>	
Number of Public Primary and Secondary Students <sup>1</sup>	49,113,474
Number of nurses necessary to meet 1:750 ratio (calculated)	65,485
Est Avg salary & benefits for school nurse \$70,000	\$4,583,924,240
Avg total amt spent per pupil *	\$10,071
Cost per pupil for nurse (calculated)	\$93
Total Expenditures for primary and secondary education <sup>1</sup>	\$499,100,000,000
<sup>1</sup> NCES	
*Excludes "Other current expenditures," such as community services, private school pro-grams, adult education, and other programs not allocable to expenditures per student at public schools.	

**Table 35 Hypothetical cost to provide school nurses at the recommended ratio of 1:750**

It would be expected that health-related preventative services to students may well increase, but that the expense would be more than offset by associated savings from an anticipated reduction in emergency room visits and an expansive reduction in indirect costs associated with education failure.

Table 36 attempts to utilize various statistics to paint a picture of the Medicaid costs related to school failure. The Pew Partnership for Civic Change reports that, on average, 80 percent of adults receiving Medicaid did not complete high school; calculating that number by the average cost of an adult enrollee of Medicaid places the relevant cost of high school non-completers to be

over \$31.7 billion and potentially as high as \$189.8 billion depending on the demographics associated with enrollees (multiplier figure from HHS-5, 11).

<b>Estimated Relative Medicaid Expenditures Associated with School Failure</b>	
Dropout rate in 2005 <sup>1</sup>	9.40%
Number of dropouts in 2005 (3.9% event dropout rate) <sup>1</sup>	540,382
Population 16-24 yr olds that did not complete high school (1999) <sup>2</sup>	4,064,000
Population of 25+ that did not complete high school (1999) (16.6% of total population) <sup>2</sup>	29,295,680
Cost of Public Insurance for Adults <sup>3</sup> (not aged or disabled)	\$3,586
80% of 2007 Medicaid expenditures for adults (\$39.7B)	\$31,760,000,000
80% of 2007 Medicaid expenditures for adults, aged & disabled (\$237.3B)	\$189,840,000,000
Relative potential savings if interventions reduced the number of dropouts by 50%, and that same percentage was achieved as a reduction in Medicaid enrollees	\$94,920,000,000
Potential annual cost of public health care for dropouts (using 2007 cost and 1999 census data) [(# of dropouts x .80) x annual cost for Medicaid]	\$95,702,249,984
Potential annual cost of public health care for 2005 event dropouts [(# of dropouts x .80) x annual cost for Medicaid]	\$1,550,247,882
<sup>1</sup> Sable and Gaviola, p5, p7; <sup>2</sup> Census-4, p 181; <sup>3</sup> HHS-5, p11	
*(80% of adult Medicaid enrollees are HS dropouts) <sup>3</sup>	

**Table 36 Estimated relative costs associated with school failure**

When looking at dropout rates, there are two types to consider: (1) the dropout rate is the percentage of 16-24 year olds that are not in school and have not completed high school or the equivalent and (2) the event dropout rate which is the percentage of students who stopped attending school in a single year before achieving a high school diploma. The National Center for Education Statistics reports a dropout rate of 9.4% in 2005, but an event dropout rate of 3.9%.

The reported 80 percent rate of current Medicaid users (HHS-5, 11) was used as a multiplier to calculate a projection of risk, based on the reported dropout rates. The total number of dropouts reported in 1999 projects the annual risk, based on 2007 costs, at \$95.7 billion. The number of event dropouts, for 2005 alone, calculates to a projected risk of \$1.5 billion. It appears that an investment in helping students attain academic success during their childhood

years would be a much better investment than incurring the significantly amplified social and economic costs in later years.

## **Capacity Building**

The concept of capacity building can be applied to economies, organizations, processes, and more; any enterprise that uses resources, can capitalize on the concept. Typically, capacity building builds or improves upon an infrastructure in order to achieve improved output, usually through the enhanced utilization of resources. It can involve investing in capital improvements, but more often involves a change in processes that do not require major infusions of resources. Capacity building activities take place within an organization as well as in the relationships and processes connected to the organization.

### *Concepts Related to Capacity Building*

Continuous improvement is an aspect of capacity building in that stakeholders are constantly looking for ways to improve processes to achieve an improved output. As processes or organizations mature, or become more complex, they have a tendency to build layers of inefficiency. When looking to improve efficiency, the inclination of most organizations is to take an internal approach, looking for those processes that they have direct control. This type of approach is certainly easier to manage but it limits the ability of an organization to achieve maximum leverage. Processes need to be strategically monitored and appraised for influences that invite collaboration as a means to resolve problem areas.

Another aspect of capacity building is to develop processes that can be reliably disseminated and replicated. "A school district's capacity can be defined as its potential ability to sustain itself at a high level of performance, ensuring teachers' ability to teach and students' ability to benefit from the educational process" (Hoyle, Samek, and Valois, 1). For example, if a teacher (at the delivery level) makes great strides using a particular approach in the classroom, but the organization fails to make an attempt to replicate and disseminate the approach, it does not improve the organization's capacity. The process, while promising in its limited environment, is not likely to be sustained over time or become institutionalized as an element that supports capacity, if the organization does not generate the synergy necessary to sustain the process.

### The Need to Define Appropriate Responses

When areas of need become apparent, it is a symptom that there is some sort of breakdown in the system; most organizations tend to ignore these symptoms in hopes that they will go away. When areas of need become problematic, the typical organizational response is to utilize limited resources to alleviate the severity of the problem. Most interventions probably fall into this category, where promising practices are pursued, but they fall short of helping to build capacity outside of their immediate sphere. An example of this approach is demonstrated in the Safe Schools/Healthy Students program.

The SS/HS program is an interagency sponsored intervention that funds a variety of promising intervention programs aimed at reducing violence and substance abuse. While many of the programs demonstrate some success and

likely improve capacity for the organizations that implement the programs, it is difficult to determine where replication and dissemination is occurring. As a collaborative venture between three Federal agencies, the concept has the premise of a capacity building initiative, but it is difficult to see if the agencies are generating the synergistic momentum necessary to broaden the range of successful projects by disseminating them through larger initiatives.

NCLB, Medicaid, and SCHIP are programs that have been implemented to address a need, for better education, for better access to health care, and for a healthier society. Each has shown some success in their sphere of influence, but each are struggling under increasing demands, especially a need that is growing faster than resources. These programs cannot afford to ignore influences that affect their capacity to better serve their direct constituents – children and students, and their indirect constituents - society. These programs need to look for ways to partner with each other in a manner that serves their purpose while better utilizing their combined resources.

Under NCLB, schools are discovering that they need to produce a better output (better educated graduates) or their very existence becomes threatened. Schools have long realized that the success of their institutions are affected by both inside and outside influences, but many still resist venturing in areas external to the school environment. To build capacity, schools need to build external resources into the fabric of the institution. “Traditionally, school improvement efforts, including No Child Left Behind, are based on the assumption that students come to school equally ‘ready to learn’ every day of the



school year” (Hoyle et al, 1). Children have diverse needs that often require services that are not directly related to education but, nonetheless affect the ability of children to learn; these situations are ripe for capacity building activities.

### Looking Externally to Build Internal Capacity

Education institutions that need to improve their AYP, must build additional capacity into their education system. To do this, they must critically look at the issues that can impede success and address them in a strategic sense. Care must be taken to identify key stakeholders and processes, then survey them with an open mind to help the institution identify obstacles that impede organizational capacity and individual success. Stakeholders can be readily visible, or they may be hidden in the periphery or within the layers of other influences. For instance, a student’s home life plays an integral role in the student’s ability to learn but it is not readily visible when looking at the daily functions of the school. Diet and exercise are not seen in the classroom setting, but they have a distinct influence on learning. These examples are direct influences to the student, but indirect to the school; yet they each have the ability to affect the capacity of the school to meet its goal.

A less visible stakeholder in education is the community. Influences between the community, the school system and students are multi-dimensional, with both direct and indirect influences. For instance, the level of resource support, i.e. taxes, that a community extends to its educational institutions can directly impact schools, but indirectly affect the students in the schools.

Students, in turn, can have a direct influence on their community:

- if they are troubled as students, they may break laws and become involved in the judicial system,
- if they fail to graduate, they will likely need public resources to balance their economic picture,
- if they are poor, they are likely to have children that struggle.

However, if children are successful in school, they will likely complete their education, obtain successful employment and make positive contributions to their community. As such, they become capacity builders within their community.

### Shared Vision for an Appropriate Response

Public health response programs, like Medicaid and SHIPP, need to seek ways to become seamlessly integrated in the social fabric network. At risk individuals, especially those with undiagnosed disabilities, often have the hardest time finding resources for assistance. A school nurse is trained to identify, respond and advocate for the health-related needs of children (CSH-2, 75), but they are vastly underutilized in the school setting. Isolated solutions, where coordinated school health programs operate cooperatively to meet the best interests of children, are present but have not yet been fully integrated in the social fabric of the nation so that they can build capacity into the system.

Too often, poor and disabled children are not receiving appropriate preventative care or treatment of chronic conditions; the result can be increased need and/or a visit to the emergency department. In looking at the bigger picture it makes sense, from a capacity building standpoint, as well as an ethical standpoint, to give health professionals access to children. Our public health system must find a way to reach individuals in a manner that is cost effective and

service efficient. No one is denying that parents are the first line of obligation to ensure that services are provided to their children, but when that does not happen, the health need becomes a societal problem that must be addressed before it grows even larger.

### Legislative Influence

When Congress wrote into IDEA legislation that schools were required to provide health-related services to students with disabilities, they helped build capacity for these children to receive appropriate services and, therefore, an appropriate education. Unfortunately, making educators the ultimate determiners of an appropriate health response was not the most appropriate answer and it jeopardizes the ability to achieve effective capacity building. If children do not receive an appropriate response to their needs the economic risk to society will not be alleviated.

While Congress' response was good toward building capacity, the method of delivery was shortsighted in that educators are not positioned to determine the best health intention. Likewise, leaving the response singularly to the public health department would not be entirely effective because they need to be assured access to children. Congress should have split the responsibility for a health-response in the education environment between the Department of Health and Human Services and Department of Education, each in their areas of expertise. Through a shared responsibility, the two agencies would have to work together, each serving their own area of expertise, but working collaboratively to provide a more effective public response. In so doing, they would inevitably

improve the capacity of each agency to be successful in their own areas. The capacity to serve society's interests for a strong economy is dependent on the capacity to fully and effectively educate children.

### The Big Picture

Through the lens of capacity building, society has its best hope for a return on investment. If children grow to be productive citizens, then they will contribute to strengthening the economy. Ultimately, capacity building is a result of strategic planning and response, wherein key stakeholders work cooperatively to achieve a shared benefit through the resourceful utilization of limited resources. To achieve this, stakeholders must share a clear vision of expected outcomes, with a realistic understanding of obstacles, and the support necessary to achieve the particular outcomes. Throwing resources at a potential intervention without clearly identifying realistic outcomes and establishing a roadmap with which to achieve them would be foolhardy and wasteful.

It would also be foolish to expect that the same interventions will provide the same benefit for all individuals. Interventions should be built into a system in such a manner that they are constantly being monitored and evaluated for effectiveness; they must be firm enough to be accountable, yet flexible enough to change as circumstances demand. If students are not benefitting from reasonable health care in their homes, or they arrive to school hungry, or they do not feel emotionally safe, they cannot be ready to learn when they are in school.

## Recommendations

### *Recommendations for Future Congressional Action*

To better meet the needs of children and society, the following key recommendations are suggested for future Congressional action:

- First would be to consider changing the funding formula for Medicaid appropriations. The GAO has some rational considerations (Appendix 6) that would change the basis of how funds could be more fairly distributed to the States.
- The second recommendation would be to specify that health-related services under IDEA be provided by highly qualified professionals, rather than allowing districts the freedom to determine appropriate qualifications.
- This leads to the third recommendation which would be to transfer responsibility of determining and providing appropriate health-related services to public health departments, supervised by the Department of Health and Human Services.
- Fourth would be that schools would be responsible for providing appropriate space and support for health professionals to perform their function; cooperation necessary and appropriate for health providers to have access to children so their health needs may be met; and, that schools work with health providers when planning IEPs and Individualized Health Care Plans for CSHCN.
- Finally, Congress should create incentives and training programs to encourage people to enter the field of school nursing so that the resulting demand can be accommodated.

### *Recommendations for Public Agencies*

Agencies responsible for effectively utilizing public funds must look for ways to build capacity. In particular, demands on Medicaid resources project astounding increases: from \$316 billion in 2007 to \$674 billion in 2017 (HHS-5, 16). As a percentage of GDP, Medicaid has grown from 0.4 percent in 1970 to 2.3 percent in 2007, with a projection to grow faster than the GDP through FY2017, which is the limit of projections (HHS-5, 24). The dire need for changing the manner in which Medicaid serves the country has been expressed by the Government Accounting Office (HHS-5, 25) and administrators in the Department of Health and Human Services (HHS-6, np).

Depending on the needs of the community, Medicaid expenditures could be reduced by providing access for screening and preventative services through schools and then directing follow up services (either directly or by referral) from there. Health care providers need access to children in a timely manner to prevent the larger costs associated with worsened conditions. The economic costs associated with failure to meet the health and education needs of children are not only too great, they are preventable. Agencies need to be tasked with interfacing their responses and achieving reasonable levels of success.

### *Recommendations to Parents*

Parents need to understand that they need to be partners in their child's education and well-being. If they demonstrate that they are ill prepared to take on that task it becomes a problem for society. Programs should be set up through the schools to provide both educational and health support programs to

encourage parent involvement and keep them an active partner in their child's success.

## **Conclusion**

Just as children have a right to a good education, the concept behind public insurance is to assure every child has a right to appropriate health services. Whether a health care need is occasional, intermittent or continuous, whether it is for chronic health care, acute health care, or risk management, there is a social imperative that health access be available to all citizens. Children with unmet health needs continue to remain vulnerable. Government spending for public health care continues to rise at an alarming rate, yet services are not effectively reaching intended populations. Meanwhile, the number of children in schools with special health care needs is also increasing and straining the resources of education institutions. Placed in context, the evidence clearly demonstrates the need for a dramatic change in the delivery of health care. Determining how best to meet the imperative for effective programs is the responsibility of Congress, public agencies, the general public and individual parents.

The interrelationship of education and health is widely acknowledged by health and educational professionals alike. Legislation clearly reinforces the connection between education and health and has placed increasing emphasis on the responsibility of schools to ensure equal access to education through an appropriate health response. It is here that legislation needs to go one step

further and complete the cycle by including public health professionals as determiners of appropriate health response.

The American Academy of Pediatrics and the National Association of School Nurses are logical partners in the creation of health standards for schools. Directing all health-related services under the authority of the public health system, rather than school systems, eliminates any ambiguity as to responsibility for publicly provided health-related services. The public health department would determine service types and levels based on the unique risk factors and needs of communities. Rather than making decisions for health care, not in their area of expertise, schools would simply be required to provide appropriate space and access for health providers to perform their function. By taking away the requirement for educators to be the determiners and providers of appropriate health services, schools would be able to focus their knowledge and resources on education tasks. This exceptional paradigm shift would ensure that children get the resources they need from those best equipped to provide them.

Placing appropriate health-response professionals in every building, opens an avenue for health professionals to reach students where they are most accessible. Health providers become responsible for appropriately screening and responding to the public health needs and risk factors of the entire school population, giving a level of response that is deemed appropriate to the population being served. In addition, health care providers are accessible to CSHCN and the interdisciplinary teams tasked with determining and providing



health-related services appropriate to each child's unique special health care needs.

Requiring educators and health providers to couple their areas of expertise allows the government to appropriate resources where they are intended. Competition for resources, especially those that occur when schools have to provide health-related services, is eliminated. Programs intended for children, and possibly other community members, would become more effective as access is garnered through a commonly shared location, the school. When the decisions for health services are left to health professionals it improves the likelihood that appropriate health-related needs of all children are met. As each entity becomes responsible for stand-alone and interrelated standards of accountability, they will have a shared need to mesh their services to achieve the best possible outcome. The paradigm shift presented here goes beyond acknowledging the relationship between health and education; it completes what Congress has already begun by addressing the relationship in its circular entirety.

There is compelling and undisputed evidence that better health leads to better education, better education leads to better health. The needs of society will be most effectively served, when appropriations and accountability are directed to those with the targeted expertise. Extending that concept to the larger societal construct, reveals that better health and education lead to significant reductions in social costs, and the realization of a strengthened economy.

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## Appendix 1 Educational rankings of participating countries in the Organization for Economic Cooperation and Development (OECD)

<b>Educational Performance of 15-year old Students in 30 OECD Countries</b>									
Year:	Reading Literacy			Mathematic Literacy			Scientific Literacy		
	2003	2006	Rank Order	2003	2006	Rank Order	2003	2006	Rank Order
Australia	525.4	513	6	524.3	520	8	525.1	527	5
Austria	490.7	490	16	505.6	505	13	491.0	511	12
Belgium	507	501	10	529.3	520	9	508.8	510	13
Canada	527.9	527	3	532.5	527	5	518.7	534	2
Czech Republic	488.5	483	20	516.5	510	11	523.3	513	10
Denmark	492.3	494	15	514.3	513	10	475.2	496	18
Finland	543.5	547	2	544.3	548	1	548.2	563	1
France	496.2	488	17	510.8	496	17	511.2	495	19
Germany	491.4	495	13	503.0	504	14	502.3	516	8
Greece	472.3	460	27	444.9	459	28	481.0	473	28
Hungary	481.9	482	21	490.0	491	21	503.3	504	15
Iceland	491.7	484	18	515.1	506	12	494.7	491	20
Ireland	515.5	517	5	502.8	501	16	505.4	508	14
Italy	475.7	469	24	465.7	462	27	486.5	475	26
Japan	498.1	498	12	534.1	523	6	547.6	531	3
Korea	534.1	556	1	542.2	547	2	538.4	522	7
Luxembourg	479.4	479	22	493.2	490	22	482.8	486	25
Mexico	399.7	410	29	385.2	406	30	404.9	410	30
Netherlands	513.1	507	8	537.8	531	3	524.4	525	6
New Zealand	521.6	521	4	523.5	522	7	520.9	530	4
Norway	499.7	484	19	495.2	490	23	484.2	487	24
Poland	496.6	508	7	490.2	495	18	497.8	498	17
Portugal	477.6	472	23	466.0	466	26	467.7	474	27
Slovakia	469.2	466	25	498.2	492	20	494.9	488	22
Spain	480.5	461	26	485.1	480	24	487.1	488	23
Sweden	514.3	507	9	509.0	502	15	506.1	503	16
Switzerland	499.1	499	11	526.6	530	4	513.0	512	11
Turkey	441	447	28	423.4	424	29	434.2	424	29
United Kingdom	(NA)	495	14	(NA)	495	19	(NA)	515	9
United States	495.2	(NA)	*	482.9	474	25	491.3	489	21

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Student performance on the combined reading, scientific, and mathematical literacy scales (PISA), an internationally standardized assessment jointly developed by participating countries, which takes place in three yearly cycles. To implement PISA, each of

Retrieved 3/21/2009 from the 2009 US Census Statistical Abstract <http://www.census.gov/compendia/statab/> (Census-5)

\* Rank of USA was 15th in 2003

**Appendix 2 State profiles of students with Limited English Proficiency,  
English Language Learners, and students with Individualized Education Plans to address  
Accommodations for disabilities**

<b>2005-2006 Federal Program Participation - School Funding and Teacher R</b>					
<b>State</b>	<b>Students Enrolled</b>	<b>Percent Title 1</b>	<b>Students with IEPs</b>	<b>% Free &amp; Reduced Lunch</b>	<b>Per-Pupil Expenditures</b>
Alabama	741,758	55.5%	16.8%	51.7%	\$7,805
Alaska	133,288	33.8%	13.5%	31.4%	\$11,503
Arizona	1,094,454	51.6%	18.0%	45.0%	\$6,834
Arkansas	474,206	67.1%	12.3%	52.9%	\$8,222
California	6,437,202	58.0%	10.7%	48.5%	\$8,295
Colorado	779,826	46.1%	<b>10.1%</b>	33.1%	\$8,313
Connecticut	575,059	41.9%	11.6%	26.5%	\$13,018
Delaware	120,937	44.6%	14.7%	36.1%	\$11,801
Florida	2,675,024	34.9%	14.9%	45.8%	\$7,917
Alabama	741,758	55.5%	16.8%	51.7%	\$7,805
Georgia	1,598,461	45.9%	12.4%	49.8%	\$8,844
Hawaii	182,818	65.9%	12.0%	40.5%	\$9,856
Idaho	261,982	67.9%	11.0%	37.8%	\$6,618
Illinois	2,111,706	54.4%	15.3%	37.2%	\$9,175
Indiana	1,035,074	96.1%	17.1%	36.1%	\$9,048
Iowa	483,482	37.4%	14.8%	32.1%	\$8,444
Kansas	467,285	39.4%	14.0%	38.8%	\$8,610
Kentucky	679,878	60.6%	16.0%	52.4%	\$7,726
Louisiana	654,526	57.7%	13.0%	<b>61.2%</b>	\$7,668
Maine	195,498	63.8%	16.9%	33.8%	\$10,659
Maryland	860,020	20.1%	12.8%	31.6%	\$10,838
Massachusetts	971,909	50.8%	15.4%	28.2%	\$12,516
Michigan	1,741,845	26.3%	14.1%	35.6%	\$9,527
Minnesota	839,243	38.4%	13.8%	30.3%	\$9,167
Mississippi	494,954	65.6%	13.7%	69.5%	\$7,166
Missouri	917,705	42.7%	na	39.1%	\$8,385
Montana	145,416	79.3%	13.2%	34.5%	\$8,550
Nebraska	286,626	34.5%	16.2%	34.7%	\$9,352
Nevada	412,395	<b>16.5%</b>	11.1%	41.3%	\$7,397
New Hampshire	205,767	38.0%	14.8%	<b>17.1%</b>	\$10,341
New Jersey	1,395,602	51.6%	<b>26.7%</b>	26.8%	<b>\$14,978</b>
New Mexico	326,758	59.2%	19.7%	55.7%	\$8,370
New York	2,815,581	63.5%	13.2%	44.4%	\$14,507
North Carolina	1,416,436	37.3%	13.6%	42.6%	\$7,559
North Dakota	98,283	55.2%	14.1%	29.6%	\$8,533
Ohio	1,839,638	63.8%	14.5%	32.5%	\$9,689
Oklahoma	634,739	65.8%	15.2%	54.5%	\$6,999
Oregon	552,194	<b>99.9%</b>	14.6%	43.2%	\$8,643
Pennsylvania	1,830,684	63.4%	14.6%	31.4%	\$10,738
Rhode Island	153,422	39.3%	18.0%	35.3%	\$12,360
South Carolina	701,544	36.9%	15.6%	51.5%	\$8,094
South Dakota	122,012	45.1%	15.1%	32.0%	\$7,725
Tennessee	953,928	45.3%	13.3%	47.1%	\$7,099
Texas	4,525,394	64.7%	11.3%	48.2%	\$7,684
Utah	508,430	19.6%	13.2%	32.3%	<b>\$5,516</b>
Vermont	96,638	56.0%	11.3%	26.4%	\$12,581
Virginia	1,214,472	27.4%	14.4%	31.1%	\$9,521
Washington	1,031,985	51.6%	12.0%	36.5%	\$8,078
West Virginia	280,866	36.7%	17.6%	49.1%	\$9,465
Wisconsin	875,174	58.2%	14.8%	29.3%	\$10,112
Wyoming	84,409	47.8%	13.5%	31.6%	\$11,392

Data Retrieved 7/19/2008. www.nces.ed.gov (NCES-1)

### Appendix 3 Improvement steps required of schools failing to meet Annual Yearly Progress

A school is identified for school improvement after it has not made AYP for two consecutive school years. A school moves to the next "step" or "year" in this chart if it continues to not make AYP.

(Ed-4, 4 and Paige)

<p><b>School Improvement (Year One)</b></p>	<p>In general, schools identified for improvement must receive technical assistance that enables them to specifically address the academic achievement problem that caused the school to be identified for improvement. The LEA is required to provide technical assistance as the school develops and implements the plan, including specific assistance in analyzing assessment data, improving professional development, and improving resource allocation. In addition, the following must take place:</p> <ol style="list-style-type: none"> <li>1. All students are offered public school choice.</li> <li>2. Each school identified for improvement must develop or revise a two-year school improvement plan, in consultation with parents, school staff, the local educational agency, and other experts, for approval by the LEA. The plan must incorporate research-based strategies, a 10 percent set-aside of Title I funds for professional development, extended learning time as appropriate (including school day or year), strategies to promote effective parental involvement and mentoring for new teachers.</li> </ol>
<p><b>School Improvement, (Year Two)</b></p>	<ol style="list-style-type: none"> <li>1. Make available supplemental educational services to students from low-income families.</li> </ol> <p>In addition, the LEA continues to offer technical assistance to implement the new plan, and offer public school choice.</p>
<p><b>Corrective Action (Year Three)</b></p>	<p>Corrective Action requires an LEA to take actions likely to bring about meaningful change at the school. To accomplish this goal, LEAs are required to take at least one of the following corrective actions, depending on the needs of the individual school:</p> <ol style="list-style-type: none"> <li>1. Replace school staff responsible for the continued failure to make AYP;</li> <li>2. Implement a new curriculum based on scientifically based research (including professional development);</li> <li>3. Significantly decrease management authority at the school level;</li> <li>4. Extend the school day or school year; Appoint an outside expert to advise the school on its progress toward making AYP in accordance with its school plan; OR</li> <li>5. Reorganize the school internally.</li> </ol> <p>In addition, the LEA continues to offer technical assistance, public school choice and supplemental educational services.</p>
<p><b>Restructuring (Year Four)</b></p>	<p>During the first year of restructuring, the LEA is required to prepare a plan and make necessary arrangements to carry out one of the following options:</p> <ol style="list-style-type: none"> <li>1. Reopen school as charter school.</li> <li>2. Replace principal and staff.</li> <li>3. Contract for private management company of demonstrated effectiveness.</li> <li>4. State takeover.</li> <li>5. Any other major restructuring of school governance.</li> </ol> <p>In addition, the LEA continues to offer public school choice and supplemental educational services.</p>
<p><b>Implementation of Restructuring (Year Five)</b></p>	<p>Implement alternative governance plan no later than first day of school year following year four described above.</p>



**Appendix 4 State participation in Federal school interventions compared  
with per-pupil expenditures and student-teacher ratios**

<b>2005-2006 Federal Program Participation - School Funding and Teacher Ratio</b>						
<b>State</b>	<b>Students Enrolled</b>	<b>Percent Title 1</b>	<b>Students with IEPs</b>	<b>% Free &amp; Reduced Lunch</b>	<b>Per-Pupil Expenditures</b>	<b>Student-Teacher Ratio</b>
Alabama	741,758	55.5%	16.8%	51.7%	\$7,805	12.8
Alaska	133,288	33.8%	13.5%	31.4%	\$11,503	16.8
Arizona	1,094,454	51.6%	18.0%	45.0%	\$6,834	21.3
Arkansas	474,206	67.1%	12.3%	52.9%	\$8,222	14.4
California	6,437,202	58.0%	10.7%	48.5%	\$8,295	20.8
<b>Colorado</b>	779,826	46.1%	<b>10.1%</b>	33.1%	\$8,313	17.0
Connecticut	575,059	41.9%	11.6%	26.5%	\$13,018	14.5
Delaware	120,937	44.6%	14.7%	36.1%	\$11,801	15.1
Florida	2,675,024	34.9%	14.9%	45.8%	\$7,917	16.8
Georgia	1,598,461	45.9%	12.4%	49.8%	\$8,844	14.7
Hawaii	182,818	65.9%	12.0%	40.5%	\$9,856	16.3
Idaho	261,982	67.9%	11.0%	37.8%	\$6,618	18.0
Illinois	2,111,706	54.4%	15.3%	37.2%	\$9,175	15.8
Indiana	1,035,074	96.1%	17.1%	36.1%	\$9,048	17.1
Iowa	483,482	37.4%	14.8%	32.1%	\$8,444	13.7
Kansas	467,285	39.4%	14.0%	38.8%	\$8,610	13.9
Kentucky	679,878	60.6%	16.0%	52.4%	\$7,726	16.0
<b>Louisiana</b>	654,526	57.7%	13.0%	<b>61.2%</b>	\$7,668	14.7
Maine	195,498	63.8%	16.9%	33.8%	\$10,659	11.7
Maryland	860,020	20.1%	12.8%	31.6%	\$10,838	15.2
Massachusetts	971,909	50.8%	15.4%	28.2%	\$12,516	13.2
Michigan	1,741,845	26.3%	14.1%	35.6%	\$9,527	17.4
Minnesota	839,243	38.4%	13.8%	30.3%	\$9,167	16.4
Mississippi	494,954	65.6%	13.7%	69.5%	\$7,166	15.7
Missouri	917,705	42.7%	na	39.1%	\$8,385	13.7
Montana	145,416	79.3%	13.2%	34.5%	\$8,550	14.0
Nebraska	286,626	34.5%	16.2%	34.7%	\$9,352	13.4
<b>Nevada</b>	412,395	<b>16.5%</b>	11.1%	41.3%	\$7,397	19.0
<b>New Hampshire</b>	205,767	38.0%	14.8%	<b>17.1%</b>	\$10,341	13.2
<b>New Jersey</b>	1,395,602	51.6%	<b>26.7%</b>	26.8%	<b>\$14,978</b>	12.4
New Mexico	326,758	59.2%	19.7%	55.7%	\$8,370	14.8
New York	2,815,581	63.5%	13.2%	44.4%	\$14,507	12.9
North Carolina	1,416,436	37.3%	13.6%	42.6%	\$7,559	14.8
North Dakota	98,283	55.2%	14.1%	29.6%	\$8,533	12.3
Ohio	1,839,638	63.8%	14.5%	32.5%	\$9,689	15.6
Oklahoma	634,739	65.8%	15.2%	54.5%	\$6,999	15.2
<b>Oregon</b>	552,194	<b>99.9%</b>	14.6%	43.2%	\$8,643	19.5
Pennsylvania	1,830,684	63.4%	14.6%	31.4%	\$10,738	15.0
Rhode Island	153,422	39.3%	18.0%	35.3%	\$12,360	10.7
South Carolina	701,544	36.9%	15.6%	51.5%	\$8,094	14.6
South Dakota	122,012	45.1%	15.1%	32.0%	\$7,725	13.4
Tennessee	953,928	45.3%	13.3%	47.1%	\$7,099	16.0
Texas	4,525,394	64.7%	11.3%	48.2%	\$7,684	15.0
<b>Utah</b>	508,430	19.6%	13.2%	32.3%	<b>\$5,516</b>	<b>22.1</b>
<b>Vermont</b>	96,638	56.0%	11.3%	26.4%	\$12,581	<b>10.9</b>
Virginia	1,214,472	27.4%	14.4%	31.1%	\$9,521	12.6
Washington	1,031,985	51.6%	12.0%	36.5%	\$8,078	19.3
West Virginia	280,866	36.7%	17.6%	49.1%	\$9,465	14.1
Wisconsin	875,174	58.2%	14.8%	29.3%	\$10,112	14.6
<b>Wyoming</b>	84,409	47.8%	13.5%	31.6%	\$11,392	12.6

Data Retrieved 7/19/2008, www.nces.ed.gov (NCES-1)

**Appendix 5 State profiles of free and reduced price lunch participation  
as a reflection of poverty**

<b>2005 State Education Data Profiles - Free &amp; Reduced Price Lunch</b>						
	# of Students	Free Lunch Eligible	% of Student Eligible for Free Lunch	Reduced Lunch Eligible	% of Students Eligible for Reduced Lunch	Combined % of Students Receiving Assistance
Alabama	741,758	319,205	<b>43.0%</b>	64,014	8.6%	<b>51.7%</b>
Alaska	133,288	32,913	24.7%	8,959	6.7%	31.4%
Arizona	1,094,454	403,731	<b>36.9%</b>	88,719	8.1%	<b>45.0%</b>
Arkansas	474,206	208,692	<b>44.0%</b>	41,949	8.8%	<b>52.9%</b>
California	6,437,202	2,481,107	<b>38.5%</b>	582,669	9.1%	<b>47.6%</b>
Colorado	779,826	210,089	26.9%	48,175	6.2%	33.1%
Connecticut	575,059	120,351	20.9%	32,318	5.6%	26.5%
Delaware	120,937	37,092	<b>30.7%</b>	6,590	5.4%	36.1%
District of Columbia	76,876	37,763	<b>49.1%</b>	3,287	4.3%	<b>53.4%</b>
Florida	2,675,024	992,580	<b>37.1%</b>	231,648	8.7%	<b>45.8%</b>
Georgia	1,598,461	663,735	<b>41.5%</b>	131,659	8.2%	<b>49.8%</b>
Hawaii	182,818	53,999	29.5%	20,927	11.4%	<b>41.0%</b>
Idaho	261,982	72,811	27.8%	26,282	10.0%	<b>37.8%</b>
Illinois	2,111,706	665,052	<b>31.5%</b>	120,663	5.7%	37.2%
Indiana	1,035,074	291,685	28.2%	81,748	7.9%	36.1%
Iowa	483,482	117,386	24.3%	37,030	7.7%	31.9%
Kansas	467,285	134,918	28.9%	46,001	9.8%	38.7%
Kentucky	679,878	280,832	<b>41.3%</b>	55,455	8.2%	<b>49.5%</b>
Louisiana	654,526	352,912	<b>53.9%</b>	47,684	7.3%	<b>61.2%</b>
Maine	195,498	51,615	26.4%	14,378	7.4%	33.8%
Maryland	860,020	210,210	24.4%	61,859	7.2%	31.6%
Massachusetts	971,909	224,338	23.1%	50,177	5.2%	28.2%
Michigan	1,741,845	498,039	28.6%	111,912	6.4%	35.0%
Minnesota	839,243	192,608	23.0%	61,330	7.3%	30.3%
Mississippi	494,954	308,193	<b>62.3%</b>	35,914	7.3%	<b>69.5%</b>
Missouri	917,705	288,215	<b>31.4%</b>	70,213	7.7%	39.1%
Montana	145,416	37,938	26.1%	12,234	8.4%	34.5%
Nebraska	286,646	73,124	25.5%	26,263	9.2%	34.7%
New Hampshire	205,767	24,508	11.9%	10,579	5.1%	17.1%
New Jersey	1,395,602	295,963	21.2%	77,983	5.6%	26.8%
New Mexico	326,758	156,513	<b>47.9%</b>	25,403	7.8%	<b>55.7%</b>
New York	2,815,581	1,043,595	<b>37.1%</b>	217,338	7.7%	<b>44.8%</b>
North Carolina	1,416,436	498,195	<b>35.2%</b>	105,121	7.4%	<b>42.6%</b>
North Dakota	98,283	21,211	21.6%	7,853	8.0%	29.6%
Ohio	1,839,683	484,454	26.3%	113,063	6.1%	32.5%
Oklahoma	634,739	279,843	<b>44.1%</b>	66,227	10.4%	<b>54.5%</b>
Oregon	552,194	185,225	<b>33.5%</b>	45,659	8.3%	<b>41.8%</b>
Pennsylvania	1,830,684	457,214	25.0%	117,737	6.4%	31.4%
Rhode Island	153,422	43,134	28.1%	10,387	6.8%	34.9%
South Carolina	701,544	306,463	<b>43.7%</b>	55,104	7.9%	<b>51.5%</b>
South Dakota	122,012	28,090	23.0%	10,969	9.0%	32.0%
Texas	4,525,394	1,809,295	<b>40.0%</b>	372,402	8.2%	<b>48.2%</b>
Utah	508,430	117,896	23.2%	46,359	9.1%	32.3%
Vermont	96,638	18,820	19.5%	6,667	6.9%	26.4%
Virginia	1,214,472	294,666	24.3%	83,059	6.8%	31.1%
Washington	1,031,985	292,254	28.3%	75,103	7.3%	35.6%
West Virginia	280,866	110,261	<b>39.3%</b>	27,617	9.8%	<b>49.1%</b>
Wyoming	84,409	18,154	21.5%	8,553	10.1%	31.6%
US Average	963,009	310,723	<b>32.3%</b>	70,825	7.4%	39.6%

<http://nces.ed.gov/programs/stateprofiles/> (NCES-1)

**bold=30% or greater**

**bold=40% or greater**

Note: States that did not report % of Free and Reduced Lunches are not represented

**Appendix 6 Discussion of the funding formula for Medicaid  
and the rationale for an improved formula**

The rationale behind the grants in aid formula dates back to the 1940's and purposefully did "not recognize differences in the ability of States to finance public assistance, nor does it recognize the greater incidence of poverty in States with low economic resources" (GAO-03-620, 21). It was expected that poorer states would simply have to put forth extra tax effort to help take care of their needs. When the PCI formula was first adopted in 1958, the range of matching was 50 percent for a high income state and 65 percent for the lowest income states. Under the Social Security Amendments of 1960 the maximum rate for the poorest states was raised to 80 percent (GAO-03-620, 21).

When Medicaid was officially created in 1965, it raised the grants in aid formula to a minimum of 55 percent and a maximum of 83 percent based on the PCI of the State. The statutory matching formula defining the weighted scale, is known as the Federal Medical Assistance Percentage (FMAP). The formula is described below as it appears in GAO 03-620 (p 22):

$$\text{FMAP} = 1.00 - 0.45 (\text{State PCI} / \text{U.S. PCI})^2$$

The current matching formula is calibrated with a 0.45 "multiplier." The value of the multiplier determines the percentage of a state's Medicaid spending for which the state is responsible. For example, using the 0.45 multiplier, a state with a PCI equal to the U.S. average would receive a federal matching rate of 55 percent ( $1 - 0.45 = 0.55$ ).

The current funding system is an issue of some debate because more affluent states tend to receive a larger amount of Federal dollars even though they have fewer poor.

For example, in fiscal year 2000, Wisconsin and California devoted the same proportion of their states' own resources to fund their Medicaid programs (about \$8 per \$1,000 of TTR). Yet, after receiving federal matching aid, Wisconsin's funding ability was almost 50 percent above the national

average and California's was 26 percent below the national average (GAO-03-620, 4).

There are three specific concerns regarding the utilization of the weighted formula. The first is the squaring that occurs in the formula, because it includes PCI two times in the calculation and amplifies the result. While the intent is to bring states closer together, as it does for 30 of the states, it actually widens the gap for 21 other states (GAO-03-620, 4).

Squaring PCI has the effect of making PCI appear in the formula twice, thus reflecting both state resources and people in poverty. Squaring PCI magnifies the difference between the state's and the national average PCI. For example, if a state's PCI is 90 percent of the national average, the squared value of its relative PCI would be 81 percent ( $0.9 \times 0.9 = 0.81$ ), resulting in a federal matching rate of 64 percent (that is,  $1.00 - 0.45 \times 0.81 = 0.64$ ), rather than the 60 percent rate the state would receive if relative income was not squared (that is,  $1.00 - 0.45 \times 0.9 = 0.60$ ) (GAO-03-620, 22).

The second concern is that PCI is not the best determinant of a state's ability to pay. The GAO has put forth considerable effort to demonstrate that a States' Total Taxable Resources (TTR) is a more accurate representation of a state's ability to pay into Medicaid because it comprises the income "included in PCI as well as income from other sources, such as corporate income and capital gains, and thus it is a more comprehensive indicator of income (GAO03-620, 30).

The third concern is that geography and demographics of enrollees better reflect the actual cost of providing services, rather than a straight rate based on the population of poor or disabled (GAO-03-620, 6). In particular, health care in some regions of the country are noticeably higher than in other areas and the older the population of enrollees, the higher the associated costs. The population of disabled enrollees remains the largest expenditure (HHS-5, iii).

**Appendix 7 State-by-state participation in Medicaid  
and comparison of children Enrollment to total enrollment**

<b>2005: Enrollment in Medicaid as a Percent of the Population</b>						
	US Census Population July 2005 <sup>1</sup>	Percentage of Population in Poverty <sup>2</sup>	Total Medicaid Enrollment June 2005 <sup>3</sup>	Percentage of 0-18 Yrs Below 100% Poverty <sup>4</sup>	Child Medicaid Enrollment June 2005 <sup>3</sup>	Children as a Percent of the Total Medicaid <sup>3</sup>
	A	B	C	D	E	E/C
<b>United States</b>	295,560,549	12.6%	30,603,600	17.6%	16,410,800	53.6%
Alabama	4,537,299	16.2%	687,300	24.7%	399,200	58.1%
Alaska	668,625	9.6%	87,000	12.1%	54,100	62.3%
Arizona	5,961,239	14.4%	927,200	21.6%	549,600	59.3%
California	35,885,415	13.2%	6,463,700	18.5%	3,380,300	52.3%
Colorado	4,662,734	10.4%	410,800	14.7%	243,200	59.2%
Delaware	838,519	8.5%	140,500	14.2%	65,600	46.7%
Florida	17,702,476	11.8%	2,201,200	15.8%	1,267,600	57.6%
Georgia	9,093,958	13.1%	1,379,800	21.2%	835,900	60.6%
Illinois	12,704,063	12.1%	1,652,100	15.6%	1,027,100	62.2%
Indiana	6,248,569	11.4%	758,200	18.6%	487,400	64.3%
Iowa	2,951,775	10.4%	284,800	14.5%	142,600	50.1%
Kansas	2,742,204	11.6%	261,900	17.8%	160,600	61.3%
Kentucky	4,165,958	15.6%	671,900	21.2%	341,300	50.8%
Louisiana	4,495,627	17.4%	990,600	24.7%	683,400	69.0%
Maryland	5,575,552	9.4%	506,700	13.3%	317,500	62.7%
Massachusetts	6,434,343	9.9%	924,400	11.6%	356,500	38.6%
Michigan	10,093,266	12.2%	1,421,900	16.3%	755,800	53.2%
Minnesota	5,104,890	7.5%	583,000	10.0%	332,700	57.1%
Mississippi	2,898,209	18.3%	593,300	30.7%	355,500	59.9%
Missouri	5,785,130	11.5%	877,400	17.7%	462,600	52.7%
Nebraska	1,751,069	9.6%	172,300	12.3%	78,500	45.6%
New Jersey	8,634,657	7.8%	773,200	8.8%	435,300	56.3%
New Mexico	1,912,884	17.5%	365,600	24.7%	259,000	70.9%
New York	19,336,376	14.6%	4,132,000	20.5%	1,617,900	39.2%
North Dakota	635,222	10.2%	52,400	13.3%	25,300	48.3%
Oklahoma	3,530,087	13.1%	486,700	20.8%	319,600	65.7%
Pennsylvania	12,351,881	11.0%	1,786,700	16.9%	901,500	50.5%
South Dakota	779,315	12.7%	88,200	16.0%	53,800	61.0%
Utah	2,501,262	9.4%	215,500	11.8%	112,100	52.0%
Wisconsin	5,538,806	10.8%	650,000	13.6%	351,800	54.1%
Wyoming	506,007	10.1%	57,700	13.7%	37,200	64.5%

<sup>1</sup>Source: Population Division, U.S. Census Bureau (Census-2)

<sup>2</sup>Source: 2004 to 2006 Annual Social and Economic Supplements, U.S. Census Bureau (Census-3)

<sup>3</sup>Source: Kaiser Foundation, Ellis, Smith, Rousseau, and Schwartz, Table 2

<sup>4</sup>Source: 2006 Annual Social and Economic Supplement, U.S. Census Bureau (Census-4)

Note: Only those states represented in the Medicaid report are included in this table

## Appendix 8 Representation of Medicaid enrollment of children in and near poverty

<b>0-18 Age Group - Representation of Medicaid enrollment relative to the Population below 100% FPL</b>							
	Est Population of Children 0-18 Years <sup>1</sup>	Percentage of 0-18 Yrs Below 100% Poverty <sup>2</sup>	Est. No. of Poor 0-18 Years of Age (below 100% FPL)	No. 0-18 Yrs Enrolled in Medicaid <sup>3</sup>	% of Enrollment Based on Total Population of 0- 18 Years	Difference Between Enrolled and Est. No. of Poor	Additional % of children covered by Medicaid (100%+ FPL)
	A	B	C=A*B	D	E=D/A	F=D-C	G=F/A
<b>United States</b>	73,469,984	17.6%	12,930,717	16,410,800	22.3%	3,480,083	4.7%
Alabama	1,089,753	24.7%	269,169	399,200	36.6%	130,031	11.9%
Alaska	188,324	12.1%	22,787	54,100	28.7%	31,313	16.6%
Arizona	1,580,436	21.6%	341,374	549,600	34.8%	208,226	13.2%
California	9,701,862	18.5%	1,794,844	3,380,300	34.8%	1,585,456	16.3%
Colorado	1,180,525	14.7%	173,537	243,200	20.6%	69,663	5.9%
Delaware	195,879	14.2%	27,815	65,600	33.5%	37,785	19.3%
Florida	4,067,877	15.8%	642,725	1,267,600	31.2%	624,875	15.4%
Georgia	2,362,722	21.2%	500,897	835,900	35.4%	335,003	14.2%
Illinois	3,241,039	15.6%	505,602	1,027,100	31.7%	521,498	16.1%
Indiana	1,602,847	18.6%	298,130	487,400	30.4%	189,270	11.8%
Iowa	670,801	14.5%	97,266	142,600	21.3%	45,334	6.8%
Kansas	674,285	17.8%	120,023	160,600	23.8%	40,577	6.0%
Kentucky	980,160	21.2%	207,794	341,300	34.8%	133,506	13.6%
Louisiana	1,147,651	24.7%	283,470	683,400	59.5%	399,930	34.8%
Maryland	1,402,961	13.3%	186,594	317,500	22.6%	130,906	9.3%
Massachusetts	1,458,036	11.6%	169,132	356,500	24.5%	187,368	12.9%
Michigan	2,524,274	16.3%	411,457	755,800	29.9%	344,343	13.6%
Minnesota	1,229,578	10.0%	122,958	332,700	27.1%	209,742	17.1%
Mississippi	748,544	30.7%	229,803	355,500	47.5%	125,697	16.8%
Missouri	1,378,232	17.7%	243,947	462,600	33.6%	218,653	15.9%
Nebraska	431,629	12.3%	53,090	78,500	18.2%	25,410	5.9%
New Jersey	2,161,801	8.8%	190,238	435,300	20.1%	245,062	11.3%
New Mexico	489,482	24.7%	120,902	259,000	52.9%	138,098	28.2%
New York	4,545,884	20.5%	931,906	1,617,900	35.6%	685,994	15.1%
North Dakota	136,518	13.3%	18,157	25,300	18.5%	7,143	5.2%
Oklahoma	853,336	20.8%	177,494	319,600	37.5%	142,106	16.7%
Pennsylvania	2,816,739	16.9%	476,029	901,500	32.0%	425,471	15.1%
South Dakota	188,270	16.0%	30,123	53,800	28.6%	23,677	12.6%
Utah	742,556	11.8%	87,622	112,100	15.1%	24,478	3.3%
Wisconsin	1,295,995	13.6%	176,255	351,800	27.1%	175,545	13.5%
Wyoming	114,321	13.7%	15,662	37,200	32.5%	21,538	18.8%

<sup>1</sup>Source: Population Division, U.S. Census Bureau (Census-2)

<sup>2</sup>Source: 2006 Annual Social and Economic Supplement, U.S. Census Bureau (Census-4)

<sup>3</sup>Source: 2004 to 2006 Annual Social and Economic Supplements, U.S. Census Bureau (Census-3)

### Appendix 9 State-by-state comparison of children identified with special health care needs

<b>State-by-State Comparison of CSHCN</b>			
<b>Rank</b>	<b>State</b>	<b>Non-CSHCN %</b>	<b>CSHCN %</b>
1	Kentucky	81.5	18.5
2	West Virginia	81.7	18.3
3	Arkansas	82.3	17.7
4	Maine	82.3	17.7
5	Delaware	82.5	17.5
6	Rhode Island	82.8	17.2
7	Alabama	82.9	17.1
8	Indiana	83.4	16.6
9	New Hampshire	83.4	16.6
10	Oklahoma	83.5	16.5
11	Massachusetts	83.6	16.4
12	Tennessee	83.6	16.4
13	Missouri	83.8	16.2
14	Ohio	83.8	16.2
15	Connecticut	84	16
16	Kansas	84	16
17	Virginia	84.2	15.8
18	Maryland	84.5	15.5
19	Michigan	84.6	15.4
20	North Carolina	84.6	15.4
21	Pennsylvania	84.7	15.3
22	Wisconsin	84.7	15.3
23	South Carolina	84.8	15.2
24	Mississippi	85	15
25	Vermont	85	15
26	Louisiana	85.2	14.8
27	District of Columbia	85.3	14.7
28	Nebraska	85.4	14.6
29	Minnesota	85.6	14.4
30	Wyoming	85.6	14.4
31	Washington	85.7	14.3
32	Iowa	85.8	14.2
33	Georgia	86.1	13.9
34	Illinois	86.1	13.9
35	Montana	86.4	13.6
36	Oregon	86.4	13.6
37	Florida	86.6	13.4
38	New Jersey	86.7	13.3
39	New York	87.3	12.7
40	South Dakota	87.4	12.6
41	Texas	87.4	12.6
42	Arizona	87.5	12.5
43	Colorado	87.5	12.5
44	North Dakota	87.8	12.2
45	New Mexico	87.9	12.1
46	Hawaii	88	12
47	Alaska	88.1	11.9
48	Idaho	88.6	11.4
49	Utah	89	11
50	Nevada	89.6	10.4
51	California	90.1	9.9

Source: 2005-06 data from <http://cshcndata.org/Content/Default.aspx>

**Appendix 10 Comparison of children with special health care needs (CSHCN)  
with and without emotional, developmental or behavioral issues,  
compared to the population of students with no identifying conditions**

<b>CSHCN with Emotional, Developmental or Behavioral Issues</b>			
<b>Region</b>	<b>CSHCN with needs that include emotional developmental or behavioral issues %</b>	<b>CSHCN with no qualifying emotional developmental or behavioral issues %</b>	<b>Non-CSHCN %</b>
Alabama	4.5	12.6	82.9
Alaska	4.2	7.6	88.1
Arizona	3.6	8.9	87.5
Arkansas	5.8	11.9	82.3
California	2.7	7.2	90.1
Colorado	3.3	9.2	87.5
Connecticut	4	12	84
Delaware	5.2	12.3	82.5
District of Columbia	4.8	9.9	85.3
Florida	4.2	9.3	86.6
Georgia	4	10	86.1
Hawaii	3.6	8.4	88
Idaho	3.7	7.7	88.6
Illinois	3.6	10.4	86.1
Indiana	4.8	11.8	83.4
Iowa	4	10.2	85.8
Kansas	4.5	11.5	84
Kentucky	5	13.4	81.5
Louisiana	4.1	10.7	85.2
Maine	6	11.7	82.3
Maryland	5	10.5	84.5
Massachusetts	5.6	10.8	83.6
Michigan	4.3	11.1	84.6
Minnesota	4.4	10	85.6
Mississippi	4.3	10.8	85
Missouri	4.6	11.6	83.8
Montana	4.7	8.8	86.4
Nebraska	3.6	11	85.4
Nevada	3.3	7.1	89.6
New Hampshire	5.5	11	83.4
New Jersey	3.7	9.6	86.7
New Mexico	3.5	8.6	87.9
New York	3.4	9.3	87.3
North Carolina	4.2	11.2	84.6
North Dakota	3.5	8.7	87.8
Ohio	4.8	11.4	83.8
Oklahoma	5	11.5	83.5
Oregon	4.7	8.9	86.4
Pennsylvania	4.6	10.8	84.7
Rhode Island	5.7	11.5	82.8
South Carolina	3.9	11.3	84.8
South Dakota	3.4	9.2	87.4
Tennessee	4	12.5	83.6
Texas	3.1	9.5	87.4
Utah	3.4	7.6	89
Vermont	5	10	85
Virginia	4.4	11.4	84.2
Washington	4.9	9.5	85.7
West Virginia	5.3	13	81.7
Wisconsin	4.1	11.2	84.7
Wyoming	4.3	10.1	85.6

Source: 2005-06 data from <http://cshcndata.org/Content/Default.aspx>



**Appendix 11 Representation of Healthy Youth! state-by-state report card responses  
relative to school health response**

<b>Healthy Youth! 2000 State Report Cards - Brief notes</b>	<b>Requires schools to write an injury report after a serious student injury</b>	<b>Requires student- to-nurse ratio of 750:1 or better</b>	<b>Requires school nurse participation in individualized education plans (IEPs)</b>	<b>Requires school nurse participation in individualized health plans (IHPs)</b>	<b>Requires newly hired school nurses to have specific educational backgrounds</b>	<b>Requires newly hired school nurses to have a licensed practical nurse (LPN) or (RN) license</b>	<b>Requires newly hired school nurses to have state certification</b>
<b>Item Number:</b>	<b>3.80</b>	<b>3.10</b>	<b>3.11</b>		<b>3.13</b>	<b>3.14</b>	
Alabama						X	
Alaska			X			X	
Arizona					X	X	
Arkansas						X	
California					X	X	X
Colorado					X	X	X
Connecticut			X	X		X	
Delaware	X	X	X		X	X	X
Washington D.C.	X	X			X	X	
Florida	X		X				
Georgia							
Hawaii	X		X	X	X	X	
Idaho					X	X	X
Illinois	X		X	X	X	X	X
Indiana					X	X	
Iowa				X	X	X	X
Kansas						X	
Kentucky	X						
Louisiana			X	X		X	X
Maine					X	X	X
Maryland			X			X	
Massachusetts	X		X	X	X	X	X
Michigan					X	X	X
Minnesota					X		X
Mississippi							
Missouri	X		X	X		X	
Montana							
Nebraska	X					X	
Nevada					X	X	X
New Hampshire						X	
New Jersey					X	X	X
New Mexico			X		X	X	X
New York	X				X	X	
North Carolina					X	X	
North Dakota	X						
Ohio					X	X	X
Oklahoma					X	X	X
Oregon			X	X	X	X	
Pennsylvania	X		X		X	X	X
Rhode Island	X		X		X	X	X
South Carolina							
South Dakota							X
Tennessee							
Texas							
Utah						X	
Vermont	X	X	X	X	X	X	X
Virginia							
Washington						X	
West Virginia		X	X	X	X	X	X
Wisconsin			X	X			
Wyoming						X	

Source: SHSSP 2000 State Report Cards (CDC-9), highlighted states have no requirement for any of the categories

## Appendix 12 Number of Certified School Nurses by State or Territory

<b>Certified School Nurses by State or Territory<sup>1</sup></b>					
	# of Certified School Nurses	# of Schools	Average Nurse/ School	# of Students	Student to Nurse Ratio
Alabama	11	1,596	145.1	741,758	67,433
Alaska	57	514	9.0	133,288	2,338
Arizona	35	2,078	59.4	1,094,454	31,270
Arkansas	18	1,138	63.2	474,206	26,345
California	16	9,863	616.4	6,437,202	402,325
Colorado	30	1,707	56.9	779,826	25,994
Connecticut	95	1,111	11.7	575,059	6,053
Delaware	113	229	2.0	120,937	1,070
District of Columbia	3	229	76.3	76,876	25,625
Florida	200	3,766	18.8	2,675,024	13,375
Georgia	49	2,489	50.8	1,598,461	32,622
Hawaii	0	285	0.0	182,818	0
Idaho	17	717	42.2	261,982	15,411
Illinois	91	4,434	48.7	2,111,706	23,206
Indiana	12	1,993	166.1	1,035,074	86,256
Iowa	34	1,519	44.7	483,482	14,220
Kansas	26	1,407	54.1	467,285	17,973
Kentucky	5	1,426	285.2	679,878	135,976
Louisiana	5	1,527	305.4	654,526	130,905
Maine	7	680	97.1	195,498	27,928
Maryland	48	1,430	29.8	860,020	17,917
Massachusetts	456	1,879	4.1	971,909	2,131
Michigan	21	4,090	194.8	1,741,845	82,945
Minnesota	25	2,759	110.4	839,243	33,570
Mississippi	37	1,051	28.4	494,954	13,377
Missouri	45	2,361	52.5	917,705	20,393
Montana	3	840	280.0	145,416	48,472
Nebraska	6	1,225	204.2	286,646	47,774
Nevada	25	559	22.4	412,395	16,496
New Hampshire	32	481	15.0	205,767	6,430
New Jersey	34	2,474	72.8	1,395,602	41,047
New Mexico	72	875	12.2	326,758	4,538
New York	60	4,672	77.9	2,815,581	46,926
North Carolina	661	2,348	3.6	1,416,436	2,143
North Dakota	4	539	134.8	98,283	24,571
Ohio	107	4,012	37.5	1,839,683	17,193
Oklahoma	9	1,789	198.8	634,739	70,527
Oregon	16	1,260	78.8	552,194	34,512
Pennsylvania	32	3,250	101.6	1,830,684	57,209
Rhode Island	9	338	37.6	153,422	17,047
South Carolina	35	1,175	33.6	701,544	20,044
South Dakota	3	725	241.7	122,012	40,671
Tennessee	21	1,710	81.4	953,928	45,425
Texas	133	8,841	66.5	4,525,394	34,026
Utah	10	983	98.3	508,430	50,843
Vermont	23	391	17.0	96,638	4,202
Virginia	58	2,094	36.1	1,214,472	20,939
Washington	46	2,275	49.5	1,031,985	22,434
West Virginia	26	797	30.7	280,866	10,803
Wisconsin	43	2,254	52.4	875,174	20,353
Wyoming	29	379	13.1	84,409	2,911

Light gray highlighted area = states with the best nurse to student ratio, dark gray = worst nurse to student ratios  
 Other reported nurses: Armed Forces Atlantic-4; Armed Forces Pacific-4; and Virgin Islands-1  
<sup>1</sup> Nurse data is from the National Board for Certification of School Nurses (2008). School data is from the National Center for Education Statistics (NCES-2).

### Appendix 13 Comparisons of health to level of achieved education

<b>NCES: Health and Education Level Comparisons</b>					
<b>Percentage of respondents age 25 and above who reported being in excellent or very good health, by educational attainment and selected characteristics: 2001</b>					
<b>Characteristic</b>	<b>Less than high school</b>	<b>High school diploma or equivalent</b>	<b>Some college, including vocational/technical</b>	<b>Bachelor's degree or higher</b>	<b>Total</b>
Total	39.0	56.2	65.9	78.4	61.2
Sex					
Male	42.0	58.6	67.2	78.7	63.1
Female	36.3	54.2	64.8	78.1	59.5
Family income					
Less than \$20,000	29.9	39.8	45.6	65.3	39.3
\$20,000–34,999	38.9	50.3	57.9	71.5	52.3
\$35,000–54,999	49.3	62.3	67.1	73.4	64.3
\$55,000–74,999	56.9	66.7	74.1	79.6	72.1
\$75,000 or more	61.2	71.2	76.6	83.3	78.3
Poverty status <sup>1</sup>					
Poor	30.7	40.3	48.9	65.8	39.5
Near-poor	36.7	46.7	52.2	67.1	46.3
Nonpoor	47.4	62.6	70.6	79.8	69.2
Race/ethnicity <sup>2</sup>					
American Indian	36.6	48.7	62.9	67.1	50.7
Asian	44.4	50.6	63.9	74.8	64.2
Black	33.1	49.7	57.8	69.8	51.1
White	36.6	57.1	67.4	79.7	63.4
Hispanic	47.0	60.4	65.0	76.1	56.8
Age					
25–34	61.6	70.9	77.1	87.7	76.1
35–44	50.6	65.7	72.6	83.8	70.6
45–54	36.3	54.9	64.0	77.8	61.8
55–64	29.8	46.9	56.3	71.4	51.8
65 and above	25.9	39.5	44.2	55.1	38.1
Metropolitan status area					
2.5 million and above	43.0	58.6	64.8	78.5	63.3
1–2.49 million	42.4	58.2	66.8	80.0	64.4
Under 1 million	38.3	55.4	65.8	77.9	60.9
Nonmetropolitan area	33.3	53.8	66.0	75.7	55.7
Region					
Northeast	40.9	58.0	65.3	78.3	62.5
Midwest	33.6	56.5	66.7	79.0	61.5
South	38.0	54.3	65.0	78.1	59.1
West	44.0	57.5	66.7	78.3	63.5

(Table 12-1 of the 2008 Condition of Education Report - <http://nces.ed.gov/programs/coe/2004/section2/indicator12.asp>)

<sup>1</sup>"Near-poor" is defined as 100–199 percent of the poverty level, and "non-poor" is defined as twice the poverty level.

<sup>2</sup>American Indian includes Alaska Native, Asian includes Pacific Islander and Native Hawaiian, Black includes African American, and Hispanic includes Latino. Racial categories exclude Hispanic origin. Other race/ethnicities are included in the total but are not shown.

NOTE: Includes those who responded "excellent" or "very good" from a scale of "excellent," "very good," "good," "fair," and "poor." See supplemental note 1 for more information on metropolitan status area and region.

SOURCE: U.S. Department of Health and Human Services, Centers for Disease Control, National Center for Health Statistics, National Health Interview Survey, 2001, previously unpublished tabulation (October 2003).

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