

SECTION ONE

A Review of the Field

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Children's Health and Children's Schools

A Collaborative Approach to Strengthening Children's Well-Being

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There are nearly 61 million American children between ages 5 and 19, and about 50 million of them attend an elementary or secondary school in the United States.^{1,2} Schools are the one place where most school-age children congregate six or seven hours a day, nine months a year. Providing effective, high-quality health services in schools is the most direct, efficient means of ensuring that children receive the care they need when obstacles to community-based services bar the way to such care.

Strengthening school-based health services and linking them to community-based health care is a strategy that benefits not only children's health but also their academic well-being. Treating problems before they become serious and managing chronic conditions that can keep children out of school have cost-effective benefits. But for more than a century, school- and community-based services have not been connected in meaningful ways. Why? And what can be done about this missed opportunity?

Over the past 30 years, school-based health services have been conspicuously absent from policy discussions and research studies on improving child health. They were absent from the agenda-setting

Daytona Conference on Adolescent Health in 1987³; they have been absent from commonly cited articles examining children's access to health care⁴⁻⁶; and until recently they have been absent from discussions of adolescent health needs and the importance of changing the content of adolescent health care.⁷ Not only has the school health field been isolated from community care, but it also has been considered irrelevant in serious discussions about how to improve health outcomes for children.

Recent developments, however, suggest that the gap between school health care and community care may be narrowing. Increased public recognition of the health problems of many young people and concerns about the relationship between unattended health problems and poor student achievement have prompted greater interest in health programs in schools. New models of health care organization, including school-based health centers and full-service schools, have offered strategies for addressing problems.^{8,9} And school-based health services, especially school-based mental health care, are being examined for their potential to improve health status *and* academic achievement.¹⁰⁻¹² With managed care prompting some providers to work more closely with schools, and with private health care organizations taking responsibility for organizing some city school-based health services, new actors are joining the discussion about how children's health care should be delivered. The potential for change in school-based health services is greater than it has been since the first days of school health.¹³

Five elements are essential to understanding the potential for change in school-based health care: (1) the unmet health problems of school-age children, (2) the structure and the priorities of American schools and their implications for school health services, (3) the history of school health programs and their status today, (4) the emerging forces in health and education that may portend substantial changes in health care delivery in schools, and (5) approaches to reorganizing school-based health so that these services contribute to improved child well-being in the twenty-first century.

THE HEALTH STATUS OF SCHOOL-AGE CHILDREN

While most children in the United States are in excellent health and do receive needed services, a significant number experience acute and chronic health problems¹⁴ and also lack adequate medical care. Chronic conditions, especially asthma and other respiratory problems, affect

**Table 1.1 Common Health Problems of School-Age Children
Ages 5 to 17, 2004.**

Problem or Condition	Number	Percentage of Children Ages 5–17
Asthma		
Ever told had asthma	8,890,000	12.2
Asthma attack in past 12 months	3,975,000	5.4
Hay fever, respiratory allergies, other allergies	24,286,000	N.A.*
Learning disability and attention deficit disorder		
Ever told had learning disability	4,881,000	8.0
Ever told had attention deficit disorder	4,527,000	7.4
Medication		
Problem for which prescription medication was taken regularly for at least 3 months in past year	9,627,000	13.2

*A child may be counted more than once in this category.

large numbers of children, as do learning disabilities and attention deficit disorders (see Table 1.1).¹⁴ Dental health problems are common. In 2000, it was estimated that 4 million children aged 2 to 17 had unmet dental needs because their families could not afford care. Mental health problems, including anxiety, depression, and other disorders, are also reported as common. According to the Surgeon General's Report on Mental Health, one in five children aged 9 to 17 experienced symptoms of a mental health problem. One in ten experienced significant impairment, but it was estimated that three-quarters of those needing care did not receive it.^{12,14,15}

As with adults, medications play a substantial role in treatment. Slightly more than 13% of children and adolescents were reported as taking prescription medications for at least 3 months in the previous year.

An additional number of children and young people are harmed or die prematurely as a result of behavior-related problems, including substance abuse, fighting, and risky sexual behavior (see Table 1.2).¹⁶

The implications of these data for school-based services are three-fold. First, a substantial number of school-age children experience health problems that might be ameliorated if they were addressed in the school setting. And these health problems have direct academic consequences. The National Health Interview Survey conducted by the Centers for Disease Control and Prevention (CDC) for 2004 reports that 10.7% of schoolchildren missed 6 to 10 days of school, 5% missed

Table 1.2 Youth Risk Behavior Survey, 2003.

Risk Behavior	1997	2003
Frequent cigarette use (smoked one or more cigarettes every day for the 30 days preceding the survey)	16.7%	15.8%
Episodic heavy drinking (drank five or more drinks on at least one occasion during 30 days preceding survey)	34.4	28.3
Current cocaine use (one or more times during 30 days preceding survey)	3.3	4.1
Did not use condom during sexual intercourse (one or more times during 30 days preceding survey)	N.A.	37.0
Threatened or injured with a weapon on school property (one or more times in the 12 months preceding survey)	4.0	9.2
Felt too unsafe to go to school	7.4	5.4

11 days or more, and 1% do not attend school at all.¹⁴ Second, children with health problems, especially untreated problems, are more likely to be poorer, members of minority groups, and uninsured. Thus it is possible to direct services to schools in those communities that are most in need. Third, all schools must consider the substantial number of prescription medications required by their student populations and evaluate the adequacy of their systems to support children who require medication during the school day.

THE SCHOOL CONTEXT FOR SCHOOL-BASED HEALTH SERVICES

The Importance of Health in the School Setting

Approximately 50 million children aged 5 to 19 attend the nearly 120,000 elementary and secondary schools in the United States. These young people require clean air, a physically safe environment, and education about how to promote their own safety and health. They also require prompt, effective emergency care; need safe administration of medications during school; need protection from communicable diseases; and for younger children especially, require treatment and timely responses to the injuries common to playgrounds and school corridors.

School health programs vary greatly from school district to school district and from state to state, but nearly all communities agree with four basic propositions:

1. There is an obligation to guarantee the safety of the public, including children, when gathered in public buildings. Either the school system or the health department must ensure the safety of the school building and its grounds.
2. There is an obligation to provide emergency services and essential medical services to people in the school building.
3. Because children are in school to learn, there is broad support for the notion that schools should educate children about keeping their bodies safe and healthy. Many states and school districts believe that a good school health program includes a strong health education curriculum.
4. All communities have a legal obligation under Section 504 of the 1973 Rehabilitation Act, the Individuals with Disabilities Education Act, and the Americans with Disabilities Act to provide for such care as is necessary to enable a child with a physical or mental disability to benefit from a free, appropriate public education.

An increasing number of communities also believe that it makes sense to invest in school health programs that go beyond the basic components. These communities find several arguments to be persuasive in supporting a broader range of school-based health programs:

1. That health programs facilitate learning and may increase test scores
2. That there are gaps in the health care system, especially for low-income children and adolescents, and that there are cost savings to be achieved by providing early intervention and treatment for unserved or underserved children
3. That children's parents are frequently not available to schools and that caring for sick children for at least part of the day will fall to school staff members

The arguments in support of more effective school-based health programs—and more of them—continue to grow. And an increasing number of communities and several states have taken specific steps to expand the scope of school-based health services. What has frequently been a surprise to those who have been enthusiastic about the potential for such services is how complex the school environment is and how many factors must be considered in pursuing links between community-based health care systems and school-based activities.

The Organization of Schools

The school environment is quite different from that found in health care. Authority tends to flow from the bottom up—from school district to state education agency, and from locally elected public officials to state and federal policymakers. Notwithstanding the move toward state standards and national guidelines, education remains a locally driven enterprise with a tradition of local decision-making and engaged power brokers that must be taken into account when attempting to change existing programs.

In contrast to health care, where strong federal agencies such as the Center for Medicare and Medicaid Services set standards of care and define eligible providers, no single federal agency establishes standards for curricula, pupil support services, facilities, or staff. Program priorities are mostly determined by 15,000 local school boards and superintendencies.

Fifty state legislatures, state education agencies, and state boards of education provide a second layer of direction for school systems. At the federal level, many federally funded discretionary programs come under federal oversight. However, the most extensive federal mandates are generated by federal legislation protecting the rights of physically disabled and learning-disabled children to “free, appropriate education.” Federal enforcement of the legislation has generated an extensive set of special education requirements that shape both classroom arrangements and school-based health services.

Passage of the No Child Left Behind Act of 2001, the most recent revision of the federal Elementary and Secondary Education Act, has sharpened requirements that state and local governments must meet to secure federal funding and has increased the perception of federal oversight elementary and secondary schools. While federal funding constitutes less than 10% of K–12 spending, it supports services for low-income students, purchases of instructional materials, and development of state-level education programs.¹⁷

During the 1999–2000 school year, there were nearly 90,000 elementary and secondary public schools in the United States, enrolling about 46.9 million students (see Table 1.3).¹⁸ Five million students attended 27,000 private schools, of which a third were Catholic schools.^{19(tab7)}

Student enrollment among these schools varies considerably. The smallest public elementary schools are found in South Dakota, where total enrollment averages 160 students; the largest are found in Florida, where they average 694. High schools, typically larger than

Table 1.3 Schools by Level and Type of Institution.

	Total	Public	Private
Elementary	79,362	62,739	16,623
Secondary	24,169	21,682	2,487
Combined	11,412	3,120	8,292
Total	114,943	87,541	27,402

elementary schools, average an enrollment of 369 in Wyoming but 1,468 in Hawaii.^{19(tab5)} Urban high schools in large school districts frequently exceed 1,500 students.²⁰

As indicated in Table 1.4, nearly half (7,193) of the school districts have fewer than 1,000 students each, but the 25 largest districts enroll 12% of all public school students in the United States.¹⁸ Indeed, 5.7% of all school districts (817 school districts) enroll half of all public school students in the nation.

Policies, Funding, and School Health

At the state level, governors, legislators, and members of state boards of education all contribute to shaping school policies and school programs, including those that relate to health. A few states help fund health services directly, but most contribute indirectly through general financial support to school districts. Many states also establish mandates for specific services or require student documentation that they

Table 1.4 Public School Districts in the United States by Student Enrollment, 1999–2000.

District Size	Districts	Percentage of Districts	Percentage of Student Enrollment
Total, United States	14,571	100.0%	100.0%
100,000 or more	25	0.2	12.4
25,000–99,999	213	1.5	19.7
10,000–24,999	579	4.0	18.7
5,000–9,999	1,036	7.1	15.4
1,000–4,999	5,524	37.9	27.8
1–999	7,193	49.3	6.0

have received services such as immunizations. However, as Table 1.5 indicates, school district requirements tend to be more extensive than those of state governments.^{21(pp295–297)}

One of the most useful insights concerning children's health programs is provided by Table 1.6, which describes the current availabil-

**Table 1.5 Most Frequently Required Health Mandates:
States and District Requirements by Type of Service.**

	Percentage of States	Percentage of Districts
Health Services		
Administration of medications	64.0%	93.7%
First aid	48.0	92.1
CPR	42.0	81.5
Identification of or referral for physical, sexual, or emotional abuse	64.7	75.7
Crisis intervention for personal problems	20.4	64.8
Alcohol or other drug use prevention	22.0	64.2
Immunizations		
<i>Kindergarten or First Grade Entry</i>		
Diphtheria	100.0	99.1
A measles-containing vaccine	100.0	99.1
A polio vaccine	100.0	98.9
Tetanus	98.0	97.7
Hepatitis B	72.6	75.6
<i>Middle or Junior High School Entry</i>		
A second measles-containing vaccine	68.6	81.0
Tetanus	43.8	60.6
<i>Senior High School Entry</i>		
A second measles-containing vaccine	44.9	66.8
Tetanus	36.8	61.4
Screenings		
Hearing	70.6	88.4
Vision	70.6	90.4
Scoliosis	45.1	68.8
Height, weight, or body mass	26.0	38.4

Brener ND, Burstein GR, DuShaw ML, Vernon ME, Wheeler L, Robinson J.. Health services, results from the School Health Policies and Programs Study 2000. *J Sch Health*. 2001;71(7):294–303. Reprinted with permission. American School Health Association, Kent, Ohio.

ity of some basic health equipment in schools as reported by the CDC's periodic School Health Policies and Programs Study.^{21(p300)} That one-third of all schools report not having a separate locked medication storage cabinet and that fewer than 60% have a refrigerator reserved for health purposes suggest the constraints that some schools face in implementing school-based health services.

Current arrangements for school financing support the dominant role of state and local governments in decision making. Despite obligations of the No Child Left Behind Act, the limited funding provided by the federal government suggests that except for the unique requirements related to services for students with disabilities, the federal government is unlikely to be proscriptive about policies and programs related to school health. In fiscal year 2003–2004, of \$501.3 billion spent on public elementary and secondary schools, state funding supported 46% of the cost and local support amounted to 37%. Only 8.2% of the public schooling budget came from federal agencies. The remaining 9% came from private sources and was directed primarily to private schools.²² Federal support for education remains well below that for health. In 2002, federal health expenditures amounted to 33% of the total.²³

Table 1.6 Percentage of Schools with Facilities or Equipment for Health Services.

Type of Facility or Equipment	Percentage of Schools
Portable first aid kit	92.7%
Sick room, nurse's office, or other area reserved for health services	81.1
Medical supply cabinet with lock	73.9
Vision test, eye chart, cards, or anything else to measure vision	70.6
Scale	69.8
Separate medicine cabinet with lock	65.4
Refrigerator reserved for health services	57.3
Audiometer	48.5
Peak flow meter	27.2
Examining table	24.0
Answering machine or voice mail reserved for health services staff	20.5
Glucose meter not just for a specific individual's use	17.8
Nebulizer not just for a specific individual's use	13.0

Brener ND, Burstein GR, DuShaw ML, Vernon ME, Wheeler L, Robinson J.. Health services, results from the School Health Policies and Programs Study 2000. *J Sch Health*. 2001;71(7):294–303. Reprinted with permission. American School Health Association, Kent, Ohio.

School System Capacity to Address Health Issues

While the complexity of school systems and their limited financial resources may create barriers to strengthening school-based health services, greater impediments are likely to be the absence of a structure within education to address health issues and the low priority that superintendents and school boards assign to health services. In the main, neither superintendents nor school boards view health issues as worth a fight. School board members assigned to oversee school health programs are frequently the most recently elected or appointed officials. Among school system administrators, the assistant superintendents for pupil support—those who generally have responsibility for school-based services—are frequently not part of the school district’s leadership team.

The issues that currently consume school system leadership focus on students’ educational achievement and mechanisms for holding principals and teachers accountable for student outcomes. Since the primary accountability mechanism in schools is testing, many schools focus on the things that affect student performance on tests. And in many districts, school health does not make that list.

A BRIEF HISTORY OF SCHOOL-BASED HEALTH SERVICES

Historically, school health services evolved separately from community-based health care. For much of the twentieth century, the medical community in the United States opposed the expansion of health services in schools. At the same time, other potential health partners, such as social reformers and welfare professionals concerned about poor children’s well-being or hospitals that served large numbers of poor children, did not press the issue of linking school-based and community-based services. Recently, however, the separation between school-based and community-based systems has begun to narrow, and the potential for a new era in school-based health services has emerged.

School Health: The First Seventy-Five Years

School health developed in tandem with the expansion of public school systems at the end of the nineteenth century. As is the case today, school-based health services achieved their greatest depth and significance in urban centers where large numbers of schoolchildren,

frequently recent arrivals from other countries, came to school with unmet needs and untreated problems.

The first programs were launched in the large cities—Boston, New York, Chicago, and Philadelphia—when health department nurses and physicians began to vaccinate schoolchildren and to screen them for infectious diseases. In 1910, the Russell Sage Foundation reported that 337 city school systems had initiated some form of medical screening. In addition to city efforts, state governments began to establish health requirements for schools. In 1899, Connecticut began requiring teachers to test students' eyesight every 3 years. By the end of World War I in 1918, almost every state had enacted legislation related to school health.^{24,25}

Initially, school health services, especially in the large cities, were weighted heavily toward physician screenings and nursing services. Nurses not only helped families get medical care for children who had been excluded from school but also provided continuing help for health problems. Larger cities, especially those with substantial immigrant populations, made medical, dental, and social services available in the schools. Vacation schools, school lunches, and visiting school nursing all became part of the services that might be found in a school during the first two decades of the twentieth century.⁸

As the twentieth century progressed, however, school health services began to contract. The opposition of private medical practice to the provision of services in schools was overwhelming. To a great degree, school health was thought of as a component of public health, and the provision of health care to needy communities by public health authorities was losing ground to a sustained attack from the American Medical Association.²⁶

When the New York City Health Department hired a chief medical inspector and 150 part-time inspectors to make daily examinations of children suspected of being sick, the department promised that the inspectors would provide no medical service but would refer the children to physicians, hospitals, or dispensaries. In 1915, when the health department closed five special nose and throat clinics for schoolchildren, the New York Academy of Medicine congratulated the department's Bureau of Child Hygiene, saying, "The functions of the Department of Health should be restricted to the prevention of disease, and no therapeutic activities should be undertaken."²⁶

By the 1920s, the separation of medical treatment from preventive care was complete. Except in the narrowest circumstances, public

health would not provide medical services. For the most part, public health limited its focus to health education, personal hygiene, and environmental health. School health followed suit.

Until the 1970s, school health focused primarily on health education, with health services limited to emergency care, first aid, documentation of student compliance with district or state health requirements, and periodic student screenings. Only as the century entered its final quarter did potentially significant new themes begin to emerge in the types of services.⁸

The Next Twenty-Five Years: New Directions

During the latter part of the twentieth century, three factors emerged with the potential for altering the shape and the direction of school-based health services: (1) an expansion of school-based efforts to accommodate the health care needs of children with disabilities, (2) an increased awareness of the health problems of low-income children and a willingness to use schools to address these problems, and (3) a reconsideration of the separation of school-based health services from community-based care, with activities emerging that linked in-school and community-based systems.

PROVIDING HEALTH CARE TO CHILDREN WITH DISABILITIES. Passage of federal legislation to protect and support Americans with disabilities opened the door once more to expanded school-based health services. Section 504 of the 1973 Rehabilitation Act, the Education for the Handicapped Act of 1975, and the Americans with Disabilities Act of 1990 (ADA) created federally protected rights for disabled children. These rights included access to a variety of supportive services in schools, including certain health services. As a result, over the final quarter of the twentieth century, a major expansion occurred in school-based health services provided, the number of health professionals who worked for or contracted with schools, and the political acceptability of schools as sites for health care.

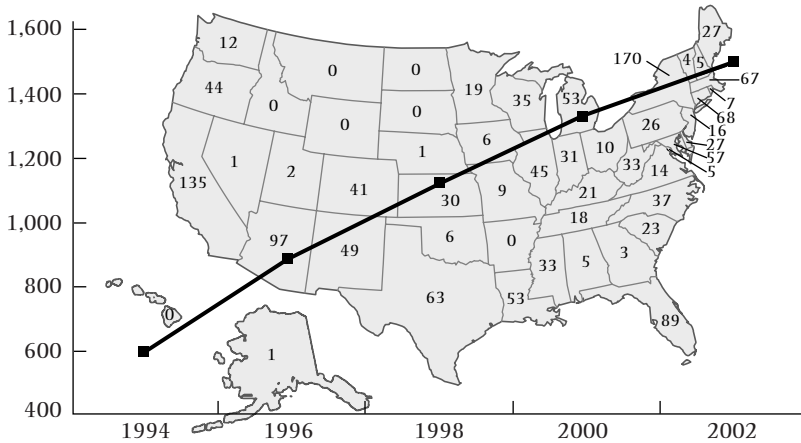
Section 504 of the 1973 Rehabilitation Act declared that discrimination because of disability was prohibited in federally funded programs, including the public schools. When the Americans with Disabilities Act was passed in 1990, the right to protection from discrimination was extended beyond federally funded programs to programs in the private sector and government agencies that do not receive federal funding. Consequently, private schools as well as pub-

lic schools must comply with federal requirements. Local governments, whether they accept federal dollars or not, must also comply. Under Section 504, school districts must make an effort to identify students with disabilities and provide services to enable the students to participate in or benefit from “any program or activity receiving Federal financial assistance.”²⁷ Students eligible for services under Section 504 may also be eligible for services under the Individuals with Disabilities Education Act, the current version of the Education for All Handicapped Children Act. Beginning with the Education for the Handicapped Act of 1975, the federal government mandated that states ensure that children with certain disabilities receive the services necessary to secure free, appropriate education in the least restrictive environment possible. Children who are eligible for services under Section 504 because they are disabled may not be eligible for services under IDEA if their disabilities are determined not to interfere with learning. Under both laws, however, school systems are required to provide a range of related health services that commonly include speech therapy, physical and occupational therapy, and counseling. Other services that might be offered include psychological services, social work services, school health services, and early identification and assessment of disabilities.²⁸

PROVIDING HEALTH CARE TO HIGH-NEED CHILDREN AND ADOLESCENTS.

Until passage of Section 504 and Education for the Handicapped legislation, the twentieth century had witnessed a retreat from the provision of health services to children in school. In schools with nurses, the nurses provided first aid but referred children requiring more extensive acute or chronic care to a physician. Supporters of this “link and refer” strategy argued that schools were not open 52 weeks a year and in any event did not have the dollars to provide medical care as well as educational services.^{29,30} Opponents countered that “link and refer” strategies often did not result in needed services and that money was wasted in finding and refinding the same problems, untreated, each year. They noted that in poor neighborhoods, where children are more likely to have untreated or inadequately treated asthma, dental problems, diabetes, or other serious health problems, school nurses could not find sufficient numbers of physicians, dentists, and other providers to guarantee care. With many children needing referrals, nurses were also less likely to have time to follow up on recommended services.⁸

By the late 1970s, some school districts began to take a broader view toward health services. In addition to expanded services for disabled

Figure 1.1 School-Based Health Center Initiatives, 2001–2002, by State.

From *2002 State Survey of School-Based Health Center Initiatives*. Center for Health and Health Care in Schools. Washington DC.

children, the emergence of the nurse practitioner as a new and accepted type of provider made possible the hiring of a lower-cost primary care provider. Nurse practitioners, who were increasingly authorized by state licensing authorities to diagnose common illnesses and prescribe medications, enabled school-based practices to treat students without requiring a physician referral.

Another innovative model for health care in school—the school-based health center—was built on the availability of nurse practitioners and thus expanded the services provided in schools.⁸ The long-term isolation of school-based health services began to diminish. The health centers, sponsored by mainstream health care organizations—hospitals, public health departments, and community health centers—first appeared in the 1970s and grew slowly over the next 10 years with funds from local and national philanthropies. In the 1980s, the centers expanded more rapidly as local and state governments began to offer support. In the 1990s, their growth became exponential (see Figure 1.1).³¹

As these changes occurred in the school health field, societal changes—the War on Poverty, the civil rights movement, increases in single-parent families, concerns about young people’s drug use—all contributed to an awareness of the many children who had not benefited from the general economic prosperity. Serious untended health problems, coupled with concern about the large number of children

and adolescents who had no health insurance, created a more sympathetic political climate for providing health care in schools.

Government policy changes also facilitated expanded school-based services in some communities. Congressional passage of Medicaid legislation in 1966 had provided federal support for health insurance for low-income children, among others. In 1988, the federal Medicaid director informed the states that they could establish relationships with school systems that would allow those systems to be reimbursed for services provided to Medicaid beneficiaries.³² The services would include those specified in the Medicaid legislation, whether provided to IDEA-enrolled students or to students in the general school population.

In 1997, school participation in health care received another boost through the passage of the State Children's Health Insurance Program (SCHIP). Although this program did not directly encourage school-delivered services, SCHIP administrators worked hard during the program's first 5 years to engage the schools as partners in enrolling children in the program. And the notion that schools had a role to play in securing safety-net services received a modest measure of reinforcement and support.

LINKING SCHOOL-BASED SERVICES WITH COMMUNITY-BASED SYSTEMS OF CARE. Some of the most interesting and perhaps most powerful changes affecting school-based services have occurred in the past 10 years. Perhaps most profoundly, the widespread introduction of managed care has shifted the standards by which health care services are measured. The health care system, driven by managed care, has adopted the notion that its services should meet performance standards. Moreover, building on efforts by the National Academy of Sciences to improve patient safety and quality of care, there is a growing belief among policymakers and health care analysts that services should be assessed in terms of the extent to which the providers either follow evidence-based, recommended procedures or achieve preestablished quality outcomes. Also understood is the expectation that patients and communities have a right to be informed about health care providers' performance in terms of these quality measures.¹³ The increasing emphasis on quality measures in health care, the related importance of patient safety, and the vital role of evidence-based practice will inevitably influence the way that community stakeholders think about school health services. School-based health programs will be asked to define their services, costs, and value in terms that take these concepts into account.

In addition to altering the health policy context for school-based health services, managed care is creating incentives for organizational links between community-based and school-based care. In states where managed care is the dominant mode of practice, and especially in states where Medicaid managed care arrangements are characterized by tight control of access to services, managed care companies have incentives (and occasional state mandates) to consider how school-based health services might enhance their ability to either constrain costs or achieve objectives specified in their state contracts.

At the same time, the drive toward school reform—especially efforts focused on accountability and student performance—have brought low-performing schools to public attention and raised questions about what can be done to help students from poor neighborhoods succeed academically. The recognition that health problems can impair student achievement has prompted some communities to offer greater support for health programs in schools.^{13,33}

SCHOOL-BASED HEALTH CARE AT THE BEGINNING OF THE TWENTY-FIRST CENTURY

Across the nation, a significant number of health professionals, clinical challenges, and dollars are involved in providing health care in school. The services and their funding can be only imperfectly described, since no single entity at the state or national level collects standardized data on health care in schools. Only school-based health centers, recent arrivals on the school health scene, are well documented. However, reports from professional organizations and estimates published in professional journals, as well as reports from individual states and school districts, provide a sense, if not a clear picture, of the health services found in many schools.

Clinical Care: Providers

SCHOOL NURSES. In 2000, a federally funded sample survey of nurses in the United States estimated that 56,239 nurses were working in the public schools. Another 5,132 worked in private schools, and an additional 5,519 worked in “other school health services.” An unknown percentage of those nurses worked full time, while others were part time.³⁴ Given nursing shortages across the United States and climbing nursing salaries in competitive health care organizations, the likelihood of

a serious school nurse shortage is real and suggests the need to develop new approaches to stretching the available nursing resources.

Depending on the state or the school district, school nurses' educational credentials and responsibilities vary widely. Some school nurses are licensed practical nurses who have completed a 6-month training course. They may also be registered nurses with a 4-year bachelor of science degree, or as in the case of Vermont school nurses, they may be nurse specialists with master of science degrees. Typically, school nurse responsibilities include some or all of the following services: documenting immunization status, conducting screening examinations, administering medications, enrolling students in health insurance programs, finding a medical home for students, providing case management to children involved with several public agencies, caring for disabled students as well as children with chronic health conditions, and providing first aid and emergency care to all students.

An emerging debate regarding the future of school nursing is the degree to which this position should focus on the care of individual children or whether the role of the school nurse is to ensure the health of the school's overall physical and social environment. Under the latter approach, the school nurse would concentrate primarily on such activities as tracking and containing outbreaks of flu, ensuring a fully immunized student body, and identifying threats to students and faculty from air, food, and water quality problems, as well as monitoring the emotional and behavioral environment of the school.

Although school nursing is frequently viewed as synonymous with school health services, an increasing number of other in-school health professionals and aides play key roles in addressing individual student health care needs and the public health challenges confronted at schools.

UNLICENSED PERSONNEL. Whether because of budget shortfalls or nursing shortages, schools have frequently turned to unlicensed personnel to serve as assistants or alternatives to school nurses. Estimates of their numbers are not available. They may be referred to as health aides or health assistants, and they may also have additional duties in the school—secretary, clerk, volunteer. If a nurse is assigned to a school, the assistant works under the nurse's direction and license. The skills of unlicensed assistants are inconsistent across school sites, as are the training, supervision, and support made available to these staff members.³⁵ A 2001 study by the General Accounting Office (now the General Accountability Office) that examined the administration of attention disorder drugs at school found that nurses were the most

frequent providers of medications (59%) but that non-health care personnel were the second most common providers (28%).³⁶

Another theme in school health regards the appropriate delegation of responsibility from nurses to unlicensed personnel. Some nurses express concern that school policies toward the use of unlicensed personnel can put a nurse's license in jeopardy. Others question the adequacy of training provided to these assistants, especially when they are frequently the ones charged with medication management for all schoolchildren during school hours.³⁷

SCHOOL-BASED HEALTH CENTERS. Although most school health services are managed by public school systems or, to a lesser extent, by local health departments, school-based health centers are predominantly organized by private, nonprofit institutions that are already providing health services to young people in the community. These include hospitals, which sponsor 32% of the school-based health centers; community health centers (17%); nonprofit agencies (12%); and universities and medical schools (5%). School systems, in charge of 15% of the centers, frequently subcontract with a variety of nonprofit health agencies to provide direct care. Local health departments are responsible for 17% of the centers; a small number of other agencies (2%) organize the remaining centers.³⁸

From the standpoint of providing care, the primary distinctions between school-based health centers and traditional school health services are that the health centers are staffed with professionals who are licensed to diagnose and treat medical problems and that the services themselves are arranged by community-based organizations. With combinations of nurse practitioners, physician assistants, clinical social workers, psychologists, physicians, and health aides, the centers can identify and treat most problems without the need to make referrals and arrange transportation. Most centers prescribe medications if needed; a smaller number even dispense medications.

While nearly all the centers offer basic medical services, 61% of them also employ mental health professionals—primarily psychologists and clinically trained social workers—to address mental health concerns among students. Using individual sessions as well as group work and family counseling, the centers report providing crisis interventions, case management, assessments, and peer support, as well as grief counseling and the assessment of learning problems.³⁸

The school-based health centers bridge the divide between community-based care and school health. Since they are sponsored by

community-based organizations, they have access to well-established referral networks and are able to get specialty care for their patients from colleagues in the sponsoring organization. The challenge for the centers has been the absence of adequate funding within health care budgets at the state and federal levels. This lack places clear limits on the expansion of the health centers.

Data from a 2001 finance survey conducted by the National Assembly on School-Based Health Care (as yet unpublished) describe then-current funding arrangements for the centers: 9% of revenue came from the federal government; 28% from state governments; 19% from private sources such as foundations; 13% from patient care revenue, primarily Medicaid and private insurance; and 18% from in-kind contributions from the school districts and other organizations.

In 2002, it was estimated that 1,500 school-based health centers provided care in public schools—in a nation of nearly 90,000 public schools. And while rough estimates project that 10,000 schools are high-need candidates for the centers and that 7,500 of those have would have the space for and the interest in pursuing a school-based health center, there is still a considerable distance to go.³⁹ Although entrepreneurial state and local health officials have been particularly creative in helping communities patch together enough money to keep the centers multiplying, limited federal dollars and small-scale state and county grant programs may deter all but the hardest champions of school-based health centers.

SCHOOL-BASED MENTAL HEALTH AND SOCIAL SERVICES. A widely quoted comment from a team of mental health researchers in the mid-1990s was that schools function as the “de facto mental health system” for children and adolescents.^{40(p155)} Surveys conducted in the 1990s documented that about 20% of the children and adolescents had diagnosable mental disorders, and yet only a small portion of those children received the help they needed.¹⁰ According to a RAND Corporation analysis, on average, only one-fourth of children and adolescents who needed mental health care got that help.¹⁵ To the extent that children with mental health problems received treatment, the majority of that care was provided at school.^{15,40}

Relying on the School Health Policy and Programs Survey of 2000, the CDC reports that three-fourths of schools have a part-time or full-time guidance counselor, two-thirds of schools have a part-time or full-time psychologist, and slightly more than 40% have a part-time or full-time social worker.⁴¹ Other estimates, developed early in the

1990s, are that mental health professionals in schools include 81,000 guidance counselors, between 20,000 and 22,000 psychologists, and 12,000 social workers.⁸

School-based mental health services represent some of the most established school health services as well as some of the newest school-based health interventions. Unlike school nurses, however, who provide care to the general student population, mental health professionals in schools may be available only to certain groups of students. Substantial mental health staff time is dedicated to assessing and caring for students who may be eligible for federally required Section 504 or IDEA services. School social workers may also be assigned to work specifically with schools that have large numbers of low-income students, and counselors, found in nearly all schools, may be primarily responsible for academic guidance and have limited time to devote to developmental support. Thus, the total mental health resources available to all students are very much in doubt.

That said, there is increasing interest in the role that mental health professionals can play in creating safe, nurturing school environments and providing direct services to students with emotional or behavioral health problems. Violent tragedies in schools during the latter part of the 1990s called attention to acute mental health problems among some students. Neighborhood violence during that same time affected many more students and their families, prompting concern about young people who had witnessed violence. In response, some school districts, as well as some state governments, have established grant-funded initiatives to test new models for providing mental health services. At the federal level, the Department of Education launched the Safe Schools, Healthy Students program in conjunction with the Department of Health and Human Services and the Office of Juvenile Justice to test expanded models for school-based mental health services.

Three particular challenges confront these new programs. First, given the pressure that schools face in providing assessments for students with disabilities, it can be difficult to keep mental health services from being absorbed into the school's special education efforts. Second, the new school-based mental health services are typically stand-alone efforts that must overcome the still-present fear of stigma for receiving mental health care. Special attention is required to ensure that students have confidential access to these services. Third, while it is important to protect mental health professionals from being

absorbed into serving only the Section 504– and IDEA-related populations, it is also important that mental health professionals—some of whom will come from community-based mental health organizations—learn about the school system and individual schools. In addition to working with students in one-on-one encounters, mental health professionals need to work with teachers and other staff members through classroom-based and schoolwide initiatives to create healthy learning environments.⁴²

CURRENT ISSUES IN SCHOOL-BASED CLINICAL CARE

The delivery of health services in schools has raised a number of issues with clinical, policy, and legal ramifications. Some of these issues are similar to those occurring in community-based settings; others are different because of the limited resources or the political sensitivities found at the school site.

Do Not Resuscitate Orders

Do Not Resuscitate (DNR) orders have emerged as a newly troubling issue for school-based services. The presence of a number of medically fragile and sometimes terminally ill students in schools has increased the likelihood that schools may be asked to honor orders directing that cardiopulmonary resuscitation should not be used in the event of cardiac or respiratory arrest.⁴³ Despite a reported sense among school nurses that requests for schools to honor DNR orders have become more frequent, most states and school districts do not appear to have policies regarding DNR orders. According to a 1998 survey, 11 of 42 responding states indicated that they had policies for addressing DNR orders in schools. Three of those states supported accepting DNR orders, 6 were opposed, and 2 gave ambiguous responses. Twelve states reported that some local school districts had policies in the absence of state guidance.⁴³

Medication Management

In 2000, some 13.4% of children aged 5 to 17 had a health problem that required them to take a prescription medication for at least 3 months.^{14(tab4)} A substantial portion of those children bring their

medications to schools. Nurses report that their duties in administering medication have increased dramatically, in part because of the growing role of pharmaceuticals in medical practice generally and in part because of the growing number of students who have conditions such as asthma and attention deficit or hyperactivity disorder. Since many schools do not have trained health professionals on site on a full-time basis, administering medication in a safe and reliable way is a critical and unresolved challenge.⁴⁴ The contrast in standards between administering medication in a health facility and giving medication at school can be profound.

Minor Consent

Many states authorize minors to give their consent for “confidential services,” variously defined by states as including some or all of the following: contraceptive services, testing and treatment for sexually transmitted infections, drug and alcohol abuse, and outpatient mental health services. For the past two decades, efforts have been made within federal and state legislatures to reimpose parental notification or consent for some of these services.⁴⁵ At the federal level, the former congressional representative and attorney general John Ashcroft sponsored legislation that would have made parental consent requirements for abortion and contraception for minors part of federal law.⁴⁶ Although the legislation was not reintroduced in the next Congress, it does reflect the perspective of key policymakers. Congressional conservatives have also frequently labored to require either parental notification or consent before a minor may receive contraceptive services from a federally funded Title X or family planning clinic. To date, these bills have succeeded in the House of Representatives and failed in the Senate. Efforts to roll back minor consent statutes have been more successful at the state level.

In general, states recognize the right of parents to make health care decisions for their minor children. In the 1970s and 1980s, however, states expanded the rights of minors to consent to their own care in areas related to sex, alcohol or drug treatment, and mental health services. In recent years, social conservatives have argued that parental rights have been abridged by minor consent legislation. Their legislative advocates have successfully narrowed the scope of these laws at the state level so that new constraints may limit minor consent provisions. With laws varying across the nation, school-based providers must pay careful attention to what their state law allows. Since states

may adopt laws that specifically limit what services may be provided in schools, all school-based providers need to review state statutes carefully.⁴⁵

Confidentiality and Student Health Data

Two pieces of federal legislation—the 1974 Family Educational Rights and Privacy Act (FERPA) and the 1996 Health Insurance Portability and Accountability Act (HIPAA)—complicate the handling of student health information. Under FERPA, family members and school staff members who have a “legitimate educational interest,” as defined in school district policy, may have access to student health records.⁴⁷ Under HIPAA, a law intended to assure that individuals have access to their health records and that information in those records is not available to unauthorized persons, the Department of Health and Human Services issued rules that specify criminal and civil penalties for “those who knowingly obtain or disclose individually identifiable information.” However there has been little litigation involving HIPAA. The lack of clarity presents difficult challenges for the schools.

For school-based health centers, the legislation is less a legal problem than a political one. Since the centers are organized by health care organizations outside the school system, FERPA does not apply to the centers’ medical records, but HIPAA does. Health center staff members have an unambiguous obligation not to share individually identifiable information. A political issue for the centers, however, is that people employed by the schools, accustomed to the older FERPA statute, may resent an unwillingness on the part of health center staff people to share information about students. As providers covered by HIPAA, the centers must handle medical records carefully and avoid unintentional disclosures. Both school-based health centers and schools that bill Medicaid and other third-party payers must learn the importance of well-organized records that reflect properly followed privacy policies and procedures.⁴⁸

Personnel involved in traditional school nursing services or school-sponsored mental health services may face a difficult challenge. At present, the FERPA mandate to share information in the student record and the HIPAA obligation *not* to share student health information conflict. Until there are defining court cases, further congressional action, or U.S. Department of Health and Human Services rulings, school districts will need to issue their own guidelines for school health personnel.

Quality of Care

Since the publication of the Washington-based Institute of Medicine reports *To Err Is Human* and *Crossing the Quality Chasm*, there has been a growing focus on medical errors and the extent to which health care quality is compromised by a failure to adopt procedures that guarantee the safety of patient care.^{49,50} This focus on reducing errors and increasing safety has reinforced the importance of measuring and documenting quality outcomes. When quality measures are linked with a commitment to public accountability, they can bring about broad improvements in health services.

To the extent that health care quality has been discussed in relation to school-based services, quality has been defined in terms of the ratio of school nurses to numbers of students. The staff-to-student ratio recommended by the National Association of School Nurses has been 1 nurse for every 750 students. However, with measurements of health quality process and outcome increasingly common in community-based health care, school-based health programs may also be asked to report on performance rather than personnel or other data. The Seton Health System, a group of not-for-profit hospitals that has managed the Austin, Texas, school health program for the past 8 years, has developed a combination of process and outcome measures that it uses to track system performance. Results are reported internally and to the public annually.⁵¹

School-based health centers have become linked to the quality movement through the development and the dissemination of a continuous quality improvement tool for the centers.⁵² This tool, developed over a 3-year period with participation by the school-based health center field, is focusing the centers' attention on the content of their services and on the outcomes achieved.

Traditional school-based health or nursing services as well as health centers may also be affected by quality measures used by managed care plans. Health plans that contract with state Medicaid programs are often required to report on their performance in terms of specific quality measures. Those plans that contract with school districts or school-based health centers may require their school partners to provide data on services that will enable plans to meet Medicaid quality standards.^{53,54} Thus as health plans explore partnerships with school-based health services, quality measurement and accountability will inevitably enter into the discussions.⁵⁵

COSTS AND FINANCING

Because school health services are mostly determined and paid for locally and because there is little consistency among district health programs, there are no consistent state or national data on school health spending. However, several local and state examples, together with a national estimate of spending on specific health service providers, suggest that significant dollar amounts are involved.

In 1998, the Seattle school system, serving 50,000 students, spent \$7.5 million on nursing services, counseling, psychological testing, and substance abuse programs. An additional \$2 million supported comprehensive school-based health centers in eight Seattle high schools.⁵⁶ That same year, Florida's Palm Beach County school system, serving 137,000 students, estimated that it required \$10 million to meet the physical, mental health, and preventive health needs of its students. A year later, in 1999, the Chicago Public Schools, a school district with 430,000 students, reported that it employed 2,500 health professionals to care for 53,000 students with disabilities and spent \$209 million on general health services as well as the related health services for special needs students.⁵⁷ Under a Pennsylvania program, state general funds support a percentage of documented local expenditures on school nursing. To receive state dollars, localities submit an accounting of their expenditures on school nurses. In the school year 1996–1997, the 501 school districts of Pennsylvania reported spending \$105 million on school nursing services, with the state reimbursing communities for \$40 million of those expenditures.

The Center for Health and Health Care in Schools at the George Washington University developed a rough estimate of recent annual national expenditures on school-based health service providers using the assumptions in Table 1.7. National school system expenditures for the health services they provide to children with special health care needs are not available. However, in April 2000, the General Accounting Office reported that school-based claims on behalf of Medicaid-enrolled children in 47 states plus the District of Columbia totaled \$2.3 billion for fiscal year 1999.⁶⁰ The GAO noted that not all these dollars are returned to the providers of health services.

The growing amounts included in school budgets for school-based services and special education–related services, plus the health dollars associated with school-based health centers, have captured the attention of public officials, educators, and health care executives, all of

Table 1.7 Estimated Total Costs for School-Based Health Services in the United States.

Staff	Number	Annual Salary	Cost
School nurses ³⁴	56,239	\$38,204	\$2,148,554,756
Psychologists	22,000	\$50,000 ⁵⁸	\$1,250,000,000
Guidance counselors*	22,000	\$44,100 ⁵⁸	\$970,200,000
Social workers	15,000	\$41,700	\$625,000,000
School-based health centers (1,500 centers at \$175,000 each)			\$262,500,000
Total			\$5,256,254,756

*Estimated full-time equivalent for nonacademic counseling services provided by school guidance counselors.

whom have reason to be either concerned or interested in the allocation of those dollars and the effectiveness of school health.

Despite the considerable resources involved, critics suggest that school health services are ill-planned, lack clear and achievable goals, and have failed to keep up with the changing needs of the school population. Although new approaches to health care in school, such as school nurse practitioners and school-based health centers, have offered alternative ways of organizing physical health care and the expansion of mental health services has suggested new priorities, these new approaches have left unanswered questions about what health activities should be undertaken in schools, who should do them, and who or what organization should control the resulting program and be accountable for its performance. The emergence of managed care and its focus on nonduplicative care and accountability in spending and performance sharpen questions about the role of school-based health care. And in every instance, the unanswered question is raised: How should we pay for these services?

THE FUTURE OF SCHOOL HEALTH

School-based health services are in a different place from where they were as recently as 10 years ago. The development of school-based health centers has interested observers and engaged a new group of child health professionals and state government officials in planning how school-based health services might more effectively collaborate

with the community-based delivery system for child health care.⁶¹ Children's mental health advocates, long frustrated by the failure of mental health systems to provide early intervention services for children, see new hope in recent federal efforts to address a range of mental health concerns through school-based interventions.¹⁰ Fifteen years of CDC funding for state departments of education to promote attention to school health programs within the education policy establishment has created a critical knowledge base.⁶² And the continued growth in school health spending—for services to both disabled and learning-disabled students and the general student population—has drawn attention from school board members, potential service providers, and third-party payers for health services, who are interested in learning how additional dollars might contribute to better health and educational outcomes for children.

The Challenge of Organizational Change

Because school health programs have been isolated from community-based health services, maintaining a high-performance system has proved difficult. School-based health professionals have only limited access to continuing education, and health services managers have infrequent contact with colleagues in other school districts and rare communication with managers in community-based health services. Yet they both care for the same children. Funding difficulties and leadership lapses result in meager equipment, insufficient staff, and inadequate planning for a better system.

In 1994, during the debate on the Clinton health care reform proposals, a small group of health professionals assembled in Washington to discuss the future of school health within the context of health care reform. That group called for a coming together of community stakeholders at the state and local levels “to assess the needs of school-age children, analyze available resources, and agree on what should be done at the school site, who should do it, and who should pay for it.”⁶³ How that might occur was only vaguely sensed, but the participants had a clear vision that school health could no longer remain apart from community health and that community health, to meet its obligations to school-age children, could no longer afford to ignore school health.³³

One state that is attempting to strengthen school-based health services and to link those services more closely to community-based professionals is Massachusetts. Initially, the state focused on strengthening

school health programs by raising standards for school nursing credentials and providing training. More recently, through its Office of School Health, the state has focused on establishing and monitoring performance standards.⁶⁴ Throughout these efforts, the state has held regional conferences for school nurses and community physicians to teach new skills and create links between the school nurses and the private pediatric community.

A more radical approach to rethinking school health services is in progress in Austin, Texas. In 1996, the superintendent of the Austin Independent School District responded to a budget crisis by terminating the 30 school nurses who served the 76,000-student school system. Only the federally mandated health services under IDEA and Section 504 of the Rehabilitation Act of 1973 would be continued. A community uproar ensued. In the end, the Seton Healthcare Network assumed responsibility for school health. The integration of school health services within the Seton system produced major changes within Austin's school health program.

The two most significant changes relate to staffing and tracking of outcomes. The first major change, which was hotly debated, was the addition of unlicensed personnel to the school health team. Operating under the principle that all health workers should function to the maximum extent of their license, nurses were relieved of administrative duties and made responsible for supervising the newly hired school health assistants. The nurses were assigned to three schools each and equipped with beepers so that they could be reached quickly by the school health assistants. The second change involved the adoption of quality measures that are tracked as the system works to increase performance. Data are reported and analyzed by school.

One of the complaints from the school system administration and the school board was that they did not know what health expenditures were buying in terms of services and results. The adoption of performance goals for common services such as administering medication and documenting immunizations has enabled the program to make the value of its services widely understood.⁶⁵

The Challenge of Financing

Even if school systems and community-based health care institutions can join together in planning how a more integrated system of child health might come to exist, a major challenge remains. How will the

reorganized or expanded services be funded? This question is particularly pressing as state governments try to cope with constrained budgets and concern over increased Medicaid expenditures.

School-based health services have been funded by a variety of sources: local tax dollars, state general funds, federal-state Maternal and Child Health block grant dollars, tobacco tax funds, federal discretionary grants, and federal and state Medicaid reimbursements. Each school district patches together its own approach to funding. And each school district periodically confronts a shortfall in anticipated revenues. One of the first targets for reduced spending inevitably appears to be the school health budget.

Increasingly, Medicaid programs have been seen as potential revenue sources to support health services provided to Medicaid-enrolled students. During the late 1980s and early 1990s, before the widespread introduction of Medicaid managed care, the Health Care Finance Administration (now the Center for Medicaid and Medicare Services) determined that Medicaid could reimburse schools for some services provided to its beneficiaries.^{66,67} Not all states or school districts pursued this option because of uncertainty regarding the reimbursement rules and a risk that if the services were improperly billed, the federal government could reclaim funds down the road. However, certain states and districts began either to refinance their existing health services with help from Medicaid funding or to expand school health services with Medicaid revenues.⁶⁸

The move of many state Medicaid programs into managed care meant that some Medicaid revenues became more difficult to obtain. Because special education "related services" are mostly carved out of the Medicaid managed care programs, school districts can continue to bill Medicaid directly for the provision of these services. But other services may no longer be directly reimbursed by the states. State governments, school districts, school health programs, and managed care plans are just beginning to work out whether and on what terms schools will be part of managed care provider networks.

The Challenge of a Political Strategy

While much has changed in the world of school-based health services, one thing has not: the challenge of integrating school- and community-based health programs. The hot-button issues of adolescent sex and parental rights deter elected officials and school system

managers from investing the energy required to redesign the way we organize health services at school. Neither the school system nor the community-based health system has found reason to elevate the issue of school-based health services to the top of its agenda. That said, a fundamental proposition remains true: linking the school-based and community-based systems of health services for children is one of the great untapped resources for strengthening the status of children's health and well-being. It is time to consider some unexplored strategies.

To date, critiques of school health services and proposals for reorganizing them have been grounded in the perspective of the health professional. Plans for reorganizing services have focused on provider arrangements, funding sources, organizational structures, and the importance of documenting greater effectiveness as a way to secure increased recognition, appreciation, and funding. But advocates of school health reform might consider another perspective, and that is that in a democratic system of government, the roles of elected officials and the voters who choose them are critical. It is possible that the health professionals who have taken the lead in thinking about the potential for school health have not thought sufficiently about the potential of politics for building support for a more effective system of school-based care.

The Austin, Texas, story provides encouragement in this regard. Performance *and* accountability persuaded the elected school board to more than double spending on the school health program within 5 years. Quarterly reports are used to keep officials informed of what is happening and to encourage a continuing dialogue. Similarly, the growth of school-based health centers suggests additional support for this perspective. James Morone, a political scientist, commenting on the reasons school-based health centers had grown rapidly over a 10-year period, concluded that it was a classic case of distributional politics. The advocates for the centers, he noted, had been very effective in enlisting constituents to make their case to members of the state legislature. Members of the legislatures saw their support for funding the centers as simply doing their job of bringing the bacon home to their districts.

Political strategizing is a different way of doing business for most of those engaged in thinking about reorganizing school-based services. But the conceptual work has been done. The objective of integrating school-based and community-based health care seems like a good fit

with current priorities in the health care environment. The old opposition from private medical practices that focused on keeping all treatment services out of school has diminished. And as school-based health centers have found, advocates who can help move the school health agenda for school-based health services forward exist, but they may not be found in the usual places.⁶⁹

The idea of blending school- and community-based health services for children is compelling. Research studies document the benefits of school-based care in areas as diverse as asthma management, insurance enrollment, access to mental health services, and the provision of primary care. Prevention programs that deter unhealthy behaviors and contribute to positive school environments have also been shown to work. Despite promising outcomes, support for school health activities that can fill gaps in community services or reinforce services that already exist has been slow to develop. A lesson from this circumstance might be that insufficient attention to advocacy and the power of a supportive citizenry can cripple a vital service. The lesson from the school-based health center experience is that doing the work required to build a base of community support can translate into more and better care for kids. In that lesson lies the hope for school health.

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