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ABSTRACT

During 1993-94, the Morrison Institute for Public Policy at Arizona State University conducted a study on behalf of the Arizona Department of Education. This document presents findings of that study, which examined linkages between health services and schools for a comprehensive service delivery to students. Following the introduction, chapter 1 provides a national overview on children's health and the public schools, presenting national and legislative initiatives and a framework for linking health services and schools. Chapter 2 reviews what is known about the major issues in child health in Arizona and its schools, synthesizing health data from several sources. Survey results from 531 Arizona school principals about school-based/school-linked health and social services are also analyzed. A discussion of the Arizona perspective follows in chapter 3, which examines the philosophy guiding state initiatives, key players, the processes that support school-based/school-linked health services, and a sample of current state activities. The fourth chapter provides a view of how some Arizona schools are attempting to address these issues through the provision of student health services at or near school sites. The last chapter reviews action necessary to facilitate linkages between schools and health services, and the status of Arizona efforts. It concludes with some considerations for the future. A conclusion is that the state is making significant progress toward promoting and, in some schools, implementing such services. Eight tables and seven figures are included. (LMI)

LINKING SCHOOLS AND HEALTH SERVICES:

AN ARIZONA VIEW

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INTRODUCTION

BACKGROUND

During 1993-94, the Morrison Institute for Public Policy, School of Public Affairs, Arizona State University, conducted a study on behalf of the Arizona Department of Education (ADE) on the subject of comprehensive services in Arizona schools. The rationale for comprehensive services stems from the notion that schools, alone, cannot address the myriad economic, social, and health factors that affect children's ability to succeed in school. Therefore, if students' potential for learning is to be maximized, schools—in collaboration with communities and other service providers—must unite their efforts to combat the adverse affects of poverty, to ensure that all Arizona students have access to quality medical care and, ultimately, to improve the quality of life for children and adolescents. Comprehensive services are promoted with the intent to improve educational outcomes for ***all*** children.

The Morrison Institute study views comprehensiveness in terms of both a scope of services as well as their integration across grades and between service providers. In the study, scope refers to an array of services within the domains of education, family and parent involvement, social and economic support, and health. Integration refers to greater coordination in services and programs *within* schools and *between* schools and other agencies that serve children and families. Both a repertoire of services, and their integration, are viewed as necessary to increase the efficiency and effectiveness of service delivery.

As an offshoot of the institute's work on comprehensive services, ADE personnel asked that the research include a specialized view of health issues and school-based/school-linked health services. This document is the result of the more focused investigation of one component of comprehensive services. It addresses the role that health services play within the scope of a school's comprehensive service delivery strategy.

> The **importance** of this role is discussed in both national and state contexts, highlighting legislative initiatives.
>
> The **need** for Arizona health services is demonstrated, drawing upon the most current statistics available that illustrate the health problems confronting Arizona's youth today.
>
> The **progress** that Arizona is making with respect to linking health services with Arizona schools is highlighted, featuring examples of state and local projects designed to improve health care for Arizona's youth.

The upshot of this introductory overview is that Arizona is "on track" in many respects regarding health issues and health services. The Arizona Department of Health Services (ADHS) and ADE are making significant strides in promoting school-based/school-linked health services. Furthermore, such services are being successfully incorporated into at least some Arizona schools.

Asked how Arizona can do things better, the answer appears to lie in publicizing, building upon, and expanding existing initiatives. The potential of school-based/school-linked services in Arizona is in helping to ensure that ***all*** of Arizona's children in need have access to primary health care.

PURPOSE

The purpose of this report is to consider health services for Arizona's school-age children. Specifically, the intent is to look at linkages between health services and schools. Concerns about child health and well-being in Arizona have increased over the past several years; a number of recent accounts paint a disturbing portrait of child and adolescent health in the state. Health professionals are seeking ways to provide Arizona's children and youth with better access to necessary health services.

At the same time, the state's schools are being presented with increasing numbers of students who are considered to be "at risk" of school failure due to a multiplicity of social, economic, and health problems. The convergence of these types of issues speaks to implementing comprehensive strategies and services to address these needs. Schools are increasingly viewed as a logical place to coordinate such service delivery.

The report begins with a national perspective on children's health and the public schools, presenting national and legislative initiatives and a framework for linking health services and schools. Chapter two reviews "what we know" about the major children's health issues in Arizona and in Arizona's schools, synthesizing health data from several sources. Survey results from 531 Arizona school principals about school-based/school-linked health and social services are also analyzed.

A discussion of the Arizona perspective follows in chapter three, examining the philosophy guiding state initiatives, "key players," the processes that support school-based/school-linked health services, and a sample of current state activities. The fourth chapter provides a view of how some Arizona schools are attempting to address these issues through the provision of student health services at or near school sites.

The last chapter reviews "what it takes" to facilitate linkages between schools and health services, and how Arizona is doing. It concludes with some considerations for the future.

SOME WORKING DEFINITIONS

To understand the discussion that follows, it is helpful to have an understanding of how certain terms are being used.

School-based and *school-linked* services are used almost interchangeably to describe programs that provide health and/or social services to students. A review of the literature does not always present a clear-cut distinction between the two. However, in Arizona the working definitions accepted by most health and education professionals do distinguish between these two terms. For this report, the distinction is made as follows:

- *School-based services* refer to health care services provided on school property, therefore requiring parental permission.

- *School-linked services* are defined as cooperative agreements between service providers and schools. They are usually delivered close to, but not on, school property. Services provided in these facilities range from primary health care to counseling and social services.

Primary care: Because of the potential impact of social and environmental factors on health outcomes, the definition of primary care has expanded, from an original emphasis on primary "medical" care to a more inclusive focus on primary *health* care. Arizona health professionals have defined primary care as follows: *"Basic sick and well-maintenance care provided to patients in the context of family and community; it is the locus of coordination of health services provided to an individual"* (ADHS, 1993c, p. 18).

To ensure a core of primary care services that will produce good health outcomes, the ADHS Children's Primary Health Care Task Force has defined primary care as incorporating nine key features.

- *First contact care* refers to a health care provider the patient initially contacts for services.
- *Ongoing care* refers to using one regular source of care over time.
- *Comprehensiveness* defines an appropriate range of services to meet health care needs.
- *Coordination* enables services to be provided with a minimum of duplication, by transferring information from one health "event" to another.
- *Community orientation* focuses on the health needs of a specific population.
- *Family-centered services* recognize the family as a partner in health care decisions.
- *Cultural competency* suggests that services should be delivered in ways that are compatible with the language and culture of those being served.
- *Quality* is defined as the degree to which health care needs are identified and resources applied in a timely and effective manner.
- *Universal accessibility* suggests that services are physically available, financially affordable, and culturally acceptable.

Chapter One

A NATIONAL PERSPECTIVE ON CHILDREN'S HEALTH AND THE PUBLIC SCHOOLS[1]

Most people agree that good health and adequate health care are critical to the well-being of our nation's children. Indeed, health care for children and youth figures prominently in the national debate on health care reform. One issue in health care is accessibility, and for children, school-based/school-linked health services are among the possible solutions to increase access.

The importance of connecting health and social services with schools was underscored in a report by the Commission on Chapter 1 (1992). The Chapter 1 program is designed to meet the needs of economically disadvantaged children through educational remediation. The commission's report supported the concept that schools address students' needs in a comprehensive fashion, recommending that Chapter 1 funds be used to coordinate the provision of health and social services. Many of the commission's recommendations are incorporated into recently enacted federal legislation.

HEALTH-RELATED ISSUES IN FEDERAL LEGISLATION

Several proposed versions of *health care reform legislation* support the concept of using schools as a point-of-entry for primary health care for youth who are unserved or underserved. The Health Security Act originally proposed by President Clinton called for more than $1.5 billion in federal grants for comprehensive school health education and services. Subsequently, the Senate Labor and Human Resources Committee unanimously approved the first federal program specifically designed to support school-based health clinics. Notably, both Democrats and Republicans articulated support for school clinics during the committee debate. The compromise amendment from this committee also specified local control regarding specific clinic services to be provided, with input from health providers, community partnerships, and local school boards. While the scope of the original health care plan had been substantially modified, it appeared that support for school health clinics still remained part of most proposed health reform initiatives. As of mid-September, however, there was concern among education and child-health advocates that "items such as school-based health clinics are unlikely to make the final cut in a compromise [health care] plan ... clinics are seen as part of a massive health network that would be beyond the scope of such a compromise" (Porter, September 1994, p. 26). As of this point in time, health care reform legislation has not been enacted.

Broad-based support for improving students' access to health services is also evident in current *education reform legislation*. Comprehensive services to ensure successful outcomes for students is included in *Goals 2000: Educate America Act* and in legislation reauthorizing the *Elementary and Secondary Education Act of 1965 (ESEA)*. To achieve the national education goals outlined in Goals 2000, state and local educational agencies are encouraged to seek systemic improvement by

[1]This chapter synthesizes information from a wide body of literature. Consult the references for a complete list of the materials used to prepare this section.

developing systemwide strategies to provide students and families with coordinated access to appropriate health and social services.

Goals 2000 includes strategies that focus school and community resources on prevention and intervention. One proposed strategy to be implemented within state improvement plans is *"increasing the access of all students to social services, health care, nutrition, related services, and child care services, and locating such services in schools, cooperating service agencies, community-based centers, or other convenient sites designed to provide 'one-stop shopping' for parents and students"* (Public Law 103-227, Title III, sec. 306 [f 1]).

Health-related issues are similarly addressed in the ESEA legislation, which states that by coordinating health and social service programs with education, schools can help meet national education goals and result in better outcomes for children. This legislation encourages education agencies to coordinate and collaborate with other agencies to develop *"21st century community learning centers ...enabling schools to serve as centers for the delivery of education and human services for members of a community"* (U.S. Congressional Record, March 24, 1994, Title I, sec. 2242 [a]).

THE RATIONALE FOR SCHOOL-BASED AND SCHOOL-LINKED HEALTH SERVICES[2]

Connections between schools and health services have existed for decades, although the nature of these connections has changed over time. Initially targeting impoverished immigrant children, health services in the schools eventually were extended to all children while at the same time the scope of services was narrowed (e.g., health screening and health education). Now the pendulum is moving back to broadening the scope of services, particularly for children in poverty. More than ever, educators and health care professionals alike are interested in developing comprehensive health delivery systems to ensure that young people receive proper care.

A wide body of literature underscores the need to ensure student access to health services. Linking adolescents' health and their success in school, the Carnegie Council Task Force on Young Adolescents concludes that "middle grade schools must accept a significant responsibility...to ensure that schools become health-promoting environments" (Carnegie Council, 1989, p. 61). Their report encourages options such as school-based/school-linked health clinics and developing relationships with community-based health centers and medical facilities. Similarly, the U.S. Office of Technology Assessment suggests that school-based health services hold promise for addressing the health-related needs of children — especially adolescents.

Increasingly, "new morbidities" threaten our young people. New morbidities are related to high risk behaviors and include teen pregnancy, sexually transmitted diseases, AIDS, and drug abuse. Violence and depression are believed to contribute to increasing rates of student mental health problems. Researchers concur that the health status of children is most likely to improve by enhancing access to services and decreasing high risk behaviors.

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[2]Parts of the following section are adapted from *Comprehensive Services in Arizona Schools: A Research and Planning Primer* (Vandegrift, J. A., with Greene, A., Sandler, L., Bierlein, L. and Dickey, L., September,1994).

Better access is a major appeal of locating health services at or near schools, since school-based/school-linked service models efficiently reach a majority of young people. Providing health services through the schools helps to overcome many barriers to access such as lack of transportation to medical facilities, lack of health insurance, and the inconvenient hours of many health care providers. Many argue in favor of school-based/school-linked health services as a means of providing better education and preventive services to children, and adolescents in particular, since they are most susceptible to the new morbidities.

Adolescent developmental theory suggests that young people are greatly affected by social structures, including the family, the school, and the community. The interactions among these social structures create what researcher Richard Price and his colleagues call "webs of influence" that can positively or negatively affect young people. Price conceptualizes an effective youth support program as one that emphasizes *preventive intervention*. He states:

> *We need to build, through all of our efforts, networks of social support and integration. We have to recognize the fragmentation and lack of support that exist in the adolescent's world, selves, families, and communities. With that recognition, we can build the webs of influence that can enhance the educational and health prospects of all our young people* (Price, Cioci, Penner, and Trautlein, 1993, p.517).

Linking the health care delivery system with public education systems requires "bridging the gap" between health and education professionals (National Health/Education Consortium, 1992). It is difficult for the health care system and the education system to "mesh." Whereas the public education system is just that — *public* — the health care system is comprised primarily of private and nonprofit service providers. For the unemployed and underemployed, health services are generally provided through government programs such as Medicaid or the Arizona Health Care Cost Containment System (AHCCCS, Arizona's version of Medicaid). On Native American reservation , the government-subsidized Indian Health Service (IHS) is the primary care provider.

The range of private, nonprofit, and public providers within the health care delivery system includes private physicians, hospitals, medical schools, community health centers, local health departments, and other community-based organizations — each with its own administrative structure. Considering the types and range of providers, and their unique administrative structures, funding sources, and institutional policies and procedures, the logistics of linking health services with schools can be daunting.

Approaches for Providing School-Based/School-Linked Health Services

There are many ways to link schools with health service providers. For example, a school might obtain the services of a full-time physician's assistant or nurse-practitioner through the state health department or a local hospital. Or, a partnership could be formed with a group of family practice physicians. Ultimately, the adoption of a service delivery model depends on local factors such as the type and availability of resources in the community, the school's own health care delivery capacities, and prevailing community attitudes.

For all delivery systems, three *levels* of school-based health care are suggested in the literature (Figure 1).

Figure 1
LEVELS OF SCHOOL-BASED/LINKED HEALTH CARE

Level I: Screening and referral

School-based health personnel provide a traditional array of services such as health screening, health promotion, emergency first aid, and referrals for further diagnosis and treatment to community-based service providers.

Level II: Limited primary care

School nurses or nurse practitioners provide some primary care in addition to health monitoring and referrals. They may diagnose and treat a range of health conditions, relying on backup provided by an off-site consulting physician.

Level III: Comprehensive care

Comprehensive health care services are provided by a team that includes some combination of doctors, nurses, counselors and other health care professionals at a site on or near school grounds. All of a student's primary health care needs can be met.

Morrison Institute for Public Policy, adapted from Fox, Wicks, & Lipson, 1992.

Within the *comprehensive care level*, school-based or school-linked health clinics are increasingly the delivery model of choice. In fact, the American Nurses Association has proposed an even broader approach to clinical care, promoting the development of *family health centers* in or near schools. The family health center model embraces the notion of utilizing nurses as primary care providers and case managers, and focuses on maximizing family control of health care and providing for community ownership.

Frequently, when "full service" clinics open in schools, demands surface for many different services including physical exams, lab tests, diagnosis and treatment of minor injuries, and health education. Many full service clinics also offer mental health counseling and reproductive health care services and/or counseling in addition to treating physical ailments. Obviously, delivering such primary care requires certain policies and procedures. For example, school-based clinics require policies that protect patient confidentiality and require parental consent to administer services.

A variety of sources can help fund school health services including state health departments, Maternal and Child Health Block Grants (Title V), Social Service Block Grants (Title XX), Medicaid (in Arizona, AHCCCS), foundations, and local governments. While some schools directly fund their own services, more typically they garner funding from grants and other sources and contribute matching funds in the form of donated space, staff, and maintenance.

As in implementing any effective program, the design of a school-based/school-linked health program should rely on an assessment of the unmet health needs of students in the community. Moreover, the success of the model will depend heavily on constructing positive relationships

between existing school-based health professionals (e.g., the school nurse), and community health care providers.

Barriers to Providing School-based/School-linked Health Services

Due to the nature and diversity of funding sources, a frequently cited barrier to implementing school-based/school-linked health services is the lack of adequate and stable funding. Another barrier pertains specifically to school-based clinics that offer reproductive services, since community beliefs and norms are often in opposition to the provision of such services.[3]

Turf issues also tend to surface when community-based professionals are placed in schools with existing support personnel such as nurses, social workers, and psychologists. The literature highlights the importance of delineating the role of the school nurse in relation to school-linked health services. Failure to integrate these personnel, either within the health center or in parallel functions, creates the potential for problems.

School health services face other difficulties as well. For example, in an analysis of 14 school-based health programs, researchers noted that school-based clinics and programs providing service through a nurse practitioner faced barriers of inadequate space and access to physicians (Fox, Wicks, & Lipson, 1992).

A National Survey of School-based/School-linked Health Centers[4]

Current estimates indicate there are at least 500 school-based/school-linked health centers nationwide providing primary health care at or near school sites, and this number is rapidly growing. A 1993 survey conducted by the Center for Population Options provides information from 202 school-based/school linked health centers across the country. For many students, the centers are their primary source of health care; more than one-third of students seen at the school-based/school-linked health centers have no health insurance.

Nearly 80 percent of the centers operated in secondary schools. Sixty percent were located in urban school districts; 31 percent of centers were in rural areas; nine percent were in suburban locations. More than half the centers (55 percent) were open during the summer, with three percent open on weekends.

The centers are primarily staffed by a nurse practitioner or a physician's assistant, with backup from a physician who is usually on-site about 25 percent of the time. Forty-five percent of the centers employed at least one registered nurse, social worker, or clinical assistant. Services include primary care, injury treatment, and physicals.

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[3]These can and generally do include counseling on birth control methods and referral to other agencies for examinations; some schools conduct gynecological services on site. A 1993 study of school-based/school-linked health centers (Center for Population Options, 1994) revealed that only 25 percent of centers serving middle or high school students provide on-site contraceptive services.

[4]This section is adapted from *School-based and School-linked Health Centers. Update 1993* (McKinney, D. and Peak, G., 1993).

The types of services offered are somewhat influenced by the grade levels served. Centers serving primary grades reported higher proportions of injury treatment, physicals, immunizations, and primary care. In addition to providing high proportions of physicals, injury treatment, and primary care, centers serving older students also provide higher proportions of reproductive and STD-related services. Counseling and mental health services were also utilized by students, representing approximately one-fifth of all the services used. Of the total 202 centers surveyed, more than 70 percent provided on-site counseling related to topics such as substance abuse, relationships, and dysfunctional families.

Many school-based/school-linked centers offer some type of health education. Information is provided to individual students or to groups of students as issues arise or in scheduled visits. Classroom activities typically supplement a school's health education curriculum and are used to educate students about prevention of high-risk behaviors and familiarize them with health center services.

Finally, trend data indicate that between 1988 and 1992, the number of school-based/school-linked health centers nationally more than tripled. In addition, the types of agencies sponsoring these centers also appear to have shifted over time. While local public health departments continue to be the main sponsoring agency, community based agencies and other nonprofit organizations are increasing their role in school-based and school-linked efforts.

Chapter Two

CHILDREN'S HEALTH ISSUES IN ARIZONA AND ARIZONA SCHOOLS — WHAT DO WE KNOW?

The increasing knowledge among Arizona health professionals and educators that many of the state's children face daunting health problems has become a stimulus for seeking new ways to link students with health services. Before turning to a discussion of how Arizona is addressing the issues of school-based/school-linked health services, it is helpful to review what we currently know about the status of child and adolescent health in the state.

CHILD HEALTH AND WELL-BEING DATA

A number of recent state reports contain data that paint a disturbing picture of the condition of child and adolescent health and well-being in Arizona. This chapter synthesizes information from several reports, providing a snapshot of the issues. In general, findings show that many Arizona children and adolescents have serious physical and mental health problems. Although improvements in some areas are evident (e.g., decreases in sexually transmitted diseases), worsening conditions exist in many other areas (e.g., HIV Infection/AIDS, teenage pregnancies, substance abuse among middle school/junior high students, homicides, child abuse). In addition, clear regional patterns exist among children and adolescents who reside in rural Arizona counties (*i.e.*, all counties except Maricopa, Pima, and Yuma) and those residing in these urban counties; the conditions for youth in rural Arizona are usually worse.

Overall, a recent survey of 7,278 eighth and ninth graders across Arizona indicates that the health status of nearly one of every five students is identified as either "risky" or "hazardous" (14.6 percent and 4.6 percent, respectively). Based on self-reported data, these students were noted to be making unhealthy and unsafe choices in the majority of areas profiled: nutrition, physical fitness, alcohol and other drug use, safety issues, and sexuality (ADHS, 1993a). Only 29.5 percent of the students were identified as having an "excellent" health status, while 51.3 percent were considered to be in "fair" health.

Mortality rates reveal the consequences of students' unhealthy choices. During 1992, the mortality rate of 35.0 (per 100,000) for Arizona children ages 1-14 was well above the U.S. Public Health Service goal of 28.0 per 100,000 (Mrela, 1994). In addition, the mortality rate for those in rural Arizona was 51.5 compared to 30.0 for their urban peers. For individuals ages 15-24, the rate of 99.4 was also well above the goal of 85.0. A large number of these deaths were due to unintentional injuries, suicides, and homicides — things that are largely preventable.

The overall lack of health care is also a key concern. As reported in the *Kids Count Factbook: Arizona's Children 1994*, some 133,000 Arizona children (14.6 percent or one of every seven children) were estimated to be without health insurance in 1991, compared with a national average of 12.7 percent (Bierlein & Mulholland, 1994). This is an increase from the 116,000 (13.0 percent) estimated to be without health insurance in 1990. Uninsured children often do not receive adequate care and are deemed to be less healthy. For example, a 1989 Flinn Foundation report found that 46 percent of all uninsured Arizona children sampled did not see a doctor during the

past year, compared to 19 percent of privately insured children. Of these uninsured children, 23 percent were reported by their parents to be in fair or poor health, compared to only six percent of their peers who were privately insured.

This chapter offers a closer look at these and other related types of data. Using a framework outlined in the recently issued *Status of Adolescent Health in Arizona* (Arizona Adolescent Health Coalition [AAHC], 1994), information is presented within nine sections depicting common child and adolescent health and well-being issues: 1) general physical health; 2) behavioral health; 3) completed and attempted suicides; 4) substance abuse; 5) sexually transmitted diseases (STDs) and HIV Infection/AIDS; 6) teenage pregnancies; 7) homicides and firearm-related incidents; 8) child abuse; and 9) injuries. It is important to note that some data presented in these sections are drawn from vital statistics documents (e.g., birth and death data), while other information is drawn from surveys of children's self-reported perceptions and activities. For additional details, the reader is encouraged to review the individual state reports referenced in the sections that follow.

General Physical Health

Beyond reportable disease and mortality data, little information is regularly collected at the state level on the general physical well-being of Arizona's children, i.e., issues such as oral health, diet and nutrition, and physical fitness. However, self-reported data from a recent state health risk appraisal project (involving a representative sample of over 7,000 eighth and ninth grade students) present a general snapshot of students' general health (ADHS, 1993a). Key findings are noted below:

Oral Health

- ✓ Some 13 percent did not brush their teeth daily, with nearly five percent stating that they seldom or never brush their teeth.
- ✓ Less than 37 percent floss regularly (at least three times per week).
- ✓ Over a quarter (26 percent) had not had their teeth cleaned or checked in the previous 12 months.

Immunizations

- ✓ Nearly one-third (32 percent) reported that either they were not immunized (three percent) or were unsure of their immunization status (29 percent).

Diet and Nutrition

- ✓ Slightly more than 51 percent ate breakfast at least five days per week.
- ✓ Nearly half (45 percent) snacked daily on candy, sweets, soft drinks, etc.
- ✓ Some 67 percent ate foods from each of the four food groups at least five days a week.

Physical Activity and Fitness

- ✓ Overall, nearly 56 percent walked at least one mile three times per week without stopping.
- ✓ Over 64 percent complete 20 minutes of non-stop aerobic activity and/or participate in recreational activities at least three times per week.

Additional oral health data are revealed through several other studies that were summarized in a recent state report (AAHC, 1994). Among Arizona children who were 5-14 years old in 1990,

85,880 had never seen a dentist, while 193,100 had received no dental care in the past year. Another study conducted from 1987-1990 found that, of 6,469 elementary and middle school students screened in 74 different schools, more than 39 percent were in need of dental care,with urgent care recommended for five percent due to pain and infection. A final study cited was one completed by the Indian Health Service in 1983-84 in which serious dental problems were found among Native American youth living on reservations. The incidence of decayed, missing, and filled teeth was three times higher for these youth than for the general population. It was found that by age 15, approximately 93 percent of Native American youth had caries and 84 percent had untreated decay.

Additional data on *immunizations* reveal that less than half (42.6 percent) of Arizona's two-year-olds served by the public health sector in Arizona were known to be fully immunized in 1993 (Bierlein & Mulholland, 1994). This rate varies widely among counties, with many rural counties having a much lower rate of immunization. For example, only 26.4 percent of two-year-olds in Pinal County and 29.0 percent in Apache County (public health sector only) were estimated to be fully immunized.

Although limited state-level data are available on *vision and hearing*, many public schools voluntarily implement vision screenings, and hearing screenings are mandated by law for some grade levels and selected groups of students. Overall, there is a low rate of follow-up on professional referrals made as a result of such school-based screenings (AAHC, 1994). For example, of the 9,715 adolescents referred for professional vision examinations in 1991/92 (out of a total of 106,331 screened), only 40 percent were known to have completed the referral. In reference to potential hearing problems, of the 1,741 adolescents referred for a medical examination or an audiological evaluation during 1990/91 (out of 71,822 screened), approximately 60 percent were known to have completed the referral.

Due to limited state-level data, it is difficult to draw firm conclusions about the overall general physical health status of Arizona's children. However, other indicators, discussed in the sections that follow, suggest that children in the state are facing a myriad of health and well being problems.

Behavioral Health

Behavioral health data currently available about Arizona children consist of estimates of the number of children in need of services and the number who have received such services. Efforts are underway in the state to better coordinate the service side and to improve the data collection system. Within this context, the following information is presented.

Based upon national figures, it is estimated that 18.5 percent of all Arizona children ages 0-17 (181,507 children) were in need of behavioral health services during 1990; five percent of all children (49,056) were estimated to be seriously emotionally disturbed (AAHC, 1994). Using these same national figures applied against population estimates for 1993, nearly 200,000 children would have required care during that year, with nearly 54,000 estimated to have been seriously emotionally disturbed.

Turning to available services, significant additional funds have been made available during the past five years to support children's behavioral health services, with over $91 million spent by state agencies in 1993, compared to $29 million in 1989 (Children's Behavioral Health Council, 1994).

Such services are overseen by five state agencies, all members of the Children's Behavioral Health Council. These agencies include: 1) Division of Behavioral Health Services, ADHS; 2) Division of Children and Family Services, Department of Economic Security (DES); 3) Administrative Office of the Courts; 4) Department of Youth Treatment and Rehabilitation (DYTR); and 5) Arizona Department of Education. At the present time, an unduplicated count of children receiving publicly supported behavioral health services cannot be determined because of overlap within and across some agencies. Table 1 illustrates the most current "service" data available. If the previous estimates of need are accurate, a large gap still exists between those needing services (approximately 200,000) and the number receiving services.

Table 1
BEHAVIORAL HEALTH SERVICES (0-17 years)*

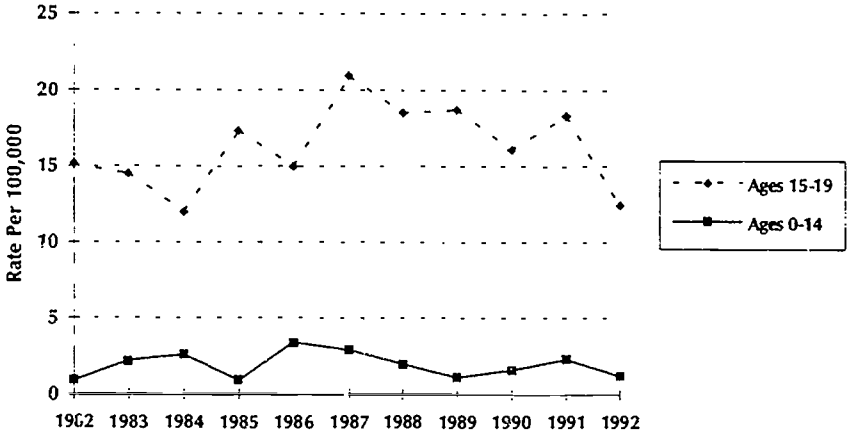
Placing and/or Funding Agency	Residential Services (1992/93)	Nonresidential Services (1992/93)
Division of Behavioral Health Services, ADHS**	1,092	17,711
Division of Children and Family Services, DES (Point-in-time data)	349	—
Admin. Office of the Courts	671	14,982
Dept. of Youth Treatment and Rehabilitation (non-secure)	363	354***
Arizona Department of Education	381	0

- No data available;
* The numbers in this chart cannot be totaled due to duplication of counts within and across agencies;
** Preliminary 1992/93 data;
*** DYTR's numbers do not include counseling services, or treatment and diagnostic services provided to adolescents in secure care.
Source: *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994)

Completed and Attempted Suicides

During 1992, *completed* suicides were the third leading cause of death among Arizonans ages 15-19 and the fifth leading cause of death among those ages 1-14 (Mrela, 1994). Figure 2 depicts suicide rates in Arizona during the ten year period from 1982 - 1992. Overall, there is no clear trend, since the number and rate of completed suicides among Arizona children and youth have been fluctuating from year to year. For example, Arizona's teen suicide rate (ages 15-19) per 100,000 increased from 42 deaths in 1990 (a rate of 16.2) to 49 deaths in 1991 (18.3), and then decreased significantly to 34 deaths in 1992 (13.4). Overall, however, the Arizona teen suicide rate has been consistently above the national average for at least the past decade. The state ranked fifth in 1986, third in 1987 and 1988, and fourth in 1989 among the 50 states in total suicide rates (Mrela, 1993).

Figure 2
COMPLETED SUICIDE RATES

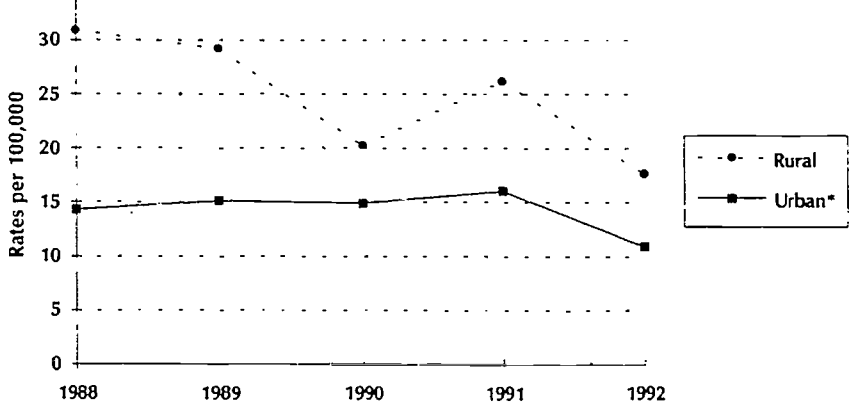


Source: *Arizona Health Status and Vital Statistics 1992* (Mrela, 1994)

During the period of 1989-1992, there were 1,797 *attempted* suicides that required hospitalization among children in Arizona ages 0-19 (Sheane, Donaldson, Wright, Johnson, & Bierlein, 1994). These incidents accounted for 10 percent of all injury-related hospitalizations during that period, with initial hospitalization costs estimated at $1.2 million. Six of the attempted suicides were among young children ages 5-9.

Looking specifically at the urban/rural distinctions, Figure 3 reveals that teens in rural Arizona are committing suicide at a rate much higher than their urban peers, and this trend has been consistent over time. For example, the 1992 suicide rate per 100,000 for rural adolescents was 17.6 compared to 10.9 for their urban peers (over 61% greater).

Figure 3
COMPLETED SUICIDES: RURAL v. URBAN* DIFFERENCES (Ages 15-19)



*Urban includes all incidents recorded in Maricopa, Pima, and Yuma counties.
Source. *Arizona Health Status and Vital Statistics 1992* (Mrela, 1994)

Feelings about suicide were explored as part of the ADHS health risk appraisal project (ADHS, 1993a), in which the eighth and ninth grade respondents revealed the following:

- ✓ Nearly 34 percent noted that in the past six months they had feelings that life was not worth living, with 12 percent having these feelings "often," and 22 percent "sometimes."
- ✓ Some nine percent said that they had no support system available to them (*i.e.*, friends or family that they could turn to for help).
- ✓ Nearly five percent indicated both of the above.

In summary, the high incidence of teen suicides in Arizona is of critical concern. The state's teen suicide rate has been consistently above the national average over the past several years. Rural youth fare worse than their urban peers, and many youth note that they do not have a strong support system available to them.

Substance Abuse

The results of the fifth in a series of substance abuse surveys completed by the Arizona Criminal Justice Commission (1994) offer mixed findings, but overall, drug usage among young Arizonans is on the rise. High school students reported a decrease in the use of alcohol and an increase in the use of marijuana and inhalents. Slight decreases were reported in the use of cocaine, amphetamines, hallucinogens, and narcotics. Figure 4 contains three charts that depict the percentage of survey respondents that admitted ever having used various controlled substances. (Note: Data for 1993 include responses from nearly 12,000 students in grades 3-12).

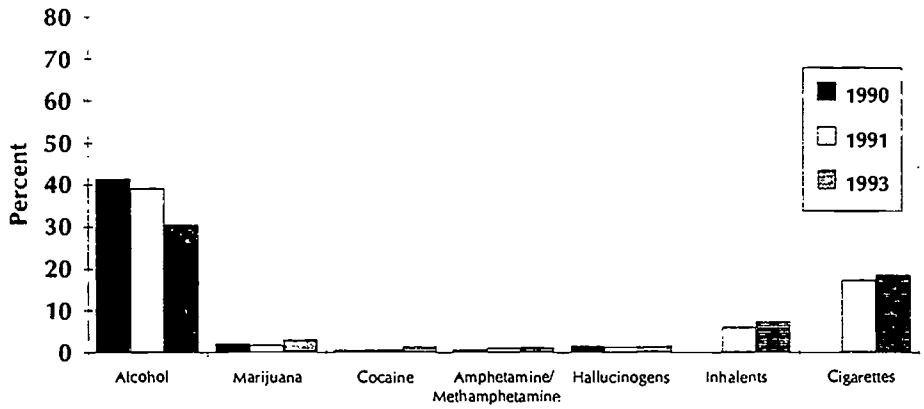
Elementary Students: Overall, fully 97 percent of all elementary students (ages 8-12) surveyed responded that they have never tried marijuana, cocaine, stimulants, or hallucinogens. However, in every substance category except alcohol, students' use increased slightly from 1991 to 1993. Areas of concern for these children include: nearly one-third of the students reported they consumed alcohol; there was growth in the use of inhalants with seven percent admitting having used them in 1993; and over 18 percent said they had smoked a cigarette.

Junior High/Middle School Students: Substance use among these students has steadily increased from 1990 to 1993 for every substance except alcohol. The increase in marijuana use appears the most alarming, in that not only has the usage increased four-fold from 1990, but other survey data reveal that over 12 percent of those who said they used it, had done so at least 10 times within the last 30 day period. The growth in the use of inhalants is also alarming.

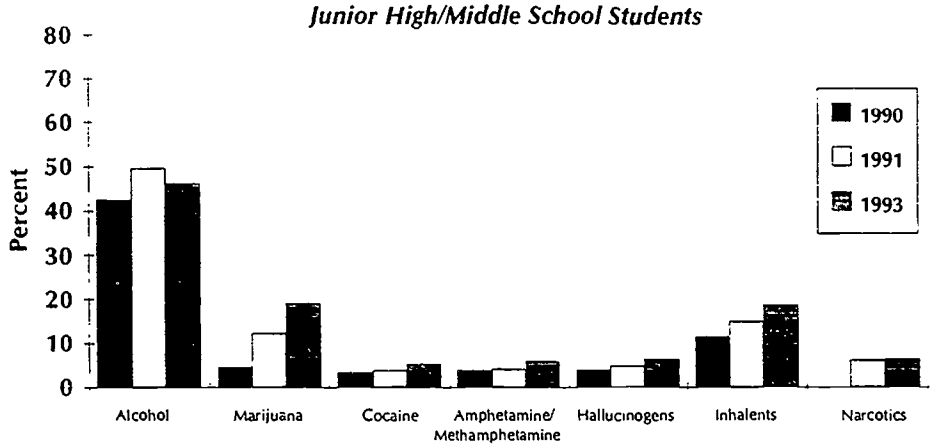
High School Students: Substance use among these students surveyed declined slightly from 1990 levels for all substances except marijuana and inhalants. On the other hand, other survey data reveal that larger percentages are trying controlled substances at younger ages (except for marijuana). For example, 64 percent of those reporting use of inhalants and 40 percent of those using cocaine, reported they first used these drugs at age 13 or younger, up from 62 percent and 33 percent in 1990. Other 1993 data reveal that over 20 percent admitted that they had come to school under the influence of a substance, with 15 percent saying they had skipped school to use a substance.

Figure 4
CONTROLLED SUBSTANCES: % ADMITTING EVER USED IN LIFETIME

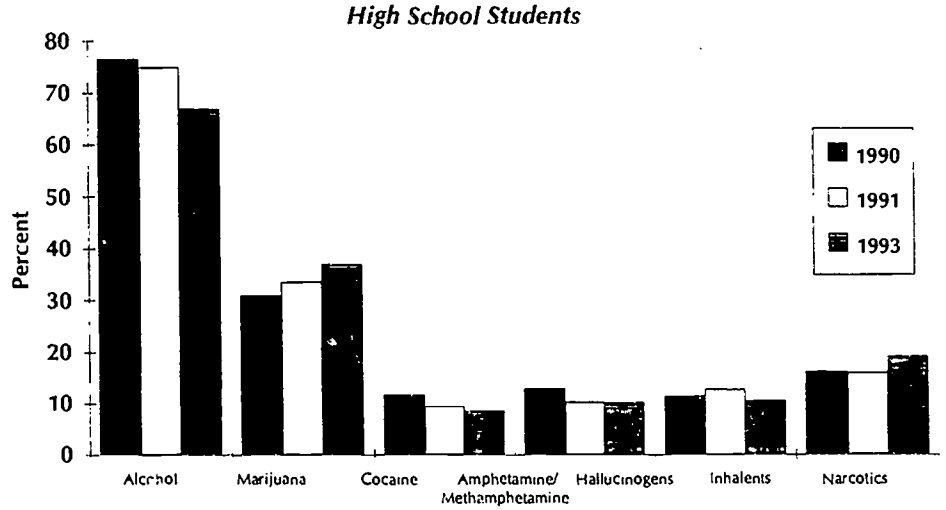
Elementary Students



Junior High/Middle School Students



High School Students



Source: Substance Abuse and Public School Students Arizona 1993 (Arizona Criminal Justice Commission, 1994)

The ADHS health risk survey of eighth and ninth graders revealed the following information about substance use (ADHS, 1993a):

Smoking

- ✓ Over 11 percent acknowledged using cigarettes or dip (smokeless tobacco) on a regular basis.
- ✓ Anglo and Native American adolescents were more likely to use more than one pack of cigarettes or dip per day than their Hispanic or Black peers.

Alcohol and Other Drug Use

- ✓ 15 percent noted that they consume alcohol on a daily basis, while the remaining 85 percent reported they do not consume alcohol in a typical week.
- ✓ Nearly seven percent reported mixing drugs and alcohol.
- ✓ 18 percent admitted to drinking and driving, or riding in a vehicle with a driver under the influence of alcohol or drugs (three percent noted "often;" six percent noted "sometimes;" nine percent noted "seldom").
- ✓ 93 percent were aware that use of alcohol and other drugs was dangerous.

Overall usage of controlled substances (except alcohol) was noted to have increased among Arizona's elementary and junior high/middle school students. Use of inhalants is of particular concern for both sets of students, as well as the considerable increase in the reported use of marijuana at the junior high/middle school level. On the other hand, reported usage is down slightly among high school students for all substances except marijuana and inhalants. Unfortunately, of high school students who reported drug usage, larger percentages (than years past) are reporting that they began to use those substances at age 13 or younger. These data have serious implications for developing effective content and delivery strategies for drug abuse education programs targeting Arizona's youth.

Sexually Transmitted Diseases and HIV Infection/AIDS

Sexually active teens are at high risk for contracting sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV) Infection/AIDS. Among Arizona's children and youth, recent data reveal mixed findings. The overall rate for STDs is down slightly, while the number and rate of HIV Infection/AIDS continues to grow significantly.

Table 2 reveals that reported cases of STDs (*i.e.*, syphilis, gonorrhea, herpes, and chlamydia) among Arizona's youth under age 20 increased from 4,987 in 1990 to 5,085 in 1992; however, when adjusted for population growth, the rate decreased slightly from 4.5 percent of the population in 1990 to 4.4 percent in 1992. Rate decreases occurred across most counties; however, significant increases were noted in several rural counties, most notably Mohave County (from 27 cases in 1990 to 63 in 1992). It should be noted that although the total STD rate declined among those ages 0-19, the number as well as the rate of chlamydia cases increased slightly, from 3,274 cases (0.30 percent) in 1990 to 3,635 cases (0.32 percent) in 1992.

Table 2 also shows that the number of children ages 0-19 who contracted the HIV Infection/AIDS increased substantially, rising from five reported cases in 1985 to 120 cases in 1992. Of the 120 reported cases, 31 (26 percent) involved children under age five while 13 (11 percent) involved children ages 5-12. Although the number of cases among children remains small relative to all

Arizona cases (120 of 6,382 cases or two percent), the numbers have grown substantially and continued growth is projected.

Table 2
REPORTED CASES OF STDs & HIV INFECTION/AIDS (0-19 years)

	Number			Rate			Δ Rate '90 -'92
	1985	1990	1992	1985	1990	1992	
Reported Cases of STDs	3,381 (1988)	4,987	5,085	3.2* (1988)	4.5*	4.4*	-2.2%
Diagnosed Cases of HIV Infection/AIDS	5	83	120 (1993)	<0.1^	7.5^	10.2^ (1993)	+36.0%

*per 100; ^ per 100,000; Source: *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994)

Finally, the recent health risk appraisal of 7,000 Arizona adolescents revealed the following about STDs (ADHS, 1993a):

- ✓ Nearly 17 percent stated either "no" or "not sure" when asked whether having multiple sexual partners increased the risk of getting a STD.
- ✓ Native American (30 percent), Hispanic (24 percent) and Black (19 percent) students were most likely to state that the risk of STDs did not increase with multiple sexual partners, or that they were unsure if the risk increased.

Overall, the rate of STDs among Arizona's children and adolescents is declining, although the incidence of chlamydia increased slightly, as did total STD rates within certain Arizona counties. Of great concern is the rampant growth in the numbers of children and youth known to have contracted the HIV Infection/AIDS, a 36 percent increase in the rate of infection from 1985 to 1992. Although many may believe that these issues are not impacting Arizona's youth, the numbers tell a different story.

Teenage Pregnancies

Teenage pregnancy is one of the more serious health and social issues facing America today. In Arizona, there were 12,885 known pregnancies (including live births, still births, and reported abortions) among girls ages 19 and younger during 1992 (Mrela, 1994). Of those ages 15-17, there were 4,762 known pregnancies (6.3 per 100 girls), of which 885 (18.6 percent) were reported to have been terminated with an abortion.

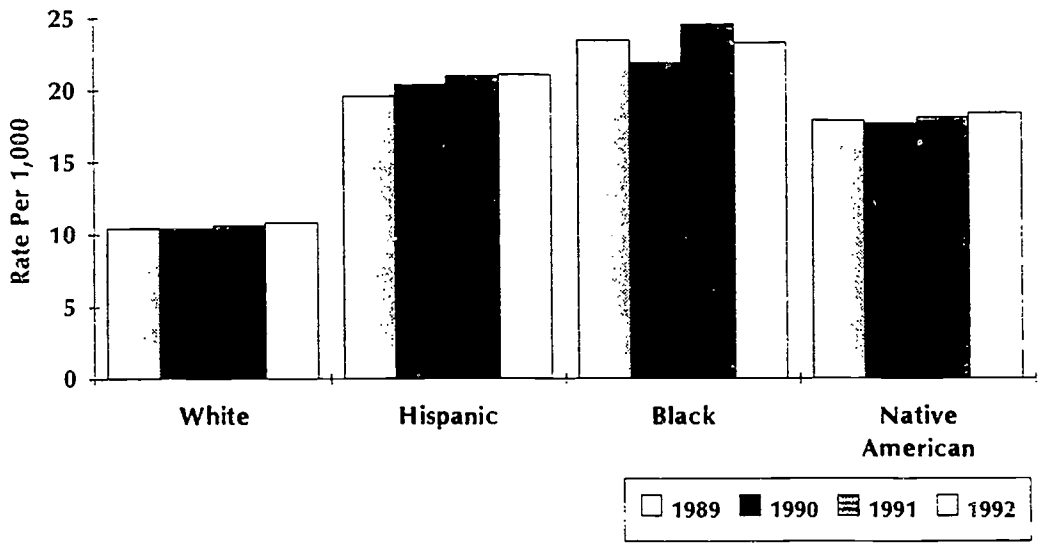
The overall numbers and rate of actual live and still births to teens (ages 13-18 years) increased from 4.2 percent in 1990 to 4.6 percent in 1992 (Bierlein & Mulholland, 1994). Births to teens also

constituted a larger percentage of total births, accounting for nine percent of all births in 1990 and 10 percent in 1992.

There are large differences in birth rates among teens who live in rural and urban Arizona counties and among racial/ethnic groups. The rural birth rate (all counties except Maricopa, Pima, and Yuma) has been consistently higher than that in the urban counties for at least the past five years. For example, in 1992, the rural birth rate among those under 20 years old was 17.2 per 1,000; the urban rate was 14.4 (Mrela, 1994).

Figure 5 illustrates racial/ethnic differences in birth rates over time for Arizona teens. The birth rate for Black teens has consistently been the highest, followed by Hispanic and Native American teenagers.

Figure 5
TEENAGE BIRTH RATES (10-19 YEARS)



Source: *Arizona Health Status and Vital Statistics 1992* (Mrela, 1994)

The vast majority of Arizona's teen mothers received public assistance to pay the costs of labor and delivery in 1992 (Mrela, 1994). AHCCCS supported 67.6 percent of all such births, while IHS covered an additional 4.8 percent. Only 14.2 percent of teen mothers were known to have private insurance; the rest either covered the costs themselves (9.1 percent) or the source of payment was unknown (4.3 percent).

Many Arizona teen mothers also do not receive adequate prenatal care. In 1992, 11.6 percent of teen mothers received fewer than five prenatal visits and this population accounted for 14.1 percent of all low birth weight babies born to teens (AAHC, 1994). Of those mothers under 15 years old, 4.3 percent received no prenatal care services at all. Premature deliveries (less than 37 weeks gestation) occurred for 15.9 percent of teen births, of which 35.6 percent were low birth weight births.

The ADHS health risk appraisal project (ADHS,1993a) revealed the following:

- ✓ Nearly 13 percent of the students responding were "not sure" whether sexual intercourse, even once, without effective birth control could result in pregnancy, while nearly six percent stated that it could not; Native American (36 percent) and Hispanic (28 percent) students were most likely to offer these responses.

As with teen suicides, Arizona fares poorly when compared to other states. In the national *Kids Count Data Book* (1994), Arizona is ranked 41st (with 51 being the lowest) in percent of all births to single teens. They note that this number increased by 37 percent from 1985 to 1991. Not only does Arizona fare poorly in overall numbers of teens giving birth, but the vast majority of such mothers were in an income level that qualified them for public assistance. Many of these mothers also did not receive adequate prenatal care, and a significant number of infants were considered low birth weight. Arizona appears to have a growing issue of children having children, with many of the babies beginning life with several health strikes against them.

Homicide and Firearm-related Incidents

When examining the number of homicide and firearm-related incidents among Arizona's children and adolescents, the trend is toward increasing violence. Each year, larger numbers of youth are being killed and hospitalized as a result of these events.

Table 3 illustrates data extracted from the *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994). It reveals that, statewide, there has been a steady increase in firearm-related incidents — the child death rate from accidents, suicides, and homicides increased by 52.5 percent from 1990 to 1992; hospitalizations increased by 32.9 percent. Homicides involving firearms and other methods increased by 45.2 percent with Maricopa County registering the largest number of these incidents.

Table 3
HOMICIDES & FIREARM-RELATED INCIDENTS

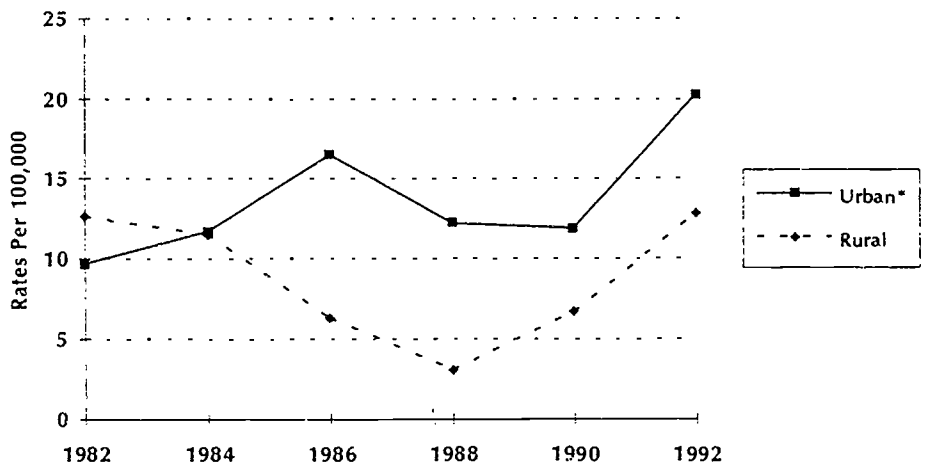
	Number			Rate (per 100,000)			Δ Rate '90 -'92
	1985	1990	1992	1985	1990	1992	
Homicide Victims (0-18 yrs.)	34	44	67	3.7	4.2	6.1	+45.2%
Firearm-related Deaths (0-19 yrs.)	65	65	104	6.7	5.9	9.0	+52.5%
Firearm-related Hospitalizations (0-19 yrs.)	214 (1989)	262	362	19.8 (1989)	23.7	31.5	+32.9%

Source: *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994)

Clear urban and rural distinctions are also evident in this area. During 1992, homicide was the second leading cause of death among urban youth ages 15-19, while it was third among their rural

peers. Figure 6 shows that, since 1984, urban homicide rates have consistently been higher than rural rates and that there has been steady growth in the rate in both regions in recent years.

Figure 6
HOMICIDE RATES: URBAN* v. RURAL DIFFERENCES (15-19 years)



*Urban includes all incidents recorded in Maricopa, Pima, and Yuma counties.
Source: *Arizona Health Status and Vital Statistics 1992* (Mrela, 1994)

Overall, increasing numbers of Arizona's children and adolescents are victims of firearm-related incidents and homicides, reflecting a widespread social and health issue of growing concern to local communities and the state as a whole.

Child Abuse

The number and rate of child abuse reports in Arizona continues to climb. As extracted from the *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994), 48,283 reports of suspected child abuse were reported to DES in 1993, up from 37,928 in 1990. When compared to the total child population (0-17 years). the rate per 100 has also grown steadily, from 2.7 in 1985 to 3.9 in 1990, and then to 4.5 in 1993. Given that each report may represent up to six children and that the same children may be included in more than one report, DES has now begun collecting data on individual alleged child abuse victims. In 1993, there were 82,875 such victims, representing nearly eight percent of all Arizona children (0-17 years).

Looking specifically at the various categories of abuse, between 1990 and 1993, the number of child abuse reports grew in all categories except cases of suspected emotional abuse (see Table 4). Three types of reports registered striking increases from 1990 to 1993: minor abuse/neglect (up 59 percent), potential abuse/neglect (up 33 percent), and sexual abuse (up 26 percent). Reports of emotional abuse were down 27 percent.

Arizona's Child and Adolescent Injury Data Book (Sheane, et. al., 1994) reports that during the period from 1989-1992, there were 19 child deaths (0-19 years) due to abuse and 170 reported hospitalizations. Abuse by battering accounted for 95 percent of these hospitalizations and 100 percent of such deaths, while rape accounted from the remaining five percent of the

hospitalizations. Initial hospitalization costs for such incidents during 1992 alone totalled nearly $520,000.

Table 4
CHILD ABUSE REPORTS, BY TYPE OF ABUSE

Type of Abuse	1985	1990	% Δ '85 -'90	1993	% Δ '90 -'93
Physical	2,520	4,144	+65%	4,532	+9%
Sexual	2,862	5,631	+97%	7,120	+26%
Neglect	4,447	7,402	+66%	8,578	+16%
Emotional	536	1,646	+207%	1,206	-27%
Minor Abuse/Neglect	3,278	6,501	+98%	10,356	+59%
Potential Abuse/Neglect	7,336	10,294	+40%	13,724	+33%
Dependent Child	2,348	2,310	-2%	2,658	+15%
Other*	—	—	—	109	—
State Total	**23,317**	**37,928**	**+63%**	**48,283**	**+27%**

*For 1985 and 1990 data, child abuse reports now listed as "other" were placed within one of the first seven categories. Source: *Kids Count Factbook: Arizona's Children 1994* (Bierlein & Mulholland, 1994)

It is difficult make rural and urban distinctions in reference to child abuse since most incidents that occur on Native American reservations are reported to tribal agencies, not to DES (and therefore are not reflected in the state-reported numbers). However, two *rural* counties, Mohave (13.3 per 100) and Gila (11.1 per 100) had the highest rates of alleged child abuse victims of all Arizona counties (Bierlein & Mulholland, 1994). Further, out of the ten rural counties without significant Native American populations (this excludes Apache, Coconino, and Navajo counties), half had rates higher than those for the state (7.8 per 100). On the other hand, urban Pima County was also well above the state average with a rate of 9.8 per 100.

Additional funds were made available for Child Protective Service case workers during the 1994 legislative session; future data may reflect the impact of these additional services. More cases of child abuse may actually be reported as additional support and outreach become available. At present, child abuse in Arizona is on the rise and threatens the well-being of our children at the most basic level — their personal safety at home.

Injuries

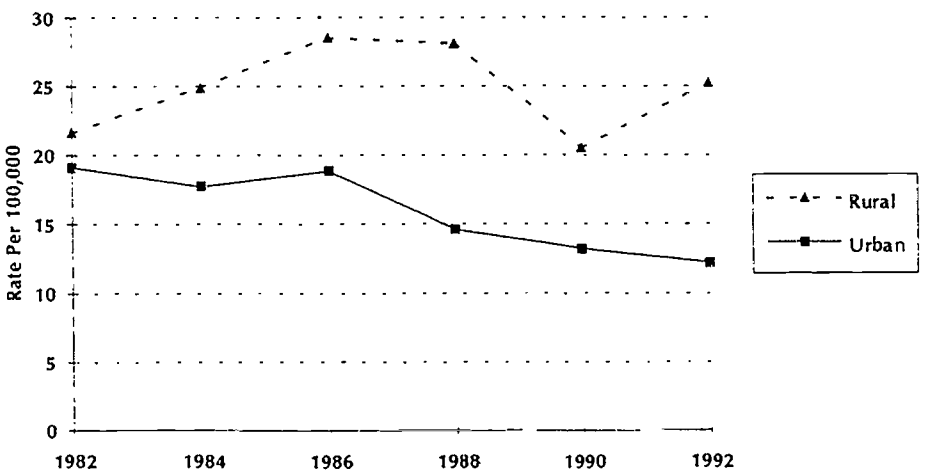
The authors of *Arizona's Child and Adolescent Injury Data Book* (Sheane, *et al.*, 1994) conclude that injuries pose a major threat to the health and well-being of Arizona's children and adolescents. In 1992 alone, injuries accounted for 36 percent of all Arizona child and adolescent deaths ages 0-19. When injuries to infants ages 0-12 months were excluded, the percentage increased dramatically to 67 percent. (Note: 94 percent of all infants die from natural causes, compared to 33 percent of children 1-19 years).

Injuries are categorized into two major groups: 1) *intentional* injuries which refer to acts of aggression against a child or adolescent — or oneself — with the intent to injure or kill; and 2) *unintentional* injuries commonly referred to as "accidents" by those outside the field of public health. By far, unintentional injuries represent the largest percentage, accounting for 72 percent of injury-related deaths, and 83 percent of all injury-related hospitalizations during 1989-1992 among Arizona children (0-19 years).

As with other child health issues, there are noticeable differences between those living in urban and rural Arizona counties. Figure 7 reveals that during the past decade, deaths due to *unintentional* injuries among those ages 1-14 in rural Arizona were consistently higher than their urban peers (Mrela, 1994). In addition, the rate for these deaths among urban youth is gradually decreasing, while that for rural youth has been steadily increasing (after a decrease in 1990).

Focusing now on the means by which injuries occur, Table 5 depicts the eight leading causes of injury-related hospitalizations and deaths in Arizona among children ages 0-19, combining data from 1989-1992. Transport-related incidents (*i.e.*, motor vehicle, pedal cycle, ATVs, etc.) caused the largest number of *unintentional* hospitalizations and deaths. For those incidents that were *intentionally inflicted*, poisoning led to the largest number of hospitalizations, while firearms caused the greatest number of deaths.

Figure 7
UNINTENTIONAL INJURY-RELATED DEATHS: RURAL v. URBAN (AGES 1-14)



Urban refers to all incidents in Maricopa, Pima, and Yuma counties.
Source: *Arizona Health Status and Vital Statistics 1992* (Mrela, 1994)

Table 5
LEADING CAUSES OF INJURIES 1989-1992 (0-19 years)

Unintentional		Ranking	Intentional (purposely inflicted by another and self-inflicted)	
Hospitalizations	**Deaths**		**Hospitalizations**	**Deaths**
Transport (6,266; 43%)	Transport (669; 63%)	1	Poisoning (1,650; 68%)	Firearms (288; 74%)
Falls (3,864; 27%)	Drowning (156; 15%)	2	Blunt/Piercing Objects (374;16%)	Suffocation (49; 13%)
Poisoning (1,959; 13%)	Suffocation (77; 7%)	3	Firearms (355; 14%)	Blunt/Piercing Objects (25; 6%)
Firearms (734; 5%)	Firearms (47; 5%)	4	Suffocation (18; 1%)	Poisoning (24; 6%)
Blunt/Piercing Objects (693; 5%)	Burns (37; 3%)	5	Falls (8; <1%)	Drowning (1; <1%)
Burns (503; 3%)	Poisoning (33; 3%)	6	Burns (2; <15%)	Burns (0)
Near-drowning (383; 3%)	Blunt/Piercing Objects (25; 2%)	7	Near-drowning (1; <1%)	Falls (0)
Suffocation (166; 1%)	Falls (17; 2%)	8	Transport (0)	Transport (0)
Total = 14,568	**Total = 1,061**		**Total = 2,408**	**Total = 387**

Numbers do not include injuries identified as undetermined intent, nor those caused by child abuse and neglect.
Source: *Arizona's Child and Adolescent Injury Data Book: An Executive Summary* (Sheane, et. al.,1994)

Some of the key findings contained within *Arizona's Child and Adolescent Injury Data Book* (Sheane, *et al.*, 1994) regarding unintentional injuries among children and adolescents in Arizona during 1989-1992 are highlighted below. (Note: All data are extracted from this document unless otherwise noted).

Transport

- ✓ Transport-related incidents were the leading cause of unintentional injury-related hospitalizations and deaths; an average of three deaths and 30 hospitalizations occurred every week during 1989-1992.
- ✓ Of 7,278 Arizona eighth and ninth grade students, 10 percent noted they never wore seat belts, while an additional 35 percent noted they only seldom or sometimes did. Only six percent said they almost or always wore helmets when riding a moped, motorcycle, or bicycle (ADHS, 1993a).

Falls

- ✓ Falls ranked last among injury-related deaths, but second as a cause of non-fatal injuries requiring hospitalization.
- ✓ Falls accounted for almost one of every five injuries requiring hospitalizations, with children ages 0-9 at highest risk.
- ✓ Large numbers of fall-related incidents that required medical attention occurred on school playgrounds; a recent study revealed that the majority of such incidents required medical attention beyond that given by school health personnel — nearly 53.7 percent were taken to a doctor, while 18.7 percent were taken to an emergency room (ADHS, 1993b).

Poisoning

- ✓ Poisoning ranked third in non-fatal injuries requiring hospitalizations and fifth in causes of injury-related deaths.
- ✓ Among older teens aged 15-19, 49 percent of deaths caused by poisoning were suicides, with males out numbering females four to one.
- ✓ Children between ages 0-4 were almost twice as likely as all other child and adolescent age groups combined to be hospitalized as a result of an unintentional poisoning.

Firearms

- ✓ Firearm fatalities ranked second among all injury-related deaths, while firearm hospitalizations ranked fourth.
- ✓ Firearms killed more Arizona teenagers aged 15-19 than burns, drownings, and falls combined.
- ✓ Two out of every five firearm-related hospitalizations in Arizona were caused by nonpowder firearms considered by many to be a "toy."

Blunt or Piercing Objects

- ✓ Blunt or piecing objects ranked sixth in causing injury-related deaths, and fifth in causing non-fatal injuries that required hospitalization.
- ✓ 95 percent of injuries caused by blunt or piercing objects involved teenagers ages 15-19.

Burns

- ✓ Burns ranked seventh among causes of injury-related deaths and sixth among causes of injury-related hospitalizations.
- ✓ Over half of all unintentional burn-related injuries occurred to those under five years of age.
- ✓ Of 7,278 eighth and ninth grade students surveyed, 22 percent noted there was no fire detector in their home, while an additional 16 percent said they did not know if they had one or if it was working (ADHS, 1993a).

Drowning and Near-Drowning

- ✓ Drowning deaths and near-drownings requiring hospitalizations ranked third and seventh respectively.
- ✓ Over half of all near-drownings among infants occurred in bathtubs.
- ✓ After significant decreases during the late 1980s, child drownings among children under five increased from 17 in 1990 (5.8 per 100,000) to 23 in 1992 (7.2 per 100,000) [Bierlein & Mulholland, 1994].

Suffocation

- ✓ Suffocation was the third leading cause of injury-related deaths, while it ranked eighth among all injury-related hospitalizations.
- ✓ Fully 80 percent of all unintentional suffocation-related deaths occurred among children ages 0-4.
- ✓ Suffocation was the second leading cause of completed suicides among adolescents ages 10-19.

It is clear from these data that injuries among Arizona's child and adolescents are a serious threat to our public health. Furthermore, the majority of childhood injuries are unintentional (accidental) and could be prevented. The costs of injuries to society are staggering, not merely in terms of dollars for hospitalization, rehabilitation, and counseling, but also in terms of loss of life. Just the initial hospitalization costs during 1992 were nearly $27 million. Many state efforts toward injury prevention are underway, but much more needs to be done.

Child Health and Well-Being Data Recap

As noted initially, data extracted from a number of recent state reports paint an alarming picture of the condition of child and adolescent health and well-being in Arizona. Although some improvements are evident — slight decreases in substance use among high school students, a decline in teen suicide rates (for 1992), and the declining incidence of sexually-transmitted diseases — significant increases in other areas overshadow these positive trends. Among Arizona's children and youth:

- ✓ Use of controlled substances among elementary, and middle/junior high school students has increased since 1990 for every substance except alcohol, with a particularly marked increase in the use of inhalants and marijuana.
- ✓ Reported cases of HIV Infection/AIDS among those 0-19 years increased 36 percent from 1990 to 1993.
- ✓ Births to teens continue to grow; many teen mothers do not receive adequate prenatal care and live in poverty.
- ✓ Homicides among those aged 0-18 increased over 45 percent from 1990 to 1992, while firearm-related deaths increased nearly 53 percent.
- ✓ Child abuse reports increased by 27 percent (1990 - 1993), with nearly 83,000 individual children reportedly abused in 1993.
- ✓ Injuries continue to increase, accounting for 36 percent of all Arizona child and adolescent deaths (0-19 years) in 1992.

Contrasts among health and well-being data for children and adolescents living in rural and urban Arizona counties are also clear. When compared to their urban peers, rural youth are more likely to commit suicide, contract sexually transmitted diseases, give birth as a teen, and live in a situation in which child abuse was suspected. Of all indicators for which urban and rural data were available, only homicide rates were substantially higher for urban youth.

The data clearly indicate that more must be done to protect, support, and educate Arizona's children and adolescents with regard to issues of health and well-being. The next section highlights what is currently happening in the public schools to deal with these issues.

HEALTH EDUCATION AND HEALTH SERVICES IN ARIZONA PUBLIC SCHOOLS

For the past several years, the Comprehensive Health Unit in ADE, in conjunction with other units within ADE and other agencies, has been actively promoting the implementation of a "comprehensive school health program" in all Arizona's schools. Based upon a national model, this program consists of the following nine key components:

1) School Health Education
2) School Health Services
3) School Health Environment
4) Physical Education
5) School Food Services
6) School Counseling and Psychological Services
7) Health Promotion for Staff
8) Parent and Community Involvement
9) Evaluation

Arizona public schools are currently required to offer the first component — school health education — as part of their curriculum; other components of the model are encouraged but not required. The school health education component is described by ADE documents as a planned, sequential, K-12 curriculum that addresses the physical, mental, emotional and social dimensions of health. In Arizona, this curriculum is required to incorporate the state-mandated *Comprehensive Health Essential Skills*, which define the competencies that all students must master.

A recent report provides some information about the implementation status of the health education component and other aspects of the comprehensive health program. The report (King, 1994) summarizes data that were collected from School Community Health Profiles completed by school teams who attended ADE-sponsored regional *Comprehensive Health Essential Skills* inservice trainings ("Treasure C.H.E.S.T. for Healthy Children and Families: A School and Community Partnership"). A total of 152 profiles were completed, of which 139 were school-based profiles, 12 were district profiles, and one was not identified. The profile document itself is a six-page survey containing 30 questions about the first eight components of the comprehensive school health program model (the evaluation component was excluded). Key findings from the report are noted below:

School Health Education

- ✓ There is wide variation across schools in reference to the specific health education topics taught at each grade level.
- ✓ A fair number indicated that they were lacking one or more aspects of their health education program and that lack of materials, books, or curricula was a problem.

School Health Services

- ✓ 86 percent of the profiles identified a school nurse as a key figure in implementing the school's health services program; nine percent of teams noted that they did not have a school nurse.
- ✓ Services provided by school nurses are summarized in Table 6.

Table 6
SERVICES PROVIDED BY SCHOOL HEALTH NURSES

Service	% Providing (n=152)
Health Screening	89.5%
Care of Injuries	86.8%
Referral to Agencies/Resources	86.8%
Collection of Health Status Database	84.2%
Control of Communicable Diseases	82.9%
Care of Acute Illness	82.2%
Crisis Intervention	79.6%
Management of Chronic Illness	78.9%
Provide Health Instruction	75.0%
Management of Developmental Problems	61.2%
Provides/Monitors Environmental Safety	60.5%
Developmental Screening	58.6%
Maintenance/Devel. of Individual Care Plans	57.9%
Provides/Coordinates Advocacy Services	52.0%

Source: *School Community Health Profile: Summary and Findings* (King, 1994)

- ✓ Nearly all profiles described concerns related to student health, with limited access to health care and lack of immunizations mentioned most often. Dysfunctional families and students with emotional problems were mentioned frequently, as were substance abuse, eating disorders, poor nutrition, teen pregnancy, STDs, and AIDS/HIV Infection.

School Health Environment

- ✓ 35 percent of respondents noted that a school health safety committee had been established at their school.

- ✓ Key environmental concerns focused on: campus safety issues; unsanitary conditions and lack of janitorial services; need for larger or improved facilities; substance use and abuse on campus; and issues associated with ventilation, heating, and/or air conditioning.

Physical Education

- ✓ Respondents reported that, on average, 2.9 semesters of physical education are required for graduation, and elementary students receive 3.3 hours of physical education per week.
- ✓ Key concerns included: physical education not being a priority; need for new equipment/facilities; need for more skilled teachers; and low fitness level or lack of fitness awareness among students.

School Food Services

- ✓ The vast majority of respondents noted that their school menus were evaluated for cholesterol (75 percent) and fat (80 percent).
- ✓ Key concerns noted: nutritional value of the food offered; students not liking the food; and the need to expand or improve food service facilities.

School Counseling and Psychological Services

- ✓ Key concerns related to school counseling concerns include: need for more staff or more time from existing staff; specific student problems; and "paperwork" taking time away from counseling.
- ✓ Table 7 identifies school counseling services noted on the profiles.

Table 7
SCHOOL COUNSELING SERVICES PROVIDED

Service	% Providing (n=152)
Psycho-Social Counseling	70.4%
Support Groups	69.7%
Academic Counseling	57.9%
Student Assistance Programs	55.3%
Assessment and Testing	52.6%
Instruction/Training	50.7%
Peer Counseling	50.0%
Career Planning	47.4%
No School Counselor	15.8%

Source: *School Community Health Profile: Summary and Findings* (King, 1994)

Health Promotion for Staff

- ✓ 43 percent of respondents said they do not have employee health promotion services; many noted that health promotion is done elsewhere in the community (e.g., through HMOs).
- ✓ Stress management was noted as the key employee health concern.

Parent and Community Involvement

- ✓ Table 8 identifies the types of community health promotion activities provided by schools.
- ✓ Lack of parental and community involvement were noted as the key concern, followed by the need for more outreach programs.

Table 8
COMMUNITY PROMOTION ACTIVITIES PROVIDED

Service	% Providing (n = 152)
Health Screening/Services	71.1%
Health Speakers for Students	64.5%
Staff Development or Inservices	54.6%
Afterschool Recreation and Activities	54.6%
Health Literature/Media	43.4%
Health Presentations for Parents	33.6%
Resource Directory	32.9%
Health Fairs	27.6%
Other	8.6%

Source: *School Community Health Profile: Summary and Findings* (King, 1994)

The report concludes by noting that the School Community Health Profile served as a useful tool for assessing the current state of comprehensive school health programs in Arizona (King, 1994). It appears that some activities are occurring in each of the eight health program components assessed, but no respondents felt that all eight components were in place in their schools. Indeed, most respondents noted a variety of concerns and barriers to implementing a comprehensive program.

Based on information from the sample of school/district teams, efforts toward providing comprehensive health programs are underway, but such programs are far from complete. "Outcome" data (e.g., substance use, suicides, injuries) presented in the first section of this chapter reveal that the child health problems are serious and widespread, and much more needs to be done. Team participants noted that there were many barriers to providing comprehensive health programs, most notably that health education and health services are not a priority when compared

to academics and other school functions. In the absence of a state mandate for comprehensive school health programs, it is difficult for some schools and districts to focus on such services.[5]

The apparent fact that education practitioners place low priority on health services relative to other services is corroborated by the results of a survey with Arizona principals conducted by Morrison Institute in Spring 1994 (Vandegrift, 1994). A representative sample of 531 (out of 1,062) Arizona principals responded to a survey about comprehensive services in Arizona schools. They were asked questions about the delivery and integration of health services as well as about incorporating ADE's "Comprehensive Health Program" into their schools' repertoire of services.

Within a framework that examined schools' priorities in terms of educational services, parent/family involvement, professional development, social/economic services, and health services, the integration of health services was ranked as the lowest priority. Nevertheless, even as the lowest priority, over 43 percent of the 531 principal respondents indicated that they would like to see integrated health services receive greater attention in the state's agenda for technical assistance. Furthermore, nearly one out of every five respondents listed training in partnering with health service providers as one of their top five training priorities (given 15 possible topics from which to select). Specific training in conducting an effective "Comprehensive Health Program" was requested by one out of every ten principals.

Survey results were analyzed separately by type of school (elementary, middle/junior high school, and high school), high and low "poverty status" (greater or less than 50 percent of the school enrollment eligible to receive free or reduced lunches, respectively), and geographic location (inner city, suburban, rural, and Native American reservation). Disaggregated survey results are capsulized as follows.

By *type of school*:

- ✓ 48.2 percent of middle/junior high school principals rated integrated health services as a high priority
- ✓ 43.3 percent of elementary principals felt that integrated health services are a high priority toward strengthening comprehensive services in their school
- ✓ 37.8 percent of high school principals rated integrated health services as a high priority

By *poverty status*:

- ✓ 53.6 percent of "high poverty" school principals rated integrated health services as a high priority
- ✓ 33.8 percent of "low poverty" school principals indicated that integrated health services are a high priority

[5] A recent evaluation of the CHEST training (Appel, 1994) notes that the support and involvement of school administrators was a critical factor in the ability of school teams to implement comprehensive health action plans. The evaluation concluded that ADE had met its training goals and that the foundation had been laid for the continued development of comprehensive school health programs in Arizona schools and communities.

By *geographic location*:

- ✓ 63.5 percent of inner city principals ranked integrated health services a high priority
- ✓ 51.7 percent of reservation school principals ranked integrated health services as a high priority
- ✓ 46.2 percent of suburban school principals felt that integrated health services are a high priority
- ✓ 29.7 percent of rural school principals ranked integrated health services as a high priority

These survey results show that interest in integrated health services is greater for schools serving younger adolescents (*i.e.*, middle/junior high schools), schools serving large percentages of students living in poverty, and schools in inner cities and on Native American reservations. Notably, most schools from these two geographic locations are among the "high poverty status" schools.

While the burden of addressing the health needs of children and adolescents cannot be exclusively absorbed by Arizona's schools, the schools clearly play a key role. By collaborating and linking with health care providers and other community resources, schools can contribute significantly to improving the status of child health and well-being in the state. The next chapter discusses the Arizona perspective on children's health issues and the public schools, and examines some current state activities.

Chapter Three

WHAT'S HAPPENING IN ARIZONA?

The importance of providing students, particularly at-risk students, with comprehensive services is well documented in the literature. Research conducted in Arizona by Morrison Institute over the past six years corroborates the national research (Vandegrift, Greene, Sandler, Bierlein, & Dickey, 1994). It shows that Arizona schools have indeed begun to implement such comprehensive services. Exploration of, and planning for, comprehensive services for vulnerable children and families has been part of the agenda of other state agencies and organizations as well.

Paralleling national trends, Arizona has begun to focus attention on systemic changes to better address the needs of children, youth, and families. For example, the *Partnership for Children* is a collaborative effort among the governor's office, several state agencies, legislators, public and private organizations, and business. Funded through a grant from the Ford Foundation in 1991, the partnership's mission was to create a model for child and family services that was comprehensive, integrated, and responsive to those who seek services. The task was essentially to develop a simplified system that results in positive effects at an affordable cost.

School-based/school-linked health services clearly "fit" within this kind of comprehensive, integrated, framework, and are the focus of several current initiatives to provide Arizona's children and youth with better access to health and social support. Leadership in this arena is being provided by ADHS and ADE, who have together initiated efforts to promote the development of school-based/school-linked health services. Initiatives are also being supported through local foundations, community-based organizations, and business. The following section reviews these services from the perspectives of ADE and ADHS administrators and managers, after which some current state activities are outlined.

THE PERSPECTIVES OF ARIZONA HEALTH/EDUCATION ADMINISTRATORS

Interviews conducted with administrators and managers in ADE and ADHS in Spring 1994 reveal a shared vision of what needs to be done to ensure that Arizona's children and youth receive needed health services, and a collective understanding of each agency's role. The vision begins with providing easily accessible medical services that include both primary and preventive care. This vision of school-based/school-linked health services fits within the conceptualization of comprehensive services that currently guides each agency. For ADE the vision falls within the framework of the services necessary to enable a child to function in the classroom. That is, health is recognized as one component of comprehensive services that schools engage in to ultimately improve students' academic outcomes. One respondent felt that school-based/school-linked health services are "a trend and not a fad," because both the medical community and schools have come to realize that medical services must be delivered in different ways in order to provide healthy students who are ready to learn.

ADHS embraces this holistic vision within a larger public health context. This involves a focus on *developing systems* to provide services, and includes actions such as mobilizing communities to examine health issues and service delivery. One of the agency goals is to provide primary care for all children in Arizona, with school-based or school-linked services as one delivery option. The

public health vision also extends to the development of indicators that will measure the health of Arizona's children, and a tracking system to ensure that parents and agencies have accurate, current information about an individual child's medical history.

Both agencies view the current status of school-based/school-linked services in Arizona as being in the early stages of development. In the words of one administrator, such programs are "in the first month of the first trimester," while another respondent described them as "*born*, but still requiring much guidance." There was consensus among those interviewed that the role of the agencies is *not* to directly fund services, but rather to provide technical assistance and consultation, with the focus on "building capacity" to deliver services.

Key barriers to achieving the vision for school-based/school-linked services were identified as a lack of public understanding about these services, and inadequate funding. The lack of public understanding was described in two areas: public perceptions that providing such services "takes away from education," and that school-based/school-linked health services translate to family planning services. Funding barriers centered around the difficulties in obtaining initial support and problems with developing mechanisms for school-based/school-linked centers to receive reimbursement as health care providers.

An additional barrier, according to some of those interviewed, was the lack of communication among the many agencies involved with providing school-based/school-linked health and social support services. One respondent said the problem is that "agencies run around and do similar things and they don't know about each other," and there is no clear knowledge of "who has what funds."

Short-term strategies were suggested to overcome these barriers and move towards more widespread school-based/school-linked services. One strategy is to conduct a public education campaign to help individual communities understand that *they* determine what services will be provided, through a community needs assessment. Another suggested strategy is to help programs develop partnerships and secure grants. Overall, there was consensus among all the individuals interviewed that "ADHS and ADE are doing it," *i.e.*, implementing many of the short-term strategies that will move towards realizing their vision. These include applying for grants, providing technical assistance, and co-sponsoring conferences to educate people about school-based/school-linked services.

Long-term strategies were framed in both global and specific terms. The global perspective focuses on change from a political and policy viewpoint, that is, "putting children first" in state legislation and funding priorities. Specific long-term strategies emphasize enhancing teacher preparation regarding comprehensive health and social services; getting insurance companies and AHCCCS to recognize school-based/school-linked health centers as a "superior means of service delivery" and having them reimburse for these services; and developing the understanding among school boards and school administrators that the school facility is owned by the community, and is an appropriate place for such services.

A Sample of State Activities

ADE Comprehensive Health Unit: This unit within ADE draws together a number of health-related components to serve the whole student, in the belief that healthy, well-adjusted children learn better. The priority of the unit is to provide Arizona public schools with consultation and technical assistance to help them develop and implement the nine components of a *comprehensive school health program*: school health education; school health services; school health environment; physical education; school nutrition services; counseling and psychological services; parent and community involvement; health promotion for staff; and evaluation.

The school health education component is a significant focus for the unit's technical assistance and consultation activities, and is comprised of several important programs. As discussed in chapter two, the Comprehensive Health Essential Skills Training (CHEST) project is implementing statewide regional comprehensive school health education inservices for multi-disciplinary teams from school communities. Teams are typically comprised of some combination of school administrators and teachers, school health professionals, community representatives, counselors, parents, and students. The teams are introduced to the concept of a comprehensive school health program emphasizing comprehensive school health education, a school community health needs assessment, team building, and action planning. Consultation and technical assistance are also provided by Comprehensive Health Unit staff members in areas such as HIV/STD education, and tobacco, alcohol, and other drug prevention.

ADHS Primary Care Program: Administered through the Office of Women's and Children's Health, this unit provides planning grants, technical assistance and community development initiatives to promote primary care services in Arizona. A Primary Health Care Task Force was convened in July 1992 to assist ADHS in developing a comprehensive primary care system for all Arizona children and their families. The model and action plan developed by the task force in January 1994 includes the implementation of school-based/school-linked health centers/services. Two funding streams currently available through the primary care program are being utilized to encourage and support the development of these services.

Primary care demonstration grants - Three primary care grants currently help fund demonstration projects focused on providing primary care services for children. These are four or five-year grants ranging from $20,000 to $60,000 per year.

- "Breaking the Cycle of Disadvantage: A Nursing System of Health Care," is a grant awarded to Arizona State University College of Nursing to provide primary care services to homeless and low income children living in the Phoenix area. A team of nurse practitioners, community health nurses, and outreach workers provide services such as health screenings and assessments, wellness education, and acute care, through a mobile clinic at various locations (e.g., homeless family shelters, churches).

- The Coconino County Health Department was funded to provide two programs. One is a school-based clinic for children in grades kindergarten through six that operates a Saturday clinic in an elementary school. The other, a school-linked teen wellness center located one block from Flagstaff High School, provides primary care services, counseling, social services, and family planning.

- The Pinal County Family Health Center, located within the county health department, used their funding to develop a plan for primary and preventive health services for children. The plan includes developing methods for educating children and families to access care, and redesigning the health/human services system to ensure that services are both available and accessible.

Primary care planning grants - These $5,000 grants, intended to help schools "access their communities," are used to assist schools in determining the needs of their school community and plan for community based primary care services. Planning grants typically cover a six-month to one-year period. To date, ten grants have been awarded to the following school districts:

FY 1992-93	FY 1993-94
Osborn Elementary	Holbrook Unified
Washington Elementary	Page Unified
Flagstaff Unified	Scottsdale Unified
Mesa Unified	Santa Cruz Unified
Tempe Elementary	
Pendergast Elementary	

As an outgrowth of their original planning grant, the Osborn School District was subsequently funded by ADHS ($20,000 per year for four years) to hire a "community resource coordinator" to develop a system of linkages between the school district and community agencies and resources to address the needs of children and families within the school community.

School-based/School-linked Technical Assistance Group: Facilitated by the primary care nursing consultant from ADHS' Primary Care Program and the director of ADE's Comprehensive Health Unit, this group is comprised of individuals involved in developing and implementing school-based/school-linked health services. It was initially convened to provide information regarding how to acquire a health facility license. However, it quickly became apparent that schools were in different stages of planning/developing services and needed technical assistance (e.g., how to do a community needs assessment, allocation of space, licensing requirements), as well as a forum in which to share information. As a result, the group has continued to meet monthly as a vehicle for sharing and disseminating information about the "how-to's" of delivering school-based/school-linked health services. Technical assistance is being offered in areas such as strategic planning and program evaluation, and the legal issues surrounding school-based health services.

Flinn Foundation School Health Services Program: The Arizona-based Flinn Foundation provides grants to support school and community partnerships that develop school-based/school-linked health services. Grants are made to health providers who partner with school districts, often in cooperation with other local organizations. The foundation initially made six grants (for 12-24 month periods of time) to the following partnerships:

- Coconino County Department of Public Health and Flagstaff Unified School District, to staff a community-based clinic at two school sites.

- El Rio Health Center and Tucson Unified School District, to target Head Start, elementary, and middle school children at three schools.

- John C. Lincoln Hospital and the Washington School District, to add two elementary schools to serve no[illegible]h-group children as part of the John C. Lincoln Elementary School Health Program.

- Mariposa Community Health Center and the Nogales Unified School District, to establish a comprehensive school-based clinic at Nogales High School.

- Phoenix Baptist Hospital and Alhambra School District, to expand an existing partnership, placing a resident physician in Westwood Primary School one morning per week and provide funding for additional medical and support staff.

- St. Joseph's Hospital and Osborn School District, for a pilot partnership to deliver primary and preventive health care services on site to students at Longview Elementary School.

A second round of grant-making recently funded an additional three partnerships: Clinica Adelante/Apache Junction Unified District; El Pueblo Clinic/Tucson Unified School District and Sunnyside School District; and University of Arizona Health Sciences Center/Amphitheater Unified School District.

Tucson Family Resource and Wellness Centers: This is a collaborative endeavor involving four metropolitan school districts (Amphitheater, Flowing Wells, Sunnyside Unified, and Tucson Unified), the City of Tucson, Pima County, the Arizona Department of Economic Security, and other parental, school, governmental, and community agencies. It represents a long-term effort to effect institutional change by developing a school-based/school-linked service delivery system for children and their families. The stated mission of the family resource and wellness centers is "to improve educational achievement by facilitating the delivery of community-determined health, social, recreational and educational services to children, youth, and families in the Tucson metropolitan area, thereby removing barriers to success." Currently, 15 family resource and wellness centers are in place in the four school districts, with plans for a total of 23 centers to be functioning by 1995. Each center is developed through a variety of community-based partnerships and linkages and is responsive to specific community needs. School-based health care is a key element of these centers. Specific support for the health care component is provided through collaborations among a variety of health plans (e.g., CIGNA), AHCCCS, medical centers, hospitals, physicians, community health clinics, the University of Arizona Medical Center, and school districts. Support from these participants includes a combination of financial assistance, direct health care services, equipment, and "in kind" services and contributions.

Medical Home Project: A joint effort of the Arizona chapter of the American Academy of Pediatrics and ADHS in partnership with school districts and private physicians, this project is designed to provide health care to children who do not qualify for the state's indigent health care program but whose families cannot afford private insurance (the medical "notch group"). The purpose of the Medical Home Project is to develop a system of linkages between individual pediatricians and/or family physicians and school nurses to provide a "medical home" for children of low income families with no other source of care. The school nurse refers children to providers who have agreed to accept a significantly reduced, program-assigned fee as payment in full. The project is funded for four years through ADHS. During the first year, the project involved seven school districts in Maricopa County. Some 23 primary care physicians offered 163 "slots" (reserved time for appointments) and 17 specialists provided 48 slots.

Yuma Educational Support Services Comprehensive School Health Program (YESS): Initiated with joint funding from Migrant Services, the Comprehensive Health Unit, and the Comprehensive Training Unit within ADE, this program was intended to develop and implement a comprehensive school-community health services model for providing health services in four rural school districts in eastern Yuma County. At the county level, the program is coordinated by the county school superintendent's office and supported by county Job Training Partnership Act (JTPA) programs. Each of the four participating school districts (Antelope Union High School District and Hyder, Mohawk Valley, and Wellton Elementary Districts) contribute to overall program operations. After being in operation for one-and-a-half years, the project experienced organizational and staffing difficulties. The position of health specialist – the staff person responsible for program activities – is presently unfilled and the actual program model is "on hold;" however, reorganization activities are currently underway. Community efforts are centered around the development of a family resource center (and the actual construction of a building) in Wellton, Arizona to serve eastern Yuma county.

Arizona Adolescent Health Coalition (AAHC): Coordinated by ADHS' Office of Women's and Children's Health, the coalition was established in 1991 to promote optimal health and quality of life for all Arizona adolescents. The goals of the coalition are to: 1) improve health, behavioral health, educational and vocational outcomes for adolescents by emphasizing prevention, risk reduction, and early intervention; 2) promote development of comprehensive, integrated systems of services for adolescents and their families; and, 3) promote communication and collaboration among agencies and groups serving adolescents. AAHC is comprised of more than 200 members representing public and private agencies, organizations, schools, colleges, and the religious and business communities. The coalition recently issued a statewide report, *Status of Adolescent Health in Arizona* (1994), which was cited extensively in chapter two.

STATUS REPORT: WHERE DO THINGS STAND?

School-based/school-linked health services are clearly receiving some serious attention in Arizona. While policy and program development are in their early stages, momentum seems to be building rapidly, as evidenced by the previous discussion. The following section briefly considers overall state-level philosophy and the status of state initiatives.

How many school-based/school-linked health centers currently exist? At this time an accurate accounting is not possible due to the many terms used to describe such centers. For example, in addition to actual health "centers," school-based/school-linked primary health care services are frequently provided as part of a larger "family resource center" which might include an array of comprehensive social, economic, and health services. These services could be directly provided or "brokered" to other agencies. Or, health services might be provided through a "one-stop-shopping" model where several community agencies provide satellite services on a school campus.

Considering the broad range of possibilities, the short answer to the question of "how many" is — "we don't really know." A recent ADHS survey (ADHS, August 1994) identified 43 programs in which health services are being provided through some form of school-based or school-linked health center or family resource center. However, since the survey was directed to known service providers, other existing cooperative or collaborative partnerships might have been overlooked. In summary, since there is no universally-applied operational definition of "school-based/school-linked health centers," it is difficult to quantify exactly what exists.

Proposed Arizona Legislation on Integrated Services

Arizona legislation related to integrated health and social services at school sites was introduced during the 1994 legislative session. The proposed legislation included the creation of an interagency task force whose goal was to "develop a state plan on how to help communities plan for and provide integrated services including health and social service support, at or near school sites where such services are requested by schools and their community." While there was a great deal of support for the concept and overall content of the bill, some concern was raised about the proposed use of existing ADE funds to support the work of the task force. Although no legislation was ultimately passed, ADE is pursuing such activities without legislative mandate.

In related legislation, the recently passed *School Improvement Act* (H.B. 1002, 1994) includes a requirement for schools to distribute an annual report card containing information designed to help parents select a public school for their children. In addition to education data, schools are asked to describe the social/health services available at the school. This will result in identifying individual schools who are providing more comprehensive services, and should help to "quantify" the status of such services in the state.

State Collaboration

As noted, there is growing support for school-based/school-linked health services. The key players in this arena have been ADHS and ADE, along with the Flinn Foundation, the medical community, local school districts, and their respective communities. Collaborative efforts between ADE's Comprehensive Health Unit and the ADHS Primary Care Program is setting the pace "in the trenches" for helping Arizona develop and implement school-based/school-linked health services. The roles ADHS and ADE play in the process are defined to a large degree by their respective organizational missions.

ADHS has a public health mission — "to provide leadership and direction to those working to improve the health of the people of Arizona" — within which they are able to allocate considerable resources, both financial and human, to guide school/health initiatives. Overall, ADHS has embraced such services as one part of their strategy to improve Arizonans' health, and is providing leadership to institutionalize state funding streams and resources to do so. The public health mission of the agency engenders a top-level administrative "mindset" and commitment, enabling them to take the lead in facilitating statewide implementation of school-based/school-linked programs as a means for improving children's access to primary care.

The mission of ADE is "to provide the leadership and support to schools across the state that is necessary to ensure the best possible education for Arizona's public school students." The existence of the Comprehensive Health Unit within the department underscores an understanding that learning is facilitated when children are healthy and well-adjusted. Within the overall context of the agency's mission, such services are "supportive" in nature. Their role has been operationalized largely through the provision of technical assistance to schools to develop comprehensive health programs.

While this chapter briefly highlighted some school-based/school-linked health services activities in the state, the next chapter offers a more specific look at how some Arizona schools and school

districts are making these types of connections. Four sites are profiled that offer students health services through different service delivery models.

Chapter Four

COMPREHENSIVE HEALTH SERVICES IN ARIZONA SCHOOLS: PROFILES OF FOUR DELIVERY MODELS

The four sites profiled in this chapter include urban, rural, and reservation schools. Sites were selected by ADE staff and Morrison Institute researchers as illustrative of how different schools, communities, and health care providers are collaborating to offer health services that meet the specific needs of their students. Profiles were developed through site visits, interviews, and document review.

THE LONGVIEW HEALTH PARTNERSHIP PROJECT: LONGVIEW SCHOOL/ ST. JOSEPH S HOSPITAL SCHOOL-BASED HEALTH SERVICES

Setting

Longview Elementary School, part of the Osborn School District, is located in an urban neighborhood in north central Phoenix. Osborn is a rapidly transitioning urban district that has moved from a relatively homogeneous middle class population of students to a diverse population with high family mobility and significantly increasing language minority students. The school serves students in grades K- 6. Seventy-one percent of the students represent racial and ethnic minorities, and students come from homes where seventeen different languages are spoken.

A large majority of Longview students are impoverished, with 92 percent of the school's 850 students eligible for free or reduced lunches. Nearly 40 percent of the students are from single-parent families, with an additional two percent in other care arrangements (e.g., foster parents, grandparents).

Social, economic, and cultural barriers that keep Longview families from accessing needed health and social services, include language difficulties and lack of insurance coverage. In addition, families are hindered by a lack of available transportation and by a lack of understanding about how to use such services.

Background: Rationale for School-based Health Services

An estimated 50 percent of Longview students have no health insurance and as a result have limited access to primary health care. One factor contributing to the high percentage of uninsured children is that many Longview students come from "undocumented" families who are excluded from receiving health benefits under AHCCCS (Arizona Health Care Cost Containment System, the state's indigent health care system). In addition, many students are part of the medical "notch group," with incomes that fall below the poverty level but that are too high to qualify for AHCCCS.

Recognizing the need to provide health services for these students and understanding the barriers to accessing care, the Longview school nurse and the social worker for the Osborn school district

were interested in exploring the possibility of providing primary health care to students at the school site.

Developing and Defining the Partnership

In Fall 1992, the Longview nurse and the social worker sought help from the primary care nursing consultant in the Office of Women's and Children's Health at the Arizona Department of Health Services (ADHS). At the same time, but independent of these actions, representatives from St. Joseph's Hospital had contacted ADHS, following up on an initiative by their board of directors to discuss possible projects involving health care for the urban poor.

ADHS staff subsequently facilitated a meeting with school and hospital staff to talk about the possibility of some kind of partnership. A series of meetings and site visits among hospital and school administrators followed, from which there developed a sense of trust and understanding between the two organizations. As a result of this process, the Longview/St. Joseph's Hospital partnership was initiated.

Some of the elements contributing to the successful development of the partnership relate to any successful business-school venture. In a presentation describing the partnership to educators and health professionals interested in developing school-linked health services, a hospital administrator emphasized that business cannot assume sole responsibility for the success of such a joint venture. She stressed that schools must "get their act together" before they approach a business partner. Two points from this particular presentation seemed notable. One was the self-characterization of the hospital as a business. Schools need to recognize that while a hospital provides vital human services, it is nonetheless a business organization and operates from that perspective. The second point was that it is not enough for a school to present the vision of a "needy community" and expect a hospital [or another business partner] to take responsibility for fixing it.

The Longview staff believe that one reason they were able to successfully develop a partnership was their focus on specific objectives rather than on global concepts. Clear on what they felt was needed – primary care – in their words, they "...did [their] homework and made a concise business-like presentation" to hospital administrators.

During the process of developing and defining the partnership with Longview, hospital administrators came to recognize the strong leadership and clear vision of the school personnel. An understanding of the characteristics helpful for this type of partnership also emerged. The St. Joseph's administrator concluded her presentation with a list of those characteristics: "commitment, innovation, community involvement, shared vision, flexibility, and humor."

An additional element intended to strengthen the partnership is that the hospital's director of pediatrics attends partnership meetings along with the hospital administrator who oversees the project. The intention is that by not relying solely on one person at the hospital, the relationship between the school and the hospital will become institutionalized.

Program Planning and Design

At the outset of the project, specific student health needs at Longview were gathered through a survey of parents who attended parent-teacher conferences at the school. The verbal survey was

culturally sensitive, and was conducted by hospital staff. The ultimate plan of the Longview/St. Joseph's partnership was to provide a school-based health clinic that offers primary health care to Longview students who have no other regular source of care.

Both the hospital and school partners were in agreement that the Longview clinic should be viewed as a pilot project. They believe it is important to "do a little piece well before expanding."

At the beginning of the school year, parents were given written information about the availability of school-based primary care and were asked for written permission to provide services to eligible students. Along with the permission form, parents were requested to complete a "health history" for their student.

Program Services

The school "health team" consists of three people – a health aide, the school nurse, and a nurse practitioner. The health aide attends to the routine health needs of the students (e.g., playground injuries, student complaints of not feeling well); the school nurse provides case management; and the nurse practitioner provides direct primary care.

The health aide is an LPN (licensed practical nurse) who has assumed some of the responsibilities previously assigned to the school nurse; she is the person who initially sees students with minor medical problems. If the health aide believes a student needs further medical attention, an assessment is made by the school nurse, who makes a referral to the nurse practitioner if necessary. The school nurse also follows up with parents.

The school nurse, an RN (registered nurse), spends a large part of her time doing medical case management. Time for case management is possible since the health aide has assumed some of her previous responsibilities. This case management component is key in being able to provide more comprehensive help to Longview's children and families. For students who have a health care provider (e.g., who are enrolled in AHCCCS or have private insurance coverage), the school nurse helps families "navigate" the system. This sometimes involves actively advocating for the child with the health care provider. Families are also assisted with matters such as setting doctor appointments and arranging for transportation. The nurse then follows up with parents after the doctor visit.

The nurse practitioner, provided through St. Joseph's Hospital, is "on call" to deliver primary care services at the school. She typically spends about 45 minutes on campus each day. Services are delivered in part of the school nurse's office; no additional space was required. The only addition necessary was a locked cabinet in the nurse's office for prescription drugs and medical records. If the nurse practitioner prescribes medication for a student, the prescription is filled by the hospital at no cost.

Program services have expanded as the program has evolved. For example, the district social services staff assist in transporting children/families without cars to the doctor or clinic. This assistance is necessary because in some instances parents are afraid of losing their job if they take time off from work to take their child to the doctor. Another illustration of added services is that the clinic and the medical case management activities of the school nurse have resulted in an increase in family education regarding health issues. The nurse reports that families are beginning to realize the need for a "medical home" for their children; she educates them about the clinic at St. Joseph's,

providing information about eligibility guidelines and the potential use of the clinic for their families.

Funding

Funding for initial project planning and development was facilitated through a $5,000 planning grant from ADHS' Office of Women's and Children's Health, Primary Care Unit. At the same time that plans for the clinic were progressing, school and hospital administrators submitted a proposal for additional funding to the Arizona-based Flinn Foundation. With a one-year Flinn grant for $25,000 beginning September 1993, Longview school hired the LPN health aide, freeing up time for the school nurse to do medical case management. Another source of funding was made available later in the 1993-94 school year by Catholic Charities, which contributed $25,000 to St. Joseph's Hospital. The purpose of that funding was to place a dentist at the hospital's dental clinic to see Longview students.

How Did it Work?

The process of developing and delivering collaborative services is not an easy one. Despite everyone's best intentions, there are always issues and problems that need to be worked through. Alternatively, some unanticipated positive consequences often emerge as well.

Organizational Issues

When schools provide primary health care through a school-based clinic, that clinic must be licensed through ADHS. Development of a lease-agreement and operating procedures manual, as well as the other details required to license the clinic as an outpatient medical facility of St. Joseph's Hospital, were very time-consuming. As a result, although the program services were in place, the actual clinic at the school site was not licensed until April 1994. Therefore, the nurse practitioner could not treat students on campus. Prior to April, students referred to the nurse practitioner had to be transported to the hospital clinic.

Another initial difficulty arose because one of the key players (*i.e.*, the nurse practitioner) was not involved in the program development process from the beginning, and therefore did not immediately "buy into" the program design. Hospital administrators had been talking with school personnel about needs and service delivery issues for some time, and understood the problems students had with accessing services. However, without benefit of this earlier information, the nurse practitioner (who works in the pediatric clinic at the hospital) did not understand why students couldn't simply come to the hospital and receive services through the clinic. This caused some initial friction; however, after being "caught up" and apprised of all the information that preceded the design of services, the nurse practitioner became a principal player in a unified team effort.

Community Organizing and Capacity-Building

Working from the philosophy that "it takes a healthy community to raise a healthy child," the Longview staff view the community as the base from which to institute change. They understand that it is through community partnerships that students' access to health and social services will be

improved. Thus, school-based health care is viewed within the context of a larger community-based framework to improve the health and well-being of students and families.

The school is being supported in operationalizing this concept in part through continued ADHS funding to the Osborn School District. A new grant provides $20,000 per year for three years (through October 1996), and is being used to fund a district volunteer coordinator whose job is to develop community-school partnerships; a part-time social service caseworker; and additional computer support for record keeping.

The grant is also providing some direct benefits for Longview. The availability of the additional caseworker is freeing up the time of the district social worker, who has been a major player in the development of the Longview clinic. Along with the Longview school nurse, the social worker is organizing community resources and utilizing residents and community agencies to better assist the Longview community and its families. The synergy created through all this activity is resulting in the development and/or coordination of other community programs to serve students. Examples include an after-school program developed through the Phoenix Indian Center with city of Phoenix Community Development Block Grant funds; local business people tutoring students; and community churches collaborating to provide summer employment for youth.

Final Notes

Upon reviewing the Longview/St. Joseph's health project partnership, three observations seem notable. They help explain some of the project's strengths and also address an underlying issue facing many other projects of this kind.

The effects of the project's financial philosophy and history: The pursuit of additional money and the leveraging of funds is a key element in the project's success. St. Joseph's Hospital funds the nurse practitioner, whose direct service to Longview students is the essence of the school-based clinic. Building on that and expanding the breadth of the project, the Flinn Foundation funding for the LPN has enabled the school nurse to provide families with case management services. Similarly, the financial contribution of Catholic Charities enhances the scope of medical services the hospital can provide for Longview students.

In addition, the funding history connected with the Longview/St. Joseph's partnership project underscores the need – confirmed in a wide body of research – for stable funding sources to support school-based/school-linked health services. With the end of the Flinn Foundation grant in September 1994, the school district needed to develop a new funding source to support the LPN health aide, who in turn would enable case management to continue[6]. Similarly, it is the lack of stable, continuous funding that resulted in the closure of the school-based clinic for the summer, and with it the disappearance of the medical services available during the school year.

The project's philosophy and approach: Staff believe that the *combination* of services, and specifically their interrelatedness, all work holistically to enhance the ability to address the well-being of Longview students and families. When describing their school-based health services,

[6]Ultimately, funding to support the health aide for the 1994-95 school year was obtained from the United Way. United Way also provided a grant for St. Joseph's, in collaboration with the Osborn School District, to produce a manual about "steps in developing a school-based or school-linked clinic."

health/social service staff proceed to talk about several other activities as well. For example, they mention the district's bilingual school-home liaison who does general case management and direct service; the Longview after-school drop-in program; and the efforts of the district social worker to build community-based leadership. This blending of elements seems illustrative of what they think contributes to "healthy students."

A broadened conceptualization of primary care : This framwork expands the breadth of primary care to include the notion of "community benefit." By funding a district volunteer coordinator and caseworker under the umbrella of primary care, ADHS is enabling the school and the district to address the needs of its students and families in the holistic fashion just described.

WHITERIVER ELEMENTARY SCHOOL: INTEGRATING HEALTH SERVICES INTO A COMPREHENSIVE SERVICE DELIVERY SYSTEM[7]

Setting

Whiteriver Elementary School (WRE), serving 900 kindergarten through fifth grade students, is located in Navajo County on the White Mountain Apache Indian Reservation. The 1.7 million acre reservation spans three counties (Apache, Gila, and Navajo), with a population of approximately 13,000 people. Whiteriver Elementary is one of four schools in the Whiteriver Unified School District, the reservation's public school system. The school is located in the city of Whiteriver, the tribal government seat and the reservation's largest population center. Ninety percent of students enter school with limited command of the English language. Much of the population lives in poverty; more than 90 percent of families are considered low income, and there is an unemployment rate of 41 percent.

Background: Rationale for School-based/School-linked Health Services

Both behavioral and physical health issues present considerable challenges for Whiteriver Elementary. Tribal agency records indicate that virtually ***all*** the families living on the reservation are affected to some extent by alcohol abuse. More than one-third of the school-age population on the reservation is subject to family violence, abuse, and/or neglect. In 1993 the reservation had a suicide rate six times the national average.

Along with these behavioral health issues, physical health problems abound as well. Birth defects, chronic ear infections, diabetes, and heart disease are among the extensive health problems on the reservation. In the Whiteriver Unified School District, 31 percent of incoming students failed an initial hearing screening for 1993-94. School height and weight studies indicate that obesity increased significantly over the last ten years. Diabetes is also a significant health problem; 700 people are on the diabetes registry, and two new cases are diagnosed each week.

Confronted with the litany of physical and behavioral health problems that face their students, WRE staff have actively pursued the development of an integrated approach to health issues as part of the school's comprehensive strategy for dealing with the unique characteristics of their community.

Defining and Developing Linkages and Partnerships

As defined in Whiteriver Elementary, comprehensive service delivery relates to both a repertoire of services and their integration. Over time, WRE has implemented an array of services as part of their schoolwide approach to planning and development. All services and programs are aligned with school goals, and linkages with community agencies are in place either by co-locating services on campus or through services brokered by school-based personnel. Whiteriver Elementary supports a school-based family services coordinator, who is also a licensed social worker and counselor. The

[7]The following profile is adapted from a case study of Whiteriver Elementary School included in Vandegrift, J. *et al.* (September 1994). *Comprehensive Services in Arizona Schools: A Research and Planning Primer.* Tempe, AZ: Morrison Institute for Public Policy, Arizona State University.

coordinator maintains linkages with a variety of service providers both on and off the reservation. Health issues are the focus of ongoing discussion by several groups, such as the reservation's child protective team and "healthy nations" project, and the Kinishbah council for the prevention of child abuse. There is also a high degree of ongoing, informal communication among these groups.

Planning and Designing Services

WRE's comprehensive school plan evolves from an annual needs assessment conducted by the school. "Support services" – including health services – is one of eight major categories included in this annual assessment. The survey is administered to parents, teachers, teacher assistants, support staff, and administrative staff. Results of the needs assessment determine school-based priorities that are used to plan services for the following school year.

WRE has aggressively pursued linkages and outside funding to support health-related programs on and off the school campus. And, recognition of the importance of such linkages has also come from the Indian Health Service (IHS); the chief pediatrician, recognizing the importance of "continuity of care," proposed bringing pediatricians to campus to provide some health services to students. The intention was that the doctors would be able to understand the children more holistically, *i.e.*, as "kids," not patients. More importantly, this early intervention would enable them to identify potential problems and to provide followup care with these youngsters. This linkage is an enhancement of the *way* services are normally delivered at the IHS clinic. Although the clinic is only about a mile from WRE, patients see whoever is "on call," rather than establishing a relationship with a particular physician. Without the early continuity of care, there is less opportunity for early intervention than is afforded when physicians are regularly on campus.

Overall, the "service delivery system" at Whiteriver Elementary can be characterized as a combination of school-based and school-linked health services. WRE links health services with the school through both screening and referrals and through the provision of limited primary care. Both physical health and behavioral health needs are addressed.

School-based/School-linked Health Services

The school employs a full time registered nurse and nurse's aide who, among other duties, ensure that every child is screened (e.g., height, weight, eyes, ears). The nurse also responds to the regular health problems of WRE's 900 students that arise during the course of the school day, and helps to implement the health education curriculum. WRE's nurse also serves as a member of a crisis intervention team that responds immediately to crisis situations (e.g., domestic violence or a family death). Overall, she functions as a key member of the team at Whiteriver as they seek to provide comprehensive school and community services.

During the 1993-94 school year, for the first time, IHS provided two pediatricians on the WRE campus twice weekly. Services were provided in the nurse's office. The doctors gave complete physical examinations, including immunizations, to all second and fifth grade students. The second grade physical is viewed as a good "status check," while the fifth grade check-up ensures that any health problems are noted before students leave the school.

The school also serves as a research site for Johns Hopkins University in a project pertaining to obesity, heart disease, and diabetes. The intention is to plan and implement a multi-faceted

program that links hospitals, schools, and tribal agencies in addressing these problems. It is anticipated that the program will review school nutrition and implement new health programs in the classrooms. A staff health position may be funded to help implement the program and coordinate with other efforts.

Another school-based effort is the Tribal Health Fitness Program, funded by the tribe and through IHS. This is an after-school fitness program for students, staffed by tribal health personnel.

Still another school-linked program directly addresses problems associated with the high incidence of violence against children on the reservation. IHS has initiated a "safe clinic" for victims of sexual abuse, ranging from infants to adults. The community-based clinic is staffed by a physician, social worker, and psychologist, who provide forensic physical examinations and crisis counseling and treatment.

As noted earlier, along with the high incidence of violence against children, problems such as substance abuse and teen suicide are widespread on the reservation. Behavioral health services to deal with some of these problems are crucial. Whiteriver Elementary offers students and families considerable support in this area.

The family service coordinator is "on call" for campus/district emergencies as well as for scheduled family or individual counseling. The coordinator counsels approximately 25 parents on a regular basis and provides referrals for a number of others. In addition, as a member of the reservation-wide Child Protective Team the family service coordinator helps to ensure support for the specific behavioral health issues confronting WRE students and their teachers.

Whiteriver Elementary has initiated a child and family "After-School Intervention Program for Severely At-Risk and Substance Abusers" for students and families dealing with serious substance abuse problems. This program, designed for children and families in crisis, currently serves 25 children and their families. Children receive intensive academic support and counseling, and also participate in activities such as art therapy and physical education. Parents also receive counseling and parenting skills education. The program is staffed by WRE's assistant principal and family services coordinator, along with an additional licensed counselor.

The school also has a fully integrated substance abuse curriculum, supplemented by other educational programs. For example, students are taught about the danger of drugs and alcohol using the Beginning Alcohol & Addictions Basic Education Studies (BABES) program[8]. BABES is a K-12 program that employs role-playing and puppets to teach children decision-making and coping skills.

Funding

Funding for health services in Whiteriver Elementary reflects the school's overall philosophy of addressing students' needs in a holistic, comprehensive fashion. In addition to targeted projects, WRE leverages funds from a variety of programs to provide health related services to students and families. For example, the school's family service coordinator is supported with K-3 at-risk funds.

[8]BABES is a copyrighted curriculum disseminated by the National Council on Alcoholism & Other Dependencies. Use of the BABES program is only permitted by certified presenters who have undergone three days of training.

Several funding sources help support the specific health related activities offered at the school. The two pediatricians providing physical examinations on campus are the result of a partnership with IHS, which essentially is enabling IHS staff to provide services in this "satellite" location. IHS funding also supports the services available through the safe clinic.

WRE's designation as a research site for the Johns Hopkins University program is supported through a grant to the school district from the Robert Wood Johnson Foundation. State substance abuse funding and tribal funds, along with school and district support, help finance some of the other health-related programs and services described earlier.

WRE is continuing to seek outside sources of funding to support health-related programs. For example, they are a partner in another tribal grant ("Healthy Nations") funded through the Robert Wood Johnson Foundation, which seeks to implement a prenatal and infant care program through the tribal guidance center, IHS, and the public school system. These partners are currently in the initial planning year of the grant.

How is it Working?

In short, it's working well. Whiteriver Elementary approaches health services as they do all other activities that contribute to the well-being of their students. The school's child-centered philosophy – and the fact that all the staff are part of, and buy into a system that supports this philosophy – ensures that the health needs of WRE students will be addressed.

As noted earlier, WRE staff have actively pursued the development of an integrated approach to health issues as part of the school's comprehensive plan. To that end, linkages and partnerships have been and continue to be generated, resources have been leveraged, and services are integrated into a customized school improvement plan developed through a collaborative process.

Final Notes

Whiteriver Elementary School does not have a discrete "school-based" or "school-linked" health program. What it does have is a fully integrated array of health services and health-related activities that address the unique problems of their students. This health component is one part of a fully evolved comprehensive approach to providing support for at-risk children and their families. And it is this philosophy that is most striking. The clear mission and the constancy of purpose that guide all activities at the school, and the collaborative fashion in which planning and services take place, make Whiteriver Elementary notable. Within this framework, health issues will continue to play a prominent role for Whiteriver's students. More importantly, health services will only continue to improve.

A Pilot Comprehensive School Health Program for Yuma Educational Support Services Small Schools Cooperative

Setting

The Yuma County Small Schools Cooperative, under the auspices of the Yuma County School Superintendent's Office, is comprised of four small school districts located in a rural agricultural valley east of Yuma: Antelope Union High School District, and Hyder, Mohawk Valley, and Wellton Elementary Districts. These districts enroll approximately 1250 students in pre-kindergarten through 12th grade, and serve communities characterized by a predominantly minority population, high unemployment, and poverty. The schools report among the highest enrollment of children from migrant families in the country.

Background: Rationale for a Comprehensive Health Program

The availability of health and related social services for residents of eastern Yuma County is limited; access to these services is further restricted by distance and lack of reliable transportation. Frequent moves, language, and other cultural barriers also inhibit the use of services by migrant families. Schools and school-related activities often provide the primary points of social contact for children and families.

Recognizing the need for a comprehensive health services model that would effectively meet the health needs of children in eastern Yuma County, three units of the Arizona Department of Education (Comprehensive Health Unit, Migrant Education Unit, and the Comprehensive Training Unit) targeted the small schools cooperative for a pilot program in early 1991. The intent of the program was to assist target communities in developing and implementing a school-community plan to identify and remedy health/social service needs, particularly as they place youth at risk of being unable to complete school and/or find work.

Developing and Defining the Partnership

In addition to the Arizona Department of Education (ADE), the Yuma Educational Support Services program (YESS) in the Yuma County School Superintendent's Office was a key player in the partnership. Among YESS's regular activities are the provision of speech and psychological services to the small schools, cooperative and migrant education services to area youth who have dropped out of school. The comprehensive health services pilot program added another component to YESS activities.

An initial advisory group was formed consisting of the Yuma County School Superintendent, the Director of YESS, and the administrators of the four school districts. An evaluation consultant was hired to conduct a community health needs assessment and to develop an initial program design.

Program Planning and Design

Priority health needs were identified through regional demographic data and interviews conducted with local health and social service providers, local health professionals, parents, teachers, and

administrators, from the four targeted school districts. The data confirmed that primary, preventive, and emergency health care in the region were inadequate, and identified specific health issues for immediate attention.

In light of the magnitude and scope of identified health needs, the recruitment of a nurse coordinator was proposed to "assist parents, teachers, and community agencies and organizations to more effectively address and meet the health needs of the children and youth of the four school districts." The nurse coordinator was to be accountable to the YESS director. Community input and feedback would be provided by health advisory councils from each of the four districts; each council was to have both school personnel and community representation. The nurse coordinator would be the central person initiating and implementing each component.

Program components were planned to address an ambitious range of community health concerns. They included: children with special needs; family life and sexuality education; school-based crises intervention for children and families; at-risk teens (prevention/support activities); comprehensive health screening and services; chemical abuse awareness and prevention education; coordination of health/wellness education programs; and community outreach and collaboration. Each of these components was comprised of several related activities.[9]

Program Services

Services implemented during the first year-and-a-half of program implementation (January 1992 - May 1993), and activities *planned* for the 1993-94 school year, are described below.

January 1992 - May 1993: As reported by the program evaluation consultant (Bennett, E.J., 1993), the following program services were implemented.

- The nurse coordinator was an integral part of the assessment team for special needs students and served as a resource for students and their families.
- The nurse coordinator worked with teachers on HIV/AIDS-related activities and developed community linkages for pregnant teens.
- The nurse coordinator was a key participant in community "crisis intervention" efforts in the wake of major flooding in the target communities.
- Prevention and support services for at-risk teens were provided for students involved in JTPA (Job Training Partnership Act) summer programs.
- An array of health screenings, immunizations, and dental hygiene and education activities were undertaken.
- Chemical abuse prevention/education activities were provided in each elementary school, and the nurse coordinator was involved in related activities.
- The nurse coordinator, along with community agencies, provided cardiovascular disease prevention/early intervention education to third grade students.
- The nurse coordinator served as a catalyst in community organization activities related to the development of a family service center in Wellton.

[9]Program components and related activities can be found in Bennett, E. Jane. (August 1991): *A Pilot Comprehensive Health Program for Yuma County Small Schools Cooperative: "Una Flor de la Salud:" Community Assessment and Program Design.*

Based on the first year evaluation report, substantial gains were made in the coordination of the pilot program objectives with those of the proposed Family Services Center; the pilot proposal also provided input for their program design. Successful efforts to secure funding for the construction of the center are attributed in large part to the active participation of the nurse coordinator.

Planned services for 1993-94 school year: Plans for the second full year of program implementation (school year 1993-94) focused on two goals. One goal was to establish a comprehensive school health services program in each of the four rural schools and their communities located in eastern Yuma County; the other was to share the model of comprehensive school health services during the summer of 1994 with JTPA providers within Yuma County.

The second year proposal committed to continue development and implementation of the original comprehensive school-community health services model. It called for the formation of a YESS Comprehensive School Health Advisory Council for Eastern Yuma County to assist the school health specialist (formerly called nurse coordinator) with program implementation and to ensure community involvement. In addition, school-community health teams for each of the participating schools were to be formed, providing school, community, parent, and business input.

Program Funding

The pilot comprehensive school health program was conceived and funded through the collaborative efforts of the Comprehensive Health Unit, the Migrant Education Unit, and the Comprehensive Training Unit of ADE. These three units combined resources to provide "seed money" for the project in the amount of $50,000. At the present time no state funding is being provided for the program.

How did it Work?

The comprehensive school health services program model appears to be a good approach for providing health services in a rural community attempting to maximize resources through coordination. Collaborative efforts clearly helped leverage financial resources. "Joining forces" to address community health needs also leverages human resources. Nonetheless, there were some overall problems in program implementation.

It is typically difficult to recruit and retain health professionals in rural communities; this was certainly a problem in the pilot program. Initial implementation of program activities was delayed due to difficulty in recruiting a nurse coordinator, and there were also problems with subsequent attempts to hire for this position.

Aside from the recruitment problem, some issues emerged as a result of the "process of collaborating." A wide body of research-based literature on collaboration repeatedly underscores the fact that "collaboration is hard work." Difficulties in implementing the pilot program included those often mentioned in the literature. Communication problems and "turfdom" issues appear to have surfaced among some of the players, which affected the overall implementation process. For example, when traditional roles and responsibilities change – such as the shift away from a "school nurse" position to a newly defined role of "nurse coordinator" – clear communication, education,

and mutual understanding must accompany the change. Difficulties arose when this role was not clearly understood by school personnel.

This program involved several partners and organizational levels: a state agency (ADE), a county office (county school superintendent), a county program (county JTPA programs), and local school districts. Given the different domains involved, it might be helpful to consider how the program worked from three perspectives: local implementation, local-state collaboration, and intra-agency state collaboration.

Local Implementation

As delineated earlier, many activities were undertaken during the first year-and-a-half of program implementation. Along with this, however, there were considerable difficulties. Some problems can be attributed to the massive flooding that took place in the region in 1992-93, which diverted school and community attention and resources to flood recovery. The disruption to all aspects of normal school and community activity undoubtedly contributed to disruption in the implementation of the program as well.

Limited community organizing and capacity building were also a factor in local implementation difficulties. A key element of the pilot program proposal included such activities through the formation of school/community health advisory committees at each of the school sites, and an overall advisory committee for the program. Available documentation indicates that these committees were not formed during the first year; they were considered to be a priority for year two.

As noted, problems also appear to have emerged due to a lack of communication and "consensus building" among school staff at the outset of the program. As a result, health aides and others at the four school sites expected the new nurse coordinator to function more as a school nurse than as a health coordinator, contributing to conflicting priority demands placed on her time and attention. First year evaluation conclusions suggested that the nurse coordinator's job description was not clear, contributing to the confusion regarding the "school nurse" responsibilities versus the "program coordinator" function of the position.

For personal reasons, perhaps exacerbated by stress from the flood, the nurse coordinator resigned in mid-1993; with the exception of a brief interval later that year, the position has remained vacant. In the interim, two of four of the school administrators left their positions and have been replaced. New administrators had to be educated about the program and "brought on board."

Local-State Collaboration

This program exemplifies a broad range of cooperation and support from agencies working together to tackle local problems. As noted earlier, the collaboration combines state and local resources from ADE, the county school superintendent, county JTPA programs, and four school districts. Again, this type of broad-based effort is particularly important in rural communities with limited resources. However, collaborations -- particularly those that involve both state and local interests -- frequently experience communication problems. There appears to have been some need to better clarify state (ADE) and local (YESS) roles with regard to project management and direction.

Intra-agency State Collaboration

The "joining forces" of the three ADE units to provide the seed money for the comprehensive health services pilot program is notable. The fact that this type of collaborative funding process took place is in itself a considerable accomplishment; funding streams in ADE are typically categorical, and "comingling" funds is definitely not the norm. This pilot project was a clear example of viewing the needs of a community's children and families in a holistic fashion, and integrating funding streams to *"enable"* a community approach to solving problems.

Current Program Status

At the present time, the comprehensive school health services pilot program is "on hold," and recruitment for the nurse coordinator/school health specialist position has been suspended. Problems in filling this position, and new leadership in two target school districts (which necessitated educating and generating new "buy-in") contributed to delays in implementation.

However, this does not mean that community planning development efforts for providing health services have disappeared. As mentioned earlier, program elements were similar to the components being planned for the family service center being developed in Wellton. It is around this service center that community organization activities and comprehensive planning is currently focused. Through the original activities of the nurse coordinator, the parallel sets of efforts began to coalesce. Currently, community organizing and capacity building is being implemented through the Eastern Yuma County Comprehensive Health Advisory Council, which is in the process of planning the services to be delivered in the Family Service Center currently under construction in Wellton. Several community and school people involved in the ADE-supported pilot program are involved in the Wellton effort. In addition, there are many new players.

ADE personnel remained involved in facilitating community planning and capacity-building through March 1994; at that time local efforts shifted focus to the new family service center, and there is currently no active ADE "presence." Similarly, the YESS director currently maintains a low profile in the planning activities.

Final Notes

Myriad factors come into play when this type of community endeavor is undertaken. "What happened" to the pilot program can be viewed in two parts – the program model and the implementation process.

The first year program activities suggest that isolation and poverty do not necessarily present insurmountable obstacles to organizing cohesive and comprehensive health programs through schools in rural areas. The collaborative effort within ADE provided the means for school administrators and community leaders in this remote area to coordinate their efforts to identify and remedy their communities' pressing health issues. By addressing the problems in the four target schools as an organic whole, the costly pitfalls of a more conventional piecemeal approach can be moderated.

At the same time, it is apparent that this type of process requires extensive planning; it is both important and helpful to understand local issues, "politics," and initiatives. Should ADE plan to

engage in this type of collaboration in the future, it might be beneficial to provide an initial planning grant to assess the status of ongoing community efforts and to build community consensus and support. This process might have resulted in more timely integration of the ADE plans and the planning efforts for the family service center in Wellton.

Collaborative endeavors clearly require a great deal of "care and feeding." Moreover, comprehensive program models need to consciously build and nurture the infrastructure necessary to support such ventures.

CLINICA ADELANTE/QUEEN CREEK SCHOOL DISTRICT: A SCHOOL-LINKED HEALTH CLINIC

Setting

Queen Creek Unified School District is comprised of an elementary school, a middle school, and a high school, with a combined enrollment of approximately 905 students. The high school and middle school are located adjacent to each other, and about 100 yards north of Clinica Adelante ("the Clinica"). The elementary school is located four miles to the southwest of this area.

Some 60 percent of the students are low income as defined by their eligibility for free or reduced lunches. Sixty-five percent of the students are White, 30 percent are Hispanic, and five percent are "other" racial and ethnic backgrounds.

The school district serves a long-standing agricultural community at the southeastern edge of Maricopa County. Historically the community has relied heavily on the labor of migrant farmworkers, many of whom earn a subsistence living and are not covered by medical insurance. Queen Creek is bounded by Mesa on the north, Gilbert on the west, the San Tan Mountains on the south, and Pinal County on the east. The greater Queen Creek area has an estimated population of 3,500 residents.

Background: Rationale for School-Linked Health Services

Until the Clinica established a permanent office in town, there were no medical service providers in the area. While the Clinica had been providing limited services to migrant farmworkers through a mobile unit, low income permanent residents had no local access to medical care. This lack of a permanent provider placed a considerable burden on low income residents who were unable to afford private insurance and transportation to neighboring cities for treatment.

By linking with the school, the Clinica was able to provide medical services to a broader population, by reaching families through students. From the school's perspective, the school-linked clinic significantly increased students' access to health care.

Establishing the Linkage

The relationship between Clinica Adelante and the Queen Creek District is an example of an existing health care provider linking with schools to increase the breadth and scope of services available to students and their families. The initial linkage – between the district's family resource center located at the high school and the Clinica which, as noted, was providing services at the time through a mobile unit – was established two years ago.

The Family Resource Center

The Family Resource Center (FRC), which had been initiated by the high school principal, was the mechanism through which the school/health linkage was established. The FRC was designed to "broker" a variety of services such as medical assistance, day care, adult education, and a food and

clothing bank. The FRC approached the Clinica to provide medical care to students and families, through a referral process provided under the "umbrella" of center services. The extensive medical and social service network that had already been developed by the Clinica staff would thus be accessible as part of the array of FRC services.

Due to a loss of funding, the FRC was unable to remain open through the summer of 1994. However, it has reopened for the 1994-95 school year under the operation of a VISTA volunteer who reports to the high school principal.

Clinica Adelante

Clinica Adelante at Queen Creek is a branch of the main Clinica Adelante facility located in Surprise, Arizona. The Queen Creek Clinica was initially supported through federal migrant farm worker funding; non-migrant residents of the area were not eligible to receive services. For more than three years Clinica staff spent one day per week in Queen Creek providing services exclusively to migrant farm workers.

As the Clinica became more established they began to extend services to include low income permanent residents of the area. Many of these people are members of the "notch group," *i.e.*, they make too much money to qualify for AHCCCS but cannot afford private medical coverage. However, since non-migrant residents had previously been denied services, the Clinica had to overcome the community perception that they were a medical resource only for migrant workers.

When they were approached to become part of the FRC, the Clinica viewed it as a way to increase their provision of service to the Queen Creek area and to shift from a mobile unit to a permanent location. As part of the FRC, the Clinica was able to lease space in a small retail complex owned by the school district. The space was divided into private examination rooms with a waiting room allowing the delivery of service in a more appropriate atmosphere.

Program Design

Along with serving students, the school-linked clinic also offers a full range of services, including family planning, to the community-at-large. Since the schools have no space available for a school-based site and no financial resources to staff positions, the school-linked model fits their needs. Additionally, the linkage model enables the clinic to generate revenues from community residents through insurance reimbursements and other monies such as grants, and still be available to provide services to students.

Most services are provided through direct referral by the school nurse, the principals, or the counselor at the high school. The district employs one certified school nurse who serves all three schools. In addition, the elementary school has a full time nurse's aide on site. Children in obvious need of medical services are referred by their teachers to the school nurse, who contacts the student's parents to determine their medical service preference. If the parents give permission, or if the child is already a clinic patient, the school nurse schedules a clinic appointment.

The relationship between the Clinica and the schools works both ways. The clinic sometimes asks the school nurse to provide medical follow-up, e.g., monitoring blood pressure, to students who are clinic patients.

Program Services

Direct services provided at the schools by Clinica staff have included HIV classes, often conducted in Spanish, an immunization clinic, sports physicals, and flu shots and Hepatitis D shots for staff. Additional services can be provided upon request; however, the clinic most typically provides its services off-campus in its own facility.

The Clinica is staffed by a nurse practitioner, a medical assistant, and a receptionist. A doctor from the main clinic in Surprise provides services on site one day per month. In addition, the doctors at the main clinic are always available by phone for consultation. The College of Nursing at Arizona State University also places nursing students and nurse practitioner students at the clinic. Other support is provided through a DES worker on site once a week, periodic assistance from the county health department, and some social work assistance through Migrant Education.

By law, minors do not need parental consent for medical treatment for child abuse, drug abuse, sexually transmitted diseases, or family planning. The off-campus clinic location allows minors to seek advice and treatment for these problems. Chandler Regional Hospital provides emergency medical services and clinic clients are referred there. Additionally, dental services through private dentists are available for qualified students, financed with federal vouchers and some parent contributions.

An important part of the clinic services is the case management approach utilized by the Clinica staff. Every Friday afternoon the clinic closes to enable staff members to contact their large network of health providers. They make appointments for clients who need more specialized services or who would otherwise "fall through the cracks" in terms of not having the resources to pay for medical services. The linkages established by the nurse practitioner and her staff include private practice specialists in the metropolitan Phoenix area as well as emergency services with a doctor in Chandler. These physicians typically waive their fees or offer discounts.

Funding

Initial support for the Clinica was obtained through federal migrant worker funding. Other financial resources include federal community health funds and small grants. In addition, the nurse practitioner is an authorized health care provider for two AHCCCS plans; residents who qualify for AHCCCS can choose one of these two plans and the clinic's services will be paid for. "Notch group" clients pay for their services on a sliding fee scale.

How Did it Work?

The relationship between the schools and the clinic has evolved through a slow, informal process. Overall, the shift from exclusively serving migrant clients to including other community residents has been low key but steady. The Clinica has been successful in increasing its client base due in part to the acquisition of a permanent medical facility and to the fact that the nurse practitioner is an accepted AHCCCS service provider. The clinic staff has also done outreach in the community, through presentations and general public health education activities. Specific outreach in the schools has been accomplished by clinic staff who volunteer to coach a soccer team.

The school district appears to be happy with the availability of school-linked services. One frequently recounted anecdote involves a high school athlete who tore a ligament in his knee during a track meet. The school nurse recognized the seriousness of the injury, and through a Clinica referral to a private physician the athlete had the necessary surgery for a full recovery. Athletic coaches are pleased with the clinic; students injured in athletic activities have received referrals and medical attention previously unavailable to them. Overall, school and health officials agree that the linkage is working well.

Final Notes: Another Look At the School-Linked Relationship

The relationship between the school, community, and clinic appears to be successful for several reasons. The guiding vision and philosophy of the Clinica and some of the strengths of the school-linked clinic are reviewed below.

The Clinica "vision" of medical service delivery: The staff of Clinica Adelante in Queen Creek believe that medical services should be available in the community, and they embrace the public health perspective of providing community education and preventive health care. As noted earlier, their focus on developing a healthy community is carried out through outreach activities including presentations at community meetings and coaching the soccer team. The well-developed case management approach facilitates services for those people who normally fall between the cracks.

A satellite of an established clinic: Licensing was easier for the Clinica because they were a satellite of an existing licensed medical clinic. When planning for expansion they were aware of the licensing requirements and planned accordingly, which greatly expedited the process.

More stable funding: Reimbursement for nurse practitioner services has enabled the clinic to develop a more solid funding foundation. Residents who qualify for AHCCCS can choose from one of two plans the Clinica is authorized to accept. This "self-supporting" patient base enables the Clinica to expand services and removes the instability associated with federal and private funding.

Flexibility in services provided: The off-campus location enables the Clinica to offer the full range of services necessary to meet all of the needs of this growing community. This also allows for a more traditional service delivery setting which includes privacy and confidentiality.

Sensitivity to community values: The schools and the Clinica recognize the value of respecting the values of the community, especially in areas such as family planning. These services are provided upon request but are not advertised.

Win-win scenario: Overall, the school-linked service model offers a win-win situation for the children, the community, the schools, and the clinic. The children benefit from available and affordable health care, and the community benefits from better public health and local access to medical services. The schools benefit by having children in school who are healthy and ready to learn. Lastly, the clinic benefits by establishing a permanent base and gaining a larger share of the medical services market, thus insuring a more stable revenue stream, while continuing to serve their initial target population. The Clinica is becoming an important part of the community; it is anticipated that as the nucleus of community medical services, the clinic will help attract additional medical services to the area in the future.

Chapter Five

Improving Comprehensive Health Services in Schools: How Is Arizona Doing?

What Does It Take?

Health problems for many of the state's children and adolescents, along with a lack of access to primary health care, underscores the need to facilitate linkages between school-age youth and health services. What does it take to do this? Research and practice suggest a combination of strategies, including the availability of *comprehensive, coordinated data* to accurately describe children's health status; *building support* for, and knowledge about, school health services delivery models and what they "look like;" *creating the infrastructure* necessary to support and sustain school-based/school-linked services; and *developing the linkages* to provide such services. While some of these strategies are evident in the activities highlighted in this report, many activities are still in the early stages of development and have yet to fully incorporate the repertoire of strategies that lead to successfully integrating health services as part of a comprehensive service delivery system.

For example, data sources regarding children's health issues are fragmented. Although this document synthesized a variety of data to provide a snapshot of health issues, individuals trying to plan services typically must deal with multiple data sources, making it difficult for schools to assess specific health needs of their student population. Statewide efforts to help track *individual* students' health history (*e.g.*, immunization records) are currently underway, which will help schools in identifying needed services.

Furthermore, while there is growing support for school-based/school-linked health services, such services still face resistance. One difficulty in connecting students with health services is the common public perception that the singular function of school-based/school-linked clinics is to provide family planning services, a perception that often results in public opposition to providing health services at or near schools. Understanding the specifics, *i.e.*, who uses school-based/school-linked health services, what they are, and why they are being provided, could ameliorate many misconceptions. It would be helpful, for example, if communities understand that these services are usually developed based on *local* assessments of needs, rather than through a prescribed formula of services.

One of the more daunting tasks is creating the infrastructure necessary to support and sustain school-based/school-linked health services. Knowing "what's out there," and building the infrastructure to provide support, could help expedite the dissemination of information and technical assistance. This report begins to inventory state initiatives; however, there are undoubtedly many other efforts and activities containing elements of school-linked health services that need to be explored in order to fully address infrastructure issues.

Ultimately, developing specific linkages to provide school-based/school-linked health services is accomplished through individual schools and districts. Health care providers are increasingly coming to understand the role that schools can play in order to link children with primary health

care services. Conversely, schools must be prepared to demonstrate their willingness and ability to contribute as equal partners with health care providers in making such linkages a reality.

How is Arizona Doing?

Arizona is clearly "on track" with regard to improving comprehensive health services in schools. School-based/school-linked health services are being implemented in several communities, urban and rural, and interest among schools and communities across the state is growing. The recent employment of a school health coordinator and a marketing director by ADHS' Primary Care Program will expand that agency's capacity to provide assistance to schools developing school-based/school-linked health services, as well as help to expedite public education regarding such services.

Moreover, ADHS efforts reflect a focus on building program capacity rather than funding services. This speaks to the increased likelihood of long-term systemic change. Building capacity includes helping staff to understand and work in settings and relationships different from their traditional experience. Capitalizing on this, ADHS administrators—in conjunction with ADE program managers— recently submitted a national grant to provide regional professional development training for individuals delivering school-based/school-linked health services.Many of the Arizona activities discussed focus on state strategies and initiatives involving both ADHS and ADE, and both agencies deserve to be recognized for their efforts. Ultimately, however, it seems likely that the philosophy and future actions *within* ADE will determine the degree to which Arizona schools integrate health services into their repertoire of comprehensive services. Given that ADE has a significant role to play in the future of school-based/school-linked health services, this report closes with a discussion of some future considerations for this agency in particular.

Future Considerations

As noted earlier, the overall framework of ADE's mission does provide some support for health services in Arizona's public schools. In the current context of education reform, such services increase in importance. Recent reform initiatives include the concept that school improvement strategies should involve coordinated school and community efforts to assist children and families. In light of this, state departments of education are being encouraged to improve *their* services to schools by assisting them in developing comprehensive services. Health services are an important element in the mix of services. And, as evidenced in the school health service delivery models profiled in this report, developing such programs — which require school personnel to collaborate with medical providers, funding sources, and other community-based organizations — is complex.

While some Arizona schools are currently implementing school-based/school-linked health services, many educators in the state do not recognize the benefit of doing so. *Increased emphasis by ADE on promoting the benefits and potential for linking health services with schools* could stimulate interest among schools and districts across the state.

One difficulty in establishing school/health service linkages stems from educators' lack of knowledge about how to go about it. Many Arizona principals indicated a desire for integrated health services to receive greater attention in ADE's agenda for technical assistance. Further,

principals were interested in receiving training related to partnering with health providers. As noted earlier, health care systems are businesses, and schools seeking linkages must be well-prepared when working with them in a partnership. *Increased technical assistance to help bridge the gap between schools and health care providers* will be imperative to the success of such ventures. Perhaps ADE can assemble a team of school-based personnel with experience in implementing school/health service linkages, and support them in working directly with other interested schools.

Any efforts to assist schools in developing health linkages must be supported with the financial resources necessary to do so. ADE initiatives to promote and develop linkages between schools and health services should be encouraged by *increasing the ability of units within ADE to combine funding streams and reallocate resources* to support such activities. Leveraging funding and resources in this way would increase the department's ability to assist schools in providing students with an array of comprehensive services.

The Comprehensive Health Unit, along with the ADHS Primary Care Program, is continuing to provide support for emerging school-based/school-linked health initiatives through the School-based/School-linked Technical Assistance Group. In addition, as part of the unit's CHEST inservice training, school/community teams are becoming more aware of school health issues and are beginning to assess their school health services needs. The actions offered for consideration would build on existing ADE activities and expand the scope of current efforts. Ultimately, whatever the "vehicle" for service delivery, the key to increasing health services to school-age children is in linking and leveraging human, organizational, and financial resources to deliver these services in new ways — *within* ADE, and between ADE and other agencies and organizations.

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