ABSTRACT. More than 20% of children and adolescents have mental health problems. Health care professionals for children and adolescents must educate key stakeholders about the extent of these problems and work together with them to increase access to mental health resources. School-based programs offer the promise of improving access to diagnosis of and treatment for the mental health problems of children and adolescents. Pediatric health care professionals, educators, and mental health specialists should work in collaboration to develop and implement effective school-based mental health services. Pediatrics 2004;113:1839–1845; school, mental health, school-based health center, SBHC, medical home, adolescent, prevention, intervention, confidentiality, assessment, referral, evaluation, school counselor, risk behavior, resilience, individualized education program, IEP, therapy, special education, special needs, curricular, managed care, emotional disorder.

ABBREVIATIONS. SBHC, school-based health center; AAP, American Academy of Pediatrics; IEP, individualized education program.

“The burden of suffering experienced by children with mental health needs and their families has created a health crisis in this country.”

David Satcher, MD, PhD

Pediatric health care professionals increasingly are becoming aware of the high level of mental health needs of children. School violence, high dropout rates, bullying, high suicide and homicide rates, and increased levels of high-risk behaviors are reported commonly across the United States. The human and economic toll of inadequately addressing these mental health problems is significant. Untreated mental health disorders lead to higher rates of juvenile incarcerations, school dropout, family dysfunction, drug abuse, and unemployment.

The proportion of pediatric patients in which psychosocial problems are seen in primary care has increased from 7% to 19% over the past 20 years. According to the 2001 US Surgeon General’s report on children’s mental health, 20% of children need active mental health interventions, 11% have significant functional impairment, and 5% have extreme functional impairment. These data were derived from the Methodology for Epidemiology of Mental Disorders in Children and Adolescents study, which also found that 13% of children and adolescents have anxiety disorders, 6.2% have mood disorders, 10.3% have disruptive disorders, and 2% have substance abuse disorders, for a total of 20.9% having 1 or more mental health disorders. The Great Smoky Mountain Study of Youth found that 27% of children 9, 11, and 13 years of age have mental health impairment and 20% have a diagnosable mental health condition. This study also found that only 21% of children with mental health problems receive mental health services. Similarly, the Ontario Child Health Study found that only 20% of children with emotional disorders had received mental or social services during the 6 months before the survey despite existence of universal health insurance in Canada. Mental health and substance abuse issues are the most common reasons for visits to school-based health centers (SBHCs).

Another potential indicator of the mental health of our children and adolescents may be the prevalence of risk behaviors. In the 2001 Youth Risk Behavior Survey coordinated by the Centers for Disease Control and Prevention, 30% of youth reported episodic heavy drinking, 14% reported frequent cigarette use, 24% reported using marijuana within the last month, and 9% reported a suicide attempt during the past 12 months. In the United States, suicide is the third leading cause of death for youth 10 to 19 years of age. Homicide is the fourth leading cause of death for children 5 to 14 years of age and the second leading cause of death for youth 15 to 19 years of age.

Acknowledging that mental health needs are significant, physicians must identify and address the barriers to mental health services. A recent American Academy of Pediatrics (AAP) policy statement addressed insurance and managed care barriers. Many families will not address their mental health needs if their health insurance does not offer adequate coverage. Additional barriers include lack of transportation, financial constraints, child mental health professional shortages, and stigmas related to mental health problems. These barriers may help to explain why 40% to 60% of families who begin therapy terminate prematurely and why most people attend only 1 to 2 sessions before terminating services. Another significant barrier is the paucity of training in medical school and primary care residency programs. Pediatricians often are professionally unprepared and usually have inadequate appointment.
time to address the mental health needs of children and adolescents. As a result, pediatricians may not uncover significant mental health problems. The medical home model does not require that pediatricians personally provide all services required by the families and children that they treat. This can be accomplished through collaboration and coordination with other agencies, such as mental health agencies, or mental health services provided in schools. Pediatricians can enhance the medical home model by improving communication with schools on mental health concerns of their patients and can improve access to mental health services by encouraging and supporting school-based mental health services.

School-based mental health services are evolving as a strategy to address these concerns by removing barriers to accessing mental health services and improving coordination of those services. School-based mental health services offer the potential for prevention efforts as well as intervention strategies. More than 75% of pediatricians support the provision of psychological and counseling services in schools, which include assessments, interventions, and referrals. Schools are the primary providers of mental health services for many children. School-based mental health services range from minimal support services provided by a school counselor to a comprehensive, integrated program of prevention, identification, and treatment within a school. In some schools, comprehensive mental health services are provided in an SBHC. There are now more than 1300 SBHCs, with most providing mental health services.

SCHOOL-BASED MENTAL HEALTH SERVICES

One way to categorize components of a school or district’s mental health program is to consider a 3-tiered model of services and needs. The first tier is an array of preventive mental health programs and services. Activities in this tier need to be ubiquitous so that they target all children in all school settings. Preventive programs are those that focus on decreasing risk factors and building resilience, including providing a positive, friendly, and open social environment at school and ensuring that each student has access to community and family supports that are associated with healthy emotional development. A sense of student “connectedness” to schools has been found to have positive effects on academic achievement and to decrease risky behaviors. For example, schools should provide students with multiple and varied curricular and extracurricular activities, thereby increasing the chances that each student will feel successful in some aspect of school life. Schools also should provide numerous opportunities for positive individual interactions with adults at school so that each student has positive adult role models and opportunities to develop a healthy adult relationship outside his or her family. Schools can provide families with support services and should implement “prevention” curricula (eg, curricula that decrease risk-taking behaviors). Behavioral expectations, rules, and discipline plans should be well publicized and enforced school-wide. A recent review of effective programs is available for schools and those who advise schools on development of their preventive programs.

The second tier consists of targeted mental health services that are designed to assist students who have 1 or more identified mental health needs but who function well enough to engage successfully in many social, academic, and other daily activities. Services in this tier would include the provision of group or individual therapy to students. For students in special education for learning problems who also have behavioral problems, this tier also may consist of the behavioral components of these students’ individualized education programs (IEPs) or individual health service plans that address these students’ behavioral issues.

The third tier of health services targets the smallest population of students and addresses needs of children with severe mental health diagnoses and symptoms. These students require the services of a multidisciplinary team of professionals, usually including special education services, individual and family therapy, pharmacotherapy, and school and social agency coordination.

Outcome studies on school-based mental health models are limited, as are outcome studies on typical delivery methods of outpatient mental health services. The Bridges Project is a model that uses the 3-tiered model in schools and has demonstrated positive outcomes with improved school attendance, improved school grades, and improved scores on the Child Behavior Checklist and the Behavior and Emotional Rating Scale.

Preventive Strategies

As they develop the first tier of services (a comprehensive mental health prevention program), each school and district should involve school nurses; pediatricians and other primary care physicians; mental health, social services, and other community agencies; and parents. The program should include: 1) multiple opportunities for students to build developmental assets and resilience to other stresses; 2) behavior and discipline plans; and 3) mental health curricula (eg, violence prevention) that are incorporated into other health education curricula (refer to Fig 1 for a visual description of these tiers of mental health in schools).

Behavior and discipline plans should be schoolwide and provide clear and consistent behavior expectations and consequences. School staff training should teach educators, administrators, and support staff specific fundamentals: 1) building a supportive school environment; 2) the essential components of behavior management techniques; and 3) early recognition of mental health problems. Many schools have prepared teachers, school nurses, and other staff members successfully to volunteer in student assistance programs, whereby these staff members lead after-school support groups designed to help students express themselves to their peers and adults within a safe, comfortable environment.

Schools should have multidisciplinary student-support teams that include school nurses, school
School Resources
(facilities, stakeholders, programs, services)
Examples:
- Enrichment & recreation
- General health education
- Promotion of social and emotional development
- Drug and alcohol education
- Support for transitions
- Conflict resolution
- Parent involvement
- Pregnancy prevention
- Violence prevention
- Dropout prevention
- Learning/behavior accommodations
- Work programs
- Special education for learning disabilities, emotional disturbance, and other health impairments

Community Resources
(facilities, stakeholders, programs, services)
Examples:
- Youth development programs
- Public health & safety programs
- Prenatal care
- Immunizations
- Recreation & enrichment
- Child abuse education
- Early identification to treat health problems
- Monitoring health problems
- Short-term counseling
- Foster placement/group homes
- Family support
- Shelter, food, clothing
- Job programs
- Emergency/crisis treatment
- Family preservation
- Long-term therapy
- Probation/incarceration
- Disabilities programs
- Hospitalization

Fig 1. A comprehensive, multifaceted, and integrated approach to addressing barriers to learning and promoting healthy development. Adapted from various public domain documents written by H.S. Adelman and L. Taylor and circulated through the Center for Mental Health in Schools at the University of California (Los Angeles).

Advantages of Basing Mental Health Services at School
Unlike preventive mental health services and those related to special education, the provision of other mental health services such as individual, group, or family counseling is optional for schools, yet many schools realize the value of helping families meet mental health needs and recognize distinct advantages to providing these services within the school system. One advantage of the familiar setting of school for provision of mental health services is that students and families avoid the stigma and intimidation they may feel when they go to an unfamiliar and perhaps less culturally compatible mental health settings. Of course, receiving services at school may put students at risk of another form of stigmatization, that is, stigmatization by their peers. This issue must be addressed on both a programmatic level (eg, discretion, strategic scheduling of appointments, private waiting areas) and individually with each student receiving services. Providing school-based mental health services eliminates the need for transportation of students to and from off-site appointments and facilitates parent participation in mental health appointments, because many parents live within walking distance of neighborhood schools. These advantages may encourage more parents to seek mental health care for their children and more students to self-refer for treatment. Kaplan et al21 showed that adolescents with access to SBHCs with mental health services were 10 times more likely than students without such access to initiate a visit for a mental health or substance abuse concern (98% of such visits were at an SBHC). The convenience and comfort of having school-based mental health services also may promote a longer-lasting commitment to following through with all recommended therapy.

In addition to eliminating barriers to access to care, school-based mental health services offer the potential to improve accuracy of diagnosis as well as assessment of progress. One of the major challenges to providing mental health services to students is gaining access to information concerning the functional- ity of the student in various environments. Schools have a wealth of opportunities to acquire information on how children deal with physical and social stresses and challenges and on how they perform in the academic setting, on community-related roles in
which children engage (eg, in sports, with younger children as a mentor, etc), and on the nature and extent of many sorts of interpersonal relationships (eg, adults, peers).

**Mental Health Service Delivery Models**

Schools have a convoluted history of involvement in mental health since the late 1890s, when psychology clinics were placed in some schools in Philadelphia, Pennsylvania.22 Today, some schools have mental health curricula and offer students the services of a wide array of social and mental health professionals, including social workers; guidance counselors; school psychologists; mental health therapists providing group, child, and/or family therapy; and mental health units within SBHCs. These services may be provided by schools or public or private mental health professionals or agencies. The following 3 models are not mutually exclusive. Many schools offer components of more than 1 of these models.

1. **School-supported mental health models**
   - Social workers, guidance counselors, and school psychologists are employed directly by the school system.
   - Separate mental health units exist within the school system.
   - School nurses serve as a major portal of entry for students with mental health concerns.

2. **Community connections models**
   - A mental health agency or individual delivers direct services in the school part-time or full-time under contract.
   - Mental health professionals are available within an SBHC or are invited into after-school programs.
   - There is a formal linkage to an off-site mental health professional and/or to a managed care organization.

3. **Comprehensive, integrated models**
   - A comprehensive and integrated mental health program addresses prevention strategies, school environment, screening, referral, special education, and family and community issues and delivers direct mental health services.
   - SBHCs provide comprehensive and integrated health and mental health services within the school environment.

A recent pilot study23 on cost of care reported that school-based mental health services were less expensive than private or community-based mental health services. Therefore, cost of providing mental health services at school, versus traditional settings, should not be an inhibiting factor for health insurers (private or Medicaid) and managed care organizations that are already resolved to providing these services somewhere.

Currently, there is great diversity in the scope of mental health services delivered in the school setting. Unfortunately, there is no comprehensive report available on the extent of mental health services offered in schools across the country. Although some schools may not offer any clearly defined mental health programs, most of them offer at least a school guidance counselor. Some schools have specific mental health programs offered on campus through local mental health agencies (multiprofessional groups, outpatient clinics of hospitals, agencies that provide mental health services under Medicaid), local mental health professionals, or arrangements with managed care organizations. Other schools have mental health programs through an SBHC. In a survey of SBHCs performed by Making the Grade,14 25% of visits to SBHCs were for mental health reasons. Almost 60% of all SBHCs offer mental health services, averaging 33 hours per week of coverage by a mental health professional.14

**SPECIAL EDUCATION AND MENTAL HEALTH SERVICES**

When providing a mental health service is an integral part of the child’s education, the mental health service is mandated by law to be provided by schools. Severe conduct disorders, psychoses, and severe emotional problems are examples of mental health disorders that often impede the student’s ability to be educated in a general education program. Rarely, when attention-deficit disorders are not readily treated by medications and the severity precludes students from benefiting from even a modified regular educational program and environment, students with this disorder are placed in a special education program. Services for students with these diagnoses who qualify for special education on the basis of their mental health status may include provision of classrooms with a high teacher-to-student ratio, special education teachers who have been trained to deal with disordered conduct and emotional problems, availability of child psychiatrists and/or psychologists who can help teachers troubleshoot difficult situations, IEPs that include detailed behavior management plans, and ability of the school to deliver multiple medications and monitor the benefits and adverse effects of these medications at school. These services may be provided in either separate or integrated schools. Often, these students attend their neighborhood school but are placed in special classrooms. Other students can be completely integrated with regular education students. Some schools or classrooms operate as day-treatment programs, but they are located on school campuses and have an educational component. As with other services, mental health services provided as part of a student’s IEP should allow the student to be in the least restrictive school setting, have clear goals and objectives that are individualized to each student’s particular needs, have well-outlined activities that are specifically designed to meet educational program goals, and have designated personnel to carry out the activities. If the school provides transportation to school or school-sponsored extracurricular activities or field trips, accommodations need to be considered so that students do not miss mental health appointments and yet can participate to the fullest extent possible in extracurricular activities. Many of the services that schools provide to these students may be reimbursed through Medicaid pro-
programs for students who are eligible for and enrolled in Medicaid.

**CHALLENGES IN SCHOOL-BASED MENTAL HEALTH PROGRAMS**

Several challenges exist in school-based mental health care. First, services must be coordinated with the medical home (usually this will be a primary care physician), mental health professionals, and social agencies. Otherwise, services may be duplicated or crucial patient needs may be overlooked. Second, services must be integrated within the school environment so that school personnel view the mental health services as an integral part of the educational system. Integration necessitates gaining the support of the school administration and staff, obtaining confidential space, working with school schedules to minimize missed class time, and avoiding turf issues. Third, because parents are a vital element in mental health treatment for children, creative strategies must be devised to solicit parental involvement in school-based intervention services, not merely parental consent. Finally, because confidentiality of mental health information is mandated by law, a well-defined system must be developed. There must be written, informed consent that is designed to protect confidential information but allow sharing of information that pertains to a student’s education and socialization at school or that needs to be shared to ensure the safety of students and staff. School staff members must understand and honor confidentiality, and students and parents should be encouraged to allow sharing of information that would improve the student’s success at school. Breaking confidentiality should never be taken lightly but would be necessary when a student is thought to be likely to harm himself or herself or others. Without these confidentiality policies, students and their parents will not trust the mental health care system and may undermine the intent of the services. Specific issues regarding adolescent confidentiality are discussed in the AAP policy statement “Confidentiality in Adolescent Health Care.”

School staff members and mental health professionals need to be sensitive to the appropriateness of dealing with certain health issues. It may be determined, for example, that for certain students who are victims of sexual abuse, services are more confidentially provided at a site off the school campus.

Screening for mental health illness differs significantly from early identification of mental illness. A screening program, for example, might evaluate all students in a 6th-grade class for mental illness, whereas an early-identification program would educate staff to recognize early signs and symptoms of illness. Many screening tools have been established for mental health and have been shown to be effective when used in physicians’ offices. There is not any scientific evidence yet to support performing school-based screening programs using these tools.

**RECOMMENDATIONS FOR SCHOOLS**

1. The mental health program (preventive strategies and mental health services) should be coordinated with educational programs and other school-based health services. School social workers, guidance counselors, school psychologists, school nurses, and all mental health therapists should plan preventive and intervention strategies together with school administrators and teachers as well as with families and community members.
2. Preventive mental health programs should be developed that include a healthy social environment, clear rules, and expectations that are well publicized. Staff members should be trained to recognize stresses that may lead to mental health problems as well as early signs of mental illness and refer these students to trained professionals within the school setting.
3. Mental health referrals (within the school system as well as to community-based professionals and agencies) should be coordinated by using written protocols, should be monitored for adherence, and should be evaluated for effectiveness.
4. School-based specific diagnostic screenings, such as for depression, should be implemented at school only if they have been supported by peer-reviewed evidence of their effectiveness in that setting.
5. Roles of all the various mental health professionals who work on campus with students should be defined so that they are understood by students, families, all school staff members, and the mental health professionals themselves.
6. Group, individual, and family therapies should be included as schools arrange for direct services to be provided at school sites. Alternatively, referral systems should be available for each of these modes of therapy so that students and families receive the mode of therapy most appropriate to their needs.
7. It should be documented that mental health professionals providing services on site in school (whether hired, contracted, or invited to school sites to provide services) have training specifically in child and adolescent mental health (appropriate for students’ ages) and are competent to provide mental health services in the school setting.
8. Private, confidential, and comfortable physical space should be provided at the school site. Often, this is not difficult for schools if mental health services are provided after school hours. Having school-based services should not preclude the opportunity for mental health services to be provided at nonschool sites for situations in which therapy at school for a student may be ill advised (eg, a student who feels uncomfortable discussing a history of sexual abuse at the school setting). During extended school breaks, schools must provide continued access to mental health services.
9. Staff members should be provided with opportunities to consult with a child psychiatrist or clinical psychologist (on or off the school site) so that they may explore specific difficult situations or student behaviors and review school policies.
programs, and protocols related to mental health.

10. Quality-assurance strategies should be developed for mental health services provided at school, and all aspects of the school health program should be evaluated, including satisfaction of the parent, student, third-party payers, and mental health professionals.

11. Confidentiality of health information should be maintained, as mandated by law.

RECOMMENDATIONS FOR PEDIATRICIANS AND OTHER PROVIDERS OF PRIMARY CARE FOR CHILDREN AND ADOLESCENTS

The following recommendations are targeted to individual pediatricians and/or groups of physicians such as local chapters of the AAP:

1. An ecologic view of mental health should be taken, and support structures should be built not just for individual patients but also for the community. Pediatricians should advocate for schools to develop comprehensive mental health programs with a strong preventive component that focuses on building strengths and resilience, not just on problems, and that involves students’ families.

2. Pediatricians should develop a relationship with local schools, serve on school health advisory councils, and promote school-based mental health services (as outlined in “Recommendations for Schools”).

3. Management of one’s own patients with mental health problems should be coordinated with school-based mental health professionals.

4. Mental health services should be included in IEPs for patients enrolled in a special education program.

5. Pediatricians should advocate for financial and institutional changes that are likely to provide medical homes and families with the option of access to mental health services through school settings, such as coverage of school-based mental health services by health insurers and school billing of Medicaid for school-based mental health services payable under this program.

6. Pediatricians should work with schools to help identify strategies and community resources that will augment school-based mental health programs.

7. Outcomes-based research should be performed on the effectiveness of various school-based mental health models that are designed to improve psychosocial and academic outcomes.

8. Pediatricians, through enhanced collaboration and communication with school mental health service professionals, can strengthen the medical-home model and improve the mental health of their patients.

Robert D. Murray, MD
*Thomas L. Young, MD

LIAISONS

Janet Long, MEd
American School Health Association

Jerald L. Newberry, MEd
National Education Association, Health Information Network

Mary Vernon-Smiley, MD, MPH
Centers for Disease Control and Prevention

Janis Hootman, RN, PhD
National Association of School Nurses

STAFF

Su Li, MPA

*Lead authors

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