Promotion and Prevention in Mental Health:

Strengthening Parenting and Enhancing Child Resilience

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Mental Health Services
www.samhsa.gov

Promotion and Prevention in Mental Health

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Strengthening Parenting and Enhancing Child Resilience

Report to Congress

Requested in

Senate Report 109-103

and

Conference Report 109-337

Submitted by the

U.S. Department of Health and Human Services

Substance Abuse and Mental Health Services Administration

Center for Mental Health Services

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Recommended Citation
Substance Abuse and Mental Health Services Administration, Center for Mental Health Services (2007). Promotion and Prevention In Mental Health: Strengthening Parenting and Enhancing Child Resilience, DHHS Publication No.CMHS-SVP-0175. Rockville, MD.

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DHHS Publication No. CMHS-SVP-0186

June 2007

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Executive Summary

The Senate Appropriations Subcommittee on Labor, Health and Human Services, and Education has charged the Center for Mental Health Services (CMHS), within the Substance Abuse and Mental Health Services Administration (SAMHSA), to review the effectiveness of programs that use a strength-based family approach to promoting mental wellness and preventing mental health problems among at-risk children and youth. The Committee further requested that CMHS identify opportunities and make recommendations related to the expanded use of such programs. Specifically, the Committee issued the following directive:

> The Committee believes that research-based prevention and wellness promotion efforts that strengthen parenting and enhance child resilience in the face of adversity can have a significant impact on the mental health of children and youth. While some programs that use such a strengths-based approach exist for families already in contact with the juvenile justice system or at immediate risk for dissolution, evidence suggests that they may be particularly effective for families that have one or more risk factors but are not yet in crisis and may not have had contact with child protective services or other government agencies. The Committee requests CMHS to provide it with a report by May 1, 2006, that reviews the effectiveness of such programs and the best opportunities to implement them so they reach families in need, and offers recommendations for future preventive efforts in this area. (Senate Report 109–103)

The purpose of this report is to respond to the requests made by the Committee. The report begins by describing the public health context for the promotion of mental health and the prevention of mental disorders in children.[a–b] It then describes opportunities for implementing evidence-based programs to reach families in need and summarizes the evidence base that shows that the programs do indeed strengthen the caretaking skills of parents and other caregivers and enhance child resilience.[c] Next, it presents current knowledge about the economics of these programs, suggests how to reach families with interventions, and concludes with

[a] In this document, the term "promotion" is used in lieu of the phrase "promotion of mental health," and the term "prevention" is used in lieu of the phrase "prevention of mental health problems or disorders."

[b] In this report, the word "children" applies to individuals ages birth to age 19. The terminology for the appropriate age range (e.g., infants, toddlers, or adolescents) is used whenever the discussion relates to a specific age group.

[c] An evidence-based program or practice is one that has been proven through well-designed research to demonstrate positive outcomes for participants.

recommendations for further dissemination of these programs.

Half of all lifetime cases of diagnosable mental illnesses begin by age 14, and three-fourth by age 24.[1] Focusing promotion and prevention efforts on children and their parents or other caregivers increases the likelihood that mental health problems in children will be addressed early, before they can evolve into full-blown mental illnesses, including substance abuse.[d] Programs aimed at older age groups also provide benefits, but research suggests that greater and more long-term benefits accrue when programs begin early in the lives of children.

Defining the Public Health Context of Children's Mental Health Programs

Promotion and prevention are key elements of a public health approach to mental health. Rather than focusing on the treatment of *individuals* who already have an illness, the public health approach is concerned with the health of an *entire population*. It includes traditional areas of medicine—diagnosis, treatment, and the causes of an illness—but it also focuses on disease surveillance, health promotion, disease prevention, and access to and evaluation of services.[2] The underlying premise of a public health approach is that it is inherently better to promote health and to prevent illness before an illness begins.

Fundamental to the public health approach is the issue of risk and protection. Research and practice have identified risk and protective factors that affect the vulnerability of children to mental health problems. Some of the risk factors, such as poverty and community violence, cannot be eliminated or ameliorated by a mental health program alone. However, many protective factors such as relationship skills, conflict management, and positive problem-solving can be taught to children, family members, teachers, and other caregivers.

Also fundamental to the public health approach is that mental health is everyone's concern. Responsibility for promotion and prevention programs is shared across multiple systems, including schools, primary health care, mental health care, juvenile justice, child welfare, and substance abuse services.

Review of Effective Parenting and Child Resilience Programs

Family-focused, evidence-based programs implemented with fidelity can have a profound, positive effect on parenting behavior and the developmental trajectories of children whose life course is threatened by multiple risk factors. The knowledge base about programs that work is expanding and becoming more accessible to decision makers through Federal programs such as:

- The White House "Helping America's Youth" Initiative
- The Prevention Research Program at the National Institute of Mental Health (NIMH) and the NIMH-sponsored doctoral and postdoctoral training programs in Prevention Research and Children's Mental Health Services Research
- The 10 National Academic Centers of Excellence on Youth Violence, sponsored

[d] This report uses the term "problems" to describe mental health challenges experienced by children. According to the Institute of Medicine, "disorder"—as defined in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)—refers to "*a clinically significant* behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom (emphasis added) (American Psychiatric Association [2000], p. xxxi)." Use of the term "problem" acknowledges that not every child with a need for mental health care has such significant impairment that it qualifies as a "disorder."

by the Centers for Disease Control and Prevention
- The Substance Abuse and Mental Health Services Administration's (SAMHSA's) National Registry of Evidence-Based Programs and Practices.

Understanding the Costs and Benefits of Prevention

Economic analyses of promotion and prevention programs are complex and costly. However, program developers are increasingly having the analyses conducted by independent organizations. An understanding of the costs and benefits of a program is extremely helpful to local implementers who are selecting a program for their community. Many programs show very attractive returns.[3] Though small in number, long-term follow-up studies have shown that some programs continue to generate positive returns over a number of years as participants grow into healthy, well-functioning adults.

Best Opportunities for Implementing Evidence-Based Practices To Reach Parents and Other Caregivers in Need

Parents and other caregivers are a child's first and foremost teachers. Promotion and prevention programs that address issues of parents and other caregivers increase the potential of positive outcomes. Family members and caregivers should be equal partners, along with school and community leaders in selecting, implementing, evaluating, and sustaining programs. Parents and other caregivers are more likely to be involved if services are provided in easily accessible settings and if they are culturally and linguistically appropriate.

School settings present a key opportunity to reach out with evidence-based programs to parents and other caregivers because the social and emotional skills taught by these programs usually have a positive impact on improving academic achievement. Primary health care also offers great potential to involve families in mental health promotion and prevention, and their support is extremely helpful when early intervention is indicated. Primary health care physicians currently identify only a small percentage of children with behavior and emotional problems, but the percentage is likely to increase if the physicians respond to a key conclusion of a recent Institute of Medicine (IOM) report. As stated unconditionally by the IOM, "We cannot improve our overall health care system adequately unless we pay equal attention to addressing the issues surrounding mental and substance abuse disorders."[4]

Recommendations for Future Prevention Efforts

Many evidence-based resilience-building prevention programs exist, and more are being developed as the need for and the value of these programs becomes more apparent. The critical next step is for more communities to become aware of these programs and to engage a broad-based coalition in implementing them, even while researchers continue to expand the knowledge base. To achieve this next step, government and public and private organizations at all levels should collaborate on and contribute to efforts to expand the development, dissemination, implementation, and evaluation of such programs and to build a workforce capable of working with families to ensure their greatest success. Broad-based recommendations

for advancing promotion and prevention programs for children are to:

1. Communicate the good news of prevention, including the economic and social benefits of investing in prevention.
2. Provide family members, other caregivers, community leaders, and local educators with the latest knowledge for strengthening parenting and building child resilience so informed decisions about appropriate interventions can be made easily.
3. Build on existing programs to maximize available knowledge and resources.
4. Encourage the development of the State and local infrastructure necessary to adopt, adapt, implement, evaluate, improve, and sustain evidence-based practices.
5. Encourage a coordinated assessment and accountability system for promotion, prevention, and treatment in children's mental health.
6. Examine more systematic strategies to increase and coordinate funding for prevention efforts across Federal and State agencies.
7. Build a workforce capable of effectively implementing age- and culturally-appropriate evidence-based practices.
8. Include families in a decision-making role from the outset; that is, in the planning, selection, adaptation, implementation, evaluation, and sustaining of programs for their children and their communities.

Children's mental health is the foundation on which they build their future lives. It is up to policy makers, in concert with parents and others who can help influence the outcome, to ensure that children have every opportunity to achieve the mental health status that will enable them to be successful, contributing members of their families, their communities, and their nation.

Section I. Defining the Public Health Context of Children's Mental Health Programs

The public health model is concerned with the health of an entire population, including its link to the physical, psychological, cultural, and social environments in which people live, work, play, and go to school. It focuses not only on traditional areas of medicine—diagnosis, treatment, and etiology or cause of an illness—but also on disease surveillance, health promotion, disease prevention, and access to and evaluation of treatment services.[5] The emphasis on a public health approach to mental health, rather than on the treatment of individuals with serious mental illnesses, has increased as more Americans have come to understand that mental health is essential to their overall health. Within the more inclusive public health context, all individuals within a community (whether that community is a school, a neighborhood, or a nation) are affected by the health of its individual members.

For children, mental health is not seen as residing solely within the child, but within the web of interactions among the individual child; the family; the school, health, and other child service systems; and the neighborhoods and communities in which the child lives.[6]

The public health model follows an ordered, continuous set of steps to promote health and prevent illnesses. These steps are to:

Problem or Illness?

Mental Health: A Report of the Surgeon General notes that mental health and mental illness are not mutually exclusive categories but are points on a continuum ranging from positive mental health through mental health problems to mental illnesses.[7] The report defines these constructs as follows:

Mental health—a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and cope with adversity.

Mental health problems—signs and symptoms of insufficient intensity or duration to meet the criteria for any mental disorder. Mental health problems may warrant active efforts in health promotion, prevention, and treatment.

Mental illnesses—all diagnosable mental disorders, health conditions characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning.

Under these definitions, substance use might be classified as either a mental health problem or a mental illness, depending on its intensity, duration, and effects.

When this document makes note of "mental health and behavior problems," the phrase applies to a spectrum of problematic behaviors, such as defiance, impulsivity, truancy, and aggression. Substance use also may be considered a problem behavior, although not all "problem behavior" necessarily refers to substance use and abuse. Within other contexts, the term "behavioral health" is used as an umbrella term that encompasses both mental health status and substance use and abuse. Consequently, in these contexts, "behavioral health problems" refer to difficulties that an individual may have in either or both of these areas.

1. Define the problem.
2. Identify risk and protective factors.
3. Develop, implement, and test interventions.
4. Ensure the widespread adoption of evidence-based practices.

The issue of mental health problems in children is well acknowledged. More than 80 million children younger than age 19 now are growing up in the United States. Results from the *2005 National Survey on Drug Use and Health* indicated that 5.5 million youths aged 12 to 17 received treatment or counseling for emotional or behavior problems in the year prior to the interview.[8] This is 21.8 percent of youth ages 12 to 17. Other estimates indicate that 10 percent of this age group experiences a mental health problem serious enough to cause a significant level of impairment in functioning at home, at school, or in the community.[9–10] If early intervention does not occur, childhood disorders may intensify and persist, often leading to a downward spiral of school failure, poor employment opportunities, and poverty in adulthood.[11]

The Federal Government, in partnership with researchers in university settings, has been working to identify risk and protective factors and to develop, test, and disseminate evidence-based practices. A large research base that traces the developmental pathways of children from before birth through adulthood has been constructed and continues to expand.[12–15] Many studies have identified factors that place children at risk for numerous mental and emotional problems later in life. Equally important, the research has identified protective factors in the child, family, community, and society at large that serve to reduce risk.

Great progress has been made in developing and testing interventions that build on this knowledge base and in working to ensure the widespread adoption of evidence-based practices. Of particular note are the Prevention Research Program at the National Institute of Mental Health (NIMH) and the NIMH-sponsored doctoral and postdoctoral training programs in Prevention Research and Children's Mental Health Services Research. The 10 National Academic Centers of Excellence on Youth Violence, sponsored by the Centers for Disease Control and Prevention, is another example of how the Federal Government is supporting the expansion of the evidence base for preventive interventions. Additionally, the Substance Abuse and Mental Health Services Administration's (SAMHSA's) National Registry of Evidence-Based Programs and Practices is identifying and disseminating evidence-based programs shown to be effective in the promotion of mental health and in the prevention and treatment of both mental and substance use disorders.

Risk and Protective Factors

Successful promotion and prevention efforts hinge on the identification of malleable risk and protective factors. While a single risk factor may provide some influence, it is the accumulation and complex interaction of risk factors that increase the probability of mental illness.[16] Webster-Stratton and Taylor describe a complex and cumulative interaction of numerous risk factors that come into play when children are toddlers and can lead to early onset of conduct problems (see figure 1).[17] Left untreated, conduct problems often turn into antisocializing conditions such as substance abuse, delinquency, and violence.

According to Webster-Stratton and Taylor, parents and other caregivers often can be overwhelmed by a child's temperament that is more impulsive, hyperactive, or quick to show anger. Their response to the child's behavior may be an approach that inadvertently increases the likelihood of further conduct problems. Harsh and punitive discipline, for example, provides a negative model of behavior, fails to promote prosocial child behavior, and impedes the development of social and cognitive skills. Alternatively, "giving in" to a child reinforces the demanding behavior. Contextual factors, such as poverty and other life stressors, also can contribute to a child's risk of developing conduct problems.

Health Now vs. Disease Later

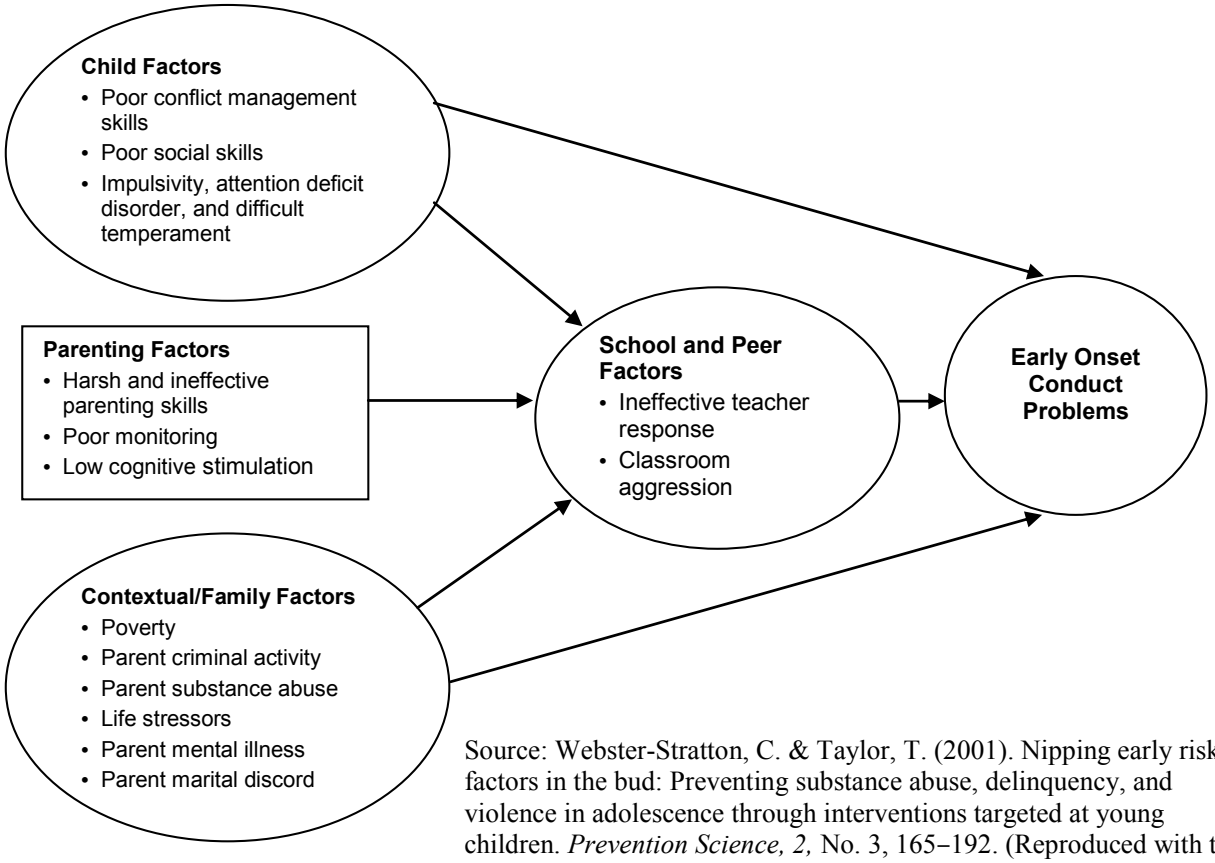
The underlying premise of the public health model is the conviction that it is inherently better to promote health and to prevent illness before an illness begins. This same premise is the foundation of ongoing national public health efforts to prevent obesity in children rather than deal later with the associated and costly health risks of the disease. A child's risk of obesity, as well as of mental health problems, can be diminished by addressing malleable risk and protective factors in the child's environment.

When children with risk factors enter school, the developmental model becomes more complex. Teachers, particularly those with ineffective classroom management skills, can be more critical and less supportive of children with challenging and evolving behavior problems. Limited parental involvement in school can compound the problem. Teachers who misunderstand the reasons for lack of parental involvement may respond critically to the parents and caregivers, further eroding the home–school bond. Over time, children who experience difficulty in school may find friends who have a similar experience and eventually may form deviant peer groups that continue to reinforce antisocial behaviors. The consequence of these early problems may be a synergistic cycle of cumulative events that increasingly compromise a child's functioning over time.

Webster-Stratton and Taylor maintain that these "cascading domains of risk factors make it imperative to start prevention programs as early as possible to 'nip problems in the bud' before they create problems that are more entrenched and difficult to ameliorate (see figure 2)." In addition, such a proactive approach provides an adequate foundation on which to build and strengthen the protective factors that guard against problem development.

However, as stated earlier, it is the accumulation and complex interaction of risk *and* protective factors that contribute to mental

Figure 1. Risk factors related to conduct problems.

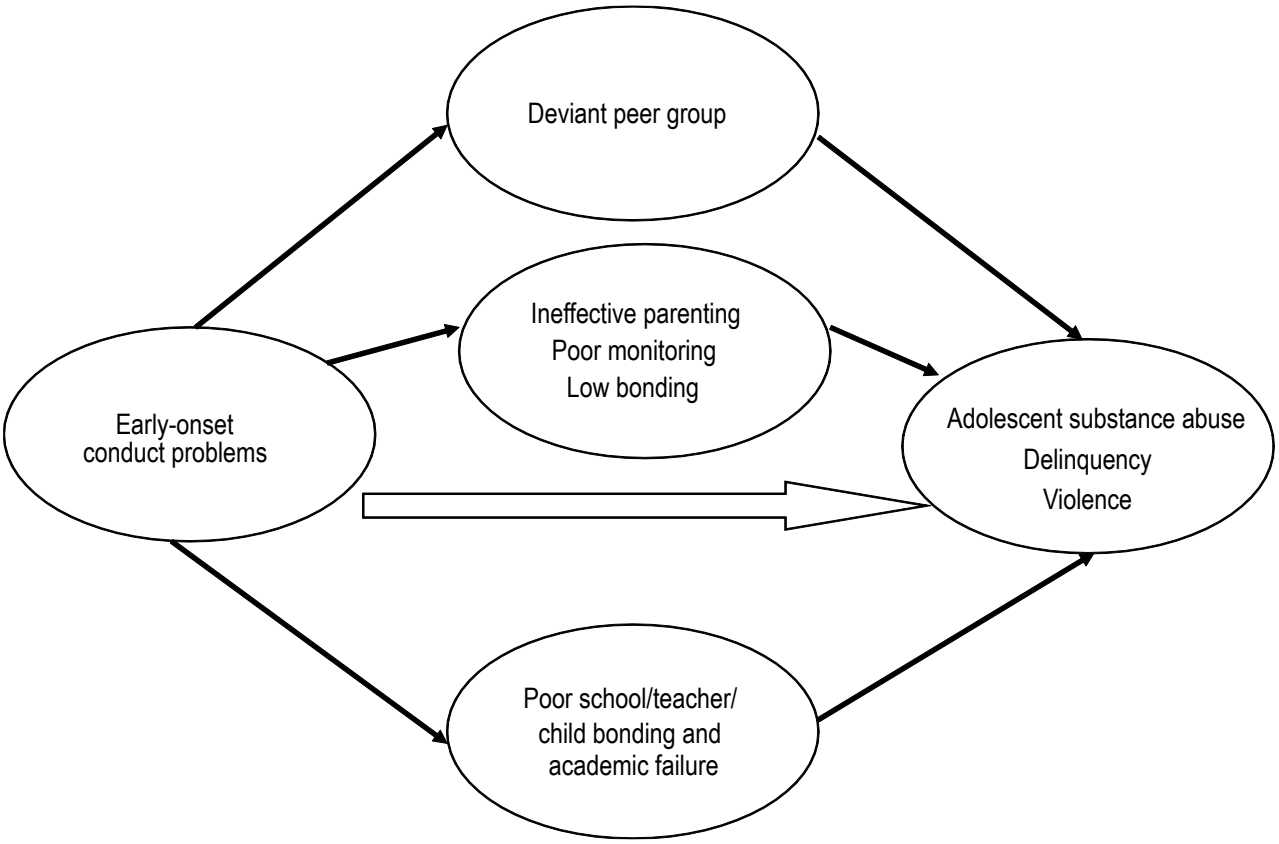


Source: Webster-Stratton, C. & Taylor, T. (2001). Nipping early risk factors in the bud: Preventing substance abuse, delinquency, and violence in adolescence through interventions targeted at young children. *Prevention Science, 2,* No. 3, 165–192. (Reproduced with the kind permission of Springer Science and Business Media).

health or mental illness. The prevention of mental health problems and behavior problems in young people requires, at its foundation, the promotion of factors required for positive development.[18] According to Werner, "Protective buffers...seem to be helpful to us [as] members of the human race.... [They] appear to make a more profound impact on the life course of individuals who grow up and overcome adversity than do specific risk factors."[19] Protective factors as well as risk factors can be important targets for preventive intervention. Figure 3 illustrates protective factors that can build resilience in children and act as buffers against adversity.

Figures 1 through 3 link risk and protective factors to conduct problems, but most risk factors are not problem-specific and may relate to both emotional and behavioral outcomes. In addition, a single risk factor generally does not substantially increase the likelihood that a mental health or behavior problem may occur. Greater numbers of factors, however, do correlate with a higher prevalence and incidence of such problems. In addition, mental health problems, substance use, and various high-risk behaviors in children often co-occur, interact, and are related to the same types of risk factors.

Figure 2. Synergistic cycle of cumulative events leading to adolescent high-risk behaviors.



Source: Webster-Stratton, C. & Taylor, T. (2001). Nipping early risk factors in the bud: Preventing substance abuse, delinquency, and violence in adolescence through interventions targeted at young children. *Prevention Science*, 2, No. 3, 165–192. (Reproduced with the kind permission of Springer Science and Business Media).

Defining the Terminology

Promotion (of mental health): Efforts designed to enhance an individual's social competence, self-esteem, and sense of well-being.

Prevention (of mental health problems): Interventions that occur before the onset of a problem, as well as interventions that prevent relapse, disability, and the consequences of severe mental illness or substance abuse.[22]

Resilience: The human capacity to face, overcome, and even be transformed by adversity.

Social and emotional learning: The process of acquiring the skills to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively.[23]

"Promotion," "Prevention," and "Resilience"

The public health model emphasizes the *promotion* of mental wellness as well as the *prevention* of mental health problems and disorders. Experts in New Zealand maintain that promotion and prevention are "inextricably linked."[20] The Institute of Medicine, in its landmark report entitled *Reducing Risks for Mental Disorders*, asserts that the two are distinct from each other and chose to focus on prevention.[21]

At present, no general consensus has emerged regarding the use of the term "prevention." Historically, the terms *primary, secondary, and tertiary* have been used to refer, respectively, to prevention of the onset of a disorder, prevention of disability from a disorder, and prevention of relapse of a disorder. However, the Institute of Medicine (IOM) recommended restricting the use of *prevention* "to processes that occur *before* there is a diagnosable mental illness."

A major reason that the IOM defined prevention in this manner was that, under the old terminology, secondary and tertiary prevention included conditions that occur *after* the onset of a disorder. The IOM wanted to be sure that *prevention of onset* was considered to be a legitimate and highly valuable endeavor, worthy of investment. Because funding is limited and the needs of people with existing mental illnesses are great, very little money historically has been allocated for primary prevention.

The IOM went on to classify preventive interventions as universal, selective, and indicated. The degree of risk distinguishes the target population for each intervention.

- A *universal* preventive intervention is applicable or useful for everyone in the general population. A school-based social competency program such as Promoting Alternative Thinking Strategies (PATHS) that is offered to all students within a school is an example of a universal intervention. Because universal interventions are proactive, and provided independent of risk status, there is no stigma associated with being a participant in a program. As a result, individuals and communities may accept and adopt these programs more readily.
- A *selective* preventive intervention is targeted at individuals or subgroups (based on biological or social risk factors) whose risk of developing mental health problems is significantly higher than average. Examples of

selective intervention programs include home visitation programs for low birth-weight children, preschool programs for all children from impoverished neighborhoods, and support groups for children who have suffered losses or other trauma.

- An *indicated* preventive intervention is aimed at individuals who have some symptoms of mental health problems but whose symptoms are not yet severe or prolonged enough to meet diagnostic criteria. Examples of indicated preventive interventions for children who have early behavior problems are intensive parent-child programs, mentoring programs, and social-emotional skillbuilding for children.

Some programs include interventions that address all three levels of prevention, and some implement multiple components that

*Figure 3. Protective, or buffering, factors that promote resilience.**

* Underlined factors apply especially to young children; italicized factors apply especially to adolescents.

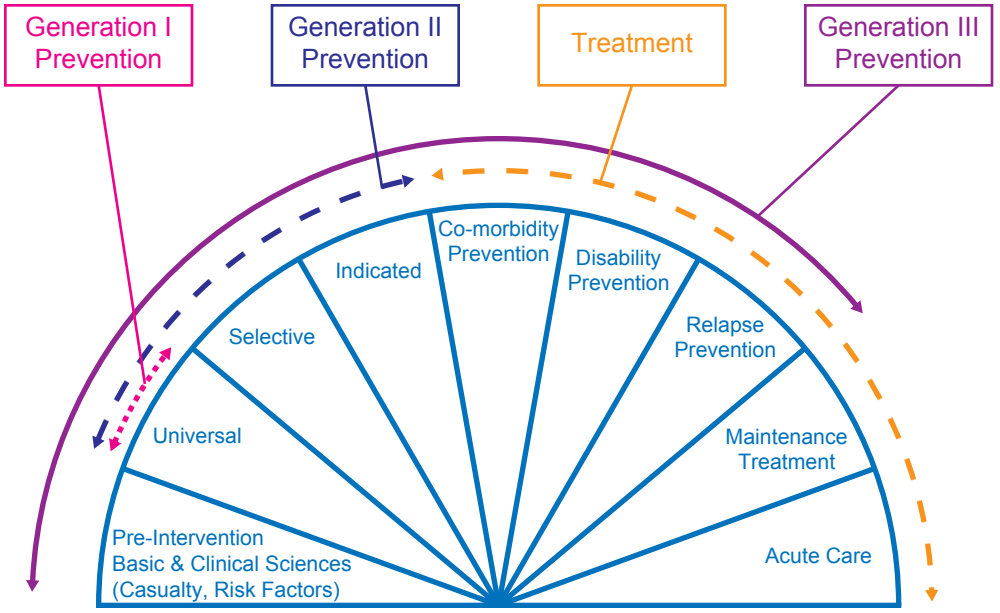
Sources: (1) Masten, A. S. & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: lessons from research on successful children. *American Psychologist*, 53, 2, 205-220; (2) Hawkins, J. D. (2005). *Promoting successful youth development*. Paper presented at the White House Conference on Helping America's Youth. Social Development Research Group. Washington, DC; (3) Mrazek, P. J. & Haggerty, R. J. (Eds.) (1994). *Reducing Risks for Mental Disorders*: Frontiers for Preventive Intervention Research. Washington, DC: National Academy Press.

could involve children, family members, and teachers as well as school, home, and neighborhood environments. Section II of this report will describe in more detail both single- and multiple-component preventive interventions.

In contrast to the IOM definition of "prevention" as only those actions that occur *prior to the onset* of a problem, the National Institute of Mental Health (NIMH) uses the concepts but not the terminology of the older classifications to construct a broader, more inclusive definition of prevention. The Institute defined prevention more broadly as interventions that occur not only before the initial onset of a disorder, "but also to interventions that prevent comorbidity, relapse, disability, and the consequences of severe mental illness for families." Under this definition, treatment—which reduces the likelihood and severity of future mental health problems—may be classified more appropriately as *prevention*-minded treatment (see figure 4). For example, evidence suggests that treating depression in mothers increases the likelihood that their children will maintain positive mental health in later childhood.[24–27]

Another important concept related to promotion and prevention is "resilience." The term "resilience" has its origins in physics and architecture. To be "resilient" means that a building material, such as tempered steel, has the ability to withstand stress. This same term has been adapted to describe a person's ability to face the challenges of life. Resilience often is defined as "the ability of a person to spring back from and successfully adapt to adversity." Just like tempered steel, it means that an individual can withstand stress (i.e., adversity) and continue to function well.

Figure 4. The mental health intervention spectrum.



Source: National Institute of Mental Health (1998). *Priorities for Prevention Research at NIMH: A Report by the National Advisory Mental Health Council Workgroup on Mental Disorders Prevention Research* (NIH Publication No. 98-4321). Rockville, MD: Author.

A misleading perception regarding resilience is that it is a static trait of an individual. Instead, resilience in a person is dynamic and varies across time and life domains (e.g., relationships, academic and professional life, and health). Individuals do not develop resilience by "pulling themselves up by the bootstraps" when faced with life's challenges. Resilient adaptation to adversity comes about as a result of characteristics of an individual *interacting* with resources in the environment, such as caring adults, good schools, safe neighbors, good friends, and other "protective factors" previously identified in figure 3.

Evidence-based programs implemented with fidelitye can teach many of the skills that correlate with resilience. These skills are collectively known as social-emotional skills and include how to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish positive relationships, and handle adversity effectively. Most developers of prevention programs do not describe their programs as "programs to foster resilience." One who does, however, is Dr. Karol Kumpfer, the developer of the *Family Strengthening Program*.[28] Kumpfer clarifies the resilience and prevention issue as follows:

> Luckily, although not specifically designed to increase resilience, most prevention programs *logically or intuitively focus on increasing protective mechanisms*. Many of these protective mechanisms are synonymous with resilience mechanisms.
>
> Hence, increasing research findings about resilience-building processes should better inform prevention program design and increase program effectiveness.[29]

[e] Fidelity is the degree to which a program is conducted as it was originally designed and tested. If a community wants to adapt a program to its particular needs, it is essential that it work with the program developer to do so because adaptations often pose a threat to fidelity and make the program ineffective.

The Importance of Promotion and Prevention to Public Health and Children's Mental Health

When measured across all age groups, mental illnesses are the leading causes of disability worldwide. Five of the top 10 diseases associated with significant disability and disease burden are mental illnesses: unipolar major depression, alcohol abuse, bipolar disorder, schizophrenia, and obsessive-compulsive disorder.[30] The costs are staggering. Currently, the United States spends more than $85 billion per year for mental health and $18.3 billion per year for substance abuse treatment.[31] Our Nation's most dramatic and measurable consequence of undiagnosed, untreated, or inadequately treated mental health problems is suicide. Suicide claims the lives of approximately 30,000 American adults and children each year. For the year 2002, three individuals died as a result of suicide for every two individuals who died as a result of homicide. Suicide is the third leading cause of death for youth ages 15 to 24.[32]

The majority of lifetime mental illnesses begin in youth. According to the *National Comorbidity Survey Replication*, half of all diagnosable lifetime cases of mental illness begin by age 14, and three-fourths of all lifetime cases start by age 24.[33] The survey further indicated that, despite the existence of effective treatments, there are long delays—sometimes decades—between the first onset of symptoms and when individuals seek and receive treatment. In addition, the survey results concluded that an untreated mental disorder can lead to more severe, more difficult-to-treat mental illness and to the development of co-occurring mental illnesses.

The *National Comorbidity Survey Replication,* which was led by Harvard University, the University of Michigan, and the NIMH Intramural Research Program, adds to a

growing body of evidence suggesting a strong link between mental health problems and other behavior problems with serious long-term consequences. A wealth of research has demonstrated that mental health problems often are precursors to delinquency, substance abuse, health-risking sexual behaviors, and school failure.[34–36] Conclusions drawn from some of the related studies are that:

- Conduct problems predict the initiation of alcohol use as well as greater escalations of alcohol use over time.[37–38]
- Children in first grade with the combination of hyperactivity and social problem-solving deficits have been found to have a greatly increased rate of drug and alcohol use when they are between 11 and 12 years old.[39]
- Children in first grade with conduct problems, anxiety or depression, or attention deficit– hyperactivity disorder (ADHD) have approximately twice the risk of first tobacco use during fourth through seventh grade than do children without these early emotional disorders.[40]
- Social impairment in childhood is a critical predictor for later substance abuse disorders.[41]
- Children who lack prosocial behavior skills are likely to be rejected by their peers and to gravitate toward other rejected children. These socially isolated peer groups, in turn, promote substance abuse and involvement in antisocial activities.[42]

These and other findings suggest the broad long-term negative consequences of childhood mental health problems. As a result, a concerted effort has been made to develop effective programs that can prevent mental problems or greatly diminish their impact. Research indicates that mental health promotion programs and prevention programs can contribute positively to children's overall mental health and long-term well-being.[43–44] Additionally, evaluations have demonstrated that evidence-based programs, when implemented with fidelity, are effective in decreasing negative consequences.[45–47]

For example, in their review of evidence-based programs, Weisz and colleagues summarized the longer-term findings from several prevention programs, some of which are described in Section II of this report. Their findings suggest that the children who participated in prevention programs were continuing to demonstrate positive behaviors years after program participation. Among the reported positive outcomes were higher achievement and less sexual activity, delinquency, conduct disorder, drug use, and antisocial behavior than that reported in children who did not receive the interventions. In addition, other studies have identified the benefits to children of family skills training,[48] specifically outcomes related to reductions in aggression, conduct disorders, ADHD, and oppositional defiant disorders;[49–51] as well as the prevention of child abuse, later drug abuse,[52] and delinquency.[53]

Barriers to Implementing Prevention Programs

Given the evidence and availability of effective programs, the obvious question is why more prevention programs are not being implemented. The groundbreaking IOM report, entitled *Neurons to Neighborhoods: The Science of Early Childhood Development,* provides a succinct answer. It states that "The overarching question of whether we can intervene successfully in young children's lives has been answered in the affirmative, and should be put to rest. However, interventions

that work are rarely simple, inexpensive, or easy to implement."[54]

Numerous research papers explore the challenges inherent in the implementation of evidence-based practices. In its synthesis of the research, the National Implementation Research Network (NIRN) observes that implementation of an effective practice is a process, not an event, and takes from 2 to 4 years to complete. Changes in practitioner skill level, organizational capacity, and organizational culture require training, practice, and time to mature.[55] NIRN also cites Schoenwald (1997), who notes that such practices will not be implemented on any useful scale without the support of political, financial, and human service systems across levels of government.[56]

A primary challenge in implementation is the acquisition of initial funding. When budgets are limited, the costs of the practice—which is immediate and easily quantified—may seem to outweigh the benefits—which may be long-term and difficult to assign a dollar value. Section II. Review of Effective Parenting and Child Resilience Programs describes numerous practices shown to be effective in producing quantifiable and positive outcomes for children although these outcomes are not expressly stated in dollar terms. Section III. Understanding the Costs and Benefits of Prevention deals with the conceptual difficulties of assigning dollar values to outcomes.

Key Points from Section I. Defining the Public Health Context of Children's Mental Health Programs

- The majority of lifetime mental illnesses begin in youth. Half of all diagnosable lifetime cases of mental illness begin by age 14, and three-fourths of all lifetime cases start by age 24.
- The underlying premise of a public health approach is that it is inherently better to promote health and to prevent illness before an illness begins.
- For children, mental health is not seen as residing solely within the child, but within the web of interactions among the individual child; the family; the school, health, and other child service systems; and the neighborhoods and communities in which the child lives.
- While a single risk factor may provide some influence, it is the accumulation and complex interaction of risk factors that increase the probability of mental health problems. Children with greater numbers of risk factors have an increased likelihood of developing a mental health problem.
- Protective factors provide "buffers" that diminish the effect of risk factors and help build resilience in children.
- Cascading domains of risk factors make it imperative to start promotion and prevention programs as early as possible to "nip problems in the bud" before they create problems that are more entrenched and difficult to ameliorate.
- Early intervention efforts have demonstrated effectiveness in contributing to the overall mental well-being of children as well as in reducing delinquency, substance abuse, health-risking sexual behaviors, and school failure.

Section II. Review of Effective Parenting and Child Resilience Programs

Overall, the conclusion to be drawn from the economic research is that prevention offers great potential to change lives and to save money. There is considerable evidence that many carefully designed interventions with well-defined goals, when delivered with fidelity, can positively affect both parenting behavior and the developmental trajectories of children whose life course is threatened by socioeconomic disadvantage, family disruption, or diagnosed disability.[57]

NREPP: SAMHSA's Database of Evidence-Based Programs

In 1998, SAMHSA developed the National Registry of Effective Programs and Practices (NREPP) as a flexible, scientific evaluation system of prevention programs. In recent years, NREPP has been expanded so that it now is designed to provide the public with reliable information on the scientific basis and practicality of interventions that prevent and treat mental disorders, including substance abuse. Descriptive information and quantitative ratings are provided across several key areas for all interventions reviewed. This "decision support" tool helps States, Territories, community-based organizations, and other interested stakeholders identify interventions appropriate to their needs and resources. Current NREPP programs may be found at

A Framework for Effective Programs

Weissberg[58] and others have identified the following characteristics as essential to delivering coordinated prevention programming that works. The characteristics are that a program:

1. Uses a research-based risk and protective factor framework that involves families, peers, schools, and communities as partners to target multiple outcomes.
2. Is long-term, age specific, and culturally appropriate.
3. Fosters development of individuals who are healthy and fully engaged through teaching them to apply social-emotional skills and ethical values in daily life.
4. Aims to establish policies, institutional practices, and environmental supports that nurture optimal development.
5. Selects, trains, and supports interpersonally skilled staff to implement programming effectively.
6. Incorporates and adapts evidence-based programming to meet local community needs through strategic planning, ongoing evaluation, and continuous improvement.

modelprograms.samhsa.gov. SAMHSA will be launching a new NREPP web site at *www.nrepp.samhsa.gov* by the end of 2006.

NREPP's criteria are reviewed annually and revised as necessary to reflect progress in prevention science. As of this writing, NREPP evaluates programs for substance abuse prevention and treatment, co-occurring disorders, mental health treatment, and promotion and prevention in mental health across the lifespan. Program developers may submit their programs for review through the web site's "prevention portal."

Child Resilience-Building Programs

As noted in *Neurons to Neighborhoods: The Science of Early Childhood Development,* the course of development in early childhood can be altered by effective interventions that change the balance between risk and protective factors, thereby shifting the odds in favor of more adaptive outcomes.[59] This finding is a scientific way of saying "an ounce of prevention is worth a pound of cure." The following promotion and prevention programs are drawn from the NREPP database (*modelprograms.samhsa.gov*). The programs are listed by age range and according to their categorization as universal, selective, or indicated. Each program has demonstrated effectiveness in addressing the risk and protective factors described in Section I.

Programs for Infants and Young Children

High/Scope Perry Preschool Program

High/Scope Perry Preschool Program (High/Scope) (Universal) works closely with parents and other caregivers and uses an active learning approach to educating children, imparting skills that will support their development through school and into young adulthood. Based on more than 40 years of scientific research, it provides teachers and caregivers with a blueprint for daily routines, classroom and playground organization, and teacher-child interaction, all designed to create a warm, supportive learning environment. In addition, this learning environment encourages independent thinking, initiative, and creativity. A key component of the program is home visits by the child's teacher. Educators and caregivers meet formally and informally to exchange information about how to promote and extend children's learning and development at home. Program goals are for young children to:

- Learn through active involvement with people, materials, events, and ideas.
- Become independent, responsible, and confident, ready for school and ready for life.
- Learn to plan and execute activities, then talk with other children and teachers about what they have done and what they have learned (Plan-Do-Review).
- Gain knowledge and skills in important content areas, including language and literacy, initiative and social relationships, creative representation, movement, music, mathematics, and logical thinking.

Positive outcomes: When compared to a control group, the participant group at age 27 had:

- 63 percent fewer habitual criminals (five or more lifetime arrests)
- 26 percent fewer adult welfare or other social service recipients
- 68 percent fewer arrests for drug dealing
- Nearly twice the rate of home ownership
- Nearly three times as many earning $2,000 or more per month (1992 dollars).

The Incredible Years

The Incredible Years (Universal, selective, indicated) features three comprehensive, multi-faceted, and developmentally based curricula for parents and caregivers, teachers, and children. The program is designed to promote emotional and social competence and to prevent, reduce, and treat emotional and behavior problems in young children (2 to 8 years old). Young children with high rates of aggressive behavior problems have been shown to be at great risk for developing substance use problems, becoming involved with deviant peer groups, dropping out of school, and engaging in delinquency and violence. Ultimately, the aim of the teacher-, parent-, and child-training programs is to prevent and reduce the occurrence of aggressive and oppositional behavior in children, thus reducing their chance of developing later delinquent behaviors.

Positive outcomes: According to standardized reports by teachers, parents, and caregivers:

- At least 66 percent of children previously diagnosed with oppositional defiant disorder/ conduct disorder whose parents and caregivers received the parenting program were in the normal range at both the 1-year and 3-year follow-up assessments.
- When children who participated in the program were compared with children who did not participate, participants had greater problem-solving skills, greater use of prosocial conflict management strategies with peers, increased appropriate play skills, and reduced conduct problems at home and at school.

Nurse–Family Partnership (NFP)

Nurse–Family Partnership (NFP) (Selective) provides first-time, low-income mothers of any age with home visitation services from public health nurses. NFP nurses begin making home visits while the mother is still pregnant (before the 28th week, and ideally between the 12th and 20th week) and continue through the first 2 years of the child's life. The nurses work intensively with these mothers to improve maternal, prenatal, and early childhood health and well-being, with the expectation that this intervention will help achieve long-term improvements in the lives of at-risk families. Starting with expectant mothers, the program addresses substance abuse and other behaviors that contribute to family poverty, subsequent pregnancies, poor maternal and infant outcomes, suboptimal childcare, and a lack of opportunities for the children. The intervention process is effective because it focuses on developing therapeutic relationships with the family and is designed to improve five broad domains of family functioning:

- Health (physical and mental)
- Home and neighborhood environment
- Family and friend support
- Parental roles
- Major life events (e.g., pregnancy planning, education, employment).

Positive outcomes: A 15-year follow-up study with the first cohort of program participants found that, when compared to a control group, the intervention group showed a:

- 79 percent reduction in child abuse and neglect
- 44 percent reduction in maternal behavior problems due to substance abuse
- 69 percent reduction in maternal arrest rates
- 54 percent fewer arrests and 69 percent fewer convictions among the 15-year-old adolescents
- 58 percent fewer sexual partners among the 15-year-old adolescents
- 28 percent reduction in cigarette smoking by the 15-year-old adolescents.

Programs for Children and Early Adolescents

Promoting Alternative Thinking Strategies (PATHS)

Promoting Alternative Thinking Strategies (PATHS) (Universal, selective) is a comprehensive program for promoting emotional and social competencies and reducing aggression and acting-out behavior in children ages 5 to 12, while simultaneously enhancing the educational process in the classroom. This innovative curriculum for kindergarten through sixth grade is used by educators and counselors as a multiyear prevention model. The PATHS curriculum provides teachers with systematic and developmentally based lessons, materials, and instructions for teaching their students emotional literacy, self control, social competence, positive peer relations, and interpersonal problem-solving skills.

Positive outcomes: In various studies that used a control group, PATHS has shown a:

- 32 percent reduction in teachers' reports of students exhibiting aggressive behavior
- 36 percent increase in teachers' reports of students exhibiting self-control
- 20 percent increase in students' scores on cognitive skills tests.

Olweus Bullying Prevention

Olweus Bullying Prevention (Universal) is a multilevel, multicomponent school-based program designed to prevent or reduce bullying in elementary, middle, and junior high schools (students ages 6 to 15 years). The program attempts to restructure the existing school environment to reduce opportunities and rewards for bullying. School staff members primarily are responsible for introducing and implementing the program. Their efforts are directed toward improving peer relations and making the school a safe and positive place for students to learn and develop. Intervention against bullying is particularly important to reduce the suffering of the victims. However, it also is highly desirable to counteract these tendencies for the sake of the aggressive students because bullies are much more likely than other students to expand their antisocial behaviors. Reducing aggressive, antisocial behavior also may reduce substance use and abuse.

Positive outcomes: Program outcomes indicate that, compared to a control group, participants showed a:

- 30 to 70 percent reduction in student reports of being bullied and bullying others
- Significant reductions in student reports of general antisocial behavior (e.g., vandalism, fighting, and truancy)
- Significant improvements in classroom order and discipline
- More positive attitudes toward schoolwork and school.

Family Effectiveness Training (FET)

Family Effectiveness Training (FET) (Indicated) is a family-based program developed for and targeted to Hispanics and designed to reduce risk factors and increasing protective factors related to adolescent substance use and related disruptive behaviors. FET, applied in the pre-adolescent years (ages 6 to 12), targets three family factors that place children at risk as they make the transition to adolescence: 1) problems in family functioning, 2) parent–child conflicts, and 3) cultural conflicts between children and parents and other caregivers. Interventions employed by FET cover normal family changes during the children's transition to adolescence and teach conflict resolution skills, alternatives to substance use, parent and family supervision of children and their peer relationships, and family communication and parenting skills.

Positive outcomes: Program evaluations showed that, when compared to a control group, participants in the intervention group showed a:

- 35 percent reduction in children's conduct problems
- 66 percent reduction in children's associations with antisocial peers
- 34 percent reduction irresponsible behaviors
- 75 percent improvement in family functioning.

Families and Schools Together (FAST)

Families and Schools Together (FAST) (Universal, selective, and indicated) is a multifamily group intervention designed to build protective factors and reduce the risk factors associated with substance abuse and related problem behaviors for 4- to 12-year-old children and their parents and caregivers. FAST systematically applies research on family stress theory, family systems theory, social ecological theory, and community development strategies to achieve its four goals:

- Enhanced family functioning
- Prevention of school failure by the targeted child
- Prevention of substance abuse by the child and other family members
- Reduced stress from daily life situations for parents and caregivers and children.

Positive outcomes: Compared to a control group, children who participated in this program had statistically significant reductions in aggression and anxiety and increases in academic competence and social skills. Specifically, results indicate a:

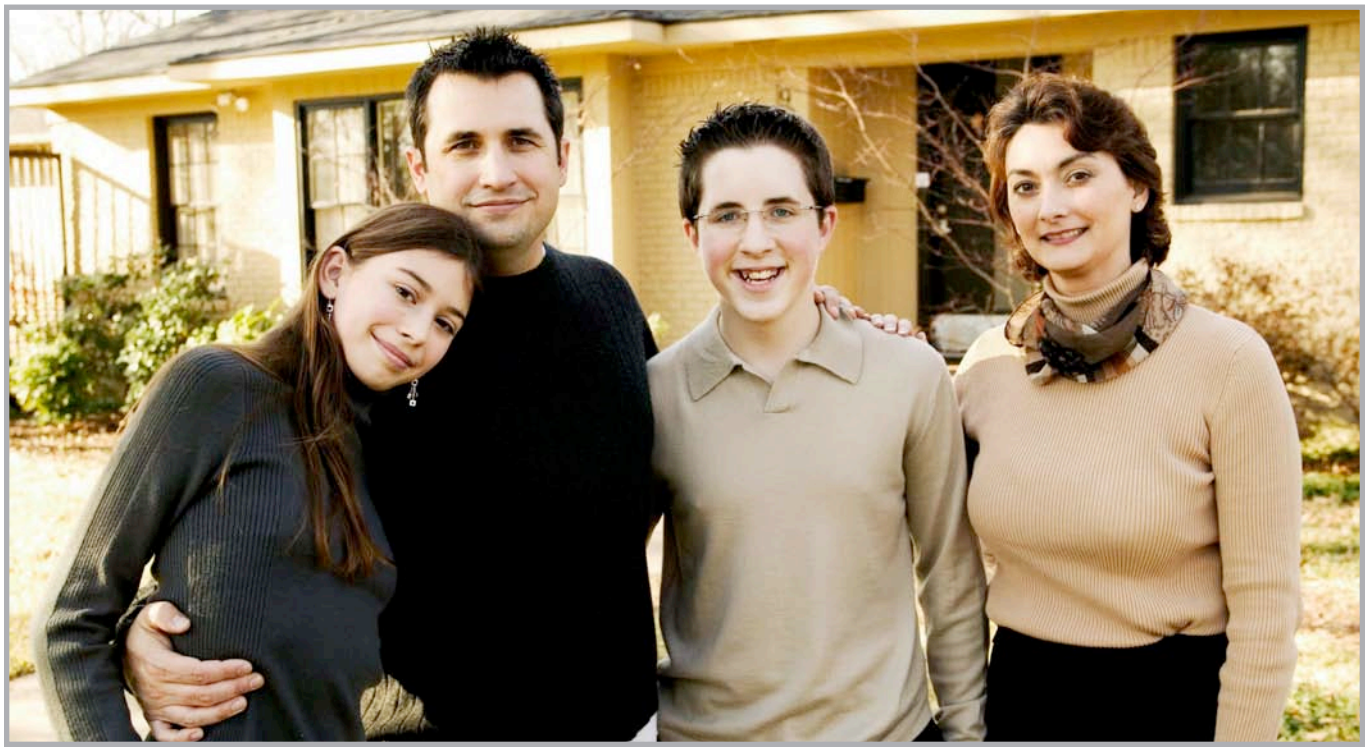
- 20 percent teacher-reported improvement in school-related behavior (e.g., bullying, hitting, stealing, and lying)
- 25 percent parent-reported improvement in at home related behavior (e.g., misconduct, anxiety, and attention span problems)
- 15 percent teacher-reported reduction in anxiety/withdrawal
- 15 percent teacher-reported reduction in attention span problems.

Second Step

Second Step (Universal) is a classroom-based social skills program for preschool through junior high students (ages 4 to 14). It is designed to reduce impulsive, high-risk, and aggressive behaviors, and to increase children's social-emotional competence and other protective factors. Group discussion, modeling, coaching, and practice are used to increase students' social competence, risk assessment, decision-making ability, self-regulation, and positive goal setting. The program's lesson content varies by grade level and is organized into skill-building units covering empathy, impulse control, problem solving, and anger management.

Positive outcomes: Controlled studies have shown the following:

- 20 percent reduction in physical aggression during lunch and recess (compared to a 41 percent increase among control group students)
- 36 percent reduction in aggressive behavior during conflict/arousing situations
- 41 percent reduction in the need for adult interventions during conflicts
- 37 percent greater likelihood that participants will choose positive social goals.



Programs for Adolescents

The Strengthening Families Program for Parents and Caregivers and Youth

The ***Strengthening Families Program for Parents and Caregivers and Youth*** (Universal, selective) is a video-based intervention designed to reduce adolescent substance abuse and other problematic behaviors in 10- to 14-year-old youth. The program is delivered within parent, youth, and family sessions using narrated videos that portray typical youth and parent situations. Sessions are highly interactive and include role-playing, discussions, learning games, and family projects designed to:

- Improve parenting skills
- Build life skills in youth
- Strengthen family bonds.

Positive outcomes: In a controlled test, the benefits of the program were shown to be a:

- 30 to 60 percent reduction in substance abuse (depending on the drug) by youth
- 32 to 77 percent reduction in conduct problems by youth (depending on the behavior) at a 4-year follow-up point
- Increased resistance to peer pressure by youth
- Delayed onset of problematic behaviors by youth
- Increased ability by parents and caregivers to set appropriate limits and show affection to and support for their children.

Brief Strategic Family Therapy

Brief Strategic Family Therapy (Indicated) is a problem-focused and practical approach to eliminating substance use risk factors by reducing problem behaviors in children and adolescents, ages 6 to 17 years, and by strengthening their families. The program fosters parental leadership, appropriate parental involvement, mutual support among parenting figures, family communication, problem solving, clear rules and consequences, nurturing, and shared responsibility for family problems. In addition, the program provides specialized outreach strategies to bring families into therapy. Focused interventions target:

- Conduct problems
- Associations with antisocial peers
- Early substance use
- Problematic family relations.

Positive outcomes: Randomized tests that focused on changes over time between intervention groups and control groups measured a:

- 42 percent reduction in conduct problems in the intervention group
- 75 percent reduction in marijuana use in the intervention group
- 55 percent reduction in associations with antisocial peers in the intervention group.

Parenting Wisely

Parenting Wisely (Selective, indicated) is a self-administered, computer-based program that teaches parents and caregivers and their 9- to 18-year-old children important skills for combating risk factors for substance use and abuse. The Parenting Wisely program uses a risk-focused approach to reduce family conflict and child behavior problems, including stealing, vandalism, defiance of authority, bullying, and poor hygiene. The highly interactive and nonjudgmental format accelerates learning. Parents and caregivers can use new skills immediately. (Semi-illiterate parents and caregivers can access the program through a feature that enables the computer to read text portions aloud. Program materials also are available in Spanish.) The goals of the Parenting Wisely program are to:

- Reduce children's aggressive and disruptive behaviors
- Improve parenting skills
- Enhance family communication
- Develop mutual support
- Increase parental supervision and appropriate discipline of their children.

Positive outcomes: Studies that randomized parents to intervention and control groups indicate positive outcomes for parents in the intervention group:

- 38 percent increase in participation in parent education classes
- 30 percent reduction in maternal depression
- 25 percent improvement in general family functioning
- 35 to 58 percent reduction in child problem behaviors.

Reconnecting Youth

Reconnecting Youth (Selective) is a school-based prevention program for youth in 9th through 12th grade (ages 14 to 18) who are at risk for school dropout. These youth also may exhibit multiple behavior problems, such as substance use, aggression, depression, or suicide risk behaviors. Reconnecting Youth uses a partnership model involving peers, school personnel, and parents and caregivers to deliver interventions that address the three central program goals:

- Decreased drug involvement
- Increased school performance
- Decreased emotional distress.

Positive outcomes: When compared to students in a control group, participants in Reconnecting Youth showed a:

- 48 percent decrease in anger and aggression problems
- 32 percent decline in perceived stress
- 23 percent increase in self-efficacy
- 54 percent decrease in hard drug use
- 33 percent of students reported an end to alcohol use.

The programs described in this report are a sample of the many model and effective programs listed in NREPP. Many of these programs report results in terms of reductions in risk factors or increases in protective factors related to depression, anxiety disorders, conduct disorders, and substance use and abuse as well as in terms of strengthened parenting and enhanced child resilience. As noted earlier, children at risk of mental health problems also are at risk of substance use problems due to the commonality of risk and protective factors. This relationship suggests the existence of a "window of opportunity" in which it may be possible to prevent the development of co-occurring mental health problems and substance use disorders in youth by intervening early.[60] For children and adolescents at risk, comprehensive programs that are family-focused, culturally appropriate, and available on a long-term basis are proving effective.

Key Points from Section II. Review of Effective Parenting and Child Resilience Programs

- The course of development in early childhood can be altered by effective interventions that change the balance between risk and protective factors, thereby shifting the odds in favor of more adaptive outcomes.
- There is considerable evidence that carefully designed interventions with well-defined goals, implemented with fidelity, can affect both parenting behavior and the developmental trajectories of children whose life course is threatened by socioeconomic disadvantage, family disruption, or diagnosed disability.
- Promotion and prevention programs that target multiple domains, such as the child, the family, and the school can produce positive and accumulating outcomes in each domain.
- Rigorous research evaluations document substantial positive outcomes in terms of reduced risk factors for mental health problems (e.g., poor social skills) and in terms of enhanced protective factors (e.g., stronger problem-solving skills for the child and more effective parenting by a parent or caregiver).
- This relationship between mental health problems and substance abuse disorders in youth suggests the existence of a “window of opportunity” in which it may be possible to prevent the development of co-occurring problems through comprehensive early-intervention programs that are family-focused, culturally appropriate, and available on a long-term basis.

Section III. Understanding the Costs and Benefits of Prevention Programs

Prevention programs must make economic sense as well as demonstrate effectiveness in achieving desired outcomes. If effective programs cost more money than they ultimately save, the necessary motivation and funding for their widespread implementation is highly unlikely. Cost-benefit analyses have provided strong evidence indicating that many programs are cost-effective as well as successful at preventing undesirable outcomes. These analyses also have identified some of the programs that do not work and are not cost-effective.

Cost-benefit analysis evaluations focus on multiple outcomes, expressed specifically in dollar terms. They also collect data at time points well beyond the receipt of services. Consequently, these evaluations are well-suited for preventive interventions, which often generate costs in the present and accrue benefits in the future. To offer a complete picture, the entire stream of benefits and cost-savings should be considered, whether these accrue to the child, the family, the government, or society, and whether they are recouped immediately or when the child matures. For example, the child may grow into an adult who participates more in civic and social activities (e.g., voting or volunteering), which contribute to the quality of life in the community and its well-being. The government will experience multiple longer term benefits, such as higher

income tax revenues generated by higher employment rates. Governments also will recognize cost-savings from lower welfare and public assistance payments and from reduced expenditures for law enforcement and the justice system.

Cost-benefit analysis is a sophisticated form of evaluation. The primary aim is to provide information of use to policymakers. The information might be used to assess and refine current policy or to develop new policies. However, empirical cost-benefit analyses in the area of prevention are few in number—in some cases, due to the absence of information needed for the analysis and, in other cases, because the expense of conducting an analysis that includes the quantification of a wide range of costs and benefits is prohibitive.

The metric of the cost-benefit analysis is dollars, and quantifying the benefits of interventions with children in financial terms is difficult as their financial contribution to society is many years away. In addition, a financial accounting of "benefit" is not the goal of many programs targeting less tangible outcomes such as better self-esteem or more effective parenting. In spite of these difficulties, it is important to examine the information that a cost-benefit analysis provides. Prevention advocates often are asked to make their case with hard financial data. Accountability demands proof that prevention is not only the right thing to do, but that it also is a financially prudent thing to do.

A number of economic evaluations of prevention and early intervention programs have been published in recent years.[61–67] This section highlights some of these evaluations. It is important to recognize, however, that economic evaluations are not part of every intervention study.[68] Thus, there are interventions that have been shown to be effective at reducing mental health problems but lack a quantified economic value. In addition, many of the systematic methods that have been developed for measuring the economic costs of social interventions were originally designed for evaluating substance abuse interventions.[69–70] These methods, however, have been applied successfully to mental health programs.[71–72]

Calculating the Benefits of Programs

Benefits from interventions commonly are measured in terms of reductions in cost associated with a health problem. Benefits from prevention programs often include decreases in the use of government, familial, or societal resources, which can be assigned dollar values. In terms of school performance, benefits from prevention programs may include reduction in school absence[73] or a reduced need for special education services. In terms of juvenile delinquency, benefits may include reduced costs of incarceration and victim burden.[74–78] Within the foster care system, benefits may include reductions in expenditures on out-of-home placements and residential treatment.

The prevention of even a small percentage of mental and behavior problems will result in substantial cost savings and improved quality of life for children, families, and communities. Conversely, failure to increase needed access to proven programs will continue to exact a heavy personal toll and a heavy financial burden on workplaces; the educational, welfare, and justice systems; and in State and national economies.

Another example of the cumulative and far-reaching consequences of unaddressed

mental health problems is that 50 percent of adolescents with serious emotional disturbances drop out of high school.[79] Additionally, individuals who first exhibit symptoms of mental health disorders in childhood tend to consume a disproportionate amount of health care services as adults.[80]

Benefits can be measured in positive, strength-based "quality of life" terms as well as in reductions of negative consequences and their costs. Many economic analyses use an economic "human capital" model to estimate the benefits of positive aspects such as lifetime earnings and civic participation. The benefits of a program, however, often are more difficult to determine than the costs, especially when they include measures of improved quality of life. The process also is made more complex because individuals outside of the intervention's target group may experience indirect benefits, such as when a mental health program reduces the incidence of drinking and driving, and then auto insurance consumers as a group benefit from lowered premiums. Other societal benefits from preventive intervention programs may include increased tax revenue if more individuals are employed.

The timeframe in which benefits are calculated is of special consideration when assigning monetary value to the benefits from a preventive intervention. Interventions such as early childhood education programs may continue to produce benefits throughout a program participant's lifetime. Long-term net benefits may be positive, but can take years to accrue. Indeed, some early intervention programs may show immediate positive behavior changes but not be deemed beneficial in an economic framework until the individuals reach adulthood.

These challenges related to benefit measures have the effect of potentially underestimating the benefits of prevention programs relative to the costs. As a result, most cost-benefit studies are viewed as conservative in nature; that is, it is unlikely that a cost-benefit analysis will overestimate the benefits of an intervention relative to the costs.[81] In spite of these challenges, numerous studies document the positive economic value of prevention programs.

Specific Cost-Benefit Analyses

A recent report from the Washington State Institute for Public Policy reviewed economic benefits of a number of research-based preventive interventions for children and adolescents.[82] The report focused on interventions designed to lower child abuse and neglect, reduce domestic violence, improve educational outcomes, reduce crime, lower substance abuse, decrease adolescent pregnancy, or reduce adolescent suicide attempts. Table 1 on page 38 presents a sample of the programs reviewed by the institute.

As Table 1 illustrates, universal, selective, and indicated preventive interventions provide very attractive returns on initial investments. For each of the interventions, the table provides total benefits and total costs, as well as the net benefit (benefits minus costs) for each child who participated in the prevention program. The last column is the most significant, indicating the net economic advantage per child. Universal interventions (those that target all children) appear to generate lower benefits when compared to the selective and indicated interventions. These programs, however, are cost effective because the programs are relatively inexpensive to implement and they produce benefits for larger numbers of program participants.

Table 1.

Summary of Estimated Benefits and Costs Per Youth for a Sample of Prevention Interventions

Program	Type of Prevention	Type of Prevention	Dollars (2003) Benefits	Costs	Benefits Minus Costs
Good Behavior Game	Elementary school students	Universal	$204	$8	$196
Child Development Project	Elementary school students	Universal	$448	$10	$432
Life Skills Training	Elementary and middle school students	Universal	$746	$29	$717
Seattle Social Development Project	Elementary school students, parents, and teachers	Universal	$14,426	$4,590	$9,836
Strengthening Families	Parents and youth (ages 10–14)	Universal Selective	$6,656	$851	$8,805
Nurse-Family Partnership	Low-income pregnant women	Selective Indicated	$26,298	$9,118	$17,180
Multisystemic Therapy	Youth (ages 11–17)	Indicated	$14,996	$5,681	$9,315

Source: Adapted from: Aos, S., Lieg, R., Mayfield, J., Miller, M., and Pennucci, A. (2004). *Benefits and Costs of Prevention and Early Intervention Programs for Youth*. Olympia: Washington State Institute for Public Policy.

True Measures of Promotion and Prevention Programs

For those who work directly with children at risk of mental health problems, the real-life benefits of promotion and prevention programs are obvious, and particularly for children whose home and community environments are undermining their belief in themselves and their ability to succeed. According to Anita Hicks, the Incredible Years program supervisor for the Osborn School District in Phoenix, AZ, “Most of our kids are coming to us without ever having had any kind of schooling. They don’t know how to behave in a structured environment.” In addition, many of these same children have experienced significant loss or trauma, such as the incarceration of a parent. They have an even more difficult time succeeding in school. The following paragraph describes the mental health growth achieved by a young girl who participated in the Incredible Years program in her elementary school.

“Mandy” is a little girl whose early childhood experiences include extreme poverty, abuse, sexually assaulted siblings, incarceration of her father, and frequent moves. As a kindergartner, she started the school year with the verbal ability of a 2-year-old. The Incredible Years program gave her a new vocabulary, and she began to use it. Mandy now is able to give voice to her own feelings and to help others to express theirs. In the classroom and on the playground, she helps students and teachers alike to identify how they might be feeling and encourages them to behave appropriately. Overall, the program has helped her improve her social skills and her classroom behavior and increased her participation in learning activities. These are the kinds of social, emotional, and educational behaviors that will help Mandy achieve her full potential as a mentally healthy and contributing member of her community.

Longer timeframes for calculating accrued benefits tend to improve cost-benefit ratios.[83] Effective early childhood education programs for at-risk children become increasingly cost-effective over time, partly because the monetary benefits increase dramatically as the participants enter their earning years.[84–86] One example is the High/Scope Perry Preschool program, designed to improve the cognitive and social development of low-income, 3-year-olds with developmental delays. The program included daily attendance at an enriched preschool program and weekly home visits by the preschool teachers for 2 years. The program was effective in increasing the educational attainment of the children and decreasing teen pregnancies. Follow-up evaluations with the participants at age 40 also demonstrated program effectiveness in increasing their employment and earned incomes and decreasing criminal activities and their use of public assistance as adults. Based on these benefits, there was a calculated benefit of $258,888 per child by the time the children were 40 years old.[87]

These findings for the High/Scope Perry Preschool program emphasize the importance of evaluating a wide range of outcomes for a number of years following the completion of an intervention. They also point out the benefits across systems of government. Of the $258,888 total benefits, $63,267 per child were realized primarily in terms of higher earnings as adults. The majority of benefits were crime-related, and constituted savings to taxpayers, potential crime victims, and the criminal justice system.

From another study in Michigan, a State-level analysis of the costs associated with child maltreatment and its consequences were compared to the costs of providing child maltreatment prevention services to all first-time parents.[88] According to this study, the cost of child abuse in Michigan was estimated at $823 million annually. These costs included those associated with low birth-weight babies, infant mortality, special education, protective services, foster care, juvenile and adult criminality, and psychological services. The costs of prevention programming were estimated to be $43 million annually. In dollar terms, Michigan gained $19 in benefits for every $1 invested in prevention.

Finding financial support to implement prevention interventions is not always easy. In general, it may prove easier to find support for indicated programs that target children who are obviously in need and which produce an immediate benefit, such as the reduction of juvenile crime in response to a program for juvenile offenders. In contrast, it may be more difficult to obtain funding for universal and selective programs that have benefits that are less visible immediately, such as increased high school graduation rates resulting from an early childhood education program.[89] Economic evaluation studies provide justification for investments in programs with long-term outcomes. Because few scientifically rigorous economic evaluations exist, and because recent advances have occurred in evaluation methodology, government, and public policy reports have pointed out the need to continue to use the highest standards of science to evaluate the economics of prevention programs.[90–91]

Key Points from Section III. Understanding the Costs and Benefits of Prevention Programs

- The costs of conducting preventive interventions must be considered within the context of the costs of not conducting programs. Prevention of even a small percentage of mental and substance abuse problems will result in substantial cost savings and improved quality of life for children, families, and communities.
- The benefits of preventive interventions should be measured both in terms of economic costs (e.g., reduction in crime-related costs) and in positive, quality-of-life terms (e.g., greater employability or earnings) that can take into account the long-term contributions a child can make to the community as a fully productive adult.
- Current data suggests that preventive interventions provide both short-term and longer-term economic benefits and are highly beneficial. Some interventions that occur early in life may continue to produce benefits throughout a program participant's lifetime.
- As evidenced by the High/Scope Perry Preschool program, quality preschool programs for young children living in poverty contribute to their intellectual, academic, and social development in childhood and to their economic performance and reduced commission of crime in adulthood.
- As experienced by Michigan, the benefits that accrued from a prevention program aimed at strengthening and improving the quality of care for young children far outweigh its initial cost.

Section IV. Best Opportunities for Implementing Evidence-Based Practices To Reach Families in Need

Involving families who experience multiple risk factors in evidence-based programs often is difficult.[92] This difficulty does not stem from lack of parental concern, but more often is a consequence of their being involved only minimally in decisions made about services and program planning in general. Environmental circumstances that make interventions less accessible also may contribute to less family involvement. Consequently, efforts to reach families in need must recognize their role as informed decision makers, offer services in accessible settings, and consider culture and other family-based strengths in designing and providing services.

Recognizing Family Members and Other Caregivers as Decision Makers

Responsibility for children's mental health care is shared across multiple systems, including schools, primary health care, juvenile justice, child welfare, and substance abuse prevention and treatment providers. The first system, however, is the family.[93] Successfully involving parents and other caregivers in evidence-based practices requires the existence of decision making mechanisms and processes that include them as equal, informed, and empowered participants. Such mechanisms need to be accessible to family member participation in terms of location, time, and language, and they need to include norms that convey

parity in decision making and respect for the knowledge and experience that family members contribute to the decision-making process. Parents and other caregivers should be full participants in decision making at the service delivery level with respect to their own child. In addition, they should have meaningful involvement at the system level in developing policies and helping to plan, implement, and evaluate programs and services affecting other children in the community.

Families and other caregivers are the most direct source of information about needed or desired services. For example, parents who are young, inexperienced, or struggling with emotional or financial stress might welcome information about child development and training in parenting practices. Research has substantiated the prevalence of depression, domestic violence, and substance abuse among women who have low incomes.[94] Families who might be experiencing a combination of risk factors in addition to financial hardship can provide detailed insight into the kinds of supports and services that might help to stabilize the adults and the home environment for the children.

In the arena of public mental health treatment services, family participation is a well-established concept. Family and professional partnerships have become rooted firmly in the overarching principle of family involvement. Family- and consumer-driven care, as well as the involvement of family members and other caregivers in planning, evaluating, and implementing evidence-based practices, have gained momentum and support in the public mental health community.[95–96] For example, family leaders can provide insight into local settings, such as in a local church or elementary school, that may be receptive to having a positive parenting program taught there. These same settings also hold great potential for increasing the awareness of the effectiveness of available preventive practices in the community at large.

Providing Services in Settings Easily Accessible by Parents and Other Caregivers

Involving families and other caregivers in evidence-based practices is strengthened through methods of service delivery that are easily accessible by them. Home visitations by trained health care professionals offer one option for making an evidence-based practice easily accessible to families. The Nurse–Family Partnership (described in Section II of this report) is a well-studied and cost-effective home visitation program that is being disseminated currently in a number of States. An overarching factor that accounts for its success is the ability of the nurse home visitors to "…develop an empathic and trusting relationship with the mother and other family members…."[97] Young mothers report that they felt comfortable having the nurse visit them instead of being asked to go to a clinic or office. The intervention begins in pregnancy, lasts through the first 2 years of the children's lives, and illustrates the need for longer-term interventions for families that are hard to reach.

Another home visitation model was used by several grantees in SAMHSA's Prevention and Early Intervention Program to involve parents whose children were having difficulty in kindergarten and first and second grades. A family mentor or coach was hired to work with parents who had little or no relationship with the school. Repeated home visits to reluctant parents helped to involve them in discussing a child's emotional or behavior problem, and

it provided an opening for the coach/mentor to implement an evidence-based positive parenting practice (i.e., the Incredible Years). Through a trusting relationship with home visitors, families with multiple mental health and social problems have an opportunity to explore and become motivated to accept referrals for community mental health, substance abuse, and social services and to participate in an evidence-based positive parenting intervention.

Primary care settings offer another opportunity to reach families in need. Primary care is a natural point of contact for families and a place where a child's mental health problem, as well as risk factors related to the onset of mental health problems, could be addressed openly as part of an overall discussion of health. Of all the children they see, primary care physicians identify about 19 percent with behavior and emotional problems.[98]

Primary health care professionals can be a crucial link between children at risk of mental health problems and needed interventions. Kahn and colleagues surveyed more than 550 mothers who used a primary care provider. Eighty-five percent of the women indicated that they would be receptive to being asked questions about specific risk factors, including unintended pregnancy; emotional, verbal, and physical abuse; and self-assessed health concerns. Ninety percent of the women said they would welcome an offer of help with making referral appointments for these issues.[99]

The Georgetown University National Technical Assistance Center for Children's Mental Health recently published a monograph on the interface between primary health care and mental health and substance abuse services. Entitled *The Best Beginning: Partnerships Between Primary Health Care and Mental Health and Substance Abuse Services for Young Children and Their Families*, the monograph reviews a variety of innovative strategies used to connect families in a primary care practice to local mental health and substance abuse treatment professionals.[100] Even though the report focuses on families with infants and toddlers, lessons learned from the strategies reviewed can be applied to primary care and pediatric practices that work with older children and their families. Some of the strategies suggested by this report include:

- *Implementing a medical home model*. A medical home is not a building, house, or hospital but rather an approach to providing comprehensive primary care. A medical home is defined as primary care that is accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective. A medical home addresses how a primary health care professional works in partnership with the family to ensure that all of the medical and nonmedical needs of the patient are met. Through this partnership, the primary health care professional can help the family access and coordinate specialty care, educational services, in- and out-of-home care, family support, and other public and private community services that are important to the overall health of the patient and family.

  A medical home is especially valuable for children with special needs. Some actions consistent with a medical home model include co-locating a health care needs coordinator within the medical practice, linking family members and other caregivers to support groups, coordinating a plan-of-care with the family and other

service providers (including mental health and education), maintaining a central medical record or database of all pertinent medical information, facilitating referrals to other providers by assisting the family in communicating medical issues, and reviewing with the family the recommendations for care made by others.

- *Approaching service delivery from a family-centered perspective*. Traditionally, medical practitioners (as well as mental health and substance abuse providers) adopt the view that services need to be targeted to the "identified patient." Moving from individual-centered care to serving the family as a whole requires that the health and well-being of children be considered with the context of their families and other important relationships. This includes attention to the mental health and substance abuse needs of parents and other caregivers. Providing this level of care means that primary care physicians need to have training and tools for assessing the range of a family's strengths and risks that may have an impact on a child's development. Accordingly, this requires changes in the way providers initially are trained, how they receive continuing education, and how office staff members are trained.
- *Ensuring that designated office staff members develop strong working relationships with other service providers*. Critical factors needed to ensure that families are connected with appropriate services include staff member awareness of which providers are taking new clients, the availability of culturally appropriate and bilingual services, hours of operation, and types of health insurance plans accepted.
- *Co-locating a variety of services and supports within the primary care office, when feasible*. Having mental health services onsite increases accessibility and the likelihood of use and, in some cases, may help to reduce the stigma often associated with receipt of mental health services.

Schools offer another common and accessible venue for engaging families in need. The transition from home to school is a strategic time to begin early interventions because this time can be stressful for parents and caregivers and children.[101] During such periods of transition, a parent or caregiver who may otherwise be reluctant to participate in school activities may be more open to interventions that support their parenting efforts.

School settings present a key opportunity to promote mental wellness and prevent mental health problems among all children. More than 52 million students attend more than 114,000 schools in the United States. When combined with the 6 million adults working at those schools, almost one-fifth of the Nation's population passes through our schools on any given weekday.[102] Children of all economic, geographic, and racial and cultural groups have equal access to a public education. According to a new national survey released in 2005 by SAMHSA, one-fifth of students receive some type of school-supported mental health services during the school year.[103] The advantage to school-based interventions is that they teach children social and emotional skills while they also support academic achievement.

Illinois already is acting on the recognized and crucial link between a child's social and emotional growth and his or her potential to achieve academically and in life. In 2003, Illinois passed the Children's Mental Health Act, with the intent that schools take concrete

steps to address the social and emotional learning of students. The following year, the Illinois State Board of Education adopted social and emotional learning standards as part of the core curriculum. Standards and developmental benchmarks are established for all school children, from kindergarten through 12th grade. The goals set by Illinois for social-emotional learning are for children to:

- Develop self-awareness and self-management skills to achieve school and life success.
- Use social-awareness and interpersonal skills to establish and maintain positive relationships.
- Demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts.

Illinois set a national precedent for a widespread, proactive approach to children's mental health. New York State is following its lead. In September 2006, the governor signed into law the Children's Mental Health Act of 2006. This act directs the commissioners of education and mental health to cooperatively establish a children's mental health plan to provide comprehensive prevention, early intervention, and treatment services for children through age 18. Similar to the Illinois legislation, the act calls for the integration of social and emotional development into elementary and secondary school educational standards.

Considering Culture When Working With Parents and Other Caregivers

Many experts believe that prevention programs are most effective when they are tailored to the cultural, community, and developmental norms of program participants. [104–105] Culture, defined as a common heritage or set of shared beliefs, norms, and values, has profound implications for what individuals bring to a community, school, or clinic setting. Culture can determine whether people seek help, what types of help they seek, what coping styles and social supports they have, and how much stigma they attach to mental health problems. It can account for variations in how individuals communicate their symptoms and which ones they report.

When service providers are not sensitive to cultural variations in family structure, coping style, and problem expression, their interventions may be met with resistance.[106] Failure to understand the forces that help shape an individual's and a culture's identity can derail a program. Culturally competent programs and services incorporate understanding of racial and ethnic groups, their histories, traditions, beliefs, and value systems.[107–108]

Identifying Opportunities That Support Implementation of Promotion and Prevention Practices

Research and practice consistently document the value of providing children with a secure foundation in which to grow to their full potential socially, emotionally, academically, and professionally. As a result, a variety of agencies at the Federal, State, and local government levels are involved in efforts to expand the use of promotion and prevention practices. The rationale for this broad-based involvement is that these agencies can better achieve their own missions and mandates by promoting the mental health of children and by preventing the onset or exacerbation of emotional and behavior problems that place the children at risk of developing mental illnesses. The examples that follow are just

a sample of available Federal programs that emphasize a public health approach to mental health.

The Safe Schools/Healthy Students (SS/HS) program is administered jointly by the U.S. Departments of Health and Human Services (DHHS), Education, and Justice. Begun in 1999, SS/HS grants have funded local education, mental health, law enforcement, and juvenile justice partnerships in 220 communities and in nearly every State. In July 2006, more than $31 million was awarded to 19 school districts in 14 States. Under the initiative, school districts in partnership with local law enforcement, juvenile justice, and mental health agencies implement a comprehensive plan focused on safe school environments, mental health services, and early childhood socio-emotional development programs. To support implementation efforts, DHHS, through SAMHSA's Center for Mental Health Services, supports the National Center for Mental Health Promotion and Youth Violence Prevention (*www.promoteprevent.org*). Community interest in the grant program is high—the highly competitive program attracted 485 applications nationally in 2006. Current grants are awarded under the No Child Left Behind Act.

The U.S. Department of Education administers a program entitled 21st Century Community Learning Centers, which also is authorized under the No Child Left Behind Act. Each year, the U.S. Department of Education awards 57 formula grants to State education agencies, which in turn manage statewide competitions and award grants to eligible entities. This program provides expanded academic enrichment opportunities for children attending low-performing schools. However, due to the association between academic achievement and the emotional and behavior status of children, grant-funded activities include youth development programs, drug and violence prevention programs, and counseling and character education. To help support this program, the U.S. Department of Education funds the National Center for Early Development and Learning (*www.fpg.unc.edu/~ncedl/*). Research by the center focuses on enhancing the cognitive, social and emotional development of children from birth through age 8.

SAMHSA also awards State Incentive Grants annually to States and tribes to improve and expand services to individuals with or at risk of developing mental and substance abuse disorders. SAMHSA's Center for Substance Abuse Prevention (CSAP) initiated the program in 2004 as a means of implementing a public health approach known as the Strategic Prevention Framework (SPF). SPF is a systematic effort that builds prevention capacity and infrastructure at the State and community levels. CSAP has 37 SPF State Incentive Grants in place which, to date, have reached more than 2 million adolescents with evidence-based substance use prevention efforts.

In 2004, the administration of the Drug-Free Communities (DFC) program was moved to CSAP from the White House Office of National Drug Control Policy. The DFC program provides grants of up to $100,000 to community coalitions to prevent substance abuse by youth. Grant funding enables coalitions to strengthen their coordination and prevention efforts, encourage citizen participation in substance abuse reduction efforts, and disseminate information about effective programs. As noted earlier, there is an association between substance use and other mental health disorders. In studies of adolescents receiving mental health services,

about half had a co-occurring substance use disorder. The study found that depression and conduct disorders were the most frequent mental disorders diagnosed in the presence of a co-occurring substance use disorder. This association strongly suggests that prevention of one may contribute to prevention and reduction of the other.

Other opportunities to integrate early intervention and prevention practices into community-based mental health programs are offered through SAMHSA's Center for Mental Health Services (CMHS). Maryland, for example, is using its State Incentive Grant for Mental Health Transformation to strengthen cross-agency collaboration in providing children and families with greater access to appropriate services. In addition, CMHS manages the State/Tribal Youth Suicide Prevention Grant Program, which supports the development and implementation of statewide or tribal youth suicide prevention and early intervention strategies. These grants are authorized by the Garrett Lee Smith Memorial Act. SAMHSA requires that the programs involve public/private collaboration and should include schools, educational institutions, juvenile justice systems, foster care systems, substance abuse and mental health programs, and other child and youth supporting organizations.

The Centers for Medicare and Medicaid Services (CMS) reimburse States for medically necessary and approved evidence-based services to children with diagnosable mental health disorders who are eligible for Medicaid. These may be seen as early intervention and prevention services insofar as they may prevent or reduce additional conditions and their consequences. States may exercise waivers and other options to cover these services. Medicaid, however, does not fund prevention programs per se. Therefore, it would not fund many of the prevention programs described in this document.

Key Points from Section IV. Best Opportunities for Implementing Evidence-Based Practices To Reach Families in Need

- Responsibility for children's mental health care is shared across multiple systems, including schools, primary health care, the juvenile justice system, child welfare, and substance abuse prevention and treatment. The first system, however, is the family.
- Parents and other caregivers should be recognized and supported as decision makers at the service delivery level, with respect to their own children. They also should have meaningful involvement at the system level in policymaking and planning, implementing, and evaluating programs and service systems.
- The basic issue is not whether families are difficult to involve but rather how a community can make practices more accessible and culturally acceptable.
- Decision-making mechanisms and processes that include family members as equal participants need to be strengthened or created. Such mechanisms need to be accessible to family-member participation in terms of location, time, and language, and should include norms that convey parity in decision making and respect for the knowledge and experience that family members contribute to the decision-making process.
- Programs are most effective when they are tailored to the cultural, community, and developmental norms of program participants. Cultural adaptations promote relevancy and acceptance by racial and other underserved populations.
- Successful strategies include meeting families in environments that fit within the normal routine (e.g., home, work, primary care, and school life), integrating cultural strengths, and accommodating financial constraints.
- Primary care is a natural point of contact for families and a place where a child's mental health problem, as well as risk factors related to the onset of mental health problems, could be addressed openly as part of an overall discussion of health.
- School settings present a key opportunity to promote mental wellness among children. An advantage to school-based interventions is that they address the underlying causes of many behavior problems in children while also supporting academic achievement.
- Many Federal, State, and local agencies and interests are involved in promoting the mental health of children and preventing the onset or exacerbation of emotional and behavior problems. This broad-based involvement demonstrates a public health approach to mental health and acknowledges that sound mental health in children helps to fulfill the mission and mandate of multiple service systems (e.g., education, justice, child welfare, and health).

Section V. Recommendations for Future Prevention Efforts

Rigorous evaluations of numerous programs indicate that effective interventions exist to promote mental wellness in children and reduce the risk of mental health and behavior problems. These interventions address the strengths and vulnerabilities of children from infancy through adolescence; across different cultural, racial, and ethnic groups; and across urban and rural settings.

The majority of mental health problems begin during childhood and adolescence.[109–110] Consequently, effective promotion, prevention, and early intervention services that reduce the likelihood of problems in these populations are critical to the health of individuals and the Nation. In addition, they provide economic benefits across multiple systems. For the future health of our country, the mental wellness of our children must be a long-term, proactive, and collaborative priority. This is likely to happen only if greater emphasis is placed on a public health approach to mental health.

Recommendations

This report recommends that—for the health and well-being of children, their families, and their communities—Federal, State, and local policymakers as well as child- and family-serving agencies and advocacy organizations should:

1 Support ways to communicate the good news of prevention, including the economic and social benefits of investing in prevention.

The good news is unequivocal—evidence-based promotion and prevention programs implemented with fidelity strengthen parenting and build child resilience. It is important that the benefits of mental health promotion and prevention programs be communicated broadly so that families and communities have information about what interventions work where and with what resources when considering what programs to implement. Creating opportunities for families and communities to understand how promotion and prevention programs fit within a broader public health context will also be helpful.

2 Provide family members, other caregivers, community leaders, and local educators with the latest knowledge for strengthening parenting and building child resilience so that informed decisions about appropriate interventions can be made easily.

Web sites that provide easy access to information about evidence-based programs are an efficient mechanism for communicating with families and communities. Multiple web-based databases of evidence-based practices exist currently across the Federal government. For example, DHHS, U.S. Departments of Education and Justice, Centers for Disease Control and Prevention (CDC), and the National Institute on Drug Abuse (NIDA) maintain databases of model programs that address mental health risk and protective factors. First Lady Laura Bush also recently introduced the Helping America's Youth (HAY) web site (*www.helpingamericasyouth.gov*), in which the programs recognized as effective by nine Federal agencies are available as part of an integrated system to help communities build partnerships, assess needs and resources, and select relevant programs that could be implemented in their community.

The visibility that children's promotion and prevention programs gain through multiple outlets has value. However, the preponderance of databases makes it difficult for communities to find and select the most appropriate programs. To maximize the use of Federal resources, it would be helpful to have a centralized, web-based database supported by all child- and family- serving Federal institutions. The database should be organized to identify evidence-based programs across developmental age groups, such as prenatal, infant, early childhood, child, youth, and adolescence. Additionally, it would be helpful for communities if the database provided information on when, and for whom, the intervention worked; what components of the intervention must be retained to ensure fidelity; ways to coordinate new programs so that they build on effective strategies that already are in place or are being introduced simultaneously; and the capacity and supports necessary to implement the intervention effectively. SAMHSA will launch a new NREPP web site early in 2007, which will provide a useful model.

To achieve this recommendation, a study to identify opportunities to strengthen, coordinate, and consolidate the synthesis and dissemination of evidence on effective mental and substance abuse preventive interventions and services across Federal and private-

sector entities would be helpful. Entities to be involved would include SAMHSA; National Institute of Mental Health; NIDA; National Institute on Alcohol Abuse and Alcoholism; National Institute of Child Health and Human Development; Agency for Healthcare Research and Quality; U.S. Departments of Justice and Education; CDC; CMS; the Administration for Children, Youth, and Families; and States, professional associations, national mental health organizations, advocates, foundations, and other private-sector groups.

3 Where possible, build on existing programs to maximize available knowledge and resources.

The final report by the President's New Freedom Commission on Mental Health points to the potential of Federal agencies to better serve children, families, and adults by better aligning funding and programs. Achieving this potential is increasingly important as the Federal government works to control the costs of health care. As an example, CMHS and CSAP could work together to expand the mission of regional Centers for the Application of Preventive Technologies (CAPT) to focus on mental health promotion, mental illness prevention, and alcohol and other drug prevention. CSAP already supports National CAPTs that assist States and other jurisdictions and community-based organizations in applying the latest evidence-based knowledge to their substance abuse prevention programs, practices, and policies. Given that substance abuse and many other mental health problems share common risk factors, common technical assistance centers could expand expertise and maximized the use of existing resources.

Federal agencies also should work to coordinate ongoing research into early intervention and prevention programs and the application and evaluation of these programs. A multi-departmental workgroup could be formed with a mission to improve the adoption and sustaining of evidence-based prevention programs. This initiative should coordinate the existing efforts of SAMHSA; NIMH; NIDA; National Institute on Alcohol Abuse and Alcoholism; CDC; Agency for Healthcare Research and Quality; CMS; Administration for Children and Families; U.S. Departments of Education, Labor, and Veterans Affairs; Health Resources and Services Administration; and the Office of Juvenile Justice and Delinquency Prevention. To further this goal, the senior administrators of the involved departments should develop and fund cross-agency efforts to improve the adoption and maintenance of evidence-based program.

4 Encourage the development of the State and local infrastructure necessary to adopt, adapt, implement, evaluate, improve, and sustain evidence-based practices.

Knowing which programs are effective is only a first step toward implementation. Communities also need to consider what systems and supports need to be in place to actually implement and sustain an evidence-based practice. Examples include:

- Structures for coordinated planning and program implementation across relevant child- and family-serving institutions and for involving families and other caregivers in this process.

- Procedures for assessing community risk and protective factors, reviewing evidence-based practices, selecting those that are appropriate, developing implementation, evaluation, and sustainability plans, and using evaluation data for quality improvement.
- Information management systems for collecting, analyzing, and reporting of data, as well as tools to assess multiple social and mental health outcomes.
- Training and technical assistance systems to ensure that the workforce has the requisite skills to implement practices selected by the community.
- Supervision, coaching, and monitoring procedures to assure that evidence-based practices are implemented with fidelity.

A next step in successfully implementing evidence-based practices is to expand the knowledge base about what is necessary for programs to work in other settings and on a larger scale. Replication of evidence-based practices requires documentation of the systems and supports needed for effective implementation. This information is critical to bringing programs to scale, such as effectively transforming a program that is successful within one school to being successful within all schools within a community.

Similarly, this same information is critical when adapting practices to populations other than the original target group. Successful adaptations must integrate the cultural, community, and developmental norms of a community while also adhering to the basic program characteristics that make the program effective. The SAMHSA/CMHS Prevention and Early Intervention grant program provides several illustrations of how some communities have adapted practices. For example, the highly regarded PATHS program as originally conceived did not have a component for family members. Working closely with Dr. Mark Greenberg, the program developer, a SAMHSA grantee in Harrisburg, PA, developed and tested a family resource kit for family members to "learn the language" of the PATHS program through games the family could play together. Similarly, a SAMHSA grantee in Yakima, WA, worked closely with Dr. David Olds to integrate a mental health component within the Nurse–Family Partnership program.

5 Encourage a coordinated assessment and accountability system for promotion, prevention, and treatment in children's mental health.

A community could have a better picture of the benefits and costs of its program if all relevant systems (e.g., mental health, substance abuse, education, and justice) could be consistent and coordinated in some of the data they collect, analyze, and report. For example, schools, which are a primary context for many evidence-based programs, especially need a system that coordinates evaluation of school-based promotion and prevention programs from preschool through high school. This system might include assessments of: 1) risk and protective factors, 2) implementation of interventions, and 3) multiple mental health and other outcomes (e.g., social, emotional, behavior, academic performance, and truancy). If the local juvenile justice system had a comparable system, it could coordinate with the educational system to assess overall social, emotional, and behavioral outcomes and the program's economic impact on both systems.

Additionally, State governments could require that programs implemented with State funds

in schools and other settings include an evaluation component. Federal and State Departments of Education could develop policies that establish accountability for fostering the full development of children, support professional development of educators to enable them to implement programs effectively, and create systems for assessing and evaluating program implementation and outcomes and for sustaining programs that are effective.

6 Examine more systematic strategies to increase and coordinate funding for prevention efforts across Federal and/or State agencies.

The primary mechanism for moving evidence-based programs into communities has been grant programs sponsored by various Federal and State agencies, and usually those responsible for mental health (including substance abuse), education, or juvenile justice. Responsibility for children's mental health care, however, is shared across multiple systems, including primary health care, and child welfare as well as mental health, education, and juvenile justice. Many of these systems independently conduct child- and family-based programs, even though programs goals may be the same. Better coordination of programs across systems could maximize the use of available resources. SAMHSA's Strategic Prevention Framework provides a useful model for how communities can implement a coordinated system of services and programs more effectively.

Another funding consideration is that the current reimbursement system for mental health care is set up to pay for individualized treatment services *following the diagnosis* of a disorder. Prevention programs, on the other hand, generally are offered to a sizable population with a goal to *prevent* diagnosable disorders from ever occurring. Exploring alternative methods for funding prevention programs would be beneficial. Some communities have funded promotion and prevention programs as part of standard budget allocations. The city of Hartford, CT, for example, partially funds its Student–Family Assistance Centers through the school district budget. Other programs created and implemented under the SS/HS grant specific to preventing school and gang violence have been adopted by the mayor and now are part of the city's budget.

A more systematic examination of strategies to coordinate funding mechanisms across agencies would be helpful, including the contributions and limitations of categorical prevention funding; the advantages and challenges of coordinated prevention and youth development programs; and strategies to design policies, programs, and accountability systems that coordinate prevention and promotion practices.

7 Build a workforce capable of implementing age- and culturally appropriate evidence-based practices effectively.

Workforce capacity-building is critical to meet current needs as well as to prepare for the demands of the future. The shortage of mental health professionals trained in promotion and prevention is a part of the overall shortage of mental health professionals in general. These shortages exist in many areas of the country, and

Safe Schools/Healthy Students: Building a Collaborative Infrastructure for Program Success

In 2003, the Hartford (Connecticut) Public Schools District was awarded a 3-year, $8.4-million Safe Schools/Healthy Students (SS/HS) grant. According to Leah O'Neill Fichtner, SS/HS program coordinator, "Our children were running the risk of dropping out of school and continuing an intergenerational cycle of poverty, crime, violence, and self-destructive activity."

The SS/HS grant served as a catalyst for the school system and community partners to develop and expand the capacity of community-based services by creating a service delivery system that integrates multiple resources across the city. Hartford Public Schools superintendent Robert Henry observed, "The SS/HS grant allowed us to work with our community and families, evaluate what is already in place, and develop new partnerships and programs to fill gaps. We also needed the infrastructure that would provide early identification of at-risk children and would connect youth and their families to appropriate mental health services and support programs."

An important part of this infrastructure is the Student and Family Assistance Centers that have been created across the city. These centers, centrally located in neighborhood schools, provide direct services or referral services for children and families. Instead of families having to find supportive services on their own, the centers provide them with a central, easy-to-locate access point to connect them with the resources they need. In the 2004-2005 academic year, 1,726 students were served in six Student and Family Assistance Centers, resulting in improved attendance and grades for some of the students.

Additionally, Hartford's SS/HS initiative supported the development of a web-based case management system called "Hartford Connects," which links data from multiple settings: schools, neighborhoods, and judicial and health environments. Data are analyzed to identify needs so that program resources can be adjusted to address emerging problems best. Hartford's Mayor, Eddie Perez, sees the Hartford Connects system as the foundation of the development of a city-wide coordinated support system for all children and youth.

particularly in rural areas. In addition, severe shortages exist for providers who are culturally and linguistically competent to serve racial/ethnic minority populations.

SAMHSA has begun to address the challenge of workforce shortages through its National Strategic Workforce Development Plan to Reduce Mental Health Disparities. The goal of this effort is to expand and improve the capacity of the mental health workforce to meet the needs of racial and ethnic minority consumers, children, and families; to address the concerns of rural consumers and family members; to make consistent and appropriate use of evidence-based interventions; and to work at the interface of primary and mental health care settings.

Developing a workforce capable of implementing age-appropriate, evidence-based promotion and prevention practices now and in the future requires both training of a new workforce and retraining of the existing workforce. The key to the quality of an intervention program is fidelity, and desirable outcomes for children and families are achieved only when effective intervention programs are implemented with fidelity.[111–113] Fidelity can be compromised when inadequately trained personnel alter the content, duration, or structure of a program. If an implementer wants to adapt a program to achieve cultural appropriateness or for any other reason, he or she must work with the program's developer to ensure that the adaptations do not pose a threat to the integrity of the program.

Institutions of higher education, boards that license mental health professionals, professional associations, and reimbursement agencies should work together to ensure the continuing education and certification of individual practitioners across a variety of effective, evidence-based promotion and prevention programs and practices. Enacting these measures will continue to move systems forward in implementing evidence-based programs and ensuring that these efforts are carried out with sufficient fidelity and rigor to ensure continued effectiveness.

To promote the expansion of the knowledge base, workforce development should include the development of future researchers. This involves undergraduate, master, doctoral, postdoctoral, and mid-career training to ensure researchers who are equipped to design and evaluate culturally competent prevention and promotion programs. The NIMH-sponsored doctoral and postdoctoral training programs in Prevention Research and Children's Mental Health Services Research are examples of positive steps in this direction.

Finally, it will also be important for our future workforce to understand the public health approach and the importance and effectiveness of promotion and prevention across service systems.

8	Include families in a decision-making role from the outset; that is, in the planning, selection, adaptation, implementation, evaluation, and sustaining of programs for their children and their communities.

Family involvement is essential to the acceptance, effective implementation, and refinement of interventions for children. Family-driven approaches can increase positive results by expanding the

environments in which the program takes place. For example, the Strengthening Families Program involves elementary school-aged children and their families in family skills training sessions. An evaluation study of program outcomes indicated reductions in child aggression and conduct problems that averaged 10 times greater than those produced by school-based, child-only preventive interventions.

Agencies and schools serving children and their families should develop methods to educate, encourage, and empower families to be informed decision makers in expanding the use of evidence-based practices. To this end:

- Program administrators and staff members should be trained and supported in creating family-driven approaches to family involvement and program planning, implementation, monitoring, and evaluation.
- Schools should create and support school-family partnerships with identified school-family liaison personnel. These partnerships should work toward the development and ongoing implementation of widespread programs to support children's social, emotional, and academic learning.

Key Points from Section V. Recommendations for Future Prevention Efforts

Broad-based recommendations for Federal, State, and local collaboration to advance promotion and prevention programs for children's mental health are to:

1. Communicate the good news of prevention, including the economic and social benefits of investing in prevention.
2. Provide family members, other caregivers, community leaders, and local educators with the latest knowledge for strengthening parenting and building child resilience so informed decisions about appropriate interventions can be made easily.
3. Build on existing programs to maximize available knowledge and resources.
4. Encourage the development of the State and local infrastructure necessary to adopt, adapt, implement, evaluate, improve, and sustain evidence-based practices.
5. Encourage a coordinated assessment and accountability system for promotion, prevention, and treatment in children's mental health.
6. Examine more systematic strategies to increase and coordinate funding for prevention efforts across Federal and State agencies.
7. Build a workforce capable of implementing age- and culturally- appropriate evidence-based practices effectively.
8. Include families in a decision-making role from the outset; that is, in the planning, selection, adaptation, implementation, evaluation, and sustaining of programs for their children and their communities.

Conclusion

The future of children's mental health care holds great promise. Not only do many evidence-based resilience-building prevention programs exist, but more are being developed as the need for and the value of these programs becomes more apparent. In addition, researchers and implementers increasingly are working together to ensure fidelity of implementation, even while making appropriate adaptations for cultural, age, gender, and situational appropriateness. Available cost-benefit data for the programs confirm their worth. Numerous analyses have identified promotion and prevention programs that more than pay for themselves, with substantial immediate and long-term benefits accruing both to individuals and to their communities. The technology that could make a substantial positive contribution to promoting the mental health of children is available and expanding. Government agencies at all levels are working to create databases of information about programs and their effectiveness and are offering tools to aid implementation.

Promotion and prevention programs for children work! Research and practice indicate which programs work best and for which populations. The critical next step is for more communities to become aware of these programs and to begin implementing them, even while researchers continue to expand the knowledge base about what interventions work and why they work. Children's mental health is the foundation on which they build their adult life. It is up to policy makers, in concert with parents and others who can help influence the outcome, to ensure that children have every opportunity to achieve the mental health status that will enable them to be successful, contributing members of their families, their communities, and their Nation.

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DHHS Publication No. CMHS-SVP-0186