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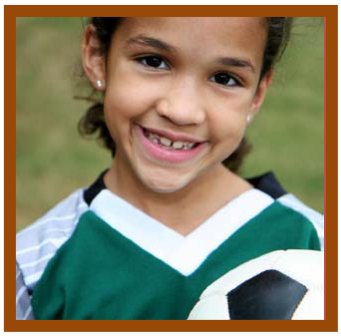

Primary Prevention in Behavioral Health: Investing in our Nation's Future

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Introduction

As one of its driving principles, the Federal Substance Abuse and Mental Health Services Administration (SAMHSA) in the U.S. Department of Health and Human Services emphasizes that *Behavioral Health is Essential to Health*.[1] This notion is consistent with the World Health Organization's (WHO) conceptualization of mental health as being an integral component of one's overall well-being, playing a role in whether "the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community."[2] Viewed in this light, positive mental health provides a foundation for full, healthy functioning. It is understandable, then, that mental health problems, as well as substance use, pose challenges for individuals across the multiple domains of their lives. For this reason, SAMHSA has identified the promotion of emotional well-being and the prevention of substance abuse and mental illness as its top strategic initiative at this time.[3] This shift in focus from a largely treatment/recovery orientation to one which prioritizes prevention is consistent with a fundamental tenant of public health that it is *always* preferable to prevent a problem from occurring than it is to address the effects of a condition once it has developed.[4]

Given the significant personal, social, and financial toll that behavioral health disorders exact on our society, it makes sense to focus on primary prevention. For example, the total costs for the U.S. associated with behavioral health problems in young people, in 2007 dollars, is $247 billion.[5] When considering the full life span, the annual economic impact of substance abuse in this country is $510 billion.[6] The social and financial costs of behavioral health disorders are not limited to the treatment system, but are also manifest in the areas of criminal and juvenile justice and child welfare, and with negative impacts upon academic achievement, physical health, and future earnings potential.[7,8]

Particularly disconcerting is the fact that the United States is faring poorly on measures of health and social wellbeing when compared to other industrialized countries.[9] For example, of 17 nations included in a WHO epidemiological study on behavioral health disorders, the U.S. had the highest lifetime rates of mental illness, and the second-highest lifetime prevalence of substance use disorders (narrowly surpassed only by the Ukraine).[10] Additionally, among 29 high-income countries, the U.S. ranks 24th in the number of disability-free life years despite having the most expensive health care system in the world.[11,12,13] These challenges have a wide-ranging impact on our nation's ability to remain competitive. For example, mental and emotional health are strongly correlated with academic achievement[14], and—among 30 industrialized nations—the U.S. ranks 21st in science literacy, 25th in mathematics, and 24th in problem-solving abilities.[15,16] Given that poverty and inequality are some of the most

significant risk factors for a host of behavioral health problems,[17] it is quite telling that America has—among 21 wealthy countries—the second highest poverty rate (surpassed only by Mexico)[18], as well as *the most significant* level of income and wealth inequality in the industrialized world.[19]

The outlook is not entirely grim, however. A growing body of research has demonstrated that there are effective strategies to promote healthy development, enhance social and emotional well-being, and prevent and reduce a host of behavioral health problems.[20,21,22,23] Because there are several overlapping risk factors for a number of problem behaviors and disorders, interventions targeting common risks can result in beneficial outcomes in multiple areas.[24,25] Additionally, economic analysis has demonstrated the cost benefits and cost effectiveness of a wide range of evidence-based prevention practices.[26,27] For example, in 2003 dollars, the *average net benefit per child* was $6,000 for various home-based interventions for very young children, $10,000 for different center-based pre-school initiatives, and over $10,000 for certain programs for youth with justice system involvement.[28]

These evidence-based approaches offer tremendous promise. Of course, having *knowledge* about evidence-based, cost-effective practices to improve behavioral health outcomes, and having the *capacity* and *social/political will* to implement and sustain such efforts on a wide-scale basis are two completely different things.

Currently, though, national attention is focused on health reform including significant momentum around the topic of health-related prevention. For example, the Affordable Care Act (ACA), enacted in 2010, emphasizes the importance and value of prevention, and calls for coverage of various prevention practices. The ACA also authorized the creation of the National Prevention, Health Promotion, and Public Health Council, a body charged with providing coordination and leadership at the federal level among executive departments and agencies with respect to prevention, wellness, and health promotion. This group crafted a National Prevention Strategy that was released in June of 2011. The promotion of mental and emotional well-being and the prevention of substance abuse (including drugs, alcohol, and tobacco) are two of the seven priority areas identified within that whole-health framework.[29] Additionally, the President's proposed budget for FY 2012 includes the creation of three new formula grants in SAMHSA that would collectively provide a reliable, on-going source of funding for states, territories, and tribes to implement practices designed to enhance well-being and prevent substance use and mental health problems.[a,30] Therefore, it is an opportune time to seize

[a] Note: As of the time of the publication of this paper, the FY 2012 budget has not yet been passed by Congress, so the fate of the proposed new formula grants is not yet know.

upon the current focus on prevention, and make significant strides in improving our nation's behavioral health.

In its *Description of a Good and Modern Addictions and Mental Health Service System*, SAMHSA notes that such a system would be comprised of a full continuum of care, including a comprehensive array of prevention-oriented services.[31] The purpose of this paper is to further explore what that system might look like: What prevention-based practices would be utilized, and what would be the necessary action steps to effectively put such practices in place? We address such queries using the following framework:

- A guiding vision and set of core principles that would drive the creation of a sound prevention-oriented system;

- The identification of key practices, including: evidence-based programs (EBPs); the active ingredients (kernels and principles) underlying those EBP's; and effective policies that are necessary components of such a system;

- An examination of the various strategic activities that are required to successfully plan, implement, and sustain those practices in a manner that increases the likelihood that they will achieve their desired outcomes; and

- A description of the service system that would result from the implementation of these activities and that would be experienced by the end-user.

Vision and Core Principles

Consistent with the values and focus of both the National Prevention Strategy and SAMHSA's priorities, the following Vision is offered to guide a prevention-focused agenda for behavioral health:

> *Improving the overall health and quality of life for individuals, families and communities by working at the national, state, and local levels to promote emotional well-being and prevent mental illness and substance use.*

In order to realize this vision, a series of key operating principles are offered below:

- A Public Health Framework is Essential: Improving population health requires the use of a full public health framework in which surveillance and epidemiological data assist in

identifying threats to health, and an integrated approach to evidence-based promotion, prevention and treatment is implemented with expected population health outcomes.[32] Successful public health initiatives involve the development of appropriate infrastructure to assure successful implementation, community engagement, and an ongoing learning process that includes systematic evaluation and quality improvement.

- Address Known Risk and Protective Factors: Implicit in the public health model is the identification of risk and protective factors—whereby risks increase the likelihood of a problem and protective factors help to enhance resilience and/or mitigate such risks. A biopsychosocial framework best explains these elements. As with most other health conditions, behavioral health disorders have a heritable component.[33] However, environmental influences are also understood to be quite important since not even identical twins are always concordant for the expression of illness. For example, recent literature suggests the interaction of specific genes with environmental stress in the expression of depressive symptoms.[34] Chronic stress and trauma have also been identified as toxic elements with long term deleterious effects on behavioral health and a host of other health conditions.[35] Social conditions like poverty and racism, which produce stress and trauma, have been shown to be predictably related to poor behavioral health outcomes.[36] At the same time, psychological processes such as effective parental/child bonding and a general sense of social connection, as well as emotional skills development, are all protective factors in buffering stress and promoting health.[37,38] A focus on pliable risk and protective factors, therefore, is the key to engineering healthier individuals and societies by reducing the prevalence of the former and strengthening the latter.

- Behavioral Health is Fundamental to Overall Health: The WHO emphasizes that health is more than the absence of disease: it is "a state of complete physical, mental and social wellbeing,"[39] a definition that explicitly references mental and social wellbeing as components of overall health. The prevalence of behavioral health disorders, particularly in developed nations, significantly compromises health. The WHO estimates that in the United States behavioral health disorders cause greater burden of disease than any other single health category – doubling the burden associated with cardiac disease, for example.[40] Mental illness and substance use disorders are also likely to be the most common co-occurring illness with other chronic health conditions.[41] Co-morbidities increase costs associated with the treatment of these disorders and have predictable, negative effects on outcomes, including mortality.[42] Understanding the etiology and effectively preventing these disorders, then, is critical to assuring overall health.

- There is a Strong Science Base for Preventing Behavioral Health Disorders and Promoting Emotional Well-Being: Several reports of the Institute of Medicine (IOM) over the last decade have documented the strength of the science base related to preventing behavioral health problems and promoting emotional wellbeing.[43] Many of the specific conclusions from these documents, as well as those from more current synthetic work, are summarized below. The research clearly demonstrates that numerous programs, practices, and policies can reduce the prevalence of mental and addictive disorders, as well as a related set of problem behaviors that are associated with the development of these disorders and that are disruptive to societal health and wellbeing. Relatedly, activities to promote emotional wellbeing have been shown to increase the frequency of pro-social behaviors and to have salutatory effects on several measures of societal functioning.[44]

- Approaches Must be Developmentally and Culturally Appropriate: Risk and protective factors change developmentally from pre-natal influences through senescence. While unevenly available across the life span, specific approaches are most effective at particular points in the developmental continuum. An organized, public health approach to prevention and promotion will tailor interventions appropriately for differing settings and challenges that characterize different stages of life. Similarly, such factors may be expressed uniquely within specific cultural contexts. Appropriately addressing them, therefore, requires: a sensitive understanding of these contexts; crafting and testing the appropriateness of prevention and promotion initiatives within cultural and linguistic groups; and the inclusion of culturally-specific traditions that may themselves be protective. Engaging individuals and communities in public health activities requires an understanding of how best to communicate and motivate them. Culture and language are an important part of the engagement process.

- A Fully-Integrated Approach is Ideal: Practices that can promote emotional wellbeing and prevent behavioral health problems are not confined to the fields of mental health and substance use, but instead span all of the domains in which individuals function, including the sectors of education, housing, general health, employment, justice, and the environment. Differences in emphasis, vocabulary and outcomes across these diverse sectors, however, can create a fragmented approach to prevention-based efforts and frustrate a unified view of the public health status of the population. Ideally, prevention and promotion efforts should be thoughtfully integrated across these various domains with a core set of guiding, mutually reinforcing practices. Integration across levels of government can reduce administrative overhead and assure that

regulatory structures support programmatic objectives. Also, as emphasized by SAMHSA's description of a *Good and Modern System*, such efforts should be part of a larger spectrum of services that also includes treatment and recovery supports.

- Systematic Implementation: The challenge of bringing prevention efforts to scale has been highlighted by the IOM and remains a formidable task. Fortunately, an emerging science of implementation in human services is available to support behavioral-health related prevention and promotion efforts.[45] Using this emerging literature will greatly enhance program and policy outcomes, as discussed in the Activities section of this paper.[46]

The principles guiding this effort, therefore, involve an explicit appreciation that behavioral health is essential for overall health and wellbeing and that, as a nation, we face great challenges in this area. A public health approach integrates treatment, prevention and promotion when focusing on the health status of the population. It seeks to exploit our considerable science base to systematically implement evidence informed practices. As a matter of urgent public policy, these efforts should be strategically led and focused to reduce the degree of fragmentation across levels of government and agencies within each of those levels. We have a great opportunity to improve the health and productivity of the nation but require the political will and practical know how to realize this potential.

Practices

As noted above, it is widely held that both genetic and environmental variables play a role in the development and manifestation of behavioral health disorders:[47] and because many environmental variables can be acted upon, there are tremendous opportunities for preventing various mental and substance use problems by implementing practices that are designed to reduce malleable risk factors and enhance malleable protective factors. [48, 49]

The IOM, in its seminal 1994 document on the prevention of mental disorders, presented a population-based framework for prevention that was predicated upon the level of risk for a given group.[50] In its updated 2009 report on *Preventing Mental, Emotional, and Behavioral Health Disorders among Young People*, the Institute reinforced its adherence to this same framework. [51] Specifically, the IOM categorized three levels of primary prevention: universal,

selective, and indicated. [b] *Universal* prevention programs are those that are targeted to a general population, without regard to risk levels of the individuals included. For instance, there are several school-based universal prevention programs that are designed to enhance the social and emotional competency of students. *Selective* interventions are those that are provided to a particular group because one or more factors increase the vulnerability of those individuals to certain negative outcomes (e.g., children in low-income households or those whose parents are getting divorced). Finally, *indicated* prevention efforts are those that are targeted to persons exhibiting problems, but not yet reaching the diagnostic level of a disorder (e.g., youth with somewhat aggressive behavior and/or early substance use).

Taking a Developmental Perspective

Individuals are exposed to different forms of risks--and can benefit from varying types of protective elements--at different times and across diverse domains of their lives. For this reason, practices to prevent behavioral health problems and promote emotional well-being tend to be focused on particular developmental phases.[52] Because roughly half of all diagnoses of mental illness are made by the time a person is 14, and three quarters are made by the age of 24,[53] the long-term benefits are arguably greatest for prevention-based efforts that focus on children and youth (which is the primary emphasis of this paper). At the same time, however, there are situational risk factors that can impede well-being at *all* life stages.

Examples of areas of emphasis for preventing behavioral health problems and promoting positive mental health at different life stages include:

- Prenatal and infancy: Proper nutrition during pregnancy and avoidance of toxic substances that negatively impact fetal growth; screening and support for postpartum depression; promotion of secure caregiver infant attachment; information for caregivers on child development, healthy parenting practices, and connection with needed social services and supports;[54,55]

- Early Childhood: Fostering positive caregiver-child interactions and the development of emotional and social communication skills;[56,57]

- Childhood: Practices to promote self-awareness, social awareness, self-management, relationship skills, and responsible decision-making; supports for positive strength-based parenting practices; improving self esteem and competency development; and

[b] In the IOM reports, the authors very clearly establish that "prevention" occurs *prior to the onset of a disorder,* and thus only **primary** prevention practices are labeled as such, with so-called secondary or tertiary prevention instead being seen as good treatment practice rather than true prevention.

improved teacher training to detect and appropriately respond to problems;[58,59]

- Adolescence: bullying-prevention efforts; opportunities for skills development and meaningful engagement in pro-social activities and with positive peer groups; and enhancing open caregiver/youth communication, monitoring of youth activities, and reducing household conflict;[60,61]

- Young Adults: support for managing stressors due to enhanced responsibilities associated with entering either college or the workforce, as well as pressures connected to becoming financially independent and starting families;[62,63]

- Adulthood: Socio-economic empowerment of vulnerable groups; access to sound employment; workplace stress reduction initiatives; relationship enhancement programs for couples; psycho-educational support for low-income adults at risk for depression; opportunities for meaningful engagement in one's community; and physician prevention messages related to stress reduction, physical activity, and nutrition;[64,65,66] and

- Older Adults: Support for stressors associated with declining health, impaired mobility, death of partners and friends, social isolation, change in social roles, and preparing for end of life; primary care screening for risks for substance use and depression; befriending initiatives; community and day centers; and social supports.[67,68,69]

There are a range of prevention-based practices that can be utilized, including: evidence based programs; approaches based on the "active ingredients" and core principles of such programs; and policies. Experts agree that greatest societal impact can be derived by employing *all* of these practices as part of a comprehensive effort to improve the behavioral health of the nation.[70] These different types of practices are discussed below.

Evidence-Based Programs

The past three decades have been marked by a tremendous surge in the creation and evaluation of programs designed to prevent substance use and mental health problems and to promote resilience and emotional well-being, particularly for young people. There now exists, then, scores of evidence-based program (EBP) models to address a variety of behavioral health challenges. Additionally, because there are several *common* risk factors for emotional, behavioral, and substance use problems (e.g., child maltreatment, severe household discord, etc.), as well as common protective elements (e.g., presence of a caring adult, positive

connection to school, community, and pro-social peers, etc.), a number of prevention-based efforts show benefits in multiple areas. [71]

While it is not the intent of this document to provide an exhaustive review of existing EBP's, examples of some programs for young people that are delivered in the various domains of an ecological model are presented below for illustrative purposes:

Example of a Home-Based Program: Nurse Family Partnership (NFP) is a well-studied, selective level, home visiting model for low income women who are pregnant with their first child. Intervention services are provided from early pregnancy until the child is 24 months of age, with a focus on prenatal health, enhancing maternal skills, and personal development of the mother (education, self-sufficiency, etc.). Results include: reduced child maltreatment; reduced maternal substance use and cigarette smoking; reduced emergency room visits; improved emotional health of the child at age 6; improved school readiness; and a decrease in arrests and alcohol use in the children at age 15. [72,73]

Example of a School-Based Program: The Good Behavior Game is a universal-level classroom-based behavior management strategy for elementary school designed to prevent disruptive activity. Classroom teams are given small rewards for positive behavior such as being on-task or displaying cooperation. It has been successfully implemented across diverse school settings[74] and has been shown to increase academic engagement, reduce disruptive behavior, and to reduce the later development of conduct disorder, substance abuse, and suicidal ideation.[75,76]

Example of a Community-Based Program: Big Brothers/Big Sisters is a selective level mentoring program in which a youth age 6-18 from a single-parent household is paired with an adult mentor volunteer. Professional staff offer mentor training, support, and supervision. Positive effects include: improved school engagement and performance; decreased likelihood of initiating drug/alcohol use; improved relationships with parent/caregiver; and a decrease in youth aggression (e.g., hitting others).[77]

Example of a Combined-Sector Program: The Incredible Years Program has demonstrated effectiveness as both a selective and indicated level prevention program. It includes components for parents, teachers, and children and is designed to promote emotional and social competence and to prevent/reduce aggressive and problem behavior in children. The parent training portion encourages positive parent-child interactions and communications; the teacher training highlights effective classroom management; and the curriculum for children emphasizes skills such problem-solving, taking perspective, showing empathy, and anger

management. The program has been shown to improve positive parenting practices, enhance school readiness, and reduce problem behaviors. [78,79,80]

As may be noted from the examples above, multiple sectors benefit from these programs, not just the system that implements the intervention. Nurse Family Partnership, for instance, might be coordinated via an office of Child and Maternal Health within a state or county, but long-term benefits are also realized by the Mental Health, Substance Abuse, Child Welfare, and Juvenile Justice systems. The Activities section of this paper addresses the importance of garnering political will to support a prevention agenda, as well as the value of cross-sector planning and collaboration. An awareness of the multi-sector win/win aspect of such programs can help to advance efforts, even while understanding that the different systems may experience their "wins" at different points in time.

Cultural Considerations

Because people's well-being is integrally linked to their social, environmental, and cultural contexts, it is important for programs to be culturally and linguistically appropriate for the populations being targeted. While there is a *significant* need for additional research in this area, there has been some headway in increasing our knowledge base.

For example, studies have shown that the Good Behavior Game,[81] referenced above, has been successfully used in schools with African American, Asian American, Latino, Caucasian, and Native American participants.

Similarly, the Parenting Program from the Incredible Years has positive effects for families from diverse backgrounds. In an interactive group format, a trained leader facilitates conversations with parent participants. Videotaped vignettes of common parenting situations (portraying children and caregivers from multiple cultural backgrounds) are shown as a means of initiating dialogue. While the program content is generic, cultural sensitivity is fostered in that parents set their own individual goals for their children and share their own situational examples, with respect being shown for diverse perspectives and experiences. Researchers have found that the program improves positive parenting practices in Asian American, African American, Latino, and Caucasian families.[82,83]

Some program developers and researchers have made a concerted effort to adapt certain models for use with specific populations. For example, there are Latino-oriented versions of the *Beardslee Preventive Intervention Program (PIP) for Depression* (a psychoeducational intervention for parents with depression and their children designed to enhance youth resilience and positive family communication), as well as the *Penn Resiliency Program (PRP)* (to

enhance resilience and prevent depression in middle school aged children). Similarly, the *Life Skills Training (LST) Program* (which provides adolescents with the skills to resist substance use) has been modified for use with a multi-ethnic target group. Modifications include, for example, providing culturally-appropriate examples and metaphors throughout the interventions. Studies on the adapted versions of PIP[84], PRP[85], and LST[86] all showed very positive outcomes, demonstrating promising possibilities for making certain models more culturally appropriate while still maintaining fidelity and program effectiveness.

There are also some programs that have been specifically developed for use with particular groups. For instance:

- *Hui Malama O Ke Kai* is a positive youth development program created for rural Native Hawaiian communities. This after-school program for 5th and 6th graders emphasizes Native Hawaiian values and has shown positive results in enhancing self-esteem, school success, and reduced substance use and aggressive behavior.[87]

- *Family Effectiveness Training* is an indicated intervention for Latino pre-adolescents and their families and addresses challenges in family functioning that are largely influenced by cross-generational cultural conflicts between children and their caregivers.[88]

- The *Strong African American Families (SAAF) Program* is specifically designed to prevent alcohol use/abuse among rural African American youth age 10-12 and to enhance the parenting practices of their caregivers.[89] The program has been shown to decrease alcohol initiation, improve parenting practices, and reduce conduct problems.[90,91]

- *American Indian Life Skills* (AILS) is a program created for use with American Indian communities to address the problem of suicidal behavior among youth. The school based curriculum covers topics such as building self-esteem, identifying emotions, developing communication skills, learning problem-solving techniques, and setting personal and community goals. Research on this program has shown that it is effective in reducing suicidal ideation, feelings of hopelessness, and self-destructive behavior.[92,93]

- *Gay Straight Alliances* (GSA's): Lesbian, gay, bisexual, and transgendered (LGBT) youth report higher levels of depression and anxiety related to experiences of stigma and harassment.[94] The presence of GSA's in school systems, which are designed to promote increased tolerance and understanding of LGBT students, have been effective at reducing the experience of alienation among these youth and enhancing positive school engagement.[95]

There are a number of questions connected to the issue of the cultural appropriateness of EBPs.[96,97] For a given intervention, are its components sufficiently generic for it to be effective with diverse cultural groups? For a program that has been labeled as being effective for a certain population, to what extent have within-group differences been assessed? When making culturally-specific adaptations to an existing evidence-based model, what are the key elements of the program that must be maintained for it to have fidelity, as well as cultural-relevancy? Are there existing culturally-specific community-developed practices that are highly effective even though they are not categorized as "evidence-based" because they have not had the benefit of a formal research trial? The Activities section of this paper highlights the importance of conducting on-going research on these and other issues.

It is important to note that implementing evidence-based programs in a manner that will yield the same effects reported in research trials requires attention to a host of implementation issues – with cultural and linguistic appropriateness being among them. The Activities section of this paper addresses the various action steps that states and communities must take to ensure success, including, for example: carefully assessing need; developing sufficient workforce capacity; engaging in cross-sector collaboration; ensuring that service systems are appropriately structured to support selected programs; and designing and implementing evaluation practices that can be used for on-going quality improvement.

Kernels of Evidence and Key Principles

While properly implemented evidence-based programs can reap tremendous benefits in preventing behavioral health problems and promoting well-being, they are not the only practice that states and communities should consider adopting. Researchers have begun to explore, for example, common components that exist across multiple program models. Training the professional workforce in these competencies may result in enhanced capacity to implement prevention strategies that do not involve a full program, thereby integrating effective prevention and promotion practices into several human service settings.[98]

Researcher Dennis Embry coined the term "evidence-based kernels" to refer to those "fundamental units of behavior influence" that are the basis for a number of different EBPs.[99] Embry and colleague Anthony Biglan have identified 52 empirically-based "kernels" that might be easily and inexpensively incorporated into any number of different settings, including schools, homes, workplaces, and communities. Each of these kernels has experimental evidence supporting its effectiveness. For example, giving *verbal praise*[c] to acknowledge and

[c] Or, instead of *verbal praise*, *signed praise* for persons who are deaf and communicate via sign language.

reinforce desirable behavior can improve cooperation and social competence and reduce disruptive behavior for individuals across the lifespan.[100] The *mystery motivator/prize bowl* (in which individuals are given rewards via a basic lottery-style system for engaging in a desired behavior) can increase cooperation and productivity and enhance positive adult/child interactions.[101] Taking *Omega-3 supplements* (1-3 g per day) is associated with a reduction in aggression, violence, and depression.[102] And providing children with *meaningful roles* in school and at home can build self-efficacy, enhance family functioning, and decrease negative behaviors.[103] The researchers note that these kernels can also be used in tandem with various evidence based programs as a means of further strengthening program impact.[104]

Other researchers have also identified common components that underlie a number of evidence-based prevention practices. The Social Development Research Group in Seattle, for instance, reviewed numerous programs that support positive youth development and noted five common elements, explaining that young people fundamentally need: (1) opportunities for meaningful involvement with positive adults and peers; (2) a chance to develop skills and assets that will allow them to succeed in diverse settings; (3) recognition for their efforts and accomplishments; (4) development of strong bonds with their families, communities and schools; and (5) clearly-communicated standards of positive behavior from their families/schools/communities. [105] Similarly, the Promise Neighborhoods Research Consortium emphasizes the core principles of fostering nurturing environments and removing toxic elements that can impede healthy youth development as a guiding strategy for improving the well-being of children, families, and communities.[106]

Consistent with the findings noted above, the authors of the 2009 IOM report on preventing behavioral health problems in youth observe that advancing certain key principles can help to bolster the behavioral health of our society at large. Those principles include: reducing children's exposure to harm (including abuse and neglect); enhancing positive, supportive environments that offer encouragement, acceptance, and reinforcement of pro-social behavior; utilizing evidence-based kernels in diverse settings; and attention to physiological health through proper nutrition, sufficient sleep, exercise, and limited television viewing.[107] By emphasizing basic principles to promote healthy development beyond the context of formal programs, entities at all levels (states, communities, individuals, and families) can all become agents for fostering positive behavioral health.

Policies

Public policies (at the national, state, and local levels) are another practice that can be employed to improve the behavioral health outcomes of our society, and they are an effective means of making an impact on the population at large. The newly-released IOM report, *For the*

Public's Health: Revitalizing Law and Policy to Meet New Challenges, encourages policymakers to take a "health in all policies" approach to explore ways in which regulations across diverse systems can have a positive impact on our well-being.[108]

Policy-based strategies to prevent behavioral health problems have been utilized particularly well in the area of substance use prevention. For example, in its 2003 report on *Reducing Underage Drinking*, the IOM highlights a number of policies that can curb consumption by minors, including raising excise taxes on alcohol and strengthening and enforcing regulations that prevent sales to, or on behalf of, underage persons.[109] Several localities funded via the Center for Substance Abuse Prevention's Strategic Prevention Framework grant initiative have reported success in getting local "hosting" ordinances passed to hold adults accountable for allowing parties with underage drinking to be held in their homes.[110] Similarly, state and local laws that restrict smoking in public places have had a positive impact on limiting exposure to second-hand smoke, and reducing tobacco use.[111]

There are opportunities to enact policies across a range of sectors that can have a positive impact on the emotional well-being of our citizenry. For example, state departments of education and local educational agencies can adopt bullying prevention policies.[112] Departments of Juvenile Justice can implement policies calling for asset-enhancing, strengths-based approaches to care, and Child Welfare agencies can similarly adopt family-strengthening protocols.[113] Policies can also be implemented to stipulate that child and family-serving agencies utilize evidence-based practices that have been determined to enhance healthy youth development and reduce risk factors for behavioral health problems and other negative outcomes.[114]

As noted earlier, there are various social determinants that negatively impact behavioral health, including discrimination and inequality. To address one facet of this problem, state and local agencies serving children and families can institute and enforce written policies that specifically bar discrimination on the basis of actual or perceived sexual orientation and gender identity, and implement required in-service training for staff and contracted providers on LGBT-supportive practices.[115,116] On a national level, policies to decrease poverty and inequality—two *significant* risk factors for a host of behavioral health problems[117,118]—perhaps have the potential to make the biggest impact on improving our nation's well-being. Examples (drawn from other industrialized nations that have less poverty/inequality and fewer behavioral health problems than the U.S.) include: universal healthcare; subsidized quality child care; expansive social services; and social insurance programs.[119,120,121] Indeed, as the World Health Organization aptly notes, "many of the activities of mental health promotion are socio-political: reducing unemployment, improving schooling and housing, and working to reduce stigma and discrimination of various types."[122]

Collectively, the practices of implementing evidence-based programs, utilizing evidence based kernels, promoting empirically-informed principles, and enacting health-enhancing policies can have a substantial impact on improving the behavioral health of our nation. The next section of this paper, Activities, outlines some of the key action steps that are necessary for ensuring that such practices can be executed in a manner which optimizes their effectiveness and sustainability.

Activities

Consistent with the principles and effective practices that guide this work, a number of activities are necessary to achieve the vision of improving the health status of the American people. In order to realize the maximum promise of the science for enhancing behavioral health, an integrated set of mutually supportive initiatives should occur at multiple levels (national, state, and local). Below we explore some of the actions that can serve to advance the successful application of prevention-based practices.

Utilize Knowledge of Effective Systemic Approaches

Information derived from implementation science and empirically-tested behavioral influence systems—as discussed below—are highly instructive in illuminating the various processes (e.g., partnership development, needs assessment, selection of evidence based practices, technical assistance, capacity building, data collection, quality improvement, etc.) that can facilitate the successful implementation of the evidence-based practices discussed earlier.

Implementation Science:

While much has been learned over the past two decades about evidence-based practices to prevent behavioral health problems, an area of research that has not been widely applied to such efforts is that of *implementation science*, which seeks to answer questions such as: What actions are necessary to ensure that practices can be implemented with fidelity in real-world settings to achieve their intended results? This discipline is particularly relevant when implementing evidence-based *programs*. The National Implementation Research Network (NIRN) has done extensive work in this area, and has found that effective program implementation includes four stages, a process that takes approximately 2-4 years. Those stages are:[123]

- *Exploration:* Assessing the potential match between the needs and resources of a locality and the requirements of a prospective new practice--including issues of ensuring

that the practice is culturally and developmentally appropriate for the population being served--followed by a clear implementation plan with tasks and timelines;

- *Installation:* After deciding upon a new practice, but before engaging participants, conduct preparations, such as:
    - Acquiring necessary equipment (e.g., cell phones, computers),
    - Developing criteria for new staff and engaging in staff recruitment, selection, and training,
    - Developing necessary policies/procedures, and
    - Creating referral mechanisms, developing data systems, and articulating outcome expectations;

- *Initial Implementation:* Putting the program into operation (sometimes in a small "transformation zone" at first), while managing change, coaching staff, utilizing data systems, and looking at improvement cycles; and

- *Full implementation:* Bringing the project to scale once components are well supported; integrating infrastructure at all levels, including policies and procedures that facilitate implementation and sustainability so the new practice is well-established in practitioner competencies; and eventually reaching the point where the program is seen as the new standard for "business as usual."

The researchers at NIRN additionally identify various drivers that advance these activities, including:

- *Competency drivers*: staff selection, training, coaching, and performance assessments;

- *Organization drivers:* effective administration and policies at the agency and system level that are required to create a functional environment for a new initiative, as well as the development and maintenance of data systems so that decisions made by administrators rely on facts and enable quality to be monitored; and

- *Leadership Drivers:* using the right leadership approach for the challenge being faced in order to maintain focus, ensure that relevant perspectives are heard and respected, and engage in active problem-solving and learning.[124]

In order to maximize the potential for success, then, entities at the national, state, and local levels ought to utilize the knowledge derived from implementation science when planning and executing interventions that utilize evidence-based programs.[125] For example, Federal funders can design prevention-based initiatives that incorporate activities and timelines that realistically

reflect the effort that is required to implement programs with fidelity. States and communities can similarly use this information to appropriately assess, plan, staff, fund, and evaluate their projects in accordance with a framework that will feasibly produce the intended results.

In recent years, *purveyor organizations* have been developed for the purpose of ensuring that various EBP's are implemented with fidelity and in a manner which will generate expected results. For example, the Nurse Family Partnership (NFP) National Service Office is a purveyor entity for NFP that works with states and communities that are implementing this practice to help ensure its success. Similarly, *intermediary organizations*, while not affiliated with a single model, work with states and localities as they implement certain EBPs to guide them through the systemic processes. For instance, Invest in Kids is a Colorado-based intermediary agency that works with communities throughout the state to help them implement EBPs such as Nurse Family Partnership and the Incredible Years. Both of these organizations utilize the implementation research developed by NIRN to guide their work.[126]

Behavior Influence Systems

As the prevention field has moved forward, various behavior influence systems have been developed to support the broad-based implementation of an array of evidence-based programs and practices. Two examples are offered here. *Communities that Care* is a SAMHSA-sponsored prevention operating system that is coalition-based and focused on preventing youth problems such as substance use, delinquency, and violence. It entails a five-phase process: assessing community readiness; establishing a diversely representative prevention-focused coalition; using epidemiological data to gauge needs; choosing evidence-based policies and programs that are well-matched to address those needs; and implementing the practices with fidelity while collecting and using evaluation data.[127] This systemic approach has been an extremely effective means of fostering healthy youth development and preventing problematic behaviors in youth in a manner which is reflective of and responsive to the needs of the community.[128]

PROSPER (which stands for PROmoting School-community-university Partnerships to Enhance Resilience) is a delivery system with proven effectiveness that provides linkages between state-based management teams, prevention researchers, strategic community teams, the Cooperative Extension system, and the public school system in order to select, facilitate, sustain, and monitor the use of family and school based EBP's that reduce problem youth behaviors such as substance use and enhance healthy youth development and positive family functioning.[129,130] PROSPER, like Communities that Care, also includes technical assistance and training materials to support the systems' efforts.

States and communities that are interested in expanding their prevention-based efforts would be well-served by exploring empirically-based behavior influence system models such as the two highlighted above as a means of facilitating widespread usage of EBPs.

Lessons-Learned from Existing Federal Initiatives

It is also constructive to consider the first-hand perspectives of entities engaged in the process of implementing prevention/promotion initiatives. During the summer of 2011, a series of dialogue discussions were held with representatives from three different SAMHSA-funded projects[d] all of which entail some level of planning, infrastructure development, and cross-system collaboration at the state level---coupled with regional or community-level evidence-based program/strategy implementation. Common themes that emerged across all three initiatives with regard to those elements that grantees identified as contributing most significantly to the success of their efforts were:[131]

- Accessing and building upon existing infrastructure as a means of advancing project activities;
- Forging strong partnerships and alliances with state and local representation;
- Having mission-focused leadership at the state and local levels; and
- Utilizing data to inform project activities at all stages.

Such observations align with knowledge derived from the research on implementation and behavioral influence systems and further illuminate important areas in systemic efforts to advance prevention/promotion practices.

Expand Workforce Capacity

Ultimately, in order to have evidence-based prevention practices utilized on a broad-scale basis, our nation must have a knowledgeable, prevention-oriented workforce in place across multiple disciplines. One strategy for enhancing competencies in this area is to update the educational curricula for nurses, teachers, social workers, psychologists, and other professionals in human services fields to incorporate information on prevention practices (i.e., programs, principles, kernels, and policies) so that new professionals entering these disciplines will be fully equipped to utilize the existing research base.[132] Because most evidence-based prevention/promotion

[d] The 3 programs were: (1) the Garrett Lee Smith State/Tribal Youth Suicide Prevention Program, a discretionary grant program designed to support the development and implementation of statewide and/or tribal youth suicide prevention and early intervention strategies, grounded in public/private collaboration and involving a diverse array of youth-serving agencies and organizations; (2) Project LAUNCH (cohorts 1 and 2), a discretionary grant program that supports a collaborative public health approach for fostering well-being in children aged 0-8 across multiple domains; and (3) the Strategic Prevention Framework State Incentive Grants (SPF-SIG), a large-scale discretionary grant intended to support infrastructure for the implementation of effective programs, policies and practices to reduce substance abuse and its related problems.

practices operate on strength-based, asset-enhancing principles, such training may also foster more nurturing *treatment* approaches among these professionals, as well. The curricula for public administration, public finance, and public policy should be similarly prevention-informed so that the next generation of policymakers will have the requisite knowledge to make sound investments in evidence-based strategies to promote wellbeing. As researchers are being trained, it will also behoove us to ensure that they are taught to take an *implementation-oriented* approach to the development of new practice models.[133]

State offices of higher education might be engaged to advance these efforts in public colleges and universities. Additionally, internships and fellowships offered through Federal and State agencies, as well as community private sector organizations, can be specifically tailored to provide opportunities for students and new professionals to work on projects designed to advance primary prevention practices.

There are also various opportunities for increasing the knowledge base of the existing workforce. Professional associations of teachers, school administrators, social workers, nurses, psychologists, child welfare administrators, juvenile justice administrators, and so forth can include information on evidence-based prevention practices within their national conferences and continuing education training courses. Federal agencies might also consider issuing workforce development planning grants for states that are specifically focused on the area of fortifying and expanding the prevention-based knowledge and competencies of their workforce.

Develop and Expand Prevention-Oriented Partnerships and Coalitions

Initiatives to prevent behavioral health problems and promote emotional wellbeing are attractive, in part, because they impact a wide range of outcomes that touch nearly all aspects of societal functioning. As such, they can be sponsored by various public and private entities, as well as various interests within these spheres. Education, child welfare, juvenile justice, health and behavioral health agencies (at the local, state, and national levels) can all have prevention projects. These government agencies sponsor programs targeting outcomes that are related to their respective core missions. Additionally, prevention and promotion initiatives can be geared towards individuals, families, schools, other community agencies, and/or the community at large. However, as we discussed earlier, their broad applicability has led to fragmented efforts in practice, often involving diverse agents. These agents generally will share overarching interests in healthy, happy and productive populations but may have differing proximal outcome variables to which they manage and differential program or policy emphases to achieve these ends.

A primary step in organizing prevention efforts therefore involves the formation of partnerships and coalitions that broadly reflect the individuals who represent the areas of interest. These representatives will differ depending upon the government level that is being considered but will typically involve representatives of the major human service areas supported by government (e.g., education, child welfare, public heath, behavioral health, juvenile justice, etc.) as well as other agents who are concerned with human health and wellbeing (e.g., faith community, voluntary health and human welfare agencies, professional organizations, service organizations, advocates, etc.). Usually each of these entities has programming that addresses their more proximal outcomes of interest, and their efforts often are not informed by the programming of other agents. Duplication and confusion can result. Additionally, while each agent is principally focused on their areas of interest, often no one may be evaluating the cumulative effects of their actions on community health and wellbeing. Functional partnerships and coalitions can greatly assist in these efforts.

For example, linkages across Federal agencies (both intra- and cross-departmental) can serve to foster broad-based prevention/promotion strategies. States are often able to combine and build-upon various federally-sponsored initiatives to support such work, and Federal coordination--either through jointly-funded programs, common reporting requirements, or enhanced opportunities for information-sharing across initiatives with similar goals—can bolster such efforts. The newly-formed Public Health Council can help to facilitate such efforts, and SAMHSA would be an ideal lead for coordinating a national partnership specifically focused on promoting emotional wellbeing and preventing behavioral health problems.

Within states, partnerships and coalitions can provide overall direction and coherence to programming that occurs across government departments. They can effectively represent the value of programming to total health and create a context within which wellbeing can be assessed. These connections are important for several reasons. On one hand, in order to capitalize upon existing structures, prevention-based practices can be infused into or linked with current service systems that individuals are already accessing across diverse sectors (e.g., a pediatricians' office, schools, day care, or a WIC or Food Stamp office).[134] At the same time, it is important to maintain a multi-sector perspective because numerous systems tend to benefit from prevention programming besides the one directly implementing the practice (even though those advantages may be realized at different times in youth development). For example, with the Good Behavior Game referenced earlier, the school system implementing the program sees an immediate benefit in the form of less disruptive classroom environments and better academic engagement. But the mental health, substance abuse, and justice systems also experience more long-term gains in the form of reduced rates of conduct disorder, drug use,

and arrests.[135] An understanding of the positive multi-sector impacts of prevention-based strategies can further solidify partnerships based on these goals.

At a community level, coalitions can serve a similar function, as well as expressing and galvanizing community perspectives on overall community health and wellbeing. They can more effectively coordinate resources, build political and practical support for prevention and promotion initiatives, and provide a point of accountability for community wellbeing. Ideally, coalitions involve the full range of actors who will be required to assess the needs of the community. Practical guidance on their formation and functioning at the community level can be found in the major existing strategies highlighted earlier (i.e., Communities that Care and PROSPER).

Establish Stable Funding Sources for Prevention

A challenge to date is that funding for evidence-based practices to prevent behavioral health problems and promote emotional well-being has been inconsistent and fragmented. Efforts at the national, state, and local levels can help to ensure for on-going support of prevention initiatives.

At the Federal level, the proposed FY 2012 *SAMHSA State, Tribal, and Community Prevention Grants*[e]—a set of three new discretionary formula grants for states and tribes to address primary prevention in behavioral health—provide an excellent opportunity for supporting on-going funding of these efforts. As depicted in the Congressional Justification, many of the proposed components of these new grants are consistent with elements of successful systemic approaches discussed earlier, including: epidemiologically-driven needs assessments; comprehensive strategic planning; cross-sector collaboration at the state and local levels; the selection of evidence-based policies and programs; infrastructure development; and evaluation and monitoring.[136] By engaging in partnerships with other federal agencies, as noted above, SAMHSA can ensure that these new grants generate a maximum impact by linking these efforts with those of other agencies that are funding initiatives that similarly impact positive emotional health.

States, while benefiting from Federal prevention-based funding, can also begin to make more prevention-oriented allocations of state resources. For example, states are already paying for services delivered via departments of child welfare, education, juvenile justice, and health. The key is to ensure that evidence-based prevention practices are *included* within those services.

[e] Note: These grants are in the President's proposed budget for FY 2012, but—as of the time of the publication of this paper—it is not yet known whether or not this new initiative will be funded by Congress.

Washington State, for example, has been working with the Washington Institute for Public Policy for several years to explore evidence-based, cost effective practices to prevent justice system involvement, child maltreatment, and behavioral health problems. Washington utilizes that information in legislative funding decisions.[137] Most notably, in 2007, the state legislature allocated $48 million of its biennial budget into expanding evidence-based prevention programs and adjusted its long-term prison construction budget downward with the expectation that fewer prison beds will be needed as broader-based prevention programs are implemented.[138]

Across the board, the development of sustainable business models for prevention and promotion activities is essential for their viability. At a basic level, these models will rely upon the identification of a market for these services, a purchaser for them, and the production of a reliable, predictable product from them. Coalitions and data are key elements in the development of the market by both identifying and codifying community needs and identifying strategies that can be reliably employed to meet these needs. These coalitions, armed with these data, need to approach potential purchasers and interest them in buying prevention and promotion services. Typically, since these are public goods, the purchasers are government entities – like school districts, juvenile justice, public health, behavioral health or child welfare agencies; which, as noted in the example of Washington State above, can be influenced to invest in prevention when equipped with the proper information. Of course, organizations like the United Way, reflecting the commitment of the citizenry and business community, also purchase these services. For adult oriented wellness services, businesses can serve as a purchaser. Foundations, too, can be educated about evidence-based prevention practices so that their philanthropic endeavors can support effective strategies for promoting emotional wellbeing and preventing behavioral health and related problems. As we move toward more universal medical insurance coverage and eliminate pre-existing condition exclusions, insurance companies may become more interested in population health and become purchasers. Anticipating these changes, Steverman and Shern[139] have produced an analysis of the barriers to the use of Medicaid to support prevention initiatives and potential strategies to address these barriers.

Part of the development of a local market for these services involves the packaging of 'products' that can be purchased. In the case of behavioral health related prevention and promotion, these products should be the measured outcomes of the programs or policies that are overseen by the community coalitions and delivered by community partners. An important element in delivering these program outcomes is the preparation of the workforce with the competencies needed for the initiatives. Workforce development efforts, as discussed earlier, and the creation of sustainable business models for prevention would be mutually-reinforcing because: (a) certification in the competencies required to deliver and manage these programs

could become part of the product development cycle in the business model; and (b) the availability of predictable employment opportunities for preventionists would further spur post-secondary educational programs to develop certification programs and the curricula necessary to support these programs.

Similarly, the ongoing training and support of prevention initiatives will further stimulate the development of program purveyors and intermediary organizations. As these markets become available, the translation of university based science into operational state and community programs will become feasible, and a link that is largely missing currently may become economically viable. Current efforts to systematically implement the Nurse Family Partnership as referenced earlier is an instance of this market development[140] in conjunction with stable public health funding of these services. Workforce competencies stimulated by the successful development of business models is an essential element of overall capacity development for prevention and promotion.

The PROSPER[141] model is another interesting example of an approach to developing a sustainable business model for prevention initiatives. As discussed, it involves a partnership between the agricultural extension service (itself a partnership of county, state and national funding) and local school districts. The PROSPER model pairs the extension agents (that are available nationwide) with school districts (the purchasers) to implement evidence based prevention programming, with a significant emphasis on long-term sustainability of those projects.

Ensure Availability of Useful Data

As noted earlier, in order to successfully execute prevention-based initiatives, government entities and coalition groups must have access to information regarding the status of the population(s) of interest, as well as on the initiatives being implemented. These data must be timely and trustworthy. The data that will be available will vary by organizational level but will generally involve indicators of health and wellbeing. At least three types of data can be distinguished.

The first is data related to community needs. These can come from varying sources including key informant interviews with leaders, systematically collected survey information regarding the population (e.g., the National Survey of Drug Use and Health[142] and Gallup/Healthways Wellbeing Survey[143]), surveillance data (e.g., reportable health conditions, incidents of child maltreatment, drug or alcohol related traffic accidents, etc.), performance data (e.g., academic performance information, productivity measures, etc.[144]) or other indicators of population status. The newly-proposed *SAMHSA State, Tribal, and Community Prevention Grants* stipulate

that grantees gather such data to identify communities of greatest need and to inform project planning and implementation. In conjunction with the existing SAMHSA-funded Strategic Prevention Framework initiative, states have already been tasked with assembling state epidemiological workgroups to compile data sets that focus principally on substance use related indicators.[145] These bodies provide an excellent foundation for developing *broader-based* efforts to gather a wider set of indicators of behavioral health and population wellbeing across the range of human performance areas that have been shown to respond to effective promotion/prevention initiatives.

Building upon our growing understanding of implementation science, the second type of data relates to the successful *implementation* of prevention/promotion initiatives. Depending upon the organizational level that is under consideration, the granularity of these data will vary. At the program level, data on staffing, task performance, cost of program, and performance benchmarks (e.g., fidelity scores) can all be used to assess the successful implementation of the initiative, as well as in quality improvement efforts to tune program performance. At the state level, these data are more likely to reflect the availability of specific programs throughout the state and their degree of implementation at a more molar level, while including information on the establishment of applicable partnerships, and the enactment of practice-supporting policies and funding streams. National data will parallel that for the states but focus more broadly at national coverage of the initiatives. Ideally, these data can be collected in a fashion that will allow them to be aggregated for reporting at higher organizational levels (e.g., neighborhoods, cities, counties, states, and national).

The third type of data involves outcome indicators. Many of these indicators may involve the same information that was collected to identify needs. Depending on the goals and characteristics of the specific initiative, these data can involve changes at an individual level (e.g., skills acquired in a parenting education program) or changing rates at a community level (e.g., drug/alcohol-involved traffic related incidents). In either event, however, the reliability and sensitivity of the data to changes in population health status is essential for outcome monitoring. Proof of program effectiveness and program sustainability can be greatly enhanced by the availability of outcome data. Additionally, it is beneficial to consider both long-term, as well as proximal indicators to demonstrate successes in promoting healthy development, and to communicate "wins" with those proximal indicators as a means of maintaining momentum and commitment to the initiative.

Funders at all levels (national, state, and local), both public and private, would benefit from ensuring that the time and resources necessary to collect reliable data are built into planning for such efforts. Similarly, mechanisms to utilize implementation and outcome data to inform

ongoing quality improvement efforts is an essential component of generating positive results in such initiatives.[146]

Technical Assistance

Given the strength of the science base in prevention and promotion, as well as the clear national need to invest in our human capital, the provision of various technical assistance resources seems essential. For example, guidance in the development of business models for these practices likely would be very helpful – particularly as related to identifying purchasers who have not been traditionally viewed as interested in population health and wellbeing. Traditional technical assistance on evidence based practices, the development of state epidemiological data, accessing and using national data sources, partnership development, and outcome and/or implementation benchmarks would all be beneficial, as well.

At a SAMHSA-sponsored Experts Forum on implementing prevention practices that was held in the summer of 2011, a variety of tools were suggested that might be well-utilized in states and communities, such as:

- Tool-kits of information on implementation processes;
- Cost calculators to determine costs of implementation of various EBPs, as well as *resource calculators* to determine time, opportunity, etc. that might be necessary;
- Adaptations of business sector models such as "service blueprinting" that help organizations/systems determine what resources are needed for implementation, including roles/responsibilities/actions required of different entities;
- A centralized listing of all federal initiatives that support emotional wellbeing, as well as best practices emerging from those efforts;
- A web-based inventory of data sets and instruments to facilitate access and utilization of this information; and
- A logic model and training supports to help communities engage in thoughtful needs assessment and strategic planning so as to be good consumers of research-based practices.[147]

As noted earlier, behavior influence systems such as Communities that Care and PROSPER include technical assistance and ongoing monitoring as part of their models. National, state, and local funders/purchasers of various prevention initiatives can similarly incorporate technical support from purveyor and intermediary organizations to assist with effective implementation as a part of those endeavors.

The formation and support of learning communities among local or statewide projects might also be particularly well received. When participants at the SAMHSA-sponsored grantee

dialogue sessions referenced earlier in this document were asked about the technical assistance resources that were most helpful to their efforts, respondents *consistently* identified peer group problem solving as a very attractive strategy to support their work.[148] Mechanisms to support information exchange across the states to share lessons learned in successful prevention endeavors, for example, could further stimulate development of statewide efforts. Enabling and supporting learning communities through web based and regional meetings are other mechanisms that might be useful. Building coalitions across state lines that are committed to the general goals enumerated in the National Prevention Strategy would also bolster the national effort.

Support Ongoing Research

Despite the tremendous advances that have been made in prevention-based research over the past three decades, the field will benefit from on-going knowledge development of practices that can enhance resilience and prevent behavioral health problems. Additionally, taking an *implementation-minded* approach to such research will help to ensure that new practices are ones that are likely to succeed in "real-world" settings in states and communities.[149]

Another area of research that ought to be expanded, as alluded to in the Practices section, is in the area of ensuring that practices are culturally appropriate for the populations being served. One method suggested by the IOM for enhancing our knowledge base is to support community-based participatory research (CBPR). CBPR entails a strong collaboration between researchers and communities in all aspects of the research process (e.g., formulation of research questions, design, interpretation of results, etc.) with all partners contributing their expertise so that practices and evaluation measures reflect community-identified goals, needs, and priorities.[150, 151] Additionally, formally testing existing models that appear to be working well in local communities can greatly expand our nation's understanding of effective strategies to support healthy development among diverse groups.[152]

Finally, to further bolster business models for supporting prevention, additional research in the cost-benefits and cost-effectiveness of various evidence-based practices can reinforce the short and long-term advantages of investing in sound prevention/promotion strategies.[153]

Services

If one thinks of "services" in a very broad sense as what the end-user experiences, then what might those services look like if the practices and activities detailed above were executed on a wide-scale basis? Since the practices that can positively impact behavioral health occur across

the multiple domains in which people live, work, and play, individuals will experience the effects of these efforts in a myriad of ways.

Children would attend day care centers, schools, and community programs that promote social and emotional learning, foster cooperation and pro-social behavior, and take measures to prevent toxic influences such as bullying. Practitioners in various sectors would incorporate evidence-based kernels that support positive behavioral health into the array of other services that they offer. People would work in settings that utilize stress reduction strategies. Individuals and families that are facing various challenges would be linked with programs to reduce risks and enhance resilience—according to their level of need—and those connections might be made through various channels, such as primary care, community organizations, public agencies, and school and employment settings. People would live in communities that promote safety and take measures to prevent problems such underage drinking.

States would make prevention-minded programming, policy, and funding decisions so that the services that individuals receive through health, human service, justice, and educational sectors would reflect evidence-based principles for promoting nurturing environments. At a national level, initiatives that enhance emotional well-being and prevent behavioral health and related problems would be widely supported and seamlessly integrated to avoid gaps and fragmentation.

Well established business models for prevention and promotion activities would exist in every community. These would involve ongoing monitoring of population wellbeing and academic and work performance that would allow for constant fine-tuning of prevention and promotion strategies to maximize human capital. The development of these markets would enable stable delivery systems. Higher education institutions would adapt evidence based programming in both their pre-service and in-service training programs. Prevention and promotion specialists would become a recognized profession with certification and/or degree programs available to prepare the workforce to both lead these efforts and deliver these services. The core competencies of behavioral health prevention, promotion and treatment would be featured in other aspects of human services training so that they would be more likely to be integrated across a range of human service, health, and education settings. In-service training would fully embrace the adult learning principles of training and coaching to help assure that the core competencies and skill sets needed to deliver effective initiatives would be represented in the workforce.

Epidemiological data sets integrating national, state and local indicators would be available in each community to help guide the prevention and promotion efforts, as well as to be used in

their evaluation and quality improvement efforts. Program specific data would also be available for these purposes. Data would be collected and disseminated in ways that maximize integration across levels of aggregation from the program through the community, state, and national levels.

Viewed in this broad light, the services that individuals would experience across all of the domains of their lives would reflect **"the new norm"** of promoting healthy development and strengthening positive functioning. Within that context, the national indicators of well-being by which the United States lags so far behind other industrialized countries, may at last begin to improve.

Conclusion

Research over the past several years has generated a tremendous knowledge base of practices—including evidence-based programs, kernels, principles, and policies—that can improve healthy functioning and prevent a host of behavioral health problems. As was noted in the 2009 IOM report, however, significant advances in the science of prevention have not been accompanied with parallel advances in program dissemination or implementation. The infrastructure needed to assure broad scale implementation is not predictably available at any level of government, and it needs to be present at all levels. This will involve systematic investment in our human capital. Coalitions and coordinated partnerships at every level of organization (national, state, local) among groups who share overarching goals and who are outfitted with useful and timely data can begin the work. They can inventory the adequacy of our human capital investments, identify gaps and strengths and, ultimately, develop business models to support these activities. Investing in workforce development, utilizing the knowledge gained from the burgeoning field of implementation science, and supporting on-going research can further advance these efforts. Providing recurring funding to state mental health and substance abuse authorities with a charge to improve community health in measureable ways, while supporting states and localities with technical assistance and learning communities, can help to realize these aspirations. With the identification of Prevention as its top strategic initiative, and in the broader context of national healthcare reform efforts, SAMHSA is in an excellent position to lead the nation in bringing about this "new norm" in which services and supports in all sectors are guided by the science of prevention and promotion to help our citizenry realize its full potential. Certainly, the time is right.

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