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INTEGRATING MENTAL HEALTH into CHRONIC DISEASE PREVENTION STRATEGIES for YOUTH:

An Opportunity for Change

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THE OPPORTUNITY

Health agencies play a vital role in promoting, protecting and improving the health of youth. As childhood and adolescent obesity, asthma and diabetes rates have steadily climbed, that role has increasingly focused on the growing chronic disease prevention needs of this population. Traditionally, public health prevention programs addressing these concerns have focused on protecting, promoting and improving the *physical health* of youth. While successful in achieving specific outcomes, programs have often overlooked the important role that *mental health* plays in the prevention and management of chronic disease.

> Health agencies, in partnership with mental health and education agencies, have an incredible opportunity to make the connections between chronic disease prevention programs and mental health for youth.

The reciprocal relationship between physical and mental health provides opportunities for agencies to come together and reinforce consistent messages about health and wellness. For chronic disease prevention programs, the opportunity is one of increased effectiveness – programs can and will be more effective if they address the whole child by actively integrating mental health strategies into current programming. Building links between distinct programs is no doubt challenging. However the potential benefits for the health of youth far outweigh the costs.

This paper aims to provide guidance to key decision makers in health agencies on the integration of mental health into chronic disease programming. It will answer the important questions of:

- Why is this important? Why change now?
- What are the connections and relationships between mental health and chronic diseases in youth?
- How can a public health model be applied to mental health?
- What does integrating mental health into chronic disease prevention programs in a health department look like?
- How can health agencies strengthen partnerships with education and mental health agencies to integrate mental health into programming?
- How do we get started?

WHY CHANGE NOW?

Over the past few years, a fundamental change has been slowly taking shape in the area of children's mental health. The change is based on the growing acknowledgement that children's mental health is about much more than mental illness, and that there are significant benefits to be gained by approaching mental health from a public health perspective. Positive mental health, mental *wellness* and mental health promotion have emerged as the missing pieces in a system that has traditionally been problem-based and crisis-focused.[1,2,3] Mental health is not just about clinical services and treating one child at a time, but about looking at the whole child in the overall environment, and whether or not that environment and the policies that govern it are promoting positive mental health and preventing mental illness.

At the same time, there has been an increase in understanding of the strong connections between mental health and physical health, especially as it relates to chronic diseases, mental illness and risk behaviors.[4,5] Co-morbidities exist between mental health and a myriad of physical conditions — obesity, asthma, and diabetes, to name a few. Poor mental health also reduces a person's ability and willingness to engage in healthy behaviors. For youth, as with adults, a healthy state of well-being includes the whole person, both body and mind. Yet frequently, public health prevention programs that address the physical, medical and nutritional needs of youth don't emphasize the strong interaction with mental health and find ways to consciously address it. **For programs to be the most effective, they need to incorporate strategies that promote positive mental health, reduce mental health problems, and address the unique social and emotional needs of youth.**

TAKING A CLOSER LOOK:

Understanding the Context and Connections

The mental health needs of youth are significant. A few statistics to consider:

- Ten to twenty percent of young people are affected by mental disorders with some level of functional impairment.[6]
- Between five and ten percent of adolescents in any given year are afflicted with severe mental disorders that cause significant impairment in one or more aspects of normal functioning.[7]
- Among adults, half of all mental, emotional and behavioral disorders were first diagnosed by age 14 and three-quarters by age 24.[8]
- Among adolescents ages 12-17, 13 percent have experienced at least one major depressive episode in their lifetime 9 and surveys have reported anywhere between 13 and 40 percent of adolescents report depressive symptoms.[10]
- Thirteen percent of those ages 9-17 have experienced an anxiety disorder in the past year.[11]

The effects of mental health problems in youth on overall health and life quality are well-known, negatively affecting academic achievement, health risk behaviors, educational and social development to name a few.[12,13,14,15] At the same time, the benefits of good mental well-being are also significant. Positive mental health or mental wellness is protective against health risk behaviors and improves chronic disease outcomes.[16,17,18]

While there is strong evidence demonstrating the links between mental and physical health of youth, the specific effects of mental health on chronic disease occurrence, course and treatment in young people are only more recently being explored. State health agencies, in partnership with education and mental health agencies, have an opportunity to build on this emerging understanding to create stronger public health programs for youth around obesity prevention, nutrition and physical activity, asthma and diabetes prevention and control.

The following section highlights recent research around the critical role that mental health plays in chronic disease in youth. This includes the specific relationships between obesity, asthma and diabetes, the relationship between childhood emotional experiences and adult physical health, and the unique interplay between mental health, risk taking behavior and chronic disease. It also describes the significant physical benefits of promoting mental health in youth. Together, the research builds a strong case for why health agencies should be working towards the integration of mental health into chronic disease prevention programs for youth.

Obesity

With over 31% of all children and adolescents now obese or overweight,[19] the importance of understanding the links between obesity and mental health cannot be understated. The relationship between the two is one that is thought to go both ways, obesity affecting mental health, and mental health affecting obesity. In adults, this reciprocal relationship has been well documented, with people who are obese having a 55% greater risk of developing depression over time, while people who are depressed have a 58% greater risk of becoming obese.[20]

Among children and adolescents, obesity has been shown to be a contributing factor in the development of mental health problems. Studies have found higher prevalence rates for psychiatric diagnoses, depression, anxiety, eating disorders, social withdrawal and behavioral problems among overweight and obese children and youth.[21,22,23] At the same time, research has shown that depressed children and adolescents have an increased risk of developing or maintaining obesity during adolescence.[24,25] In one study, a depressed mood in adolescence independently predicted the later development of obesity, even when controlling for over eleven factors including race, parental obesity, physical activity, socioeconomic status and self-esteem, to name a few.[26]

For youth, obesity often brings tremendous social and emotional adversity. The negative stereotyping and peer rejection make obesity one of the most stigmatized public health problems in childhood.[27] As a result, overweight students are more likely to struggle with anxiety, feelings of worthlessness and inferiority, behavior problems and bullying.[28] It comes as no surprise then, that being overweight also increases the risk for suicide attempt in adolescence.[29]

Asthma

Asthma is the most common childhood chronic condition affecting nearly 10% of children overall, and 17% of non-Hispanic black children.[30] Asthma incidence has steadily increased over the last 30 years, and along with it, the rates of hospitalization and missed school days due to asthma.[31,32] Similar to obesity, asthma and mental health seem to have a reciprocal relationship, with poor mental health negatively impacting asthma symptoms, and asthma symptoms negatively impacting mental health status.

Children and adolescents with a history of moderate and severe asthma are more likely to have an anxiety disorder and depressive symptoms.[33,34] One study found that adolescents with asthma had a higher prevalence of co-morbid depression or anxiety disorders, with 16.3% of youth with asthma compared to 8.6% without, meeting the criteria for either diagnosis.[35] Both depression and anxiety disorder diagnoses increase asthma symptom burden, in addition to the odds of suicide ideation and suicide attempt.[36] Even without either of these co-morbidities, however, the suicide mortality rate appears to double amongst youth with current asthma.[37]

Youth with an anxiety or depressive disorder also have significantly increased asthma symptom burden, specifically shortness of breath, chest tightness, wheezing, coughing, lingering cold, and wheezing with a cold.[38] The implications of this co-morbidity are significant. For example, one study indicated that high school students with asthma had much higher rates of depressive thoughts and use health-endangering substances at a rate equal to or greater than their non-asthmatic peers. Depressive feelings, suicidal thoughts, plans, actions and injuries occurred significantly more often among those with asthma. Further, in those high school students with asthma, use many of the health-endangering substances (tobacco, marijuana, cocaine, alcohol) was higher among those with depression.[39] This highlights the great need to consider asthma in youth not simply as a chronic condition, but a condition that can have significant mental health and risk-taking behavior implications.

Diabetes

The rise in diabetes in children and youth over the last 30 years is startling, particularly among minorities. A diagnosis of diabetes at a young age, whether type I or II, comes with major challenges in many aspects of life.

The relationship between diabetes and mental health in adults has been explored in various studies. Although not fully understood, there is evidence among adults that depression may increase the risk of diabetes, and diabetes increase the risk of depression.[40,41] Among children and adolescents with type 1 or type 2 diabetes, depression is one of the most commonly occurring co-morbid conditions, with an estimated 12-18% of those with diabetes reporting clinically significant symptoms of depression. In addition, there is evidence to suggest that the level of depression is higher in those with type I diabetes than non-diabetic youth.[42,43,44]

Also important to consider is the effect depression can have on diabetes management. One study showed that among teens with type I diabetes, the presence of depression symptoms more than doubled the risk of being hospitalized for diabetes complications.[45] Among adults, the combination of depression and diabetes has been shown to increase risk of non-adherence to care and ultimately poor metabolic control.[46,47] While most studies have focused on adults, a few have found similar mental health-related risks in youth with type 1 diabetes.[48,49]

Adverse Childhood Experiences and Development of Chronic Disease as an Adult

In the discussion of mental health and chronic disease, it's also important to consider how the connections between mental health and physical health stretch far beyond adolescence into adulthood. The Adverse Childhood Experiences (ACE) study of over 17,000 adults revealed the powerful relationship between emotional experiences as children and adult emotional and physical health, and major causes of chronic disease and mortality more than a half-century later. The study demonstrated how abuse (physical, emotional and sexual), neglect (physical and emotional), and household dysfunction (violence, substance abuse, mental illness, divorce and incarceration) during childhood increased prevalence and risk for smoking, severe obesity, low physical activity, depressed mood and suicide attempts as the number of childhood exposures increased. Similarly, the number of adverse experiences also increased the odds for the development of multiple diseases such as heart disease, cancer, chronic bronchitis and emphysema.[50]

The ACE study highlights again the need to view the development of disease through much more than just a physical lens. The researchers pointed to the need for more comprehensive, coordinated strategies to address the needs of children at risk for adverse experiences, and increased communication between the systems that serve children, including social work, preventive medicine and public health.

Chronic Diseases, Mental Health and Risk-Taking Behaviors

Adolescence is a period of high risk-taking. This reality, when combined with an early onset of chronic diseases and mental health co-morbidities, has the potential to result in higher risk-taking behaviors. **Youth with a chronic condition are more likely to engage in risk behaviors such as smoking and drug use**.[51] For example, adolescents with asthma are nearly 1.5 times more likely to smoke than those without, despite the fact that smoking greatly exacerbates asthma symptoms.[52] It has also been shown that smoking is widespread among youth with diabetes, greatly adding to their elevated risk of heart disease.[53] Obese and overweight adolescents are more likely to engage in health risk behaviors, including smoking, drinking and drug use,[54] and among girls, sexual risk behaviors.[55,56]

At the same time, mental health problems increase risk-taking behaviors. Mental health problems in adolescence, particularly depression, have been associated with increasing levels of tobacco use, physical fights, sexual risk-taking and substance abuse.[57,58,59] **When mental health problems and chronic disease overlap, risk-taking can increase.** Among adolescents with asthma, the presence of depressive and anxiety disorders have been shown to significantly increase the risk of smoking. Further, asthmatic adolescents who smoke report more asthma symptoms, reduced functioning, less use of controller medications, and more use of rescue medications.[60] These realities point to the need to incorporate mental

health into chronic disease prevention programming, both for the co-morbidities with various chronic diseases, and for the risk-taking behaviors that can accompany them.

Benefits of Promoting Mental Wellness in Youth

In the same way that poor mental health status can negatively affect physical health and chronic disease, a healthy mental well-being can positively impact the overall health of youth. Positive mental health is a significant determinant of capacity and motivation for healthy behaviors, risk for physical health problems and chronic disease outcomes.[61] Psychological well-being and positive youth development has been shown to be protective against tobacco, alcohol, illicit drug and sexual risk behaviors.[62,63] And the benefits stretch beyond adolescence, as positive adolescent well-being has been shown to predict better perceived health and fewer health risk behaviors during young adulthood.[64] Beyond the health-related benefits, promotion of mental health in the school environment increases academic achievement.[65] For these reasons, promoting positive mental health in youth is a strategy that can help to achieve multiple goals for public health, mental health and education agencies.

Mental health promotion in youth can take various forms. Some of the evidence-based strategies include positive youth development, increasing school connectedness, improving school climate, positive behavior supports, strengthening resiliency, and social and emotional learning. In addition, chronic disease prevention strategies that emphasize physical activity and healthy nutrition inherently promote mental wellness. A few of these strategies are highlighted below:

- Physical activity reduces depressive symptoms and anxiety, and increase self-esteem and self-concept in youth.[66]
- Active leisure (such as physical activity) improves overall well-being in youth, while passive leisure passive leisure (i.e., video games, television) reduces it.[67]
- A high-quality breakfast aids in improving mental health in youth.[68]

EMBRACING THE VISION

A Public Health Model for the Mental Health of Youth

During the last few years, there has been increased interest in moving children's mental health from a traditionally individual-focused, crisis- and problem-based system to one that also encompasses mental health promotion, prevention and early intervention.[69] This paradigm shift has been guided by how children's mental health can benefit by applying a public health approach.

A public health approach to mental health takes a population focus, emphasizing the mental health of *all* children. It embraces the evidence that positive mental health is in fact a predictor of future risk of mental illness[70] and seeks to balance optimizing positive mental health (see definition in box) with preventing and treating mental health problems.[71] It incorporates promoting positive environments and preventing problems before they occur by addressing the sources of the problems, and identifying conditions that promote optimal health. This type of population-based approach facilitates the integration of mental health into various aspects of the public health systems, including chronic disease prevention.

Positive Mental Health: High levels of life satisfaction and positive affect (emotional well-being) and psychosocial functioning (psychological and social well-being).[72]

Mental Health Promotion: Mental health promotion involves actions to create living conditions and environments that support mental health and allow people to adopt and maintain healthy lifestyles. These include a range of actions to increase the chances of more people experiencing better mental health.[73]

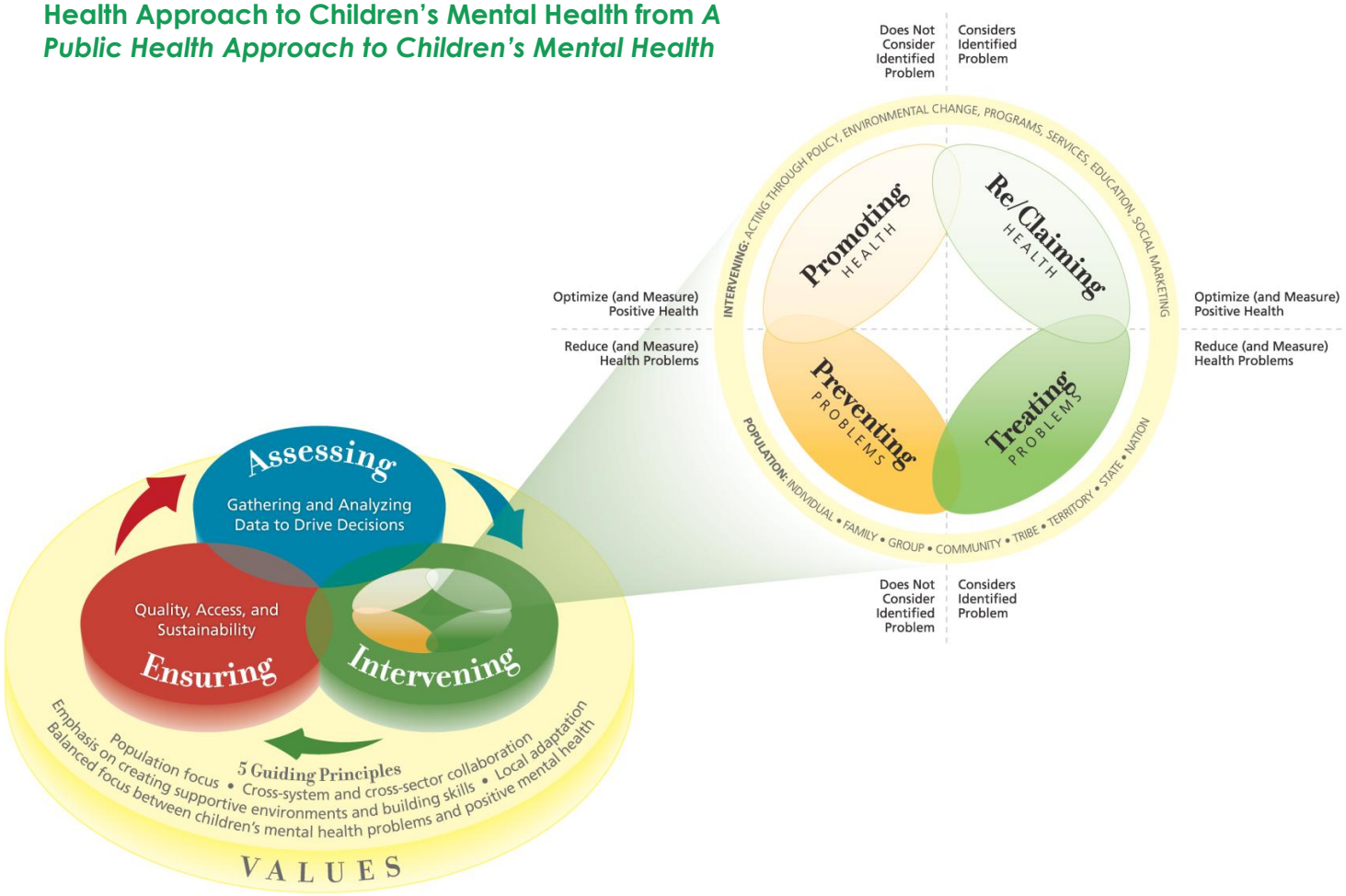
The groundbreaking monograph *A Public Health Approach to Children's Mental Health* highlights the fundamental concepts of a public health approach:

- Focus on populations for children's mental health so that *all* children are included. This requires surveillance data gathered at the population level to drive decisions and interventions.
- Emphasize creating environments that promote and support optimal mental health and build skills that enhance resilience.
- Balance the focus on children's mental health problems with mental health promotion, "positive" mental health, and prevention. This requires a commitment to helping each child reach his or her optimal level of health, rather than just symptom reduction or crisis-intervention.
- Work collaboratively across a broad range of systems and sectors that impact children's well-being, from child mental health care system to education to public health and others.
- Adapt to local contexts, taking local needs and strengths into consideration.[74]

THE MODEL

The model for the core public health process for children's mental health from a *Public Health Approach to Children's Mental Health* is seen in Figure A. Promotion, Re/Claim, Prevent and Treat, represent a comprehensive intervention process. While Promotion represents interventions for those without current mental health problems, Re/Claim represents interventions that optimize mental health while specifically taking into account those with identified mental health problems.[75]

Figure A: A Conceptual Framework for a Public Health Approach to Children's Mental Health from *A Public Health Approach to Children's Mental Health*



Definitions of each aspect of a public health intervention in the mental health environment (from the monograph), along with examples of mental health activities at each level, are included below.

Promoting: To optimize positive mental health by addressing the determinants of mental health before a specific problem has been identified

- Examples of mental health promotion activities: Public education and awareness, after school physical activity and wellness programs, active transport to school, parent education and support services, social/emotional development programs, curricula for community services and schools, wellness activities for families.

Preventing: To reduce mental health problems by addressing determinants of mental health problems before a specific problem has been identified.

- Examples of mental health prevention activities: Student support services, mental health consultation with providers, early identification, assessment and follow-up, skills building classes.

Treating: To diminish or end the effects of an identified mental health problem after it has been identified.

- Examples of mental health treatment activities: Therapy and support groups, comprehensive assessment, diagnostic and referral services, mental health treatment services, medication.

Re/Claiming: To optimize positive mental health while taking into consideration an identified mental health problem after it has been identified.

- Examples of mental health re/claiming activities: Therapy/support groups that identify assets & positive goals, well-being or physical activity programs for students with an identified mental health problem, parent education and support services.[76]

FROM VISION TO PLANNING

Weaving Mental Health into Chronic Disease Prevention Programs for Youth

Health agencies have an opportunity to make chronic disease prevention programs for youth more effective by addressing the whole child and incorporating mental health strategies. By focusing on creating and promoting environments that encourage and support optimal mental health, both mental health and chronic disease prevention can benefit.

The four aspects of intervention highlighted in *A Public Health Approach* (as seen in Figure A) provide a framework for understanding the various opportunities for integrating mental health promotion and chronic disease prevention. Programs that address chronic diseases such as asthma, obesity and diabetes programs may already include components that have mental health benefits. For example, increased physical activity is an obesity prevention strategy, but is also is a positive mental health promotion strategy. Similarly, a program that promotes mental well-being is a mental health promotion strategy, but also a strategy for reducing chronic disease burden.

Included below are some examples of how chronic disease prevention activities for youth can integrate mental health strategies in each of the four aspects of Intervention. The examples provided are specific to obesity prevention and promotion of physical activity:

Promoting: Increasing daily school-based physical activity also improves mental health functioning for youth and positively contributes to reduction of risk behaviors. The impact on mental health can be increased by integrating messages into the activities that support positive mental health and well-being.

Preventing: Integrating early identification, assessment and referral for mental health problems into management of asthma and diabetes in the school setting. Integrating messages and education to prevent weight-based teasing and bullying into a school-based nutrition and physical activity promotion program.

Treating: A school-based physical activity and nutrition program designed to increase healthy behaviors that also provides targeted support to students that are overweight, integrating mental and emotional needs of students.

Re/Claiming: Increasing daily physical activity among students identified with mental health needs such as attention deficit disorder or depression. Activities are designed to support encouragement of well-being and positive behaviors and take into consideration the particular mental health problems of the students.[71]

EXAMPLES

How health agencies can incorporate mental health into chronic disease prevention programs for youth:

1. Make talking about mental health part of your everyday language.

2. Include information about mental health and its relationship with chronic diseases such as asthma, diabetes and obesity in guidance for the management of chronic diseases in the school setting.

3. Promote physical activity as a chronic disease reduction strategy and mental health promotion strategy.

4. Include mental health promotion messages in stakeholders' activities in order to reach a variety of audiences (government, community members, schools, etc.).

5. Ensure that school nurses are trained to consider mental health problems in students with chronic diseases and to identify them as such, even when presenting for what might be perceived as other symptoms.

6. Ensure that mental health promotion is included with mental health prevention and screening when addressing the mental health component of Coordinated School Health.

7. Ensure that interventions designed to promote healthy lifestyles and nutrition also support emotional well-being and self-efficacy.

8. Include positive mental health measures in surveillance and monitoring for chronic disease prevention programs for youth.

9. Work with school-based mental health services to ensure that they recognize the role of physical activity in promoting mental well-being and preventing mental health problems.

10. Work with the Department of Education to identify areas where mental health promotion can be included in health and physical education curriculum and programming (resources, messages and activities) for various risk factor areas.

11. Include questions that address mental health promotion/positive mental health in assessment and inventory tools for schools to use to evaluate the school health environment.

There are many opportunities for integrating mental health into existing chronic disease and school health programs.

CASE STUDY

Oregon Division of Public Health – Strengthening Mental Health in Coordinated School Health Programming

In 2006, the Oregon Public Health Division's (OPHD) Adolescent Health Section (AHS) began to intentionally focus on strengthening the mental health area of its Coordinated School Health Program. This move came in response to the demonstrated need for mental health resources among school-aged children and youth. The effort was supported with funding from the Health Resources and Services Administration (HRSA), Northwest Health Foundation and the Oregon Addictions and Mental Health Division.

The initiative focused on improving access to a full continuum of mental health services and creating environments that promote optimal social and emotional development by using a coordinated school health approach (CSH). Through the duration of the project (2006-2011), ten schools and one district level behavioral program successfully applied for grant funding. The funded sites participated in a series of mental health learning institutes, received tailored technical assistance and pilot tested a mental health version of the School Health Index. This tool, the School Mental Health Inventory (SMHI), was used in combination with other data sources to assess campus mental health needs and develop an action plan to address a priority mental health issue.

By utilizing the SMHI and focusing on addressing mental health using a Coordinated School Health approach, schools were able to bring entire school community into a conversation about mental health. Outcomes of the project include a district-wide suicide prevention protocol and community partnerships that provide mental health counseling to students.

The Adolescent Health Section developed a case study to document the success of the project in three of the grantee schools in the North Clackamas School District. As a part of the case study, AHS conducted focus groups of initiative participants in each of the schools. The results indicated high praise for the initiative. Participants stated that the SMHI helped them to explore mental health issues identified in schools by Oregon Healthy Teens data and directed them towards important questions and strategies to improve on those areas. The SHMI also helped to bring diverse groups of constituents together and created a setting in which important conversations around adolescent mental health occurred and ideas were developed.

GETTING STARTED

Recommendations to Get the Ball Rolling

Changing the way things are done is never easy. This is particularly true when the type of change involves integrating two distinct perspectives. Highlighted below are a few recommendations for how to get started. Before launching, however, it is important to keep a few things in mind. Integrating mental health strategies into chronic disease prevention programs for youth is not a simple task. There are significant challenges that need to be taken into consideration. Challenges such as:

- Public health traditionally has no mandate to address mental health promotion within chronic disease prevention activities.
- Funding for mental health is separate from state public health funds, and generally provides very little support for prevention services.
- There is not a traditional role for public health in mental health, and vice versa.
- There are significant knowledge gaps on both sides about the other – public health and mental health.
- Mental health has historically been crisis-driven and focused on the individual, while public health has focused on prevention and the overall population.
- Mental health promotion and positive mental health are relatively new concepts, and ones that work well within the public health approach. However, the terms may not immediately resonate with those working in public health, mental health or education. Education about mental health promotion is a key part of the process.

Acknowledging these challenges and finding ways to consciously address them is an important part of the process and can help to (1) minimize initial frustration (2) keep expectations realistic and (3) ensure that the proper foundation is laid for lasting change.

Recommendations for first steps:

- **Start the conversation** – start and facilitate a dialogue with leaders from other programs within the health department about incorporating mental health into chronic disease prevention for children and adolescents.
- **Reach out** – find out who the lead contacts are for children and adolescent mental health in the departments of mental health and education and ask about how they might be able to help to inform the integration process.
- **Consider the "paradigm shifts"** that may need to take place in your organization to: (1) balance a traditional mental health problem focus with a mental health promotion focus and (2) integrate mental health with school health and specifically chronic disease prevention efforts.
- **Identify areas and/or programs where there are shared agendas** that align to promote positive mental health and reduce chronic disease.
- **Identify areas where there are strategies, programs or policies that could be better aligned** to incorporate the four aspects of intervening – preventing, promoting, re-claiming and treating – into chronic disease prevention programs for children and adolescents.
- **Consider including positive mental health indicators** in surveillance data.
- **Enhance mental health literacy within the health agency** – raising awareness among staff through professional development.
- **Use professional development opportunities** to increase understanding among staff of mental health as a chronic disease risk factor.
- **Engage in knowledge exchange initiatives for mental health promotion and chronic disease prevention** (i.e., holding a conference or meeting for front-line staff to share what works on both sides).
- **Identify areas where mental health promotion could be integrated** within resources, messages and activities in school-based health and PE curriculum and programming.
- **Invite speakers on mental health to conferences** around school health and include it as a break-out session for conference attendees.
- **Include mental health policies** in the health promotion and health education efforts in schools.
- **Look for opportunities to bridge silos** and incorporate the public health perspective by being a part of a task force on children's mental health.
- **Explore the possibility of joint training** for public health and mental health workforce around school health.

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