Reducing the Treatment Gap for Mental Health in Virginia High Schools

Final Report
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On my honor, I have neither given nor received aid on this assignment

Disclaimer: The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other entity.

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I. Acknowledgements

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II. Acronyms

ACA ……...	Affordable Care Act
CDC ……..	Centers for Disease Control and Prevention
CSB ……..	Community Service Board
HPSAs ……..	Health Provider Shortage Areas
JLARC ……..	Joint Legislative Audit and Review Commission
KFF ……	Kaiser Family Foundation
MHA ……..	Mental Health America
NAMI …….	National Alliance on Mental Illness
NASP ……	National Association of School Psychologists
NIMH …….	National Institute of Mental Health
SAMHSA ….	Substance Abuse and Mental Health Services Administration
SHPPS ……..	School Health Policies and Practices Study
SoL ……	Standards of Learning
VACSB …….	Virginia Association of Community Service Boards
VDBHDS …..	Virginia Department of Behavioral Health and Developmental Services
VDOE ……	Virginia Department of Education
VTSS …….	Virginia Tiered Systems of Support

III. Executive Summary

Mental illness impacts 1 in 5 high school students, but half of these students will not receive any care (NAMI, 2016). This means that on average, in a high school classroom of thirty students, three students will have a mental health condition that is not being treated. The problem is critical in Virginia. The Commonwealth ranked 49th out of the 50 states and Washington, DC in youth access to mental health care in 2018 (Mental Health America, 2018a).

Nearly all victims of suicide had some underlying mental health condition. With suicides now as the leading cause of non-accidental death for adolescents, this epidemic needs to be treated (NIMH, 2017; CDC, 2018a). All costs of mental illness are not dependent on suicide though. Students with a mental health condition are twice as likely as peers to drop out of school (Dupéré et al., 2018). Furthermore, individuals with mental illness cost society over $200 billion in direct medical expenditures and over $200 billion in lost productivity at work each year (SAMHSA, 2015; Insel, 2008).

Students face significant barriers to treatment including cost, stigmatization, lack of knowledge, and a lack of providers. Schools have an opportunity to address these barriers. VDOE should consider the following alternatives to reduce the gap between students needing treatment and students receiving treatment:

(1) Develop a Mental Health Curriculum (Status Quo)
(2) Increase the Number of School-Based Mental Health Counselors
(3) Implement Peer Support Groups
(4) Universally Screen Students for Mental Health Conditions

This analysis will evaluate each potential alternative based on four criteria: *Cost, Benefits, Administrative Feasibility,* and *Quality of Evidence*. Based on evaluations of these criteria and the projected outcomes of each alternative, VDOE should pursue *(3) Implement Peer Support Groups* as its first priority. The peer support groups offer a low-cost, easily implementable way to reduce stigma and leverage trusted peer relationships in improving mental health care.

It became apparent during this analysis that just one solution will not work. The problem is too institutionally and psychologically complex, and the research on interventions is inconclusive. It is important then to face this problem on multiple fronts and seek clearer answers. To accomplish this, VDOE should pilot a program to undertake all of these alternatives in a subsample of schools. The program would carefully measure important metrics like incidence of mental health, graduation rates, and student sentiment as

compared to similar schools. There is a need for better answers to the challenging questions of mental illness, but the gravity of the problem requires a response despite the uncertainty.

IV. Introduction

Problem Statement

One in five adolescents suffers from a serious mental health condition, but half of these adolescents do not receive any treatment (NAMI, 2016). This means that there is a gap between the number of students who need treatment and the number of students who will actually receive treatment. Given that mental illness is linked to suicide, increases school dropouts, and bears significant costs, a response is needed to reduce the treatment gap. Specifically, Virginia Department of Education (VDOE) should aim to both decrease the number of students requiring treatment and increase the proportion of students who receive treatment for mental health conditions.

Current Situation

Suicide has become a major concern in public discourse. Shocking suicides in the past year by celebrities Anthony Bourdain and Kate Spade illustrate how mental health problems lurk beneath seemingly happy lives until it is too late. It is not just the high-profile deaths but also the large-scale trends that paint a grim picture. Suicide is the leading cause of non-accidental death for ages 10-24 in the United States, and the problem has only grown in severity, increasing 33 percent since 1999 (NIMH, 2017; CDC, 2018a) However, these unfortunate deaths are preventable. There is evidence of a strong link between mental illness and suicide, but unlike other deadly illnesses, mental illness is not often treated (Insel, 2010). Improving the rate at which individuals with mental health concerns are treated would likely help to reduce their risk of suicide.

After the tragic passing of a classmate, three Charlottesville area high school students lobbied Virginia's state legislature to update the Virginia Standards of Learning (SoLs) to require mental health education for students of the 9th and 10th grade. After the bill was signed into law in March 2018, VDOE began developing the curriculum that would help schools comply with the new mandate. The process to implement the curriculum is ongoing, but the requirement itself is a positive first step in preventing teen suicide and depression. However, there is more to do.

Mandating education may improve awareness and knowledge of mental illness, but the initiative's true effect on reducing the number of untreated mental health cases is uncertain. It may not empower more students to seek treatment or prevent more students from developing mental health conditions in the first place. VDOE can neither easily certify the quality of the instruction nor the students' willingness to internalize the material. Furthermore, most schools are already doing some education about mental health. According to the CDC School Health Policies and Practices Study (SHPPS),

78.6 percent of high schools adopted policies stating that they would teach suicide prevention and 82.2 percent stated that they would teach emotional and mental health (2016). While the CDC does not provide information on the percentage of schools that actually teach these topics, the point stands that most schools are aware that they need to teach mental health and most likely are already doing it. Requiring education is not enough. The type of education, the mitigation of social stigma, providing connections to clinical care, and more will impact a school's effectiveness in closing the mental health treatment gap.

Why Virginia Department of Education?

First, we must ask why is it the responsibility of schools to address mental health? Mental health is just that, a health issue. However, school is the one place that all adolescents must go every day. These students can then receive services based around the established structure of schools. Furthermore, schools have already begun to tackle this challenge. Despite perhaps an indirect connection, research suggests that schools are already the most common provider of mental health services for youth (Levitt et al., 2007). This means that schools already have a large reach in tackling mental health problems for adolescents, so new initiatives can leverage their established infrastructure. Finally, 50 percent of all mental illness cases begin before age 14 and 75 percent begin before age 24 (NAMI, 2016). This means that if an individual is going to have a mental illness at some point in his or her life, the illness will most likely be apparent in high school. This enables schools to treat students early on for their mental health conditions. Schools present the logistics, precedent, infrastructure, and inflection point needed to make a difference in mental health care for their students.

Why does this analysis focus on Virginia? It is not only a Virginia issue, but Virginia needs help. According to the State of Mental Health in America, Virginia ranked 49th out of 50 states and Washington, D.C. in youth access to mental health providers in 2018. The report found that in Virginia, 70 percent of youth or 55,000 Virginia residents with major depression were not treated last year (Mental Health America, 2018a). Furthermore, this analysis is a product of the University of Virginia. The University has an established commitment to serving the Commonwealth and considerable influence within the state. Therefore, this report would be most appropriate and most impactful for use in Virginia.

Since it is the goal to focus on Virginia and schools, VDOE offers the best place to start given its authority on education in the state. Furthermore, VDOE has built momentum to tackle the issue of mental health. In 2018, Virginia became just the second state to

mandate mental health education in high schools. VDOE has taken on this task by updating the SoLs and building a curriculum to meet these new requirements. Second, Governor Northam has proposed $36 million in funding to add school counselors, citing mental health as a leading reason (Office of the Governor, 2018). As such, VDOE is in a unique position to leverage its established commitment to mental health and provide a model of effective policy for other states.

V. Background

Why Should We Care?

Links to Growing Suicide Rate

In 2017, 47,173 Americans committed suicide, twice the amount that died from homicide, making suicide the tenth most common cause of death in the United States (NAMI, 2016). Still, problems in adolescent mental health are intensifying. The suicide rate has doubled for girls ages 15-19 since 2007, from 2.4 to 5.1 deaths per 100,000. The rate for males has increased by 31% during that same time period, up from 10.8 to 14.2 deaths per 100,000 (CDC, 2017b). These suicides are not random events. Approximately 90 percent of people who commit suicide had a diagnosable mental illness at the time of their death (NAMI, 2016). However, more than half of people who did commit suicide did not have a known mental health condition (CDC, 2018b). This means that nearly all people who commit suicide have an underlying mental illness but only half have been identified as having one. Identifying and treating conditions at an early age will impact adolescent's mental health for the rest of their life.

Costly to Individuals and Society

Suicide and poor mental health are not personal problems but have large costs to society as a whole. Medical costs, lost productivity at work, suicide, and higher high school dropout rates all financially disadvantage individuals with mental illness. Enrollment rates in Medicaid are higher for individuals with mental illness (20 percent) as compared to all Americans (14 percent) (SAMHSA, 2015). The direct cost of healthcare for mental illness is estimated to account for $238 billion in 2020, of which $150 billion is attributable to public funding, including $71 billion in Medicaid spending (SAMHSA, 2015). Low-income people are at a higher risk of mental illness, which creates a significant financial burden for taxpayers.

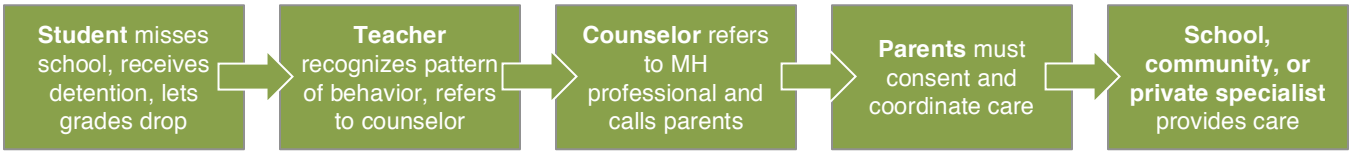
Serious mental illness also inhibits people from going to work. In 2008, lost productivity from mental illness was estimated to cost $193 billion in lost wages. In 2019 dollars, this estimate is equivalent to $230 billion. This study compared the difference in wages for

12 months between individuals who had a mental illness and those who did not. It did not include costs associated with early morbidity, homelessness, medical care, or incarceration (Insel, 2008). Costs from suicide and increased dropout rates lead to additional costs of $60.3 billion and $31.4 billion respectively. More details on the calculations of these costs are available in Appendix 1.

Aggregating these estimates finds the total annual economic cost of mental illness and suicide to be approximately $560 billion, meaning a 1 percent reduction in mental illness incidence would decrease costs to society by approximately $5.6 billion each year. Mental illness is not a tragedy that only a few people experience. It is a significant inhibitor of economic development and an individual financial hardship that impacts 20 percent of Americans.

Current Steps to Treatment in Schools

Before moving on, it is important to understand the timeline for how schools handle mental health cases[1]. It is not meant to completely account for the specific details of every school's process, but rather provide an overview of the general chain of events that leads to identifying cases and getting students treatment.



Beginning with identification, a student usually must exhibit some warning signs of a behavioral problem. He or she could miss class often, allow grades to slip, receive detentions, or otherwise demonstrate a behavioral concern. A teacher or guidance counselor must then recognize this concern. A teacher would refer the student to the guidance counselor who would determine if there is possibly a more serious mental health problem. If the guidance counselor thinks there could be a larger issue, he or she will refer the student to a mental health professional and contact the parents. The parents must then consent to the student receiving care and coordinate when and where that care will be received. If the parent does consent to care, the student can receive treatment at school from a school psychologist, from a private practitioner, or from a community-based provider if the family meets income requirements. There are many places in this process where a breakdown can occur that would leave a student

[1] A local mental health professional that works in schools described this process to me. I did not obtain explicit consent to use her name in this report, so she will remain anonymous.

without proper treatment. The proposed alternatives will use this specific process as a model to inform their strategy to improve treatment rates.

Who is Most At-Risk?

Differences in Utilization by Income Level

Low-income children are not likely to receive mental health treatment. Among low-income youth ages 6-17, approximately 80 percent of those with a mental illness did not receive care in 1998 (Kataoka, Zhang, & Wells, 2002). However, the landscape of healthcare has changed significantly in the two decades since 1998. Due in large part to the expansion of Medicaid through the Affordable Care Act (ACA), the uninsured rate for children in poverty fell from 12.1 percent in 2000 to 5.3 percent in 2014, a 56 percent decrease (Larson et al., 2016). A study of the effect of the ACA found that a 50 percent reduction in the uninsured rate led to an 18 percent increase in the treatment rate for chronic conditions (including depression) for low-income adults (Sommers et al., 2016). If we assume the same 18 percent increase in mental health treatment rates due to greater access to insurance, an estimated 65 percent of low-income children still failed to receive care for mental illness in 2018. The 18 percent increase is still a liberal estimate noting that mental health has generally lower treatment rates than other chronic conditions and children have lower treatment rates than adults.

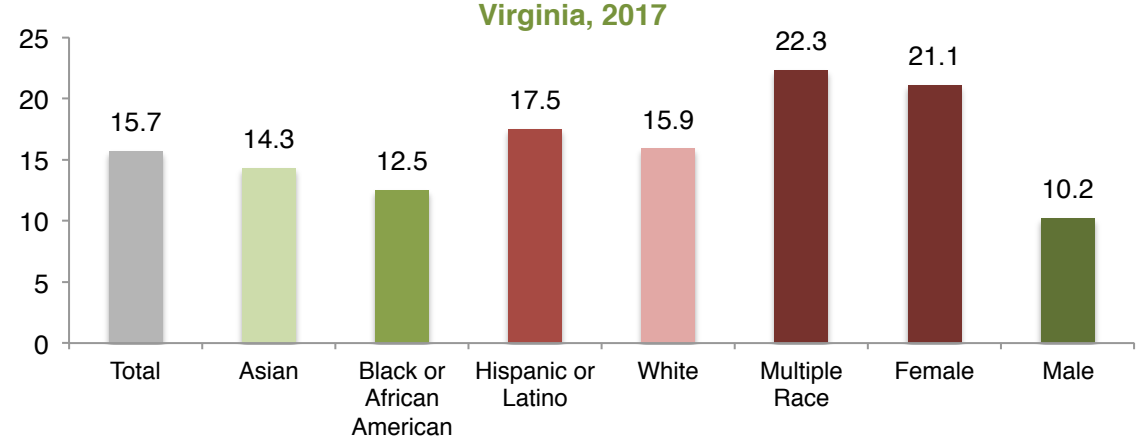
Differences in Utilization by Race

When comparing low-income children ages 6-17, race does not impact the incidence rate of mental illness (Howell & McFeeters, 2008). However, race does impact the utilization of treatment. Hispanic children are less likely than White children to use services in both rural an urban areas, and Black children are less likely than White children to use services in urban areas (Howell & McFeeters, 2008). When looking at all income-levels, Black and Hispanic children and young adults were half as likely to receive treatment for mental health conditions as their White peers (Marrast, Himmelstein, & Woolhandler, 2016). Cultural norms and access problems contribute to this gap and any alternative should address this disparity.

Demographic Breakdown of Mental Illness in Virginia High Schools

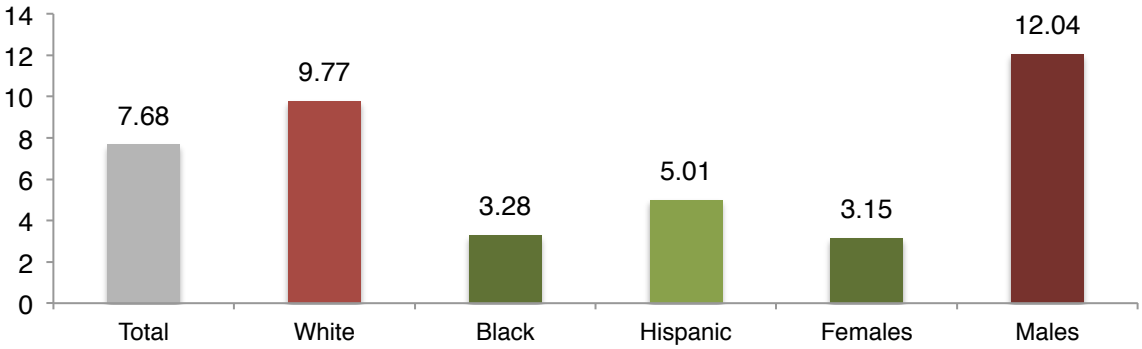
Figures 1 and 2 present demographic breakdowns of mental health issues among Virginia high school students. Since the High School Youth Risk Behavior Survey does not collect data on actual mental illness diagnosis, we use “Seriously contemplated suicide in the last 12 months” to inform the prevalence of mental health concerns among high school students (CDC, 2017c). Figure 2 shows the breakdown of suicides by demographic characteristics. The general breakdown of both metrics has remained relatively constant over the last ten years.

Figure 1. Percent HS Students Seriously Contemplated Suicide last 12 months Virginia, 2017



Source: CDC, 2017c

Figure 2. HS Students Suicides per 100,000 population Virginia, 2014-2017



Source: CDC, 2017a - Fatal Injuries Report

Main Takeaways

Minority adolescents are less likely to be treated for mental illness, but they are also less likely than White adolescents to commit suicide. As such, recommendations should be cognizant of these inequities in treatment rates, but because these inequities do not persist in suicide rates, equity will not be a main criterion for this analysis. However, it is worth considering a possible explanation for the disparity in treatment rates between minority and White students to provide insight on a still concerning issue.

Although more empirical evidence is needed, one explanation is that teachers or counselors, who are mostly White, have an easier time attributing behavior problems to potential mental illness in White students because of shared culture or social cues. There is research that shows that White teachers do rate African American students'

behavior more poorly than White students' behavior (Downey & Pribesh, 2004). It is possible that these teachers are then more likely to attribute behavior problems to minority students' personality traits but to possible mental health conditions for White students. Therefore, White students are referred for treatment more often than minority students creating the disparity in treatment rates. An optimal alternative would seek to mitigate these individual biases against vulnerable populations through structural changes like universal screening that rely less on an individual's subjective judgments to make decisions.

Barriers to Mental Health Treatment

There are significant barriers to receiving mental health treatment including social stigma, trust concerns, self-reliance, parental consent, lack of mental health literacy, lack of knowledge about resources, transportation, cost, and shortage of providers. These barriers can be broken down into psychological barriers that prevent seeking treatment and institutional barriers that prevent actually being treated.

Psychological Barriers

The most common psychological barriers include social stigma, inability to recognize symptoms, and self-reliance (thinking no one can help, thinking its normal, etc.) according to a meta-analysis of 22 studies. Stigma was the most common theme, occurring in 75 percent of studies while the other two barriers were major themes in half of the studies (Gulliver, Griffiths, & Christensen, 2010). Psychological barriers are not rare either. In a survey of adolescents, researchers found that among those who had avoided treatment for mental health, 50 percent said it was because they hoped the problem would go away and 37 percent said it was because they did not want their parents to find out (Samargia, Saewyc, & Elliot, 2006).

Social stigma may have a larger impact on treatment seeking for adolescents, as issues of identity and belonging are particularly salient at this age (Clement et al., 2015). In a literature review of barriers to treatment, stigma ranked as the fourth most commonly cited barrier but likely informed other highly rated barriers like preference for self-help and concerns about trust (Clement et al., 2015). Due to stigma's likely importance with adolescents and relationship with other barriers, this analysis considers it to be the most significant psychological barrier. Although the actual impact of psychological barriers on treatment seeking is difficult to measure, their prevalence underscores the need to create policy that targets students as individuals and does not just target structural issues with the mental health care system.

Institutional Barriers

Institutional issues include factors like cost of care, prevalence of providers, need for transportation to services, and lack of knowledge. The Washington State's Joint Legislative Audit and Review Commission (JLARC) conducted a study of mental health care in schools and found common barriers to care across districts. Approximately 73 percent of districts cited transportation, 71.5 percent cited a lack of providers within an hour drive, and 41 percent cited costly co-payments (JLARC, 2016). Washington has different characteristics than Virginia, but these problems also impact the Commonwealth. Virginia ranked 49th out of all states in youth access to mental health care so it is likely that all institutional barriers could be improved here (Mental Health America, 2018a).

Specifically, Virginia suffers from a shortage of providers. There are 83 Mental Health Provider Shortage Areas (HPSAs) that are home to a total of 2.2 million Virginians (KFF, 2018). The shortage is apparent at schools too. The ratio of students to school psychologists in Virginia is 1,772:1 when the recommended ratio by the National Association of School Psychologists (NASP) is 500 to 700 students per school psychologist (NASP, 2011; NASP, 2017). While cost to families is likely an important consideration, it is not a priority of this analysis because VDOE does not have significant power to control healthcare costs and the recent Virginia Medicaid expansion will help to bring lower cost care to more low-income individuals (Johnson, LaForest, & Lissenden, 2017). In terms of school-based interventions, competing responsibilities of school-employed professionals ranked as the largest barrier to implementing a care program, based on a survey of providers. The school-based mental health professionals cited logistical constraints like time and scheduling flexibility that prevented them from working with students directly (Langley et al., 2010). These structural barriers are all important to consider when creating any successful mental health initiative.

Both structural and psychological barriers are significant, but their exact effect on treatment seeking is hard to measure. It is likely that not just one of these factors prevents an individual from accessing care but rather a combination of many. This makes prioritizing certain barriers to address difficult to do. More research must be done in this area, so for the purpose of this analysis, alternatives that address multiple barriers are preferred. Virginia has attempted to alleviate some of these barriers. Details on recent successful and unsuccessful policies will follow.

Virginia Policies

Policy Successes

As previously stated, the SoL update passed in March 2018 required high school mental health education for grades nine and ten. There is significant momentum for mental health initiatives resulting from the newsworthiness of the SoL update and the high-profile string of celebrity deaths stemming from mental illness. As a result, the Virginia Assembly introduced and passed more legislation related to mental health in the last 18 months. The governor signed SB1195[2] into law to establish a task force to investigate the effectiveness of school-based health centers in providing mental health services, and the group will report its findings in December 2019. If this report finds sufficient evidence, there may be a greater willingness to increase the treatment responsibilities of schools and to address mental health in schools more broadly.

Another piece of legislation, SB1472, would require all teachers to complete Mental Health First Aid training. The bill passed through committee but has not yet been brought to a vote. This an example of a policy that would improve teachers' ability to recognize and refer students of concern, which targets the first step in the process of school-based treatment.

While not a public program, the Assembly did unanimously pass SJ301 to renew the Joint Subcommittee to Study Mental Health Services in the Commonwealth in the 21st Century. This signals that there is motivation to address mental health issues in Virginia. A climate receptive to mental health initiatives will be helpful for VDOE in implementing policy changes. Additionally, the Subcommittee could be a resource to authorize further studies and pilot programs to inform possible policy changes.

Virginia approved an expansion to Medicaid in 2018 that will bring insurance coverage to approximately 40,000 Virginians with mental illnesses (Johnson, LaForest, & Lissenden, 2017). Since mental illness disproportionately affects low-income individuals, public insurance is an important connection to services that serves to reduce the cost of care barrier to treatment.

Policy Failures

In 2018, HB252 was introduced to require that each school board would have to employ one mental health counselor per 250 students in each high school. This bill failed in committee in February 2018 and has not been reintroduced. This would be a significant

[2] All information on legislation from the Virginia General Assembly is courtesy of Virginia's Legislative Information Service (LIS) unless otherwise cited - www.lis.virginia.gov.

improvement for mental health in schools given the current ratio of one mental health counselor per 1,772 students, but it was most likely too large of a leap from current policies (NASP, 2011). It is important that any potential initiative could feasibly be implemented.

NAMI's 2014 Public Policy report outlined Virginia programs aimed at improving mental health treatment like Programs of Assertive Community Treatment (PACT), housing support services, and Crisis Intervention Teams (CIT), but none of these policies targets adolescents or schools. While there have been improvements in mental health initiatives in Virginia, most of the successes have not been at the school level. One intervention that Virginia has tried at the school-level is the Virginia Tiered Systems of Support (VTSS). The program is designed to apply concepts originally developed for special education to entire schools to improve all students' access to support resources (Mann & Leutscher, 2013). The program was piloted in Virginia in 2012-2013 and showed success in improving academic outcomes but not behavioral outcomes. Only 1/3rd of teachers surveyed after the pilot said it improved non-academic outcomes like behavior, and only 13 percent of high schools actually implemented VTSS for behavioral topics (Mann & Leutscher, 2013). Despite this, Virginia schools continue to use VTSS as a central program to address behavior issues like mental health.

Community Service Boards (CSBs)

Community Service Boards are the main public provider of mental health care for low-income Virginia residents and offer a single point of entry into state-funded mental health, disability, and substance abuse services. They are state-run facilities that serve to mitigate barriers of cost and coordination. The Virginia Department of Behavioral Health & Developmental Services (VDBHDS) is in charge of operating and overseeing the CSBs. Services offered include evaluation, counseling, psychiatric medication, and crisis intervention (Region Ten, 2019).

There are a total of forty CSBs in Virginia each serving a distinct region, and twenty-seven provide direct services to the community. CSBs provided services to 120,751 unique people in 2017, an increase from 108,158 in 2010 (VDBHDS, 2018). Schools often refer children to CSBs for services. In 2018, 31,380 children received services from CSBs (VACSB, 2018). For FY2017, CSBs received 40.93 percent of funding from fees and the reaming from public or other sources. The total CSB funding breakdown is pictured in Appendix 2 (VDBHDS, 2018).

Access to treatment is a challenge for low-income individuals, and CSBs provide low-cost mental health care. CSBs' role as a provider is critical to the Virginia mental health

landscape and should be understood before considering any mental health policy changes. Policymakers should leverage their established network of professionals and community programs where possible to take advantage of potential efficiencies.

VI. Literature Review – Best Practices for Improving Mental Health Treatment Rates

Class Curriculum

Skills-Based Education

There are two broad categories of in-school mental health education: one that emphasizes problem-solving and coping skills, and one that seeks to improve knowledge and awareness of mental health conditions. Teaching students coping and problem-solving skills will ideally give students the tools they need to prevent a mental health problem from growing worse. One example of skill-based education that proved effective is the Teaching Kids to Cope curriculum. While not traditional classroom lessons, a randomly assigned group of students received instruction from a nurse with mental health experience on strategies for coping with stress and depression (Puskar, Sereika, & Tusaie-Mumford, 2003). A control group received no lessons, and the researchers compared the mean scores of the groups on the Reynolds Adolescent Depression Scale before and after the intervention. They found a statistically significant improvement in the scores of the treatment group after the intervention that remained significant 12 months after treatment (Puskar, Sereika, & Tusaie-Mumford, 2003). A trained nurse administered the program, but a similar program used classrooms teachers to implement the lessons to a positive effect. The Transformative Life Skills (TLS) program showed improvements in students' perceived stress, levels of depression, self-control, and tolerance for distress relative to the control group. However, the results were based on a self-evaluation survey given to the students before and after the program, so evidence is not extremely compelling but provides anecdotal support for coping strategies (Frank, 2012).

Knowledge-Based Education

The second kind of education is knowledge or awareness-based that teaches students about various diseases and resources available to help. A systematic literature review of the effectiveness of universal awareness-focused mental health education found positive results. The review limited its scope to studies that addressed knowledge of and attitudes toward mental health conditions instead of coping skills or academic outcomes. Twelve of the fifteen studies measured knowledge and all of the twelve found improvements, but not all were statistically significant or reported on significance

(Salerno, 2016). The review concluded that universal mental health education can improve students' mental health knowledge. Another literature review found that classroom-based interventions like curriculum were generally able to improve problem-solving like conflict resolution but were not able to improve depressive or anxiety-related symptoms (Wells, Barlow, & Stewart-Brown, 2003). However, there are research gaps in linking education to improvements in mental health outcomes and in addressing barriers to implementation of such programs (Salerno, 2016). Another review found improvements in students' mental health knowledge in the short term but generally diminished results in the medium and long term. Additionally, the review concluded that adolescents and teens prefer educational methods to direct contact (first-hand accounts), the opposite preferences of adults (Thornicroft et al., 2016).

Counseling

School-Based – Referring Students to Outside Care

Schools have employed a wide variety of initiatives to address mental health. The most common program is school counseling, which involves a full or part-time psychologist, social worker, counselor, or some combination of the three to provide services within the school. NIMH lists psychotherapy or counseling as its preferred treatment method for mental illness (NIMH, 2018). However, these school counselors do not necessarily provide the care directly to the student. Schools generally have multiple counselors but may or may not have a psychologist or social worker. Counselors are often generalists tackling academic and career services in addition to student well being, but they will be the among the first in the school to hear the concerns of teachers or parents (Kaffenberger & O'Rorke-Trigiani, 2013). Therefore, they rely on referring students to resources outside of school like the CSBs mentioned previously or a private practitioner. Holding constant the quality of the care received outside of school, the effectiveness of the referral system lies in the ability of the school to identify possible cases, of the counselors to manage high caseloads, and of the students to access the care (Kaffenberger & O'Rorke-Trigiani, 2013). One study found that the success rate of referrals, and by relation the effectiveness of school counseling's referral function, is low and that parents often also serve as a barrier in the referral process (Villareal, 2018). There is generally less empirical evidence on the merits of the school referral process than on the challenges that the process faces.

Community-Based and Private Practice

Since the quality of referrals is derived from the downstream provider, schools should care about the quality of student's counseling in the community. As the NIMH recommended treatment, psychotherapy's effectiveness is generally accepted and little research has been done of its impact broadly (NIMH, 2018). Some researchers suggest

that this effectiveness cannot be taken for granted and recommend evidence-based treatments, quantitative measurements, and strong accountability measures (Bickman, 2008; Kilbourne et al., 2018). Since the effectiveness of counseling as a general intervention is unknown, the effectiveness of out-of-school care is based on its accessibility to students and their families. Low-income students are at greater risk of mental illness and face higher barriers to care. The publicly funded CSBs play a significant role in providing care to low-income Virginians (Johnson, LaForest, & Lissenden, 2017). However, utilization of these resources was not high. Based on a survey of NAMI Virginia members, 73 percent of parents reported accessing care for their child to be moderately to extremely difficult (NAMI, 2017). In a study of school districts in Washington state, 73 percent of districts reported transportation, 71 percent reported a lack of providers within an hours drive, and 56 percent reported private-insurance co-payments as barriers to accessing community mental health services for their students (JLARC, 2016).

School-Based - Direct Provision of Care to Students

A study based on a national survey found that school professionals provide the majority of mental health services that students receive (Adelman & Taylor, 2010). A U.K. study found that there was a positive association between school-based counseling and mental health improvements. Approximately 50 percent of students treated showed clinically improved mental health after attending sessions and 80 percent of students rated the sessions as moderately to very helpful. However, this is not causal evidence but associative (Cooper, 2009). A review of 18 studies about the effectiveness of school-based social work showed positive effects but was ultimately determined to be inconclusive. However, this review looked at social work at large and not specifically mental health counseling (Allen-Meares, Montgomery, & Kim, 2013). Each of these studies indicated that further research is needed to verify the overall effectiveness of school counseling. A potential explanation being that due to limited resources social workers focus on routine testing and evaluations than applying intervention skills in consultations (Fazel, Hoagwood, Stephan, & Ford, 2014). Again, as psychotherapy is a generally accepted yet not rigorously evidenced treatment, the benefit of direct treatment in schools may be its ease of access for students.

Peer Support Groups

Across the country, there are stories of high school students taking up the burden of improving mental health in their community. Examples include the three Charlottesville students who lobbied the Virginia Assembly, the group of students from Potomac, Maryland who formed suicide prevention non-profit uMttr, and Dawn Bunch who founded the Adolescent Peer Support League while in high school. There is motivation

to tackle this problem among students, and peer support has emerged as an important component of mental health treatment. SAMHSA named peer support one of its ten core components of recovery (Kirsch et al., 2014). There is national support as well. An article in Kaiser Health News cites the director of the National Association of State Mental Health Program Directors and the director of state policy at NAMI as supporters and Medicaid's urging of states to design peer support programs (Vestal, 2013).

Peer resources help to remove barriers to treatment like stigma, parental opinion, and lack of trust because students are more comfortable talking to other students about troubling topics. An anonymous survey of college students found that two-thirds first talked to a peer about mental health problems they were facing (Drum et al., 2009). In this way, a student does not have to go to his or her parents, can find resources through trusted outlet, and can feel a lesser degree of stigmatization because peers have demonstrated their concern for these issues by joining a support group.

Peer support can take the form of self-help groups, peer members of treatment teams, and social learning initiatives. Two literature reviews have found that student-led initiatives display positive effects on engagement, empowerment, and hopefulness in peers, but the experimental evidence is mixed (Chinman et al., 2014; Repper & Carter, 2011). Another literature review found that peer support can decrease self stigmatization (Repper et al., 2013). Adding peers to intensive case management teams also showed positive effects in a randomized control trial, but this study was conducted with veterans and has not been replicated with adolescents (Chinman et al., 2015). Research suggests possible positive effects and minimal negative effects, but more empirical evidence is needed to determine the effectiveness of specific types of peer support programs.

The body of research is small and generally focused on college-age students, so the implications for high school students need to be further examined (Kirsch et al., 2014). One such study of high school students in 1998 found that voluntary, once-per-week peer support sessions improved a variety of interpersonal and behavioral outcomes like perceived mental health, strength of relationships, and self-worth (Wassef et al., 1998). The evidence is based on participant surveys, but the data collection was anonymous and three-quarters of participants admitted to using alcohol or drugs, so we can expect a higher degree of honest answers. The study was able to show that peer support groups can improve student perceptions of their own mental health and decrease stigmatization, but peer support groups connection to directly improving access to services is still largely unexplored (Wassef et al., 1998).

Universal Screening

Effectively identifying students with potential mental health issues is a promising development for improving care. Schools can identify at-risk students by implementing a formal screening process. Schools have used health screenings in various contexts and could leverage them with mental health. Screening has proved effective in helping to identify students with scoliosis and vision problems (Altaf et al., 2017; Mathers, Keyes, & Wright, 2010). However, according to data from the national SHPPS survey, only 12.3 percent of districts screen for mental health problems in students (CDC, 2016). In 2016, the Virginia General Assembly commissioned a study on the potential effectiveness of mental health screening. This study found that early intervention can prevent the development of more serious conditions, but it noted concerns about implementation and the need for accessible resources after identification. The study recommended three pilot programs for evaluation, but the results of these pilot studies are not yet known (VDBHDS, 2016).

Other studies have found positive impacts of screening on mental health outcomes. However, they too concede that there needs to be a strong link to treatments once cases are identified, and more research is needed to determine the most effective methods of screening (Dowdy et al., 2015; Weist et al., 2007). There is positive evidence even without improving links to treatment. One literature review found that screening in primary care improved treatment rates absolutely in nine out of ten randomized control trials (RCTs), and improved treatment rates by a statistically significant margin in four out of seven RCTs that reported on significance (Pignone et al., 2002). These results are promising, but these studies were of adults in a primary care setting, not adolescents in a school setting.

VII. Criteria

The criteria specified in this section will serve as the basis for evaluating the proposed alternatives in order to inform the recommendation of this report. The goal is to reduce the number of students with untreated mental illnesses. The recommended policy will do so in a manner that is (1) low-cost, (2) high-benefit, (3) administratively feasible, and (4) supported by quality evidence. Each alternatives performance on the criteria will be judged on a scale of 1 to 3, except for benefits, which are weighed twice as much on a scale of 0 to 6. This is to capture that the chosen alternative should most importantly demonstrate significant the potential to improve mental health in schools.

(1) Cost

The cost criterion will compare all anticipated costs between alternatives. These costs will include direct costs of programming like staff hours, materials, and training. All costs will be projected for five years of operation in 2019 dollars, annualized, and compared on a per-student basis. The costs estimates will be derived from evaluations of similar programs when possible or from available metrics like average teacher wage. The cutoffs were determined after the estimates were made to rank the alternatives relatively. More details on costing are available in the *Cost Appendix* and in *Appendix 3.* Costs will be compared based on the following scale:

High – 1 point	Moderate – 2 points	Low – 3 points
Cost per student > $20	Cost per student $10 - $19.99	Cost per student < $10

(2) Benefits

Due to a lack of quantitative research, the effectiveness of increasing treatment rates for each alternative is not known. Instead, benefits will be measured based on the answers to the following questions as justified by available research. An answer of "Potential" means that the evidence is not clear but that there is research or a logical model to suggest possible benefits. Point totals are shown in parentheses.

A) Intervention decreases probability of needing treatment outside of school (i.e. would not fall victim to coordination issues)?
   - Yes (2), No (0), Potential (1)

B) Is it equitable (is it universal, not rely on subjective assessments)?
   - Yes (2), No (0), Potential (1)

C) Intervention shown to reduce stigma?
   - Yes (2), No (0), Potential (1)

An alternative can score well on this metric if it demonstrates that it could decrease the prevalence of mental health needs among students or improve their take-up of treatment. Increasing the number of children receiving treatment and/or decreasing the number of children needing treatment are the most important goals of each proposed policy and treated as such. Equity is included within the benefits category. For a thorough justification please refer to the *Main Takeaways* section on page 13 of this report. Stigma has proven to be an important barrier to seeking care, so an alternative that reduces stigma will have spillover effects that will improve the effectiveness of other existing policies.

(3) Administrative Feasibility

The VDOE must be able to implement any recommended initiative, and one that is more easily implemented is preferred to one that would need significant resources or have little buy-in from stakeholders. As such, each alternative will be judged based on the steps needed for implementation. Policies will be compared based on the following scale of feasibility:

High – 3 points	Moderate – 2 points	Low – 1 point
Minimal staff members needed, low oversight, or is currently taking place	Some new staff needed, some new funding needs	Large numbers of staff involved, significant approvals needed, new funding needed, significant oversight, low political feasibility

(4) Quality of Evidence

This criterion will analyze the strength of evidence suggesting that a certain alternative will improve the treatment gap. The goal is to capture the differences in what each alternative can accomplish. For example, treatment providers are expected to improve mental health outcomes more so than education. Policies will be compared based on the following scale of quality of evidence:

High – 3 points	Moderate – 2 points	Low – 1 point
Gold standard for treatment that involves services of a mental health professional (therapy) and potentially medication	Some studies with experimental methods (not survey-based) that show positive impact on treatment rate or mental health outcomes	Most studies based on survey responses before and after treatment. Most studies show no impact on treatment rate or mental health outcomes

VIII. Alternatives

(1) Develop a Mental Health Curriculum

Allowing present trends to continue, VDOE will invest time and money to create a mandatory mental health curriculum. VDOE partner with stakeholders like teachers, mental health professionals, and mental health advocacy groups to develop a satisfactory curriculum. Health teachers would receive training on the material and incorporate it into the syllabus of the class. Lessons on mental health would take up a

significant portion of class time that would be specifically determined by the stakeholders.

Cost – Moderate – 2 points

The cost of implementing a mental health curriculum is moderate. Based on estimates in Appendix 3, the average cost per student annually would be $12.25. Costs are largely derived from teacher training and textbooks. Costs surrounding the actual development of the curriculum are estimated as a function of time spent by a VDOE staff member.

Benefits – 2 points

A) Education has not been shown to decrease the probability of students needing treatment outside of school. Research has found evidence of education improving some social behaviors like problem-solving and mental health knowledge, but evidence that education decreases the incidence of mental illness is still unclear (Salerno, 2016; Wells, Barlow, & Stewart-Brown, 2003). This analysis was also unable to find significant research on universal education's impact on mental health treatment rates. No – 0 points

B) Education is equitable because it is universal. Every student will receive some instruction in mental health. However, education does not address the subjectivity of the mental illness identification process. Similarly, the most vulnerable students may be resistant to learning about mental health, and teaching them does not ensure the internalization of the material. Potential – 1 point

C) Education has shown some possibility of improving attitudes towards mental illness and decreasing stigma. Three of five studies in the Salerno literature review that measured stigmatization found a significant improvement (2016). None of the studies in the Wells literature review measured stigmatization (Wells, Barlow, Stewart-Brown, 2003). The uncertain but potentially positive impact on stigmatization will result in a grade of "Potential" for education. Potential – 1 point

Administrative Feasibility – 3 points

The administrative feasibility of curriculum is high. No new full-time staff would need to be hired, training time would not be significant, no significant new funding is needed, and curriculum development could be outsourced. Furthermore, this alternative is most feasible because VDOE has already begun the process of implementing the curriculum.

Quality of Evidence – 1 point

The quality of evidence for education is generally low. Most studies are based on subjective responses to survey questions before and after treatment. Studies generally had a high risk of bias due to a lack of random assignment, subjective outcome measures, no long-term follow-ups, and no mitigation of biasing factors (Salerno, 2016). Furthermore, most studies did not show a significant impact of education on treatment rate or mental health incidence when any effect was detected.

(2) Increase the Number of Mental Health Counselors

The VDOE should lobby to increase funding for mental health counselors in high schools across the state to add one mental health counselor to every school in Virginia, or 372 professionals. These counselors would be listened school psychologists. Virginia has a ratio of approximately one school psychologist to every 1,772 students, well below the recommended ratio of 1:500-700 (NASP, 2011; NASP, 2017). There should be mental-health-specific counselors in to focus on treating students to limit the impact of coordination and cost barriers to care.

Cost – High – 1 point

The cost of adding one mental health counselor per school would be relatively expensive at an average price of $21.89 per student for five years. The main cost is the salaries of the full-time employees that would need to be paid each year. Therefore, the cost will be correlated with the number of counselors ultimately added. A largely uncertain cost is the recruiting and hiring of additional full-time staff.

Benefits – 2 points

A) Adding more mental health counselors to schools would decrease the need to find services elsewhere. A greater number of counselors increases the total number of students that can receive treatment in school. This prevents issues of transportation, cost, and coordination from prohibiting treatment seeking. Yes – 2 points

B) Counselors would have no effect on equity. It is not a universal intervention, as only students who need and are referred for services will benefit. An unchanged referral process (described above) still leaves room for possible bias against minority students. No – 0 points

C) There is little evidence supporting that additional in-school mental health counselors would reduce stigma. It is possible that more treatment occurring in schools would make the issues of some students more apparent and potentially increase the stigmatization of mental health. There is a perceived stigma in using mental health services, so making

that use more visible to peers in schools would not logically reduce stigma (Chandra & Minkovitz, 2007). No – 0 points

Administrative Feasibility – Low – 1 point

The administrative feasibility is low for this alternative. There would need to be significant increases in funding as evidenced by Governor Northam's call for $36 million allocated for school counselors (Office of the Governor, 2018). A large number of new staff would need to be recruited and hired. Furthermore, recruiting healthcare providers to underserved areas, especially to rural communities, is a major challenge for the healthcare policy makers (Jacobs, 2018). Developing a strategy to fill these gaps in provider could prove to be complex and time-consuming.

Quality of Evidence – High – 3 points

The quality of evidence is strong that school psychologists would improve treatment rates and mental health outcomes. The psychologists would be able to deliver the prescribed treatment for mental illness, psychotherapy, in an accessible way. Psychotherapy paired with medicine is the most effective treatment for mental illness (Mental Health America, 2018b). Furthermore, studies have shown that counseling is more effective when administered by in-school counselors than when the counselor is referring the student to an outside professional (Cooper, 2009; Villareal, 2018).

(3) Invest in Peer Support Groups

VDOE should fund and organize student-led groups that promote mental health awareness, teach coping skills, and provide connections to resources. Across the country, high school students have founded groups to educate their peers and raise awareness about mental health. The VDOE should provide guidelines and benchmarks to create more of these student organizations. Each high school would have a peer support group led by a faculty or community member that meets weekly for an hour. Groups would receive formal trainings in peer support twice a year from a mental health professional. The group would have a budget to host events, promote social connections, and participate in development activities. This alternative is based off of the Wolverine Support Network at the University of Michigan[3]. The key points of this alternative are that it aims to reduce social stigma by involving peers, empowers students to make the changes they believe their school needs, and leverages the higher-degree of trust between students as opposed to adults. A more open conversation about mental illness and referrals from a trusted peer network could break

[3] https://docs.wixstatic.com/ugd/bc938e_8a03764d74524311a0b81e22494440a4.pdf

down psychological barriers associated with accessing mental health treatment. A key challenge of this alternative will be oversight and accountability to ensure a minimum level of quality from these groups.

Cost – Low – 3 points

The cost of this alternative is low. The costs include the event-planning budget of the group, wages for a group leader, and costs of training for the groups. These would total an average $6.19 per student each year.

Benefits – 3 points

A) Peer groups would likely be able to link students to resources, improving treatment rates. Adolescents talk to peers first about mental health problems (Drum et al., 2009). Having having young people literate in available resources could make it more likely that an individual would seek treatment. Furthermore, peer support has shown a positive impact on treatment effectiveness through direct involvement in case management, on fostering hopefulness and empowerment, and on perceived mental health (Repper & Carter, 2011; Chinman et al., 2015; Wassef et al., 1998). All would likely decrease the number of students who need treatment by increasing remissions and decreasing students experiencing symptoms. Potential – 1 point

B) Peer groups would not be equitable. The treatment is not universal and there would likely be social barriers to joining the groups. Selection bias could be a concern based on the students who would most likely join the groups, as more motivated students would likely join more extracurricular activities. However, benefits of the groups are not limited to their members. We would expect spillover effects through changes in school culture, better-informed peers, and stigma reduction to mitigate some risks for vulnerable populations. This alternative does still rely on a largely subject process for identification, so it should be considered non-equitable. No – 0 points

C) Peer support groups have been shown to decrease stigma (Wassef et al., 1998; Repper et al., 2013). Furthermore, if the concern is about social stigma at school, involving more students in improving school-wide mental health would be expected to reduce the stigmatization. Students will have to actively take the perspective of those affected by mental illness, which has been shown to reduce prejudice and encourage helping behavior (Gallinsky, Ku, & Wang, 2005). Yes – 2 points

Administrative Feasibility – Moderate – 2 points

Peer support groups have a moderate administrative feasibility due to their low new staff requirements, minimal need for new funding streams, and student-focused approach

that allows individual groups to operate with some degree of independence. One challenge for administration will be creating accountability mechanisms to ensure a minimum standard of effectiveness. This alternative will require a moderate degree of implementation, planning, and oversight from VDOE.

Quality of Evidence – Low – 1 point

A majority of studies on the effectiveness of peer support are based on pre- and post-intervention surveys. Although there have been consistent findings of positive effects, most literature reviews have cited a need for more research. Especially considering the lack of evidence for high school peers as well as largely unexplored links to treatment rates, this alternative will receive a "low" grade.

(4) Require Mental Health Screenings for Public School Enrollment

VDOE should require schools to screen for mental health issues. VDOE requires a physical examination and proof of immunizations before enrollment in public schools, and it should include a mental health screening as well. The screenings would take place during school hours and use licensed mental health professionals to lead them. This requirement would help schools identify at-risk students to monitor and refer cases to service providers directly. This alterative also shifts the burden of identifying these health problems off of teachers (who should focus on teaching) and onto the trained health care professionals conducting screening.

Cost – Low – 3 points

The cost of this alternative is low at an average of $6.50 per student annually. The costs include the wages of the screeners, informative materials, and data collection.

Benefits – 3 points

A) Universal screening would not decrease the need for treatment outside of school. It would likely improve treatment rates by increasing the number of identified cases, but coordination problems would still exist for finding care like limited capacity of in-school counselors and cost of out-of-school providers. No – 0 point

B) Screening would be equitable because it is universal and takes the burden of identifying potential cases out of the hands of teachers and counselors who may be more likely biased than a trained mental health professional. As such, we could expect that minority students would see their identification rates improved. Yes – 2 points

C) Screening may reduce stigma by demonstrating the importance of the issue at schools and having each student go through an experience related to mental health care. However, these links are largely unexplored. Potential – 1 point

Administrative Feasibility – Low – 1 point

Screening would likely have a low administrative feasibility. It would require considerable coordination to staff screeners, force missed instruction time, and need the resources of school counselors to administer follow-up referrals. Additionally, many states are not doing universal mental health screening and some have even sought to ban it, so it may require legislation, which presents a large feasibility challenge (Mental Health America, 2018c).

Quality of Evidence – Moderate – 2 points

The quality of evidence for screening is moderate. It has been shown to increase treatment rates in some experimental settings, has not relied on a majority of self-survey responses, and has shown consistent positive effects. However, it also does not itself treat mental illness. Screening's effectiveness would still rely in the strength of the links to treatment.

IX. Outcomes Matrix

	Average cost per student per year	Benefits (Max = 6)	Administrative Feasibility	Quality of Evidence	Total Points
Mental Health Curriculum	**$12.25 (2)**	**(2)** • No improvement treatment rate (0) • Potential equity (1) • Potential stigma reduction (1)	**High (3)** • Already begun implementing • Few staff needs or new funding streams	**Low (1)** • Mostly survey-based • Unclear links to treatment rates	**8**
Mental Health Counselors	**$21.89 (1)**	**(2)** • Yes, improvement treatment rate (2) • No equity (0) • No stigma reduction (0)	**Low (1)** • Complexity of hiring rural health providers • Significant staff needs or new funding streams	**High (3)** • Gold standard of treatment • Recommended by Mental Health America	**7**
Peer Support Groups	**$6.19 (3)**	**(3)** • Potential improvement treatment rate (1) • No equity (0) • Yes, stigma reduction (2)	**Moderate (2)** • Low staff, independent groups, no new funding streams • Oversight and evaluation needed	**Low (1)** • Mostly survey-based • Unclear links to treatment rates • Lack of evidence in high schools	**9**
Universal Behavioral Screening	**$6.60 (3)**	**(3)** • No improvement treatment rate (0) • Yes, equity (2) • Potential, stigma reduction (1)	**Low (1)** • High staff, data collection, lost school time • Political opposition	**Moderate (2)** • Experimental evidence • Some links to treatment rates • Not direct treatment, depends on available resources	**9**

X. Recommendation

Through this analysis, it became clear that no single intervention would solve the problem of low mental health treatment rates for high school students. There is a general lack of evidence-based interventions proven to work. The steady rise in suicide rates for adolescents is a testament to this fact. While not the optimal finding, a lack of proven policies presents an opportunity for VDOE to lead on the issue of mental health. To do so, VDOE must learn more comprehensively which policies work and which do not. Therefore, any initiative chosen should be phased-in to establish treatment and control groups to accurately measure differences in outcomes of interest like number of referrals to providers, climate survey responses, number of students in treatment, percent of students receiving in-school treatment, the rate of treatment if referred, and remission rates. These suggested alternatives are not mutually exclusive, but serve different purposes at different points in the process of identifying and treating students with mental health. Therefore, VDOE should not feel constrained to only choose one. This analysis will recommend two things: one alternative to prioritize and an approach to measure the impact of a comprehensive program.

Single Option: Peer Support Groups

Peer support groups performed the best on the chosen criteria with a high score of nine points (tied with universal screening). This option provides a low-cost way to reduce stigma and inform students of helpful resources through trusted peers. Peer groups, while not rigorously supported by high quality evidence, are a moderately feasible way to continue addressing mental health in schools.

Additional Benefits

Peer groups have an array of other potential benefits that set it apart from other options, despite each alternative scoring relatively similarly across the four criteria. First, it impacts students early on in the process of receiving mental health treatment. Early interventions are possibly more effective than trying to secure treatment later. Second, it impacts multiple barriers by leveraging trust between peers, reducing stigma, improving mental health literacy by virtue of inherently more accessible peers advisors. Finally, it gives the work of improving mental health in schools to the students. The students know what their individual school needs most. This will also help to create more buy-in from students than would programs mandated by VDOE or school districts.

Tradeoffs

The other alternatives are strong and each has a place in a comprehensive mental health strategy. A thorough mental health curriculum is a moderately inexpensive way to

improve mental health literacy, but peer supports achieve a similar end with the added benefits of peer-to-peer learning and more evidence in reducing stigma. A lack of caring about education, often associated with students with mental health concerns, could diminish the effectiveness of a traditional classroom learning initiative. Adding mental health counselors presents the strongest treatment option. However, it is the most expensive and least feasible. The intervention would require significant analysis to determine the best strategies to recruit more counselors to traditionally underserved areas, which is a significant problem that also impacts primary care physicians. Screening prevents another effective approach at a low cost. The concern with universal mental health screening is the feasibility, as some states have tried to ban the practice all together (Mental Health America, 2018c). The coordination needed to organize professionals to perform screenings and track and follow-up on potential cases would require considerable administrative effort. Overall, compared to the other alternatives, peer support groups sacrifice some evidence-based effectiveness in reducing treatment rates for a low-cost, easily implementable solution with significant social benefits.

Implementation

There are two concerns for implementation: recruiting group leaders and ensuring quality. Ensuring quality is the largest challenge for implementation. First, VDOE must develop guidelines for the specific kinds of topics, activities, events, and skills that groups should undertake. Then, VDOE must ensure that leaders produce reports to foster accountability. Group leaders should track events held, students reached, number of members, any problem incidents, number of referrals, and costs incurred. VDOE staff will be responsible for reviewing reports. The process of recruiting group leaders would need to rely on financial incentives for work after school hours. Group leaders would not necessarily need to be mental health professionals but should undergo training from a professional. To overcome each implementation barrier, VDOE can rely on the expertise and resources of organizations like CSBs and Mental Health America Virginia to provide potential partnerships for training, content for meetings, and ideas for advocacy events. VDOE can rely on Adolescent Peer Support League[4], Virginia Peer Recovery Specialist Network[5], and Recovery Education Training (VA)[6] for best practices for peer groups. Finally, the toolkits developed by Philadelphia Department of Behavioral Health and Intellectual Disability Services (DBHIDS)[7] and RI Consulting[8] can provide steps for implementation and tracking.

[4] https://www.adolescentpeersupport.org/
[5] http://virginiapeerspecialistnetwork.org/
[6] http://mhav.org/recovery-education/
[7] https://dbhids.org/peer-support-toolkit/
[8] https://riinternational.com/consulting/training/for-supervisors/

Combined Option: Focus on Comprehensiveness and Evaluation

As mentioned above, there is no silver bullet that will improve mental health in schools. Furthermore, there is not significant empirical evidence of the effectiveness of any alternative. This underscores the complexity of the problem. To combat the dual challenges of insufficient evidence and a difficult problem, VDOE should implement all four alternatives in a group of randomly selected school districts. This would allow costs to be held low, multiple barriers to be targeted, and measurement to occur to shed more light on the effectiveness of school-based alternatives.

The Michigan Department of Education implemented such a plan in 2010 called the Coordinated School Health and Safety Program. They used the federal *S3 think.respect* grant from the U.S. Department of Education to target 22 low-achieving high schools with a variety of mental health initiatives (Michigan Department of Education, 2015). Initiatives included training teachers on adolescent mental health challenges, engaging parents to build better relationships with the school, creating opportunities for students to lead change, implementing restorative justice instead of traditional discipline, and adding a mental health education curriculum. As a result graduation rates increased in treatment schools by 8 percentage points, while they decreased by 4 percentage points in comparable schools that did not receive the programming (Michigan Department of Education, 2015). Since students with mental health issues are at a greater risk of dropping gout, an increase in graduation rates can be considered at least a reasonable proxy for some improvement in mental health outcomes (Breslau et al., 2008; Vander Stoep et al., 2003). This is likely the closest that research has come to finding a high school program that may cause an improvement in an objective, measurable mental health outcome.

Virginia would benefit from a similar pilot program. This analysis recommends selecting twenty school districts to receive such a program and twenty to act as a control. Both sets of districts should have the same average demographics like race, income levels, school quality, and rural/urban mix. Significant measurement is required to build evidence of a working program. A successful implementation at a small scale could convince the Virginia General Assembly to dedicate significant funding to improving adolescent mental health throughout the state.

XIII. Appendices

Appendix 1 - Costs

Direct Medical Costs

Behavioral health conditions pose significant direct costs to society. The Substance Abuse and Mental Health Services Administration (SAMHSA) estimated total spending on mental health to equal $239 billion in 2020. Approximately 60 percent, or $143 billion will come from public sources like Medicare and Medicaid (SAMHSA, 2015). Mental illness disproportionately affects low-income individuals, as 20 percent of people with mental illness are enrolled in Medicaid as opposed to a 14 percent enrollment rate among the total population in 2011. Despite accounting for 20 percent of enrollees, mental health conditions accounted for 48 percent of Medicaid spending in 2011 (MACPAC, 2015). The costs are high and a significant burden on public funds. As such, this analysis considers the direct health costs equal to approximately $239 billion.

Cost of Suicide

Aside from the direct health concerns, there are significant financial costs to society associated with suicide. Approximately 90 percent of people who commit suicide had a diagnosable mental illness at their time of death (NAMI, 2016). Reducing mental health prevalence would in turn reduce the suicide rate. Estimates for the economic cost of suicide range from approximately $600,000 to $2.48 million per suicide in 2018 dollars (O'Dea & Tucker, 2005; Palmer, Halpern, & Hatziandreu, 1995; Stoudemire, et al., 1986). The low estimate of approximately $600,000 is derived from a study in New Zealand, and the high estimate is derived from a U.S. study in 2015 that adjusted the number upwards to account for underreporting (Shepard et al., 2015). In 2015, the CDC estimated the cost per suicide to be $1.34 million in 2018 dollars (Florence et al., 2015). Since no other studies use the underreporting adjustment and the high bar is twice the amount of the second highest, we will use the more conservative estimate of the 2015 CDC study. However, the five studies, despite occurring thirty years apart from each other, all generated an estimate within a relatively close range, so the $1.34 million cost per suicide estimate is reasonable. This would equal a cost of $60.3 billion for suicides in 2018.

Cost of Higher High School Dropout Rates

Adolescents with a diagnosed mental health condition pose other costs to society beyond potential the loss of life. First, approximately 25 percent of high school dropouts suffered from "clinically significant" symptoms of depression within three months before leaving school (Dupéré et al., 2018). Other studies have found the percentage of dropouts due to mental illness at 10.2 percent and 46 percent (Breslau et al., 2008;

Vander Stoep et al., 2003). However, the high estimate of 46 percent comes from a study with a relatively low sample size (n=181) in one New York county (Vander Stoep et al., 2003). Additionally, the 25 percent rate is derived from a study of Canadian adolescents that have different resources and cultural norms, so we will assume the true proportion of dropouts due to mental illness in the United States is closer to the low estimate of 10.2 percent (Dupéré et al., 2018; Breslau et al., 2008). In 2016, 2.1 million students dropped out of high school (NCES, 2017). This would mean approximately 200,000 students dropped out due to depression symptoms in 2016. These dropouts will earn $9,250 less on average than a high school graduate annually (BLS, 2016). Estimated for a fifty-year working life and discounted at a six percent interest rate, this $9,250 annual difference has a present value of $157,000. Therefore, in terms of lower economic productivity, each yearly class of dropouts will impose an estimated cost of $31.4 billion to society throughout their lives, or an annualized cost of $628 million over fifty years.

Appendix 2 – CSB Funding

FY 2017 Statewide Total CSB Funds by Source					
State Funds	**Local Match**	**Fees**	**Federal**	**Other**	**Total Funds**
$320,687,563	$284,946,271	$496,992,291	$56,640,701	$55,075,984	$1,214,342,810
26.41%	23.47%	40.93%	4.66%	4.53%	100.00%

Appendix 3 – Cost-Analysis

A complete cost analysis can be found here.

Alternative	Total Present Value Estimate	Annualized Cost per Student per Year
Curriculum	$44,909,272.57	$12.25
Counselors	$80,288,926.54	$21.89
Peer Support	$22,701,738.60	$6.19
Screening	$23,825,293.77	$6.50

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