EDUCATING SOCIETY ABOUT THE PREVALENCE OF SUICIDE AND MENTAL ILLNESS TO STIMULATE BROADER MENTAL HEALTH CARE REFORM*

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* A different version of this article, entitled *Mental Health Reform: Predicting Suicide, but Then What?*, was published in the New York State Bar Association Health Law Journal, Summer/Fall 2014 edition, Vol. 19, No. 2.

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I. INTRODUCTION

If asked to rank the biggest problems faced by teenagers, most adults would not list suicide.[1] Yet, the Centers for Disease Control (CDC) determined that suicide is the third leading cause of death "[f]or youth between the ages of 10 and 24 . . . ."[2] Approximately 157,000 young adults in this age group attempt suicide each year.[3] While most young adults do not actually die from these attempts,[4] the large number demonstrates that teen suicide risk is a serious problem.

Statistics published by the CDC also indicate that suicide is a prominent issue for all adults, ranking among the top ten leading causes of death in the United States.[5] Suicide accounts for approximately 38,364 deaths per year,[6] and suicide attempts result in a yearly average of 713,000 emergency department visits for self-inflicted injuries.[7] Of those who commit suicide, "more than 90 percent have a diagnosable mental disorder."[8]

Mental illness is also a major problem in the United States. About 57.7 million Americans over the age of eighteen have a mental disorder,[9] and "[h]alf of all lifetime cases of mental disorders begin by age 14."[10] By comparison, other disorders such

[1] Eve Kupersanin, *Adults Often in Dark About Suicide Risk in Teens*, 36 PSYCHIATRIC NEWS 22, 22 (2001), *available at* http://psychiatryonline.org/doi/full/10.1176/pn.36.24.0022 ("When asked to cite the most important problems facing U.S. teens today, 61 percent of adults rated drug and alcohol abuse as number one, while only 8 percent thought suicide was a major problem for teens.").

[2] *Suicide Prevention: Youth Suicide*, CENTERS FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/violenceprevention/pub/youth_suicide.html (last visited Jan. 13, 2015).

[3] *Id.*

[4] *Id.*

[5] *Suicide: Facts at a Glance*, CENTERS FOR DISEASE CONTROL & PREVENTION (2012), http://www.cdc.gov/violenceprevention/pdf/suicide-database-a-.pdf.

[6] *Id.*

[7] Honor Whiteman, *'Biological Signal' of Suicide Risk Found in Blood*, MED. NEWS TODAY (Aug. 22, 2013, 12:00 AM), http://www.medicalnewstoday.com/articles/265062.php.

[8] *Mental Health Reporting: Fact Sheet*, MENTAL HEALTH REPORTING, http://depts.washington.edu/mhreport/facts_suicide.php (last visited Jan. 15, 2015).

[9] *Mental Disorders in America*, KIM FOUNDATION, http://www.thekimfoundation.org/html/about_mental_ill/statistics.html (last visited Jan. 15, 2015).

[10] *Facts on Children's Mental Health in America*, NAMI (July 2010), http://www.nami.org/Template.cfm?Section=federal_and_state_policy_legislation&template=/ContentManagement/ContentDisplay.cfm&ContentID=43804.

as Alzheimer's and diabetes affect 5.2 million Americans[11] and 25.8 million children and adults,[12] respectively.

Given these statistics, mental illness should be a higher priority and receive more national attention. Americans should be regularly screened for mental disorders and suicide risk, as they are for other disorders that affect millions of people. Unfortunately at the present time, mental disorders and suicide are so stigmatized that there is a gaping disparity in the type of mental and physical health care provided.[13]

This article will use the recent discovery of biomarkers that can potentially detect suicide risk as a catalyst to discuss how this type of development in the detection of mental illness can revolutionize mental health care if used in collaboration with other changes in mental health treatment. First, this article discusses the importance of reducing the stigma associated with mental illness and suicide. Second, it explains how suicide biomarkers were identified and how such a finding can profoundly impact the traditional understanding and approach to suicide identification and treatment. Third, it analyzes how to use suicide biomarker screening to identify individuals who may be at risk of committing or attempting suicide. Fourth, the focus of this article shifts to the particularly high suicide risk among teenagers, which leads into a discussion about how to develop and implement a constitutionally valid suicide biomarker screening program through the public school system. Finally, this article emphasizes the need to develop new treatment programs that can be used in collaboration with genetic testing methods, including suicide biomarker screening;[14] such programs will be critical in actually reducing the stigma and improving the treatment of mental illnesses. Hopefully, these combined efforts to reform mental health care will enhance members of the general public's ability to identify individuals who may benefit from treatment,

[11] *Alzheimer's Facts and Figures*, ALZHEIMER'S ASS'N, http://www.alz.org/alzheimers_disease_facts_and_figures.asp (last visited Jan. 15, 2015).

[12] *Statistics About Diabetes*, AM. DIABETES ASS'N, http://www.diabetes.org/diabetes-basics/statistics/ (last updated Sept. 10, 2014).

[13] *World Suicide Prevention Day: Stigma: A Major Barrier to Suicide Prevention*, IASP (Sept. 10, 2013), https://www.iasp.info/wspd/pdf/2013/2013_wspd_brochure.pdf.

[14] *See* Brian Owens, *Predictors of Suicidal Behaviour Found in Blood*, NATURE (Aug. 20, 2013), http://www.nature.com/news/predictors-of-suicidal-behaviour-found-in-blood-1.13570.

and encourage more people to acknowledge their own risk and to pursue newly enhanced treatment options.

II. OVERALL NEED TO REDUCE THE STIGMA ASSOCIATED WITH MENTAL ILLNESS AND SUICIDE

It seems impossible to effectively address the prevalence of mental illness, or more specifically suicide, without first reducing the stigma associated with such disorders. Individuals with mental illness must feel as free to seek mental health care as they feel to receive physical health care. Only recently have medical experts and celebrities begun to acknowledge and to speak out about how the stigma inhibits the pursuit of mental health care when necessary.[15]

Today it is an unfortunate reality that most people do not react to, or treat, mental illness in the same way as other physical illnesses such as asthma, cancer, or a broken arm. Jennifer Lawrence acknowledged this peculiarity after winning an Oscar for her role in the movie *Silver Linings Playbook*, which focuses on the life of a man who has bipolar disorder.[16] Lawrence stated, "[i]t's so bizarre how, in this world, if you have asthma, you take asthma medicine; if you have diabetes, you take diabetes medicine. But, as soon as you have to take medication for your mind, there's such a stigma behind it."[17] This disparity may not seem to be quite as daunting as it is unless one has personally experienced, or closely witnessed another live with, a mental disorder. Larry M. Lake, for instance, wrote about the contrasting reaction of his community members when his wife was diagnosed with breast cancer and when his daughter was diagnosed with bi-polar disorder.[18] When his wife underwent treatment, friends were constantly asking if there was anything that they could do and bringing over food, but when his daughter was admitted to the hospital and diagnosed, hardly anyone asked

[15] *See* Melissa Thompson, *Let's End the Stigma of Mental Illness*, HUFFINGTON POST (July 2, 2013, 12:00 PM), http://www.huffingtonpost.com/melissa-thompson/lets-end-the-stigma-of-mental-illness_b_3522563.html.

[16] *Id.*

[17] *Id.*

[18] Larry M. Lake, *No One Brings Dinner When Your Daughter Is An Addict*, HUFFINGTON POST (Nov. 11, 2013, 3:51 PM), http://www.huffingtonpost.com/2013/11/11/no-one-brings-dinner-when-your-daughter-is-an-addict_n_4256007.html?view=print&comm_ref=false.

how she was and no one brought food.[19] Lake commented that,

> [f]riends talk about cancer and other physical maladies more easily than about psychological afflictions. Breasts might draw blushes, but brains are unmentionable. These questions are rarely heard: "How's your depression these days?" "What improvements do you notice now that you have treatment for your ADD?" "Do you find your manic episodes are less intense now that you are on medication?" "What does depression feel like?" "Is the counseling helpful?"[20]

So why is it that "[w]e whisper about mental health issues and avoid asking too many questions [when in reality the] brain is [simply another] body part . . . ?"[21] The answer seems to be that individuals react to mental illness in this nonsensical way because they do not truly understand the gravity or complexity of living with and treating it, and are consequently and ignorantly apprehensive to have unfettered discussions about mental health issues.

Efforts to raise awareness about mental illness and to reduce the stigma associated with it must continue, and are particularly important because the societal trepidation surrounding mental illness also inhibits individuals from seeking treatment when necessary. Therefore, the ultimate goal must be to achieve "mental health parity," meaning that "issues such as depression or schizophrenia would be treated for as long as necessary, much as a broken arm is treated until it is healed, rather than having limits on allowed visits per year or insurance policies that don't include mental health at all."[22] Efforts to promote mental health parity would reduce discriminatory behavior toward the mentally ill[23] and foster better treatment that endures post-hospitalization.[24]

The passage of the Affordable Care Act (ACA) represents the

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[19] *Id*.

[20] *Id*.

[21] Thompson, *supra* note 15 (statement of President Barack Obama).

[22] *Id*. (quoting Jennifer Mathis, Deputy Legal Director of the Bazelon Center for Mental Health Law).

[23] *See, e.g.,* PARITY IMPLEMENTATION COALITION, PARITY TOOLKIT FOR ADDICTION & MENTAL HEALTH CONSUMERS, PROVIDERS & ADVOCATES 6 (1st ed. 2010), *available at* http://www.nami.org/Content/NavigationMenu/Inform_Yourself/About_Public_Policy/Issue_Spotlights/Health_Care_Reform/ParityToolkit.pdf.

[24] *See* PADDY POWER & STEPHEN MCGOWAN, SUICIDE RISK MANAGEMENT IN EARLY INTERVENTION 3 (2011).

most recent legislative action emphasizing the benefit and importance of mental health parity.[25] Reacting to the fact that twenty-five percent of the 47.5 million uninsured Americans have a mental health condition,[26] the ACA builds on the Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) by requiring that all "health insurance plans [on] the Health Insurance Marketplace cover mental health . . . services."[27] Insurance companies will no longer be able to engage in discriminatory medical management, including the denial or exclusion of coverage for certain mental health treatments,[28] and will be required to "cover preventive services, like depression screening for adults and behavioral assessments for children, at no additional cost."[29] These newfound efforts are critical because they will promote early detection and intervention, which can help reduce the prevalence of mental illness, including suicide, by as much as fifty percent.[30]

There must be a simultaneous effort to ensure that a history of mental illness and/or treatment does not lead to discrimination.[31]

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[25] *See Health Insurance and Mental Health Services*, MENTALHEALTH.GOV, http://www.mentalhealth.gov/get-help/health-insurance/ (last visited Jan. 16, 2015).

[26] KIRSTEN BERONIO ET AL., AFFORDABLE CARE ACT WILL EXPAND MENTAL HEALTH AND SUBSTANCE USE DISORDER BENEFITS AND PARITY PROTECTIONS FOR 62 MILLION AMERICANS 2 (2013), *available at* http://aspe.hhs.gov/health/reports/2013/mental/rb_mental.cfm (discussing how the ACA builds on the MHPAEA, which "requires group health plans and insurers that offer mental health and substance use disorder benefits to provide coverage that is comparable to coverage for general medical and surgical care[,]" by requiring individual market plans to cover "mental health and substance use disorder services.").

[27] *Health Insurance and Mental Health Services*, *supra* note 25.

[28] PARITY IMPLEMENTATION COALITION, *supra* note 23, at 4.

[29] *Health Insurance and Mental Health Services*, *supra* note 25.

[30] POWER & MCGOWAN, *supra* note 24, at 4.

[31] *See Mental Health: Americans with Disabilities Act and Mental Illness*, WOMEN'SHEALTH.GOV, https://www.womenshealth.gov/mental-health/your-rights/americans-disability-act.html (last visited Jan. 15, 2015) (noting the Americans with Disabilities Act prohibits discrimination against the mentally ill in the contexts of employment, public accommodation and transportation, and telecommunication); Andrew Solomon, *Shameful Profiling of the Mentally Ill*, N.Y. TIMES (Dec. 7, 2013), http://www.nytimes.com/2013/12/08/opinion/sunday/shameful-profiling-of-the-mentally-ill.html?hp&rref=opinion&_r=0 (stating that border patrol agents have denied individuals with a history of mental health treatment entrance into the U.S. on a number of occasions pursuant to U.S. Immigration and Nationality Act, Section 212, which provides such agents with the discretionary power of blocking entrance if an individual has a "physical or mental disorder that threatens anyone's 'property, safety or welfare.'").

Reactions that punish individuals for being diagnosed and treated for mental illness discourage individuals from seeking treatment in the first place,[32] when "there should be no shame in discussing or seeking help for treatable illnesses that affect too many people that we love."[33]

Unless action is taken to reduce the stigma, "four out of five people with mental conditions will continue to not receive the right kind of help—help that works. That's a tragedy we can [and should] prevent."[34] Thus, the topic of mental health must be made more mainstream[35] in collaboration with altering the traditional approach to mental health treatment by developing new programs, in turn making mental health care more desirable and accessible.

III. GENETIC TESTING FOR SUICIDE BIOMARKERS- A NEW WAY TO ASSESS SUICIDE RISK

Recognizing that people who intend to commit suicide may not express their feelings or seek assistance,[36] Dr. Alexander Niculescu, an associate professor of psychiatry and medical neuroscience at the Indiana University School of Medicine, spearheaded a three year study of men with bipolar disorder to look for biomarkers that might indicate a higher risk of suicide.[37]

Dr. Niculescu's study had four parts.[38] First, he and his colleagues focused on nine men with bipolar disorder who "switched from having no suicidal thoughts to scoring highly on a suicide-risk scale."[39] They examined the blood cells of these men and looked for alterations in gene expression.[40] Second, after identifying possible biomarkers, they compared those biomarkers to previously identified genes related to mental illness and

[32] *See generally* Solomon, *supra* note 31 (The current prohibition on allowing people with a history of mental illness to enter the U.S. is not bewildering because a similar ban prohibited people with H.I.V. from entering the U.S. until 2009. Such bans are particularly troublesome because they foster bias against people with certain illnesses, which discourages them from seeking treatment).

[33] Thompson, *supra* note 15 (quoting President Barack Obama).

[34] *Id.* (quoting Dr. Lloyd Sederer, Medical Director of the New York State Office of Mental Health).

[35] *Id*.

[36] *See* Whiteman, *supra* note 7.

[37] Owens, *supra* note 14; Whiteman, *supra* note 7.

[38] Owens, *supra* note 14.

[39] *Id*.

[40] *Id*.

suicide, and reduced their list of possible biomarkers to forty-one.[41] Third, the results were compared to blood samples from nine deceased men who had committed suicide, which helped reduce the list to thirteen potential biomarkers.[42] Fourth, more refined statistical tests were performed, which reduced the list to six biomarkers that Dr. Niculescu and his colleagues were "reasonably confident [to be] indicative of suicide risk."[43]

Then Dr. Niculescu and his colleagues determined if the biomarkers could be used to predict suicide hospitalizations.[44] They examined "gene-expression data from 42 men with bipolar disorder and 46 men with schizophrenia, and found correlations with four of their biomarkers, especially in the bipolar group."[45] This discovery was pivotal because it demonstrated the presence of "trait markers," which highlight the behavioral and biological processes that may play a causal role in the development of a psychiatric disorder, *and* "state markers," which refer to the actual manifestation of the disorder in patients.[46]

Even though the sample size of this study was rather small, the discovery of suicide biomarkers represents a milestone in understanding suicide risk because it "opens a window into the biology of what's happening . . . ."[47] Other studies have found genetic links to suicidal behavior as well, and even though genetics is only one "small piece of the puzzle on what causes suicidal behaviour,"[48] it seems to be a fundamental part of our general understanding and may increase our ability to uncover those at risk. Pointedly, when Dr. Niculescu's biomarkers were used along with other clinical measures of mood and mental state, the researchers ability to predict hospitalization increased from sixty-five to eighty percent.[49]

With more testing and experience, hopefully these markers will become increasingly accurate in predicting suicide risk. For purposes of this article, it will be *assumed* that the identification

[41] *Id*.
[42] *Id*.
[43] *Id*.
[44] *Id*.
[45] *Id*.
[46] *Id.*
[47] *Id*.
[48] *Genetic Link to Suicidal Behavior Confirmed*, SCIENCE DAILY (Oct. 7, 2011), http://www.sciencedaily.com/releases/2011/10/111007113941.htm (statement of Dr. James Kennedy, director of the Centre for Addiction and Mental Health's Neuroscience Research Department).
[49] Owens, *supra* note 14.

of these biomarkers within an individuals' blood can definitively predict his or her risk of suicide. Unfortunately, this study must be replicated on a larger scale before suicide biomarker screening can be used effectively as a mainstream method to assess suicide risk.

IV. HOW TO USE BIOMARKERS TO IDENTIFY INDIVIDUALS WHO MAY BE AT RISK OF COMMITTING OR ATTEMPTING SUICIDE

The traditional approach to identifying people who may be "at-risk" of committing, or attempting to commit, suicide involves providing mental health services to those who proclaim or show signs of suicidal thoughts or behavior.[50] While it is imperative to continue helping individuals who are more forthcoming about their feelings or whose behavior is directly associated with suicide, the enormous number of attempted and actual suicides in the United States each year demonstrates that many people who are at risk of suicide are not being identified or treated. Therefore, simply "treat[ing] the disorder [will not necessarily make] the suicidality . . . go away . . . ."[51] Instead other indicators of suicidality, such as screening for genetic biomarkers, must be used to find and treat people who do not fall into one of the two traditional categories of "at-risk" patients.

It may be more beneficial to identify people with a higher risk of suicidal behavior by recognizing characteristics that are commonly associated with an increased suicide risk, such as diagnosed mental disorders,[52] family history of depression,[53] or exposure to parental psychiatric illness.[54] There is also a strong

[50] *Suicide Prevention: A Public Health Issue*, CENTER FOR DISEASE CONTROL, http://www.cdc.gov/violenceprevention/pdf/asap_suicide_issue2-a.pdf. (last visited Mar. 6, 2015).

[51] Aaron Levin, *Patient Involvement Key to Prevention Strategy's Success*, PSYCHIATRIC NEWS, http://psychnews.psychiatryonline.org/doi/full/10.1176%2Fpn.47.17.psychnews_47_17_14-a (last visited Jan. 16, 2015).

[52] *See The Numbers Count: Mental Disorders in America,* NIH (Oct. 1, 2013, 9:31 AM), http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml.

[53] *See* Joan Arehart-Treichel, *Future Looks Promising for Mental Illness Prevention*, PSYCHIATRIC NEWS, http://psychnews.psychaitryonline.org/doi/full/10.1176/appi.pn.2013.10b1 (last visited Jan. 16, 2015); *The Numbers Count: Mental Disorders in America, supra* note 52.

[54] Holly C. Wilcox et al., *The Interaction of Parental History of Suicidal Behavior and Exposure to Adoptive Parents' Psychiatric Disorders on Adoptee*

association between psychotic experiences, such as paranoia and delusions, like hearing voices, and suicide attempts.[55] One study of psychopathology in adolescents found that experiencing psychotic symptoms nearly *tripled* the chance of suicide: "34 percent of those experiencing psychotic symptoms plus other types of psychopathology made a suicide attempt . . . [and] only 13 percent of those experiencing psychopathology without psychotic symptoms made such an attempt."[56]

Individuals who have been exposed to adversity, such as family turmoil, alcohol and substance abuse, and domestic violence, may also have an increased risk of suicide.[57] Teenagers may be impacted by failure, breakups, and bullying as well.[58] It is essential to begin using these risk factors to identify individuals who should receive mental health treatment and/or be tested for suicide biomarkers because asking if someone is "struggling with anxiety or depression, or ha[s] thoughts about harming himself or others,"[59] may not always lead to an admission.

Nonetheless, assessing these signs and experiences can be subjective, so they must be approached in a way that is as objective and non-judgmental as possible.[60] Accordingly, it is critical to develop objective methods of detecting mental health risk, such as screening for suicide biomarkers, which can be used in collaboration with other non-genetic indicators to objectively and subjectively assess and better identify individual risk.

Suicide Attempt Hospitalizations, 169 AM. J. PSYCHIATRY 309, 309–10 (2012).

[55] Joan Arehart-Treichel, *Psychotic Symptoms Found to Be Strong Suicide Risk Factor in Teens*, PSYCHIATRIC NEWS (Oct. 10, 2014), http://psychnews.psychiatryonline.org/doi/full/10.1176/appi.pn.2013.9a3.

[56] *Id.*

[57] Eric D. Caine, *Preventing Suicide Is Hard to Do!*, 61 PSYCHIATRIC SERVICES 1171, 1171 (2010).

[58] Anat Brunstein Klomek et al., *Bullying and Suicide*, PSYCHIATRIC TIMES (Feb. 10, 2011), *available at* http://www.psychiatrictimes.com/suicide/content/article/10168/1795797; *Tween and Teen Health*, MAYO CLINIC (Apr. 24, 2013), http://www.mayoclinic.org/health-living/tween-and-teen-health/basics/tween-health/hlc-20049436.

[59] Denise Grady, *Signs May Be Evident in Hindsight, but Predicting Violent Behavior Is Tough*, N.Y. TIMES (Sept. 18, 2013), http://www.nytimes.com/2013/09/19/us/signs-may-be-evident-in-hindsight-but-predicting-violent-behavior-is-tough.html?pagewanted=2&ref=health.

[60] Levin, *supra* note 51.

V. IMPLEMENTING GENETIC TESTING FOR SUICIDE BIOMARKERS THROUGH PUBLIC SCHOOLS IN ORDER TO ADDRESS THE RATE OF TEEN SUICIDE

A. Why To Test Teenagers Through Public Schools

Testing teenagers for suicide biomarkers may enable psychiatrists to find high-risk individuals earlier, which will facilitate better treatment.[61] Screening teenagers is a valid starting point because "half of all lifetime cases of mental disorders begin by age 14."[62] Early detection can greatly benefit teenagers, especially since family members can engage in preventive treatment once symptoms are recognized.[63] Teenagers are also more easily accessible for testing than other groups because screening programs can be implemented through public schools;[64] school officials are in a good position to address suicide risk as well, since students spend most of their childhood attending school.[65]

School programs to screen for suicide biomarkers must be

[61] *See President's New Freedom Commission on Mental Health*, *Goal 4: Early Mental Health Screening, Assessment, and Referral To Services Are Common Practice*, NAMI, http://www.nami.org/Template.cfm?Section=New_Freedom_Commission&Template=/ContentManagement/ContentDisplay.cfm&ContentID=28321 (last visited Jan. 16, 2015) [hereinafter *New Freedom Commission*] (explaining that "[e]arly intervention can have a significant impact on the lives of children and adults who experience mental health problems.").

[62] *Facts on Children's Mental Health in America*, *supra* note 10.

[63] *See generally* ROUTLEDGE INT'L HANDBOOK OF CLINICAL SUICIDE RESEARCH 311–12 (John R. Cutcliffe et al. eds., 2014) (citing David Miers et al., *A Phenomenological Study of Family Needs Following the Suicide of a Teenager*, 36 DEATH STUD. 118, 118–33 (2012) (discussing family members immense need for support after a teen suicide)).

[64] *See Teen Suicide Prevention*, AM. PSYCHOL. ASS'N, http://www.apa.org/research/action/suicide.aspx (last visited Jan. 19, 2015) ("National suicide prevention efforts have focused on school education programs . . . [and] [s]creening programs have proven to be helpful because research has shown that suicidal people show signs of depression or emotional distress.").

[65] Vernonia Sch. Dist. 47J v. Acton, 515 U.S. 646, 661, 665 (1995) (emphasizing that the most significant part of this case was that the "[school] Policy was undertaken in furtherance of the government's responsibilities, under a public school system, as guardian and tutor of children entrusted to its care[,]" and further discussing how school years represent a critical time in the physical and psychological development of children). *See generally* Gregory D. Cooper et al., *A Review and Application of Suicide Prevention Programs in High School Settings*, 32 ISSUES MENTAL HEALTH NURSING 696, 696–702 (2011) (explaining the effectiveness of school based intervention programs in addressing the prevalence of teen suicide).

implemented carefully or else they may raise constitutional issues if administered discriminatorily or in a way that infringes on student privacy rights.[66] All teenagers in public schools can be tested to avoid discriminatory issues. Privacy issues can be avoided since schools have the historic authority to address severe public health and safety concerns, including the prevalence of teen suicide, and to mandate annual physical examinations.[67] Even though these constitutional issues may be circumvented as described, schools should follow judicially reviewed frameworks for mandatory drug testing to further ensure that suicide biomarker screening programs do not unconstitutionally infringe on students privacy rights.

B. How to Test Teenagers for Suicide Biomarkers Through Public Schools—using Vernonia School District 47J v. Acton as the Main Constitutional Framework

Schools can ensure the development of constitutionally valid programs that mandate suicide biomarker screening by following the framework set out by the Supreme Court when addressing school mandated drug testing.[68] The main issue raised by such mandated testing is whether or not it constitutes a violation of individuals Fourth Amendment protection against unreasonable searches and seizures.[69] The Fourth Amendment prohibits the federal government from infringing on this privacy right, and the Fourteenth Amendment extends this protection to forbid state officers from violating privacy rights as well.[70]

The Supreme Court has noted that the Fourth Amendment does not require individualized suspicion for a search and seizure to be constitutional.[71] Suspicion-less searches have been upheld when drug testing railroad employees and customs officers given the diminished expectation of privacy in such heavily regulated industries and the strong government interest in promoting

[66] *See Acton*, 515 U.S. at 648–52, 656 (discussing how "public school children are routinely required to submit to various physical examinations . . . .").

[67] *See generally id*. at 654–56, 661 (discussing the supervisory role that school officials play in children's lives and how the nature of the concern can create a compelling school interest).

[68] *See id.* at 652–53.

[69] *See id*; Skinner v. Ry. Labor Exec. Ass'n, 489 U.S. 602, 618–19 (1989); Nat'l Treasury Emp. Union v. Von Raab, 489 U.S. 656, 679 (1989).

[70] *Acton*, 515 U.S. at 652.

[71] *Id.* at 653.

public safety.[72] Generally, the Supreme Court determines the constitutionality of a search by assessing its "reasonableness," which involves "balancing its intrusion on the individual's Fourth Amendment interests against its promotion of legitimate governmental interests."[73]

Thus, it is likely that mandatory, suspicion-less suicide biomarker screening programs will be deemed constitutional if they emulate the drug testing program upheld in *Vernonia School District 47J v. Acton*.[74] In that case, the Supreme Court assessed the reasonableness of a program that mandated drug testing of all athletes.[75] The Supreme Court balanced the privacy interests of the students against the administrators need to maintain a suitable and safe learning environment.[76] The Supreme Court upheld the testing program because the school had a compelling interest in addressing the widespread use of drugs, which was particularly prevalent among athletes.[77] This interest outweighed the infringement on students' privacy interests, especially since "students within the school environment have a lesser expectation of privacy than members of the population generally"[78] which is evident by the historic school mandate of annual vision, hearing, scoliosis, and blood screenings.[79]

The Supreme Court did not mandate individualized suspicion of student athletes because such a requirement would have impeded the goal of the program by "'transform[ing] the process into a badge of shame,' where teachers could claim any troublesome student was abusing drugs; [especially since] teachers and student officials are neither trained nor equipped to spot drug use[.]"[80] These issues were avoided in *Acton* by developing a reasonable method of collecting the test samples and limiting the disclosure of results.[81] More specifically, traditional

[72] *Skinner*, 489 U.S. at 620; *Von Raab*, 489 U.S. at 668–72.

[73] *Skinner*, 489 U.S. at 619 (citing Delaware v. Prouse, 440 U.S. 648, 654 (1979); United States v. Martinez-Fuerte, 428 U.S. 543 (1976)).

[74] *See generally Acton* 515 U.S. at 664–66.

[75] *Id.* at 648.

[76] *Id.* at 661–64.

[77] *Id.*

[78] *Id.* at 657 (citing New Jersey v. T.L.O., 469 U.S. 325, 348 (1985) (Powell, J., & O'Connor, J., concurring)).

[79] *Id.* at 656.

[80] York v. Wahkiakum Sch. Dist. No. 200, 178 P.3d 995, 1000 (2008) (quoting *Acton*, 515 U.S. at 663–64).

[81] *See Acton*, 515 U.S. at 650–51, 658.

medical practices were used to collect urine samples.[82] The only variation was the presence of a monitor to check the temperature of the urine and to test for tampering.[83] The school specifically mentioned what drugs it was screening for, and the school and lab were made aware of any drugs that students were taking to treat medical conditions.[84] Positive test results were only released to a limited group of people, including the principal, child, and his or her parents only.[85] Law enforcement officials were not notified,[86] and administrators did not use the results punitively.[87] However, to foster recovery, administrators required students who had positive results to participate in a six-week assistance program with weekly urine tests, or be suspended from the current athletic season.[88] A second offense led to mandatory suspension from athletic programs for the remainder of the current season and the next one.[89] These precautionary measures helped ensure that the drug testing was performed in a reasonable manner that did not discriminate against or infringe on the privacy of the students.[90]

Accordingly, the Supreme Court is more likely to find a mandatory suicide biomarker screening program to be constitutional if stringent procedural safeguards are in place. States have a compelling interest in addressing the prevalence of teen suicide since teen suicide not only impacts individual teens, but their families and friends as well.[91] Screening teenagers will help identify students with a biological disposition to suicide and promote early intervention, the benefits of which are profound and outweigh the infringement on students' privacy rights.[92]

Just as it was reasonable in *Acton* to test only athletes, since

[82] *Id.* at 650.
[83] *Id.*
[84] *Id.* at 650–51, 658.
[85] *Id.* at 651, 658.
[86] *Id.* at 658.
[87] Joanna Raby, Note, *Reclaiming Our Public Schools: A Proposal for School-Wide Drug Testing*, 21 CARDOZO L. REV. 999, 1036–37 (1999).
[88] *Acton*, 515 U.S. at 651.
[89] *Id.*
[90] *See id.* at 658.
[91] Romeo Vitelli, *When a Loved One Commits Suicide,* PSYCHOL. TODAY (Oct. 21, 2012), http://www.psychologytoday.com/blog/media-spotlight/201210/when-loved-one-commits-suicide.
[92] *See generally New Freedom Commission*, *supra* note 61 (suggesting schools can be a resource for "[e]arly detection, assessment, and links with treatment and supports [that]can prevent mental health problems from worsening.").

they were the leading group of drug users,[93] it would be reasonable for schools to specifically test teenagers because they are a statistically proven age group with a particularly high risk of suicide.[94] Also, the suicide biomarker screenings can be administered in a reasonable manner by simply searching for the biomarkers while administering annual blood screenings, and only screening for suicide biomarkers, not other genetic biomarkers. Until a student exhibits other signs of suicide risk, positive results can be disclosed to only parents, one school employee (who will be tasked with ensuring that counseling is provided), and the student him or herself; students should be informed only if there is parental approval because knowing such information may do more harm than good by impacting anxiety, self-esteem, and/or optimism.[95]

Having a school employee cognizant of a students' positive result may be instrumental in detecting and addressing suicide risk because such employees are likely to be more objective than parents and can observe students in social contexts on their own school turf, where they feel more comfortable.[96] School employees can be trained in providing counseling and support for students as well.[97] As to prevent any unnecessary or premature upheaval, the screening results should not be disclosed to more school officials unless a student exhibits clear physical and emotional signs of imminent suicide risk, or a students' parents have chosen to begin a specific treatment regimen that requires additional school officials to know and to be involved in the students' treatment.

The ultimate success of a new suicide biomarker screening program will be dependent on the development of new mental health approaches and treatment programs. The benefit of detecting suicide biomarkers within an individual's genome will be minimal if there are no programs available to help him/her

[93] *Acton*, 515 U.S. at 649.

[94] *See Suicide Prevention: Youth Suicide*, *supra* note 2.

[95] S. Michie et al., *Predictive Genetic Testing in Children and Adults: A Study of Emotional Impact*, 38 J. MED. GENET. 519, 519 (2001), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1734924/pdf/v038p00519.pdf.

[96] Jamie Chamberlin, *Schools Expand Mental Health Care*, 40 MONITOR ON PSYCHOL. 64, 64 (2009), *available at* http://www.apa.org/monitor/2009/01/school-clinics.aspx (explaining how "school ground[s] [are] the best way to reach children.").

[97] *See* NAT'L ASS'N OF SCHOOL PSYCHOLOG., GUIDELINES FOR SCHOOL ASSEMBLIES ON MENTAL HEALTH AWARENESS 1 (2013).

cope with the results and to address his/her risk. Establishing treatment programs that are honed to meet the needs of teens and other targeted groups will be particularly advantageous.[98]

Moreover, having new treatments available for people who are suicidal and mentally ill will create an incentive for more people within the general population to be tested for suicide biomarkers by fostering more appropriate and effective treatment. Societal changes in how mental illness is approached will also make more people who lack medical training become aware of possible risk factors in themselves and others, and thereby further promote the management of mental illness. Hopefully, all of these new developments will ultimately reduce the stigma associated with suicide and mental illness, and promote better mental health by increasing societal awareness, understanding, diagnosis, and treatment.

VI. USING GENETIC TESTING IN COLLABORATION WITH OTHER NEW TREATMENT PROGRAMS TO REDUCE SUICIDE RISK AND MENTAL ILLNESS

A. Reducing the Stigma By Changing the Overall Approach to Mental Health Treatment

New approaches to mental health treatment are particularly critical because "mental illness [is] among the greatest causes of disability worldwide."[99] The recent passage of the ACA and its mandate of mental health parity denotes the importance of changing the overall mental health treatment approach,[100] but other developments in the identification and treatment of mental illness are necessary to more comprehensively and effectively address its prevalence.

Biological methods of understanding mental health issues must be incorporated into mental health treatment so that health care providers can identify a patient's risk at an earlier stage. Providers may detect mental health risks by examining patients' blood for suicide biomarkers or saliva for hormones that increase the risk of depression, just as they "diagnose a broken leg based

[98] *See* New Jersey v. T.L.O., 469 U.S. 325, 340 (1985) (discussing the benefit of school disciplinary procedures being flexible).

[99] Greg Miller, *How to Treat Depression When Psychiatrists Are Scarce*, WIRED (Dec. 3, 2013, 6:30 AM), http://www.wired.com/wiredscience/2013/12/patelqa/.

[100] *See Health Insurance and Mental Health Services*, *supra* note 25.

on an X-ray or identify heart disease patients based on high blood pressure . . . ."[101] Transforming mental health diagnoses in this way can enable screening of the entire population and stimulate the employment of a public health approach to combatting mental illness.

More specifically, a public health approach (involving four elements) can be used to prevent suicide.[102] First, there must be a population approach "focusing on prevention [efforts] that impact groups or populations of people, versus treatment of individuals."[103] This would be advantageous since suicide is so widespread throughout the population. Second, the goal must be primary prevention, meaning the "prevent[ion of] suicidal behavior before it ever occurs . . . , and address[ing] a broad range of risk . . . factors."[104] This would reverse the traditional view of "'treat[ing] the disorder and [then] the suicidality'"[105] and may be essential in preventing suicide risk altogether as opposed to treating it once it arises. Third, there must be a strong emphasis on increasing scientific understanding to develop new solutions and improve suicide prevention.[106] This may be achieved if professionals, and particularly researchers, share their ideas and discoveries with each other more frequently; some online forums have been created to serve this purpose and "galvanize researchers to further develop and consolidate knowledge . . . ."[107] An increased emphasis on sharing and improving the database of knowledge will hopefully facilitate faster development of new programs and reduce the stigma associated with mental illnesses since everyone will understand them better. Fourth, efforts must be made to foster multi-disciplinary collaboration[108] between those who identify suicide risk and those who treat it.

New programs have begun to alter the traditional approach to mental health care emphasizing the importance of such

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[101] Associated Press, *Saliva Test May Predict Which Teen Boys Will Get Depression: Study*, N.Y. POST (Feb. 18, 2014, 7:58 AM), http://nypost.com/2014/02/18/saliva-test-may-predict-which-teen-boys-will-get-depression-study/.

[102] *Suicide Prevention: A Public Health Issue*, *supra* note 50.

[103] *Id*.

[104] *Id*.

[105] Levin, *supra* note 51.

[106] *Suicide Prevention: A Public Health Issue*, *supra* note 50.

[107] Beverly Pringle et al., *A Strategic Approach for Prioritizing Research and Action to Prevent Suicide*, 64 PSYCHIATRIC SERVICES 71, 71 (2013).

[108] *Suicide Prevention: A Public Health Issue*, *supra* note 50.

collaboration.[109] Such unifying efforts seem to be fundamental because they represent the glue that will hold individuals' scattered treatment together. A multi-disciplinary approach requires "[a] psychiatrist [to be] a member of, not a consultant to, the team[, and to make] the [patient] a client of the team [as a whole], not of an individual staff member[,]"[110] which may be particularly beneficial when treating mentally ill patients. This approach is contrary to the traditional linkage case-management approach that "connects [mentally ill patients] to services provided by multiple mental health, housing, or rehabilitation agencies or programs[,]" which creates a group of *individual* case managers, each of whom is responsible only for his or her own caseload.[111]

Some programs that involve multi-disciplinary collaboration have started to be instituted. For instance, the National Alliance on Mental Illness (NAMI) created a Program of Assertive Community Treatment (PACT), which provides outpatient treatment to mentally ill patients whose needs have not been, or cannot be, met adequately using the traditional approach.[112] PACT provides a round-the-clock, multi-disciplinary psychiatric unit or PACT team, consisting of a combination of psychiatrists, social workers, nurses, and rehabilitation workers, to treat individuals with "severe and persistent mental illness causing symptoms and impairments that produce distress and major disability in adult functioning (e.g., employment, self-care, and social and interpersonal relationships)."[113] Even though providing this type of round-the-clock outpatient care may not be necessary for all mentally ill individuals, collaboration among multiple medical professionals who are treating a single patient should be promoted or even mandated. Without professional collaboration, patients (who often already have difficulty fulfilling their daily functions) are primarily responsible for collaborating their own care.[114] Similarly, a move toward more collaborative and round-

[109] *See, e.g., PACT: Program of Assertive Community Treatment*, NAMI, http://www.nami.org/Template.cfm?Section=ACT-TA_Center&template=/ContentManagement/ContentDisplay.cfm&ContentID=132547 (last visited Jan. 20, 2015).

[110] *Id.*

[111] *Id.*

[112] *Id.*

[113] *Id.*

[114] *Id.* (explaining that the needs of mentally ill patients are typically not fulfilled by the traditional system in which the patients are directed to "various

the-clock mental health care may be essential to ensure that the treatment regimens being provided remain effective while patients live their lives within the community (as opposed to in an institution) because "the gains made by [patients] in the hospital [are] often lost when they move[] back into the community . . . ."[115]

New approaches to identifying mentally ill and/or suicidal patients must be incorporated as the mental health treatment approach evolves because many individuals are uncomfortable sharing their feelings or unable to pinpoint what is causing grief. Consequently, medical professionals can get patients to open up by using methods such as the Collaborative Assessment and Management Suicidality (CAMS) approach to increase patient engagement.[116] The CAMS program uses a Suicide Status Form (SSF), which enables the patient to become an "expert on his or her case" by having the therapist sit next to the patient as he/she fills a questionnaire rating his/her "psychological pain, stress, agitation, hopelessness, self-hate, and overall risk of suicide[;]" the patient is also asked to list his/her "five most significant reasons for living and for dying."[117] The SSF is helpful in determining what drives an individual's suicide risk by asking about his/her feelings in an objective manner, and creating a collaborative environment between the patient and doctor.[118] In this sense, the CAMS approach is effective because "'[y]ou're not preaching to the patient and not leaving it to the patient to figure out what the problem is, [rather] [y]ou're working together.'"[119] Thus, more objective and collaborative approaches should be developed and used to ascertain individuals' feelings and to create an environment in which patients are more willing and likely to open up.

B. Ensuring the Effective Institution of Screening Programs Through Schools By Simultaneously Developing Programs to Raise Awareness About Mental Illness

Implementing screening programs, like the one for suicide biomarkers, will help students and their families cope with and

services that they then must navigate on their own.").

[115] *Id.*

[116] Levin, *supra* note 51.

[117] *Id.*

[118] *Id.*

[119] *Id.*

address positive screening results by generally raising societal awareness about the complexities associated with mental health treatment. But it is still essential for schools to develop programs that enhance understandings of mental illness and thereby reduce the stigma associated with seeking treatment. Schools are a prime location to begin raising awareness about mental illness because they play an integral role in youths' lives.[120] School-based assemblies have one of the largest impacts on raising "awareness, understanding, and tolerance of mental health issues," and are rather simple and inexpensive to institute.[121]

There are a number of considerations when developing school assemblies to address mental health issues. First and foremost, such assemblies should be planned by individuals with different backgrounds;[122] it may be most advantageous for school employees such as psychologists, social workers, nurses, principals and health teachers to organize assemblies collaboratively, and listen to concerns from parents and other community members as well.[123] It is important for those planning assemblies to account for cultural influences and student population size.[124] When considering the latter, it may be best to divide students based on grade level, as opposed to holding school-wide assemblies.[125] Grade level assemblies will foster more interactive discussions, enable teachers to better monitor student reactions, and create a smaller and more comfortable environment for students.[126]

Next, a list of topics must be created. A primary topic to discuss is what constitutes mental illness.[127] Generally, the best explanation of mental illness is a simple one, such as mental illness is a medical condition that impacts an individual's ability to think and causes erratic feelings about ordinary daily tasks.[128] This should be further explained by using analogies that cater to

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[120] *School Psychologists: Providing Mental Health Services to Improve the Lives and Learning of Children and Youth*, NASP ADVOCACY, http://www.nasponline.org/advocacy/mhbrochure.aspx (last visited Jan. 25, 2015).

[121] NAT'L ASS'N OF SCHOOL PSYCHOLOG., *supra* note 97, at 1.

[122] *Id.*

[123] *See generally id.*

[124] *Id.*

[125] *See id.*

[126] *Id.* at 2.

[127] *See generally id.*

[128] *Mental Illnesses*, NAMI, http://www.nami.org/Template.cfm?Section=By_Illness (last visited Jan. 24, 2015).

what members of the target audience may experience given their age. For instance, analogies related to bullying, academic failure, and break-ups may be beneficial to help teenagers understand and relate to common circumstances that lead to the emergence of suicidal feelings.[129] It should also be emphasized that mental illness does not discriminate; it is rather common within society and can impact any one at any time or age.[130] It can be treated and cured, so individuals who are experiencing such feelings, or believe that they know someone else who is, should seek assistance.[131] Students should be told that "there are a number of adults [at school] who can help with a mental health problem," and specific names and locations should be provided, while emphasizing that those people are there to assist them.[132]

Discussion questions should be developed and incorporated into the assembly too.[133] Some examples include: what does a mentally healthy person look like, and what developmental changes might people of your age be experiencing?[134] Students may be asked to collaborate with other students sitting next to them and/or fill out worksheets, and brainstorm personal and non-personal responses to discussion questions.[135] Such questions may include: the risk factors that affect mental health, symptoms of depression and anxiety, examples of talents and skills, short and long term goals, and adults or friends who are a positive influence and/or can be trusted with sharing problems.[136] Mental health focused assemblies should be hosted at least twice per academic year to reinforce that treatment programs are available if necessary.

Similarly, schools can increase awareness about mental health issues by hosting essay and art contests.[137] Contest topics may include: what does mental health mean to you, what are positive

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[129] Klomek, *supra* note 58; *Tween and Teen Health*, *supra* note 58.

[130] NAT'L ASS'N OF SCHOOL PSYCHOLOG., *supra* note 97, at 2.

[131] *Id.*

[132] *Id.* at 3.

[133] *Id.*

[134] *See Exploring Mental Health*, NASP, http://www.nasponline.org/resources/mental-health/documents/Exploring_Mental_Health.pdf (last visited Jan. 24, 2015).

[135] *Id.*

[136] *Id.*

[137] *See Children's Mental Health Awareness Week-Tips for Schools*, MENTAL HEALTH ASS'N OF MD., http://www.childrensmentalhealthmatters.org/wp-content/uploads/pdfs/Tips%20for%20Schools%202014.pdf (last visited Jan. 24, 2015).

strategies I can use when I am upset, and how can students and adults work together to improve mental health?[138] These contests may be adapted to better suit the abilities of certain age groups.[139] For instance, younger students may be offered coloring contests or asked to act out different feelings, and older students may be asked to develop classroom lessons or to make a video.[140] Mental illness may become less taboo as a result of educating students and incorporating mental health information into school activities in these types of interactive, non-threatening manners.

C. Broadening the Scope of Programs That Raise Awareness About Mental Illness

Programs instituted through public schools can be used to educate parents and faculty too. For instance, "school-employed mental health professionals are [often] available to provide ongoing in-service training and consultation for teachers, principals, and other school staff . . . ."[141] Parents should have the opportunity to attend school assemblies if they would like to, and it may even be beneficial to require them to attend one with their child(ren) once per academic year; parental attendance at such assemblies may promote parent-child discussions about mental health that endure post-assembly. Parents and families can also become more educated about mental health by hosting speakers at PTA meetings, mailing fact sheets, and sending out automated messages.[142] It would be particularly advantageous if more schools began to offer programs like the Learning to Live (L2L) program, which is offered in Chicago.[143]

> [The program] offers a '10 days in 10 weeks' curriculum designed to educate health professionals, law enforcement officers, teachers, counselors, school staff, parents and students about 13 mental health disorders common in adolescents including suicide, depression, self-mutilation, anxiety, and eating disorders.[144]

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138 *Id.*

139 *See id.*

140 *Id.*

141 NAT'L ASS'N OF SCHOOL PSYCHOLOG., *supra* note 97, at 5.

142 *Children's Mental Health Awareness Week-Tips for Schools*, *supra* note 137.

143 *Learning 2 Live*, MHAGC, http://www.mentalhealthchicago.org/index.php?option=com_content&view=article&id=24 (last visited Jan. 21, 2015).

144 *Id.*

Programs like L2L should be used in more, if not all, cities because it is a relatively quick and inexpensive way to educate a wide range of people about a number of the most pressing mental health issues facing children.

The Mental Health Association of Greater Chicago (MHAGC) helps educate parents and teachers by offering them a "partnership" program, which includes classes to "facilitate[] discussion[s] [about] the source of problems, how to resolve them, and how to effectively interact with adolescents [and children] ages 6-18."[145] The MHAGC program helps parents build confidence and provides them with step-by-step ways "to shift negative emotions to positive ones,"[146] when dealing with mentally ill children. This type of effort would be particularly advantageous when addressing suicide risk among teenagers because it would provide more individuals who are involved in teenagers' daily lives with information about what signs to look for and how to help.

Once school faculty members are better educated about mental health issues, they can begin to incorporate mental health exercises into the daily curriculum. One of the easiest ways to make sure that all students participate in classes that address mental health issues is to perform exercises during physical education and/or health classes, which students are required to take in most states.[147] For example, all students can stand on one side of the room and be asked to step forward if they can answer "yes" to certain questions.[148] Questions that may be asked include: do you know anyone who suffers from a mental illness, cries or is sad a lot, has been bullied, or has recently broken up with a boyfriend or girlfriend? It may be best to combine multiple

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[145] *Id*.

[146] *Id*.

[147] *See generally More States Are Requiring Education in Schools, But Few Set a Specific Amount*, FOX NEWS (June 2, 2010), http://www.foxnews.com/us/2010/06/02/states-requiring-physical-education-schools-set-specific/ (discussing how "more states are requiring physical education").

[148] *See* Gabrielle Mays, *Can Anti-Bullying Activity 'Cross the Line' Be Effective?*, FOX 11 (Feb. 7, 2014, 5:57 PM), http://fox11online.com/2014/02/07/can-anti-bullying-activity-cross-the-line-be-effective/ (explaining how the "Cross the Line" activity provides students with an opportunity to see how their classmates feel about certain issues such as alcohol, drug abuse, and hurting themselves, which in-turn fosters empathy and makes individual students more conscious about the impact of their past and future actions on others).

classes when performing this exercise because having a larger group of students involved will increase the chance that more than one student steps forward, so then no student will feel isolated or afraid to answer. Similarly, it may be advantageous, if not imperative, to ask non-personal questions so that students are more inclined to answer honestly. This type of exercise would be particularly valuable because it would enable faculty members to raise a wide-array of issues, including age-specific ones that may be afflicting students in their class, and show students the abundance of other classmates facing similar experiences.[149]

Online resources are another effective method of providing easy access to mental health treatment because such forums can be used to target specific age groups. For instance, the Interactive Screening Program (ISP), which was developed by the American Foundation for Suicide Prevention, has effectively drawn out students at risk of suicide by enabling them to anonymously interact with professionals.[150] Such anonymity is a key feature of some online forums and can make such forums particularly enticing to individuals who are apprehensive about seeking treatment.

Similarly, social media is a mental health and suicide treatment medium that is currently expanding. Social forums such as Facebook, Twitter, and YouTube can be instrumental in reaching certain age groups, such as teenagers.[151] Other technological advances, which are broadening the array of treatment options available, can enable professionals to reach more individuals who need treatment. For example, cell phone applications are being developed to educate individuals about what mental illness signs to look for.[152] One application called Electronic Preventive Services Selector (EPSS) allows psychiatrists to "type in a patient's demographic information, and [then receive] evidence-based screening tools . . . to help detect early warning signs of a mental disorder [in a patient]."[153] Even

[149] *Id.*

[150] Arehart-Treichel, *supra* note 53.

[151] *See* Belle Beth Cooper, *10 Surprising Social Media Statistics That Will Make You Rethink Your Social Strategy*, FAST COMPANY, http://www.fastcompany.com/3021749/work-smart/10-surprising-social-media-statistics-that-will-make-you-rethink-your-social-stra (last visited Apr. 13, 2014) (explaining how varied social media strategies can be used to achieve distinct goals and to reach different target audiences).

[152] *See* Arehart-Treichel, *supra* note 53.

[153] *Id.*

though technological advances like these should be used skeptically at first due to a lack of certainty that they are effective, if proven to be effective, they may have a profound impact on the mental health world.

Thus, suicide and mental illness can be combatted if society begins to reform its approach to assessing individual risk. Schools can facilitate mental health reform by developing programs to raise awareness about mental health issues and creating more accessible new treatments. Once such efforts take effect within schools, they can be adapted to address other population groups and the vast prevalence of mental illness within society at large. For instance, the information and skills that adults learn through programs including L2L and MHAGC mentioned above, can assist adults in noticing warning signs in other adults, and not just children. If properly trained, "attorneys [may be able] to recognize signs of suicidal thoughts among their clients[,]"[154] and other groups can be trained in similar ways. Such efforts to increase the number of non-medical eyes that can identify suicidal people or individuals suffering from other mental illnesses can have a profound impact on reducing the prevalence of mental illness worldwide.

VII. CONCLUSION

When instituting the new approaches and programs mentioned above, it is imperative to remember that changes within the mental health system will take time. However, even an increased awareness can have an immense impact on the prevalence of mental illness and suicide risk, as proven by the history of raising awareness about HIV and smoking. Both campaigns, which involved large-scale prevention efforts, took years to be effective, but ultimately led to a reduction in their prevalence.[155]

> [L]arge-scale prevention programs [like the anti-smoking

[154] *Multidisciplinary Approach Used*, 46 PSYCHIATRIC NEWS 17, 17 (2011) (discussing the benefit of a multidisciplinary approach to looking for signs of suicidal feelings and training non-medical professionals, such as attorneys, to notice such signs).

[155] *See generally* Johannes E. Hovens & G. Johannes van der Ploeg, *Societal Stigma and Suicide Prevention*, 62 PSYCHIATRIC SERVICES 222, 222–23 (2011); *HIV Prevention in the United States: Expanding the Impact*, CENTERS FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/nchhstp/newsroom/HIVFactSheets/Progress/index.htm (last visited Jan. 24, 2015).

> campaign] eventually reduced the number of smokers significantly. Of course, it may be argued that suicidal thoughts and behavior differ from lighting a cigarette, but [that] does not mean that [the societal prevention] approach cannot be taken. Efforts to improve knowledge, attitudes, and help-seeking behavior are being made in middle and high schools, and they seem to have yielded results as far as knowledge and attitudes are concerned . . . . It is too early to conclude that such efforts prevent suicide, but we should not forget that it took some time before anti-smoking campaigns produced an effect.[156]

Thus, in a perfect world, "the prevalence of adversities that drive human vulnerabilities toward distress and disease [could simply be eliminated, while] at the same time increas[ing] people's willingness to grab a helping hand."[157] For better or for worse, such a utopia is impossible to attain. And so, as the world remains imperfect and fosters an abundance of mental illness and suicide, there is nothing left to do but focus on what *can* be perfected: our ability to treat and cope with such illnesses.

Screening for suicide biomarkers will help achieve these goals by creating an objective means to assess individuals' suicide risk. The current prevalence of suicidal acts and/or attempts indicates that new approaches to identifying "at risk" individuals must be developed in collaboration with new treatment programs, and most importantly, with efforts to make mental illness less taboo.

[156] Johannes E. Hovens & G. Johannes van der Ploeg, *supra* note 155, at 222–23.

[157] Caine, *supra* note 57, at 1171.