AMERICAN PSYCHOLOGICAL ASSOCIATION

NEWS FEATURE

New research in suicide prevention

With suicide rates stubbornly high, researchers are digging into the details of who is most at risk—and when

By Stephanie Pappas Date created: August 25, 2021 11 min read
Vol. 52 No. 6

The suicide rate in America remains stubbornly high. Approximately 44,800 Americans died by suicide in 2020, and if previous research holds true, most of them never saw a mental health professional leading up to their deaths.

To turn the tide, researchers are increasingly looking for more nuanced ways to understand suicide. Emerging research drills into the details around who is at risk, the different pathways suicidal ideation can take, and the common features of treatments

that seem to work. Recognizing that suicidal behavior ebbs and flows, this approach aims to meet people at the period of highest risk.

“We’ve systematically been manipulating and tweaking the interventions to try to hone those really important crucial elements,” said Craig Bryan, PsyD, ABPP, a clinical psychologist at The Ohio State University Wexner Medical Center who studies suicide, “and I think we’re actually getting there.”

A key challenge will be making sure people who face barriers to accessing health care because of systemic racism or poverty benefit from these innovations. With increasing attention on digital interventions and artificially intelligent algorithms to predict risk, mental health professionals will need to work hard to ensure new treatments don’t widen health disparities (see Preventing bias algorithms and equity (/monitor/2021/09/sidebar-preventing-bias)).

Assessing risk

One of the most persistent problems in suicide prevention is assessing who will make an attempt. Research led by Gregory Simon, MD, MPH, of the Group Health Research Institute in Seattle, found that of patients who endorsed suicidal ideation on the Patient Health Questionnaire Depression Scale, a commonly used outpatient measure, fewer than 10% engaged in suicidal behavior in the next year (*Psychiatric Services* (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4086215/) , Vol. 64, No. 12, 2013). Meanwhile, around half of people who attempt or die by suicide deny suicidal ideation beforehand (McHugh, C. M., et al., *BJPsych Open* (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6401538/) , Vol. 5, No. 2, 2019).

Further complicating matters, suicidal ideation is not constant, and even the best-monitored patients typically assess their suicidal thoughts with a clinician only once a week. This can be misleading, Bryan said: Imagine two patients with roughly the same time spent feeling suicidal each week. If one happened to report their level of suicidal thoughts during an ebb in ideation, they might appear to be at low risk. The other who fills out an assessment at a high point might seem at higher risk than they actually are. Clinicians should thus be looking for patterns, Bryan said, not single points in time. For example, recent research by Bryan and colleagues shows that an acceleration in the ups

and downs in ideation—the emotional roller coaster of suicidal thinking—might be an indicator of a period of increased risk (*New Ideas in Psychology* (https://www.sciencedirect.com/science/article/abs/pii/S0732118X19300613?via%3Dihub) , Vol. 57, 2020).

Tech could be a boon for continuous monitoring, said Benjamin W. Nelson, PhD, a postdoctoral scholar at the University of North Carolina at Chapel Hill and a clinical research scientist at Meru Health. Around 85% of all Americans own smartphones, a number that is similar across race and ethnicity, and these devices collect copious behavioral information on movement, communication, and affect. Wearable devices, though much less widespread, collect further data on physiological measures such as heart rate and sleep. Deviations from the baseline in a given individual can indicate an increased level of risk. Nelson and his colleagues are currently studying a community sample of adolescents using wearables to measure heart rate, step count, calories, distance traveled, and other metrics to predict affective states (measured thrice daily through a push notification on a smartphone) and self-harm behaviors. (Read more on Nelson's use of wearable devices to better understand patient mood (/monitor/2021/09/sidebar-wearable-devices) .)

In order to avoid deepening racial health disparities, though, these methods require caution. Wearable users, in particular, are likely to be White and well-off. Wearables may also skew measurements like heart rate depending on skin tone, because the green light used to detect pulse doesn't penetrate melanin-rich skin, Nelson said. "It's really important for us from the get-go to be as inclusive as possible in recruiting participants and training machine-learning algorithms," he said.

Wearables could be particularly helpful for monitoring suicidal youth, Nelson said, because adolescents are comfortable with tech already being ingrained in their daily lives. Suicide risk in teens is perhaps even more difficult to assess than in adults, said Cheryl King, PhD, a clinical child and adolescent psychologist at the University of Michigan Medical School. The prevalence of suicidal thoughts and behavior peaks in the teen years, despite the fact that the rate of death by suicide is lower among teens than among older age groups. "They all deserve our full attention and our help," King said of teens experiencing suicidal thoughts, "but one of the challenges is figuring out which teens are really at high risk and need to be closely monitored and protected."

King and her colleagues are working to validate a universal screening tool, called the Computerized Adaptive Screen for Suicidal Youth (CASSY), which is designed to detect suicide risk in any teenager who visits an emergency department. As youth move through the screening, questions adapt to the user's previous answers to measure different pathways to risk, King said. For example, one at-risk teen might be using drugs and alcohol recklessly; another might never touch substances but be socially isolated and anxious. In a study at 14 pediatric emergency departments and one Indian Health Service hospital, CASSY was able to correctly identify 83% of teens who would make a suicide attempt in the next 3 months, with a specificity of 80% (*JAMA Psychiatry* (https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2775993) , Vol. 78, No. 5, 2021).

Researchers are also working on posing better questions to adults at risk for suicide. Some patients may not want to admit suicidal thoughts because they're afraid of involuntary hospitalization, while others might experience suicidal ideation differently than what questionnaires ask. "This is where we put all of our eggs into one basket, where everything in screening hinges on this one concept: Asking, 'Are you thinking about killing yourself?'" Bryan said.

Bryan and his colleagues are working on alternative screeners that may get at the thoughts underlying a suicide attempt. Their Suicide Cognitions Scale asks patients how much they agree with statements such as "I don't deserve to be forgiven" or "I can't imagine anyone tolerating this pain."

"What we've found now in multiple studies is it actually predicts and identifies the patients who attempt suicide better than asking them directly if they are thinking of killing themselves," Bryan said (*Military Psychology (https://www.tandfonline.com/doi/abs/10.1080/08995605.2021.1897498)* , online first publication, 2021).

Improving treatments

At times, helping those who are at risk has seemed an uphill battle. A meta-analysis led by Kathryn Fox, PhD, a clinical child psychologist at the University of Denver, found that

50 years of randomized control trials for suicide-prevention interventions showed no increase in efficacy of treatments developed over that time (*Psychological Bulletin* (https://pubmed.ncbi.nlm.nih.gov/33119344/) , Vol. 146, No. 12, 2020).

However, that meta-analysis did not include several promising trials conducted in the past half decade. The latest research suggests surprisingly brief interventions can make a difference.

In a study led by University of Memphis president and clinical psychologist M. David Rudd, PhD, military members randomized to receive a brief cognitive behavioral therapy intervention were 60% less likely to make a suicide attempt in the next 2 years than those randomized to treatment as usual (*The American Journal of Psychiatry* (https://ajp.psychiatryonline.org/doi/10.1176/appi.ajp.2014.14070843) , Vol. 172, No. 5, 2015). The intervention consisted of 12 individual psychotherapy sessions during which the clinician and the patient developed a crisis response plan, practiced basic emotion-regulation skills, and imagined using those skills to prevent their original suicidal crisis. A follow-up study on the crisis response plan—a living document in which patients strategize coping techniques, support networks, and reducing access to lethal means—found that crisis planning alone reduced suicide attempts by 76% over the next 6 months versus filling out a basic safety contract, which simply asked the patient to promise not to harm themselves (*Journal of Affective Disorders* (https://pubmed.ncbi.nlm.nih.gov/28142085/) , Vol. 212, 2017). Researchers are also looking at ways to help patients cope with suicidal thoughts that may intrude on their daily lives. A recent study led by Columbia University clinical psychologist Barbara Stanley, PhD, which used ecological momentary assessment to track how suicidal individuals coped with suicidal thoughts, found that distraction-based techniques, such as keeping busy or socializing, were best at lowering the intensity of suicidal thoughts (*Journal of Psychiatric Research* (https://www.sciencedirect.com/science/article/abs/pii/S0022395620311201?via%3Dihub) , Vol. 133, 2021).

“More is not better,” Rudd said. “The interventions that have demonstrated efficacy are brief, and the idea that the only way to have meaningful enduring impact and behavior change is with long-term care doesn’t appear to be supported scientifically.”

Treatments that work tend to be easy to understand, grounded in theory, and focused on treating patients as partners, Rudd said. They target identifiable skills such as emotion regulation and problem-solving, emphasize patient-driven management of care, and improve access to treatment and crisis services.

Access is crucial because more than half of adults who have serious thoughts of suicide do not see a mental health professional (Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health data review (https://www.samhsa.gov/data/sites/default/files/NSDUH-DR-FFR3-2015/NSDUH-DR-FFR3-2015.htm) , 2016). People of color are less likely to have access to mental health care, and there are hints that these communities are struggling: Preliminary data from 2020 suggests that the U.S. suicide rate declined by 5% during the pandemic, but tentative state-by-state analysis suggests that the rate may have risen in some communities of color (*The New York Times* (https://www.nytimes.com/2021/04/15/health/coronavirus-suicide-cdc.html) , April 15, 2021).

Researchers are also looking for ways to expand access to the treatments with the most promise. The pandemic forced the expansion of telehealth for suicide prevention, which is still underresearched, wrote Simon Fraser University psychologist Alexander Chapman, PhD, and Philippa Hood in a recent commentary (*The Behavior Therapist*, Vol. 43, No. 8, 2020). Telehealth has the exciting ability to expand the geographic reach of suicide interventions, Chapman said, and it can be a natural fit for interventions like dialectical behavioral therapy (DBT), which already involves over-the-phone coaching. Researchers need to test more brief interventions in the context of telehealth, though, Chapman said, as the number of trained providers who can deliver interventions is still a limiting factor. Shorter interventions, if effective, will shorten waiting lists.

Because a large proportion of people with suicidal ideation across socioeconomic lines initially seek treatment at emergency departments, implementation science will be crucial to figuring out how best to support emergency staff in screening and then connecting patients with services that they can access and will find useful, King said. This is a particularly pressing issue for teenagers, as DBT is the only well-validated, effective treatment for youth suicide prevention, but most pediatric patients can't receive DBT because it is difficult to access and expensive. "I have nothing against

DBT," King said, "but I think part of the question is how can we develop some other interventions and treatments that might be more accessible?"

The future may bring options for self-administered treatment. Rudd and his colleagues are testing a cognitive behavioral therapy–based app called Aviva for adult suicide prevention. The app allows patients to connect to a clinician via telehealth, but the team is also testing a version that patients can use independently to see if it works as well. If so, people having suicidal thoughts could get the app via general physicians, who have far greater reach than most mental health specialists.

Researchers are also working to reach populations that might mistrust mental health professionals or otherwise resist seeking help. Half of suicides in the United States are completed by firearm, said psychologist Michael Anestis, PhD, the executive director of the New Jersey Gun Violence Research Center. Not all gun owners are vulnerable to suicidal thoughts, but Anestis and his colleagues have found that those who buy guns in response to threatening events—such as the COVID-19 pandemic—are more likely to have experienced recent and lifetime suicidal ideation (*American Journal of Preventive Medicine* (https://www.ajpmonline.org/article/S0749-3797(20)30471-2/fulltext) , Vol. 60, No. 3, 2021). "One of the things that distinguishes risk among firearms owners might be this general threat sensitivity and suspicion against the world," Anestis said. "Unfortunately, that same underlying drive to purchase might also make them at risk for things like suicidal thoughts."

Anestis and his team are working on ways to tailor messages about safe storage of firearms to gun owners (read more on his work on page 37), in hopes that safe storage will work as a deterrent to slow down suicidal behavior in the moment. A randomized control trial of Mississippi National Guard members found that a brief lethal means counseling intervention and the provision of cable locks improved safe storage of firearms over treatment as usual up to 6 months after the intervention (*American Journal of Public Health* (https://pubmed.ncbi.nlm.nih.gov/33351652/) , Vol. 111, No. 2, 2021).

It's a slightly oblique approach to suicide prevention, but it's one that can reach groups who can't or won't come talk to a therapist about their problems. "The reality is the folks who die by suicide using a firearm come from demographics who are less likely to seek help," Anestis said. "It's about planting seeds."

Article sidebar

- Preventing bias in algorithms to detect suicide risk (/monitor/2021/09/sidebar-preventing-bias)

Further reading

Saving lives: Recognizing and intervening with youth at risk for suicide (https://doi.org/10.1146/annurev-clinpsy-081219-103740)
Arango, A., et al,. *Annual Review of Clinical Psychology*, 2021

Gaining competency in suicide prevention (https://www.apa.org/apags/resources/competency-suicide-prevention.pdf) (sources for graduate students)
APA

Telehealth tips: Managing suicidal clients during the COVID-19 pandemic (https://Practiceinnovations.org/I-want-to-learn-about/Suicide-Prevention)
Center for Practice Innovations

Related and recent

Firearm safety: 5 questions for Michael Anestis (/monitor/2021/09/conversation-anestis)

Preventing bias in algorithms to detect suicide risk (/monitor/2021/09/sidebar-preventing-bias)

How to talk to your patients about firearm safety (/monitor/2020/11/career-firearm-safety)

Sexual minority teens and suicide (/monitor/2020/07/numbers-sexual-minority-suicides)

COVID-19 and suicide

(/monitor/2020/06/covid-suicide)

Find this article at:

https://www.apa.org/monitor/2021/09/news-suicide-prevention