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Are school-based suicide prevention interventions effective?

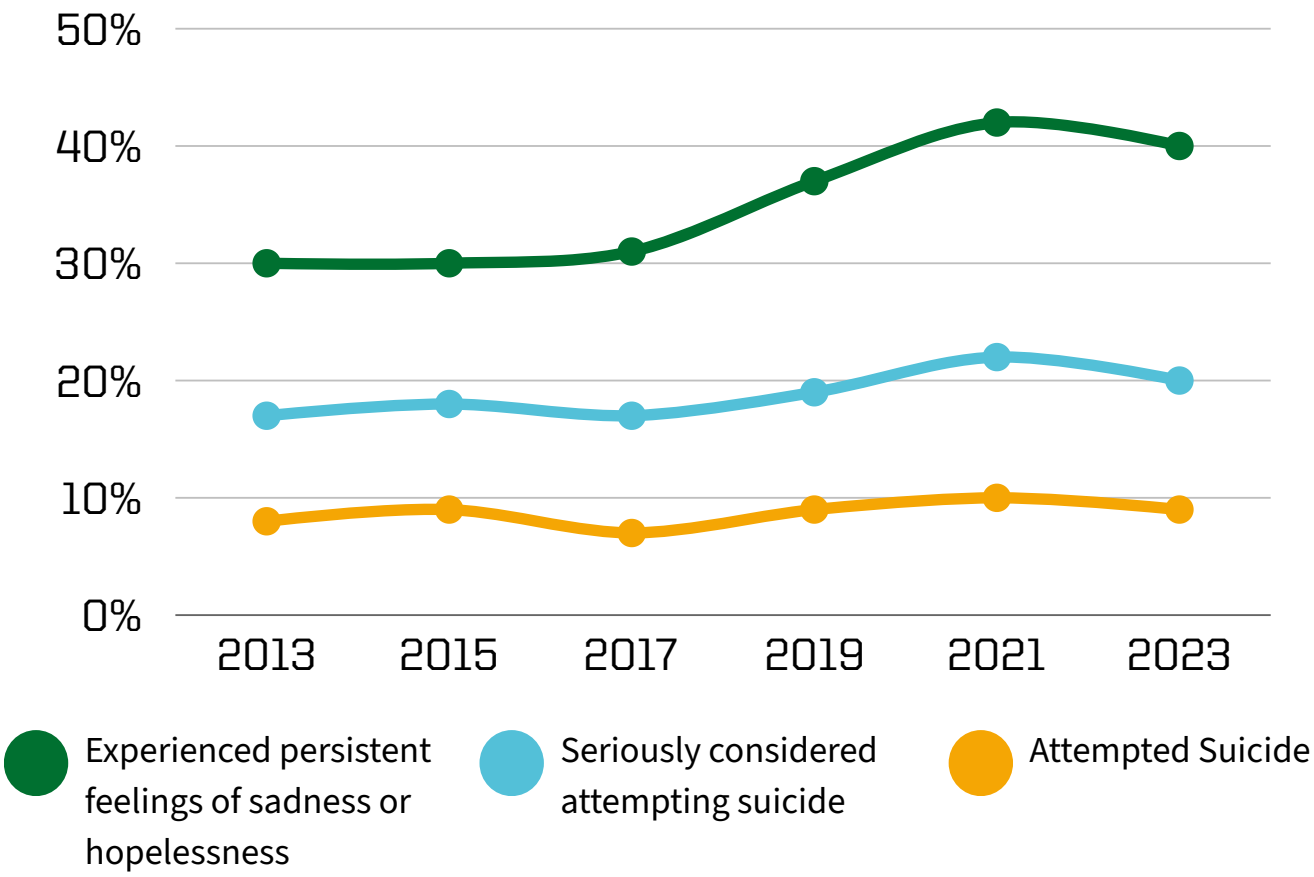
Key takeaways from an overview of reviews by the HEDCO Institute



A summary of findings from Chinn and colleagues, 2026

Suicide is a leading cause of death in youth

In 2023, two in ten high school students seriously considered attempting suicide, and nearly one in ten attempted suicide.



Adapted from Youth Risk Behavior Survey Data Summary & Trends Report: 2013-2023

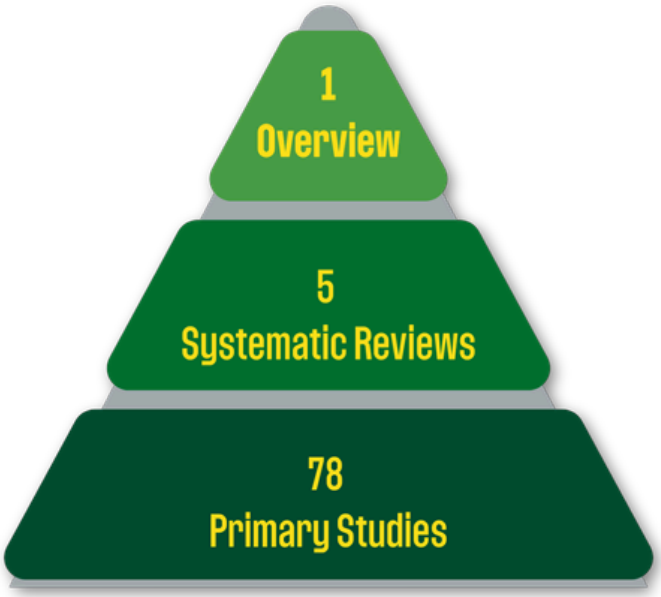
Primary and secondary schools (K-12 in the U.S.) may be able to reach more youth and be more equitable than community-based services, especially via universal prevention interventions.[i]

If you or someone you know is struggling or in distress, help is available 24/7: call or text 988 to reach the 988 Suicide & Crisis Lifeline

Looking at the existing research

To systematically explore the evidence base for school-based suicide prevention, we did an overview of reviews (also known as an umbrella review).

In an overview of reviews, researchers find and summarize all of the systematic reviews on a topic. A systematic review uses structured, transparent, and reproducible methods to identify, evaluate, and summarize the findings of all individual studies on a question.



In other words, individual studies examine the effects of an intervention, systematic reviews combine those studies, and overviews bring together and make sense of what all the systematic reviews say.

The goal is to give decision-makers one reliable summary of an entire evidence base rather than a patchwork of separate reviews.

Learn more: What is an overview of reviews, and what can I learn from it?

Our overview summarizes systematic reviews with meta-analyses estimating the effects of school-based suicide prevention interventions on suicide-related outcomes.

To read the full study, click here.

What do we mean by "probably?" See page 9.

What does the overview tell us?

School-based suicide prevention interventions **probably** have modest beneficial effects on suicide attempts, suicidal ideation, and suicidal behavior.

Separate analyses also suggest longer-term benefits: school-based suicide prevention interventions probably reduce suicide attempts and self-harm through 12 months post-intervention.

Although the magnitude of these effects ranged from small to large, even small reductions in suicidal thoughts and behaviors may be meaningful given the severity of outcomes and the potential for school-based approaches to reach large numbers of young people.[7]

Suicide attempts*: self-injurious actions taken with at least some intent to end one's life that do not result in death.[ii]

One review with students aged 11-19 found that school-based prevention interventions probably reduce suicide attempts.[iv]

The odds of a suicide attempt were **28% lower compared to students who did not receive interventions** (no intervention, waitlist, and alternative intervention comparison groups).

Adjusted Odds Ratio (OR) = 0.72, 95% Confidence Interval (CI) [0.59, 0.87]

Half of the included studies took place in the US, with the rest in Europe, Australia, and Asia.

*For this overview, our team used each review author's own definition for each outcome. In other words, if a review author included "suicide attempts" as an outcome, we did, too.

Suicidal ideation: thoughts about ending one's own life, ranging from passive thoughts (such as wishing one were dead) to active planning (such as plans to engage in behavior with an intent to end one's life).[iii]

Two reviews found that school-based prevention interventions probably reduce suicidal ideation relative to no intervention, placebo, and usual care control groups.[4,5]

One review included students aged 11-19, with half of the studies done in the United States: *adjusted OR = 0.85, 95% CI [0.75, 0.95].*[4] One review included grades 1-12, with 64% of studies from the United States: *Standardized Mean Difference = 0.15, 95% CI [0.06, 0.24] at 0-3 months; SMD = 0.22, 95% CI [0.05, 0.39] at 3-12 months).*[5]

Moderate reduction in suicidal ideation at 0-3 months post-intervention

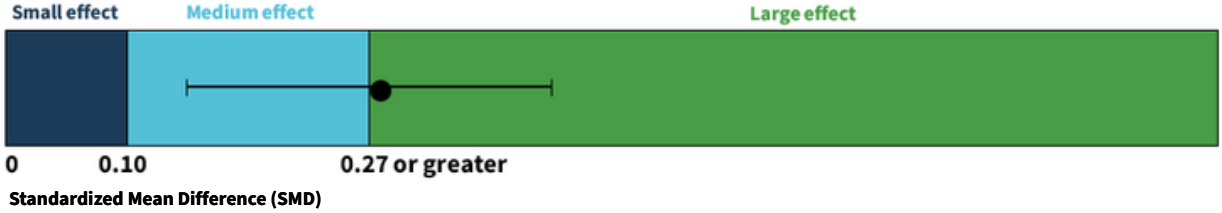


Note: Small, medium, and large ranges are based on empirically based mean difference effect sizes for internalizing behaviors for universal prevention programs (Tanner-Smith et al., 2018)

Suicidal behavior: engaging in self-injurious behavior in which there is at least some intent to end one's life; includes suicide attempts.[iii]

One review found that school-based prevention interventions for students across grades 1-12 probably reduce suicidal behaviors including attempts and self-harm relative to no intervention, placebo, and usual care control groups: *SMD = 0.30, 95% CI [0.15, 0.45] at 0-3 months; SMD = 0.30, 95% CI [0.16, 0.43] at 3-12 months.*[5]

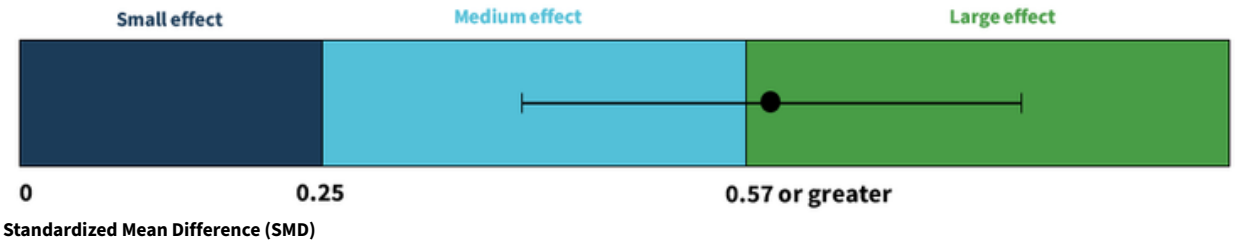
Large reduction in suicidal behaviors and self-harm at 0-3 months



Suicide awareness: Knowledge and attitudes related to suicide where responses are considered correct or incorrect (e.g., suicide knowledge, suicide attitudes).

One review with high school students found that school-based suicide prevention interventions may increase suicide awareness. Most studies in this review were from the United States (about 80%). *SMD = 0.63, 95% CI [0.42 to 0.84])* and helping skills *(SMD = 0.38, 95% CI [0.28 to 0.50]*.[6]

Large increase in awareness

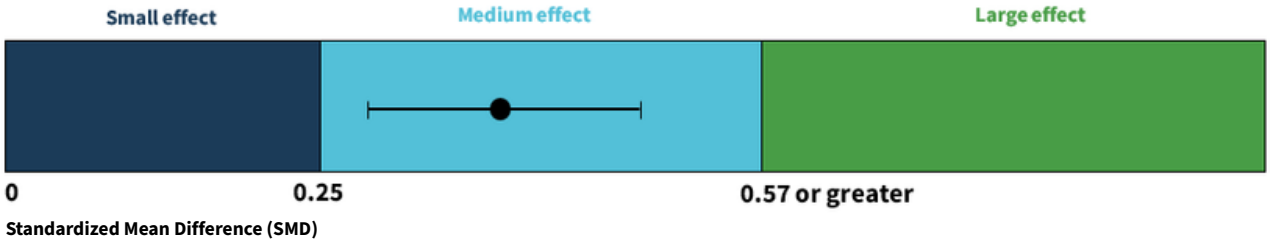


Note: Small, medium, and large ranges are based on empirically based mean difference effect sizes for knowledge outcomes for universal prevention programs (Tanner-Smith et al., 2018)

Helping skills: Behavior, intention, or confidence related to receiving help or helping others (Willingness to seek help, likelihood of intervening, confidence in helping others).

One review with high school students found that school-based suicide prevention interventions may increase helping skills. Most studies in this review were from the United States (about 80%). *SMD = 0.38, 95% CI [0.28 to 0.50]).*[6]

Moderate increase in helping skills



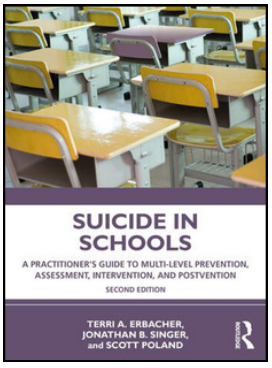
Other considerations

1. School-based suicide prevention interventions represent one component of a broader, coordinated approach to supporting student mental health. They should not be viewed as substitutes for accessible clinical services, crisis-response protocols, referral pathways, or systems for identifying and supporting students who require more intensive care.

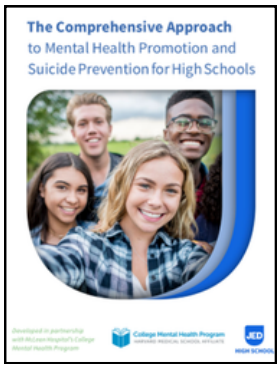
2. Schools should also consider whether programs provide clear procedures for responding to disclosures of suicidal thoughts or behaviors, and whether adequate clinical and community resources are available to respond to resulting referrals.

3. Schools adopting suicide prevention interventions should monitor implementation fidelity, reach, acceptability, referrals, student outcomes, and potential unintended effects. Such monitoring may help determine whether effects observed in research studies translate to local school contexts and whether implementation places additional demands on school or community mental health systems.

Additional resources



Suicide in Schools: A Practitioner's Guide to Multi-level Prevention, Assessment, Intervention, and Postvention



The Comprehensive Approach to Mental Health Promotion and Suicide Prevention for High Schools

Important limitations

While the current evidence shows a benefit on average for school-based suicide prevention interventions, **it doesn't offer conclusions about which intervention features are most effective, for whom, or under what conditions.**

- Analyses comparing interventions that primarily targeted suicidal thoughts and behaviors with those targeting broader risk factors or general mental health produced mixed findings across suicide attempts, suicidal ideation, and combined suicidal behavior outcomes.
- Analyses by level of prevention, school level, follow-up timing, intervention duration, and interest-holder involvement generally yielded low- or very-low-certainty evidence.

School-based suicide prevention interventions may be beneficial on average, though **existing reviews have important methodological limitations.**

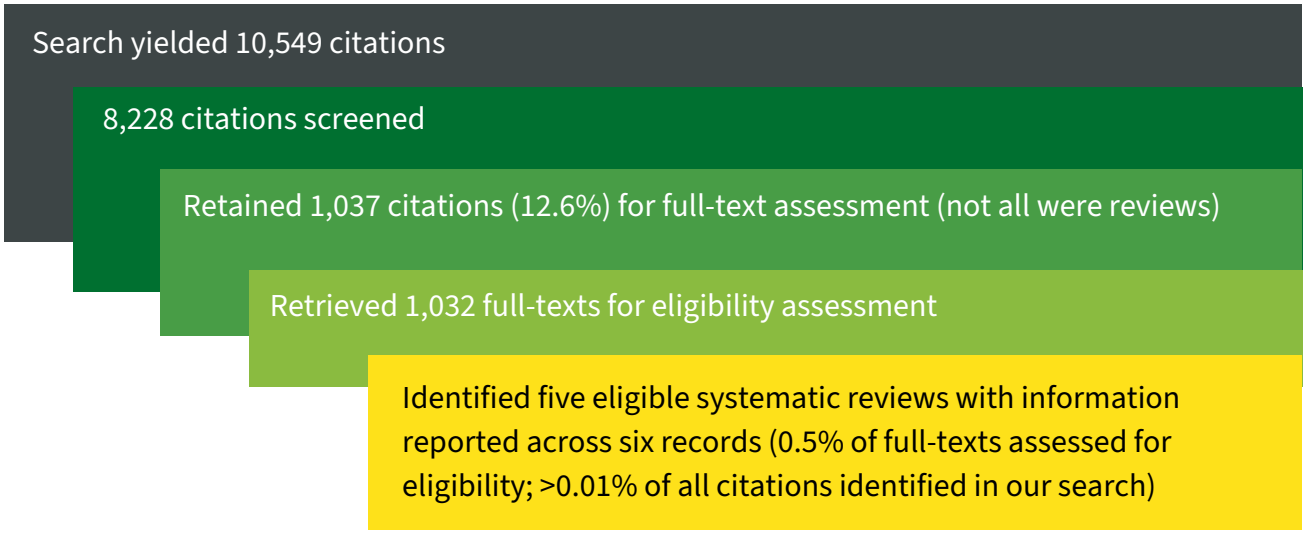
- Four of the five included reviews were rated as critically low in methodological quality and at high risk of bias, and review authors raised concerns about publication bias and the methodological quality or risk of bias of primary studies.
- Substantial overlap in primary studies across reviews means that similar conclusions from multiple reviews should not necessarily be interpreted as independent corroboration.
- No review identified all primary studies of interventions delivered directly to students during school hours, and the reviews' final search dates ranged from 2017 to 2021.

Based on these limitations, we caution against policymakers mandating specific school-based suicide prevention interventions, and instead recommend considering factors like cultural appropriateness, costs, and fit with their students' needs.

High-quality primary and secondary research is still needed to better understand the effects of suicide prevention interventions in schools.

Methods

This overview synthesized evidence from five systematic reviews with meta-analyses on the effectiveness of school-based interventions for preventing suicidal thoughts and behaviors among primary and secondary school students. Although the reviews collectively included 78 unique primary studies, only 22 evaluated interventions delivered directly to students during school hours, making this smaller body of research the most direct evidence for the interventions we wanted to study: interventions designed specifically for suicide and delivered directly to students during school hours.



Learn more about our search strategy, data collection method, synthesis methods and more here.

What do we mean by "probably" when we describe results?

We used an approach called GRADE to rate our confidence in each finding based on the quality of the primary studies, the precision of the estimate of effects, how much effects vary across studies, and concerns about selective reporting of positive findings.[8]

When we say "probably", that means we have moderate confidence in the finding. When we say "may", that means we have some confidence in the finding, though more limited.

Study Quality and Risk of Bias

Methodological Quality of Included Systematic Reviews according to AMSTAR-2 Assessments

Review	AMSTAR-2 Item Assessment																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Overall
Brann 2021	Y	N	Y	N	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	CL
Gijzen 2022	Y	N	N	PY	Y	Y	N	PY	N	N	Y	N	N	Y	Y	Y	CL
Kiran 2024	Y	PY	N	PY	Y	Y	N	PY	Y	N	Y	Y	Y	Y	Y	Y	L
Pistone 2019	N	N	N	N	Y	N	N	N	N	N	Y	N	Y	Y	N	N	CL
Walsh 2022	Y	Y	Y	N	N	N	N	Y	N	N	Y	N	N	Y	Y	Y	CL

Note. The column numbers refer to the 16 individual items in AMSTAR-2, and the rightmost column contains the overall AMSTAR-2 rating for methodological quality of the systematic review. N = No; PY = Partial Yes; Y = Yes; CL = Critically Low; L = Low; M = Moderate; H = High

Risk of Bias in Included Systematic Reviews according to ROBIS Assessments

Review	ROBIS Rating							
	Domain 1	Domain 2	Domain 3	Domain 4	Interpretation	Relevance	Spin	Overall
Brann 2021	High	High	High	High	No	Probably Yes	Probably Yes	High
Gijzen 2022	High	High	Unclear	High	Probably No	Probably Yes	Probably Yes	High
Kiran 2024	Low	Low	Low	Low	Probably Yes	Yes	Yes	Low
Pistone 2019	High	High	Unclear	High	No	Probably Yes	Yes	High
Walsh 2022	High	High	High	High	Probably No	Probably Yes	Probably Yes	High

Note. The columns refer to the four domains in ROBIS, three considerations to inform judgements about risk of bias, and lastly the overall ROBIS rating for risk of bias in the review reporting the effect estimate.

This report summarizes findings from:

Effectiveness of School-Based Suicide Prevention Interventions: An Overview of Systematic Reviews with Meta-Analyses on Suicide-Related Outcomes

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Chinn, L. K., Trevino, S. D., Steinka-Fry, K., Day, E., Krowka, S., Tanner-Smith, E., & Grant, S. (2026). Effectiveness of school-based suicide prevention interventions: An overview of systematic reviews with meta-analyses on suicide-related outcomes. HEDCO Institute for Evidence-Based Educational Practice, College of Education, University of Oregon. 10.17605/OSF.IO/TDRMA

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The HEDCO Institute for Evidence-Based Educational Practice is dedicated to strengthening connections between research and practice in K-12 education in the United States.

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