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Implementation Strategies Used and Reported in Brief Suicide Prevention Intervention Studies

[Brittany N. Rudd](#), PhD,^{1, 2, 3} [Molly Davis](#), PhD,^{2, 3, 4} [Stephanie Doupnik](#), MD, MSHP,^{3, 5} [Catalina Ordorica](#), MEd,¹ [Steven C. Marcus](#), PhD,^{2, 3, 6} and [Rinad S. Beidas](#), PhD^{2, 3, 7, 8, 9}

¹Institute for Juvenile Research, Department of Psychiatry, University of Illinois at Chicago, Chicago

²Penn Center for Mental Health, Department of Psychiatry, Perelman School of Medicine, University of Pennsylvania, Philadelphia

³Penn Implementation Science Center at the Leonard Davis Institute, University of Pennsylvania, Philadelphia

⁴Department of Child and Adolescent Psychiatry and Behavioral Sciences, Children's Hospital of Philadelphia, and PolicyLab, Children's Hospital of Philadelphia, Philadelphia

⁵Division of General Pediatrics, Center for Pediatric Clinical Effectiveness, and PolicyLab, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

⁶School of Social Policy & Practice, University of Pennsylvania, Philadelphia

⁷Department of Medical Ethics and Health Policy, Perelman School of Medicine, University of Pennsylvania, Philadelphia

⁸Department of Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia

⁹Penn Medicine Nudge Unit, University of Pennsylvania Health System, Philadelphia

Corresponding author.

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Corresponding Author: Brittany N. Rudd, PhD, University of Illinois at Chicago, 1747 W Roosevelt Rd, Ste 218, Chicago, IL 60608 (bnrudd@uic.edu).

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This survey study investigates the implementation strategies researchers used to support brief suicide prevention interventions in their efficacy and effectiveness studies and compares the results with implementation strategies reported in their study publications.

A systematic review and meta-analysis¹ of 14 brief suicide prevention interventions (BSPs) delivered in health care settings demonstrated their efficacy and effectiveness at reducing suicide attempts and increasing treatment initiation. The techniques used to successfully carry out these interventions are implementation strategies (ie, methods used to enhance the adoption, implementation, or sustainability of a clinical practice).^{2,3} Owing to journals' space constraints or implementation science terminology being unfamiliar to those outside the field,³ published articles of efficacy/effectiveness studies may not fully document implementation strategies used. Although implementation strategies used to support an intervention during efficacy/effectiveness studies

may differ from those needed in real-world routine care, documenting the former provides an opportunity to inform the latter.⁴ In the current study, we asked authors of the studies included in the recent meta-analysis¹ to share which implementation strategies were used to support the BSPs under investigation, then compared their responses with descriptions of implementation strategies in their publications.

Method

Two authors (B.N.R., M.D.) independently reviewed each publication from the systematic review¹ to abstract reported strategies using the Pragmatic Implementation Strategy Reporting Tool⁴ and came to consensus. The Reporting Tool (eTable in the [Supplement](#)) contains 73 distinct strategies with standard names and definitions² grouped into 9 broad categories (eg, train and educate stakeholders; adapt and tailor to context). When a publication referenced a previous publication, this was reviewed and abstracted. We emailed the Reporting Tool to corresponding authors asking them to endorse strategies used in their study (90% response rate). We compared the number of implementation strategies reported in publications with those endorsed by authors, in total and by each implementation strategy category using 2-sided, paired-samples Wilcoxon tests. Analyses were conducted in R, version 4.1.1 (R Foundation).

Results

Authors endorsed using a mean (SD) of 26.17 (18.41) implementation strategies when testing the efficacy/effectiveness of BSPs in health care settings—a large and statistically significant difference from the mean (SD) of 4.33 (2.96) (mean difference, -21.83; 95% CI, -9.98 to -33.69) described in publications ([Table](#)). Similarly, large differences were observed for each implementation strategy category ([Figure](#)). Training and educating stakeholders were the most frequently reported implementation strategies in publications even though developing stakeholder relationships were most used.

Discussion

Underreporting implementation strategies used in clinical research limits the potential impact of scientific discoveries and may slow research-to-practice implementation. In the case of BSPs, it is a missed opportunity to rapidly deploy effective interventions to save lives. Implementation strategies that aimed to train and educate stakeholders were the most frequently reported in publications, which may be attributable to researchers conceptualizing these strategies as part of the program or because CONSORT guidelines for nonpharmacologic treatments require researchers to report how adherence was assessed or enhanced.⁵ The difference between the number of implementation strategies reported by authors and those found in publications is substantial despite study limitations that include the potential for bias if the original corresponding authors felt compelled to endorse the use of more strategies than were used, or if the authors of the current study undercoded because of more stringent definitions of implementation strategies.

For the advancement of the field, we recommend that journals publishing intervention research consider requiring authors to report implementation strategies used.^{4,6} Implementation strategy reporting can be included in an online appendix or in a public place, such as ClinicalTrials.gov, via a tool similar to the one used in the current study.⁴ With information about implementation available, future systematic reviews of clinical innovations can and should summarize implementation information for readers to consider potential implementation requirements as they contemplate which innovation to implement in their unique context. Finally, we urge collaboration between implementation researchers and clinical researchers to ensure interventions are designed and tested with an eye toward accelerating research-to-practice implementation.

Notes

Supplement.

eTable. Pragmatic Implementation Strategy Reporting Tool

eReferences

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Figures and Tables

Table.

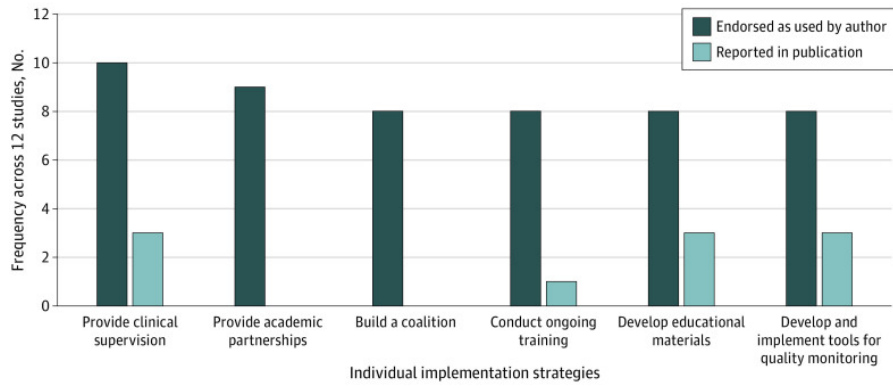
Comparison of the Number of Implementation Strategies per Study Reported in Publication vs Endorsed by Author

Logistic parameter	Mean (SD)		Mean difference	Mean difference (95% CI)		P value ^a
	Reported in article	Endorsed by author		LL	UL	
Total No. of strategies per study	4.33 (2.96)	26.17 (18.41)	-21.83	-9.98	-33.69	.02
No. of implementation strategies by category of implementation strategy						
Use evaluative and iterative strategies	0.75 (0.87)	3.75 (3.31)	-3.00	-0.85	-5.15	.02
Provide interactive assistance	0.25 (0.45)	2.17 (1.70)	-1.92	-0.75	-3.08	.01
Adapt and tailor to context	0.33 (0.49)	1.42 (1.31)	-1.08	-0.13	-2.04	.03
Develop stakeholder interrelationships	0.17 (0.39)	7.08 (4.76)	-6.92	-3.98	-9.85	.006
Train and educate stakeholders	1.58 (1.38)	5.67 (4.42)	-4.08	-0.95	-7.21	.04
Support clinicians	0.75 (0.45)	2.50 (2.32)	-1.75	-0.24	-3.26	.04
Engage consumers	0.08 (0.29)	1.42 (1.38)	-1.33	-0.46	-2.20	.01
Utilize financial strategies	0.08 (0.29)	1.00 (1.04)	-0.92	-0.18	-1.66	.03
Change infrastructure	0.17 (0.58)	1.17 (1.11)	-1.00	-0.39	-1.61	.01

Abbreviations: LL, lower limit; UL, upper limit.

^a P values are calculated using a paired-samples Wilcoxon test to account for the count nature of the data.

Figure.



Most Frequently Endorsed Implementation Strategies and Concordance With Report in Publication

The individual implementation strategies selected represent the top 6 most frequently endorsed implementation strategies among authors of brief suicide prevention intervention studies.