Review

Safety planning-type interventions for suicide prevention: meta-analysis

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Background

Safety planning-type interventions (SPTIs) for patients at risk of suicide are often used in clinical practice, but it is unclear whether these interventions are effective.

Aims

This article reports on a meta-analysis of studies that have evaluated the effectiveness of SPTIs in reducing suicidal behaviour and ideation.

Method

We searched Medline, EMBASE, PsycINFO, Web of Science and Scopus from their inception to 9 December 2019, for studies that compared an SPTI with a control condition and had suicidal behaviour or ideation as outcomes. Two researchers independently extracted the data. To assess suicidal behaviour, we used a random-effects model of relative risk based on a pooled measure of suicidal behaviour. For suicidal ideation, we calculated effect sizes with Hedges' g. The study was registered at PROSPERO (registration number CRD42020129185).

Results

Of 1816 unique abstracts screened, 6 studies with 3536 participants were eligible for analysis. The relative risk of suicidal

behaviour among patients who received an SPTI compared with control was 0.570 (95% CI 0.408–0.795, $P = 0.001$; number needed to treat, 16). No significant effect was found for suicidal ideation.

Conclusions

To our knowledge, this is the first study to report a meta-analysis on SPTIs for suicide prevention. Results support the use of SPTIs to help preventing suicidal behaviour and the inclusion of SPTIs in clinical guidelines for suicide prevention. We found no evidence for an effect of SPTIs on suicidal ideation, and other interventions may be needed for this purpose.

Keywords

Suicide; suicide prevention; safety planning; meta-analysis.

Background

Suicidal behaviour is a significant public health issue worldwide, resulting in an estimated 16 million suicide attempts and 800 000 suicides per year.[1] For every person who dies by suicide, more than 20 others make a non-fatal attempt,[2] and many more have serious thoughts about ending their life.[3] Suicidal ideation and suicidal behaviour (including both fatal and non-fatal suicide attempts) thus constitute a substantial disease burden. This underlines the importance of suicide prevention.[4]

There is an increasing body of evidence in support of several psychological treatments for suicide prevention, including cognitive–behavioural therapy and dialectical behaviour therapy.[5,6] In recent years, brief interventions, defined as up to three encounters between a patient and (para-)professional, have also been linked to reduced risks of suicidal behaviour.[7,8]

Safety planning-type interventions

One group of brief interventions consists of safety planning-type interventions (SPTIs). The technique in SPTIs is called safety planning, and is derived from cognitive therapy and cognitive–behavioural therapy for suicide prevention.[9,10] The goal of safety planning is to reduce the imminent risk of suicidal behaviour by constructing a predetermined set of coping strategies and sources of support in a plan.[10,11] During a crisis, an individual may use these strategies to avert their thoughts about suicide and manage their suicidal urges.[11] Since its introduction, safety planning has become an integral part of standard clinical care for people at risk of suicide, and it is being used as a brief standalone intervention.[11]

The plan that is constructed in safety planning has been referred to in a number of ways, including 'safety plan',[11] 'crisis response

plan'[12] and 'coping card',[13] but in essence they all cover the same psychological technique. The current review uses the term SPTIs to summarise the entire range of brief interventions in which safety planning is applied. The strategies and sources of support are embedded in what we will call a safety plan.

Interventions of the safety planning type are recommended as best practice by the National Institute for Health and Care Excellence (https://www.nice.org.uk/guidance/cg133) in the UK, and the Suicide Prevention Resource Center (www.sprc.org) in the USA. Historically, the use of safety plans in clinical practice seems to be based on clinicians' beliefs about their effectiveness,[14,15] rather than on empirical evidence.[16] Individual trials on the effectiveness of SPTIs have yielded conflicting results,[17,18] whereas meta-analyses of studies that included SPTIs have focused on brief interventions more broadly.[7,8] Although the latter have made an important contribution to the literature, they did not include all published trials on SPTIs, and did not report on the effectiveness of SPTIs specifically.[7,8]

Aims

The purpose of this study was to conduct a meta-analysis to assess whether SPTIs for suicide prevention are linked to reductions in first, suicidal behaviour (fatal and non-fatal suicide attempts), and second, suicidal ideation.

Method

Before study commencement, the study protocol was registered in the international Prospective Register of Systematic Reviews at the University of York (PROSPERO; registration number

CRD42020129185). We modified the protocol in two respects. First, to more accurately reflect the focus of the study, we chose to use the term 'safety planning-type' instead of 'crisis management'. Safety planning-type is a better description of a personalised plan. Second, to facilitate interpretation, we calculated relative risks instead of odds ratios. As the underpinning calculation is similar to that for an odds ratio, the use of relative risks should not alter the findings. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines were followed for reporting the meta-analysis;[19] the PRISMA checklist is reproduced in Supplementary Appendix 1 available at https://doi.org/10.1192/bjp.2021.50.

Search strategy

A systematic literature search was developed and performed in collaboration with a librarian. We searched the following databases from their inception to 9 December 2019: Medline (PubMed.com), EMBASE (embase.com), PsycINFO (EBSCO), Web of Science (Clarivate) and Scopus (Elsevier). The search strategy included MeSH terms and free-text terms relating to suicide, safety management, crisis intervention and prevention. The actual terms used in the search strategy for PubMed are listed in Supplementary Appendix 2; these were subsequently adapted for other databases. We additionally conducted hand searches of reference lists in identified publications and consulted experts in the field to identify additional publications (C.N.).

Selection of studies

The following inclusion criteria were applied: (a) a brief standalone intervention based on safety planning for suicide prevention was delivered; (b) the safety plan contained, as a minimum, personalised coping strategies and sources of support; (c) the safety plan was the primary element of the intervention; (d) a control condition was applied (including treatment as usual (TAU) or another treatment) and (e) the study reported on at least one of the outcomes of suicidal behaviour, suicide attempts, suicides or suicidal ideation. The outcome 'suicidal behaviour' (suicide attempts, fatal suicides or both combined) was defined as the number of participants who engaged in suicidal behaviour as defined by the original authors of the included studies. As a result, suicide attempts were either identified from medical records, identified from clinical notes (recorded by a clinician or gatekeeper) or reported by patients (via questionnaires or during interviews). Suicidal ideation was reported by patients and assessed on the basis of questionnaires or clinical interviews. There were no restrictions on study participants in terms of age or disorder, as long as they were at risk of suicide (on the basis of current suicidal ideation or a recent suicide attempt). Studies were excluded if they were not written in English or not peer-reviewed.

All identified studies were exported to EndNote X9 for Windows (Clarivate, Boston, USA; see https://endnote.com/), where duplicates were removed. The studies were subsequently imported into Covidence software for Windows (covidence, Melbourne, Australia; see https://www.covidence.org/) for managing the meta-analysis. To determine study eligibility, all titles and abstracts were screened independently by two researchers (C.N. and W.v.B.), who also conducted the second full-text screening independently. Disagreements or uncertainties were discussed with the senior researcher supervising the project (H.R.).

Data extraction

We started data extraction on 4 February 2020. A data extraction sheet was used to collect information regarding setting, participants, design, intervention and control group. Intention-to-treat data were extracted when possible. The data were extracted independently by two authors (C.N. and D.J.). In the event of disagreement, a third author was consulted (W.v.B.). The corresponding authors were contacted if studies did not list the necessary data to conduct the quantitative analyses. If no additional data were available, the study was omitted from further analyses.

Statistical analysis

For our primary outcome of suicidal behaviour measured as the combined rate of suicide attempts and suicide deaths, effect sizes were calculated based on the number of participants in the intervention and control condition who had engaged in suicidal behaviour during the follow-up period. Effects were based on relative risk and its 95% confidence interval, calculated as the ratio of the probability of suicidal behaviour in the intervention condition to its probability in the control condition. A relative risk lower than 1 would indicate that persons receiving an SPTI had lower risks of suicidal behaviour than controls, whereas a relative risk higher than 1 would indicate a higher risk and a relative risk of 1 would indicate a similar risk for the two groups.

For the secondary outcome of suicidal ideation, we extracted mean (s.d.) scores and presented them as standardised effect sizes, using Hedges' g. Hedges' g was calculated by subtracting the average score at follow-up for suicidal ideation by persons receiving the intervention from the average score of those in the control condition, and dividing the result by the pooled standard deviation. An effect size of 0.8 was considered a large effect, 0.5 was considered moderate and 0.2 was considered small.[20]

To further quantify effects, the number needed to treat (NNT), which summarises the number of patients who would need to be treated in order for one additional patient not to engage in suicidal behaviour, was calculated if a significant outcome effect supported this.[21]

To account for differences between study populations, interventions and control conditions, we performed a random-effects meta-analysis. In studies where multiple intervention conditions were investigated, the control condition was split into two or more subgroups, dividing the number of control participants by the number of intervention conditions.

Outliers were evaluated by examining whether the 95% confidence intervals of individual studies overlapped with the 95% confidence interval of the pooled effect size. In the absence of an overlap, the study would be identified as an outlier. Publication bias was assessed by visually examining the funnel plots of the outcome measures.[22] We used Egger's linear regression test of the intercept to examine whether bias captured by the funnel plot was significant, and performed Duval and Tweedie's trim-and-fill procedure to assess for potential publication bias.[23,24]

As a test of homogeneity of effect sizes, we calculated the I^2 statistic, an indicator of variation between studies. No observed heterogeneity is shown as 0%, and larger values suggest an increasing level of heterogeneity, with 25% as low, 50% as moderate and 75% as high.[25] We further estimated the 95% confidence interval around I^2, using the non-central χ^2-based approach within the *heterogi* module in Stata for Windows version 16.0.[26,27] Factors that may have introduced heterogeneity in individual studies were investigated with subgroup analyses. Based on study characteristics of the included studies, subgroup analyses were performed with the following potential moderators: methodological quality, setting and population.

Statistical significance was set at $P < 0.05$. All of these analyses were conducted with the software Comprehensive Meta-Analysis for Windows version 3.3.070 (Comprehensive Meta-Analysis, Englewood, USA; see https://www.meta-analysis.com/), except for the heterogeneity (I^2) and its confidence interval, for which we used Stata.[26,27]

Quality assessment

The methodological quality was determined with the Cochrane Collaboration's Risk-of-Bias Tool 2,[28] which considers risk of bias across five domains: the randomisation process, deviations from the intended interventions, missing outcome data, measurement of outcome and selection of the reported results. The risk of bias for each domain was scored as low, moderate or high. The overall bias was considered high when one of the domains was scored as high. The risk of bias assessment was performed independently by two authors (C.N. and D.J.), with a third author (W.v.B.) consulted in case of disagreement.

Results

Study selection

The systematic search identified 3463 studies, and one additional study was added after the hand-searching of relevant journals. After removal of duplicates, 1816 studies remained. After evaluation of titles and abstracts against the inclusion criteria, 1782 studies were deemed not eligible. We retrieved 34 full-text articles for further review, from which 6 studies were ultimately included in the meta-analysis (see PRISMA flow chart in Fig. 1). Corresponding authors of four studies were contacted to retrieve

additional information necessary for our meta-analysis, of which two authors replied.

Study characteristics

The six studies were conducted in three different countries (USA, $n = 3$; Taiwan, $n = 2$; Switzerland, $n = 1$) and published between 2013 and 2018 (Table 1).[12,13,17,18,29,30] All studies reported rates for suicide attempts and suicides. Three studies additionally reported on suicidal ideation.[12,13,30] Intention-to-treat data could be extracted from five studies,[12,13,17,18,30] and one study had only study completers' data available.[29]

The meta-analysis included four randomised controlled trials,[12,13,29,30] a non-randomised controlled trial[18] and one study with an interrupted time-series design.[17] In four studies, safety planning was assessed as an add-on to TAU.[13,18,29,30] Two studies compared a safety plan as a standalone intervention to TAU and included two intervention arms.[12,17] One of those studies used a safety plan in both conditions,[12] and the other in only one condition.[17] Here, the intervention condition without the safety plan was omitted from the meta-analysis. This yielded a total of seven comparisons in the current meta-analysis.

In all, 3536 participants ($n = 2096$ in intervention conditions; $n = 1440$ in control conditions) aged ≥ 18 years (average age range of 26–48 years) were enrolled in the studies. More male (63.2%) than female participants were included, and half of the participants
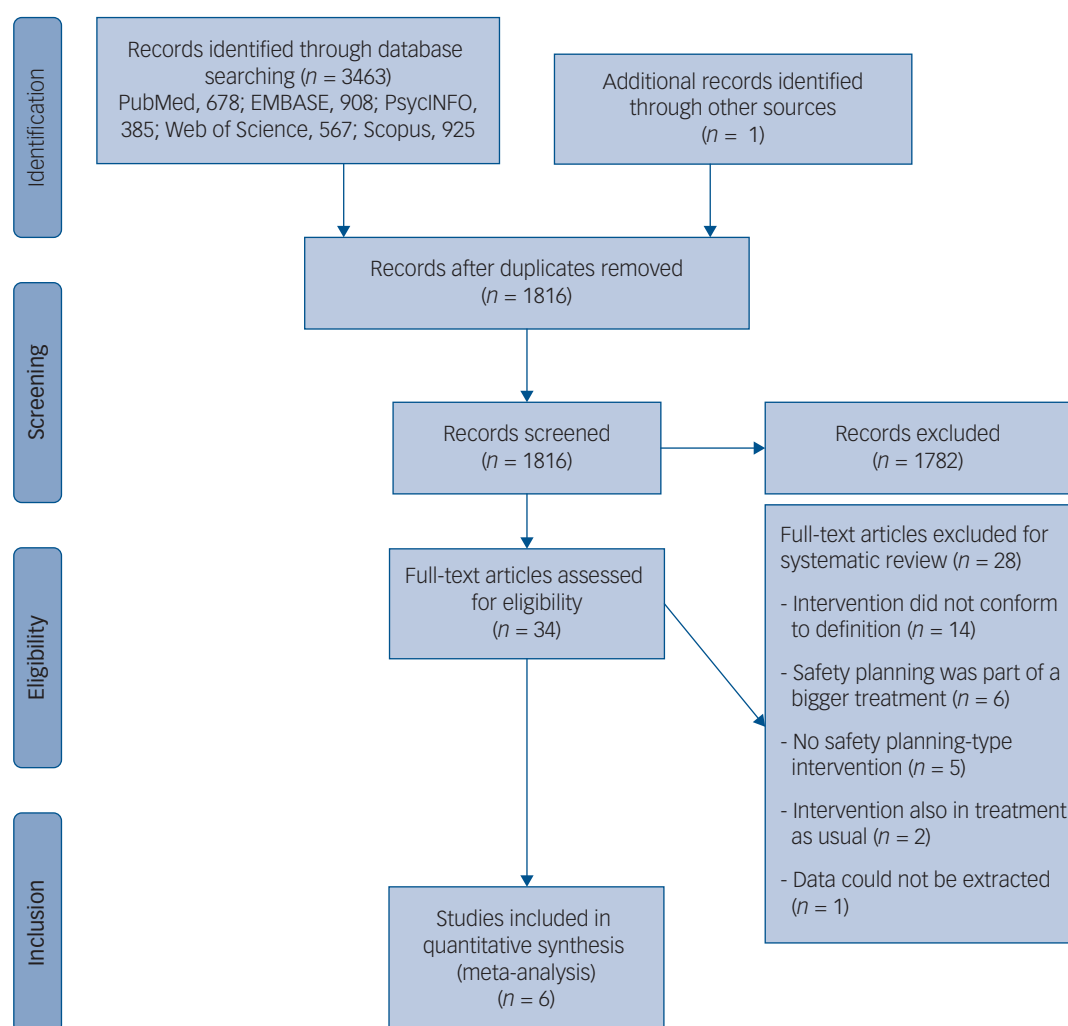

Fig. 1 Preferred Reporting Items for Systematic Reviews and Meta-Analysis flow chart of study selection process.

Table 1 Characteristics of studies

Study	Country	Target group	Setting	Design	Intervention (n)	Control (n)	Outcome	Follow-up
Bryan et al[12]	USA	Active-duty United States Army soldiers, adults, attending emergency department with suicidal ideation and/or attempt	Veterans Health Administration emergency department	RCT	CRP (n = 32) and E-CRP (n = 33); single session; CRP (warning signs, coping strategies, social support, crisis resources) and referral to treatment; E-CRP (CRP plus reasons for living) and referral to treatment	TAU (n = 32); contract for safety	Suicidal behaviour: SASII, medical records; suicidal ideation: BSS	6 months
Chen et al[29]	Taiwan	Referred to suicide prevention centre in Kaohsiung following suicide attempt	Case management services	RCT	Control plus coping card (n = 250[a]); crisis postcard (individualised coping strategies, crisis resources) sent after 3 months	Control (n = 363[b]); case management for 3 months (psychological support, coping strategies, adherence to treatment, individualised case-work)	Suicidal behaviour: clinical notes	6 months
Gysin-Maillart et al[30]	Switzerland	Adults, admitted to emergency department for suicide attempt	Emergency department	RCT	TAU and ASSIP (n = 60); three sessions; narrative interview, reconstruction of suicidal action, leaflet (long-term goals, warning signs and personal safety strategies, crisis resources), regular letters to participants for 24 months	TAU (n = 60); enhanced TAU (care as considered necessary by the clinicians in charge), single clinical interview	Suicidal behaviour: medical records; suicidal ideation: BSS	24 months
Miller et al[17]	USA	Adults, attending emergency department with recent suicide attempt or ideation	Emergency department	ITS	ED-SAFE and screening (n = 502); secondary suicide risk screening, self-administered safety plan (safe environment, warning signs, coping strategies, important things, social support, professional help), follow-up calls	Screening only (n = 377)[c] and TAU (n = 497); secondary suicide risk screening and care as usual; usual care at each site	Suicidal behaviour: CSSRS, medical records	12 months
Stanley et al[18]	USA	USA military veterans, adults, attending emergency department for suicide concerns	Veterans Health Administration emergency department	Controlled trial	CAU and SPI (n = 1186); single session; SPI (warning signs, coping strategies, social support, crisis resources, safe environment), follow-up calls	CAU (n = 454); assessment, secondary evaluation, care as needed, out-patient appointment at discharge	Suicidal behaviour, medical records	6 months
Wang et al[13]	Taiwan	Adults, reporting to case management services following suicide attempt	Case management services	RCT	TAU and crisis coping cards (n = 34); 6-week coping card training sessions, coping card (self-awareness of ideation, coping strategies, crisis resources, local medical information)	TAU (n = 33); case management (suicide crisis assessment, emotional support, referral)	Suicidal behaviour: clinical notes; suicidal ideation: BSRS	3 months

RCT, randomised controlled trial; CRP, Crisis Response Plan; E-CRP, Enhanced Crisis Response Plan; TAU, treatment as usual; SASII, Suicide Attempt Self-Injury Interview; BSS, Beck Scale for Suicide Ideation; ASSIP, Attempted Suicide Short Intervention Program; ITS, interrupted time series design; ED-SAFE, Emergency Department Safety Assessment and Follow-up Evaluation; CSSRS, Columbia Suicide Severity Rating Scale; CAU, care as usual; SPI, Safety Planning Intervention; BSRS, Brief Symptom Rating Scale.
a. Participants who read their crisis postcard.
b. Participants who received full case management for 3 months.
c. Screening-only condition was not included in the meta-analysis.

(50.2%) had attempted suicide at least once before enrolment. Not all studies reported on participants' mental health,[13,29] but depression,[17,18] affective disorders[30] and adjustment disorders[12] were mentioned as predominant comorbid disorders in other studies.

Suicidal behaviour was measured via interviews,[12,17] medical records[12,17,18,30] and clinical notes (i.e. recorded by a gatekeeper or clinician).[13,29] In some studies, participants had all previously attempted suicide ($n = 3$)[13,29,30] or were experiencing suicidal ideation and/or a recent suicide attempt ($n = 2$),[12,17] whereas the participants in one study were reported to have visited a hospital for suicide-related concerns.[18] In two studies, professional groups (soldiers and military veterans) were involved,[12,18] and the other studies comprised participants from the general population.[13,17,29,30] Settings varied between general hospitals ($n = 2$),[17,30] military hospitals ($n = 2$)[12,18] and case management services ($n = 2$).[13,29] Participants of one study were in-patients,[30] whereas all others were out-patients.[12,13,17,18,29]

All interventions were provided face to face by a clinician, and consisted of comparable safety plans. See Table 1 for an overview of safety planning components included in the interventions. In addition to coping strategies and sources of support, four studies included personal warning signs of an impending suicidal crisis.[12,17,18,30] The safety plan was generally provided in person and on paper,[12,13,17,18,30] although in one study it was sent to participants by post.[29]

Primary outcome: suicidal behaviour

Of the 3536 included participants, 348 engaged in suicidal behaviour during the follow-up period ($n = 150$ in the intervention condition; $n = 198$ in the control condition). The incidence of suicidal behaviour ranged from 0 to 18.3% in intervention conditions, and 5.3 to 26.7% in control conditions (see Supplementary Appendix 3).

The relative risk of suicidal behaviour for participants who received an SPTI was 0.57 compared with TAU (95% CI 0.41–0.80, $P = 0.001$; $I^2 = 32.51\%$, 95% CI 0–71%; NNT = 16), indicating that the risk of suicidal behaviour was significantly reduced by 43% in the intervention condition (Fig. 2). A visual inspection of the forest plot indicated no outliers, as the effect sizes overlapped with the 95% confidence interval of the pooled effect size (see Fig. 2).

Secondary outcome: suicidal ideation

The mean effect size of the three studies examining the effects of SPTIs on suicide ideation (combined $N = 283$) was non-significant

($g = 0.69$, 95% CI −0.04 to 1.42, $P = 0.06$; $I^2 = 87.60\%$) (see Fig. 3 and Supplementary Appendix 3).[10,20,26]

Methodological quality

In terms of methodological quality, participants in two studies were not randomised, and in two other studies, the randomisation was based on a national identification number. Hence, results of these four studies were considered to be at high risk of bias (Table 2). In five studies, deviations from the intended interventions (such as problems in recruitment or in delivering the intervention) were reported. All studies apparently handled incomplete outcome data correctly. In two studies, no description was given of the assessments and assessors, hence bias in outcome measurement was evaluated to be high. Five studies were considered at moderate risk of bias in their selection of the reported outcome measures. Overall, one study was considered to be at low risk of bias, one at moderate risk of bias and four at high risk of bias.

Publication bias

The inspection of the funnel plot suggested publication bias (Fig. 4), and that was supported by a significant Egger's test of the intercept ($P = 0.001$). Duval and Tweedie's trim-and-fill procedure suggested that three studies in favour of TAU, with a smaller s.e., might be missing from the research literature. With those studies imputed, the relative risk for engagement in suicidal behaviour came to 0.71 (95% CI 0.59–0.86), implying that the relative risk for patients who received an SPTI would be closer to 1, as compared with TAU, but would remain significant.

Subgroup and sensitivity analyses

We assessed possible sources of the heterogeneity, using methodological quality, setting and population as potential moderators in subgroup analyses, but found no significant differences between groups (Table 3).

We tested the robustness of the effect on suicidal behaviour in additional sensitivity analyses, yet the pooled relative risk remained significant after exclusion of the studies with the highest or lowest relative risk (relative risk 0.481, $P = 0.000$ versus relative risk 0.598, $P = 0.001$). A significant pooled relative risk was also found when we distinguished between studies with large samples ($N > 500$) and smaller samples (large samples: relative risk 0.688,
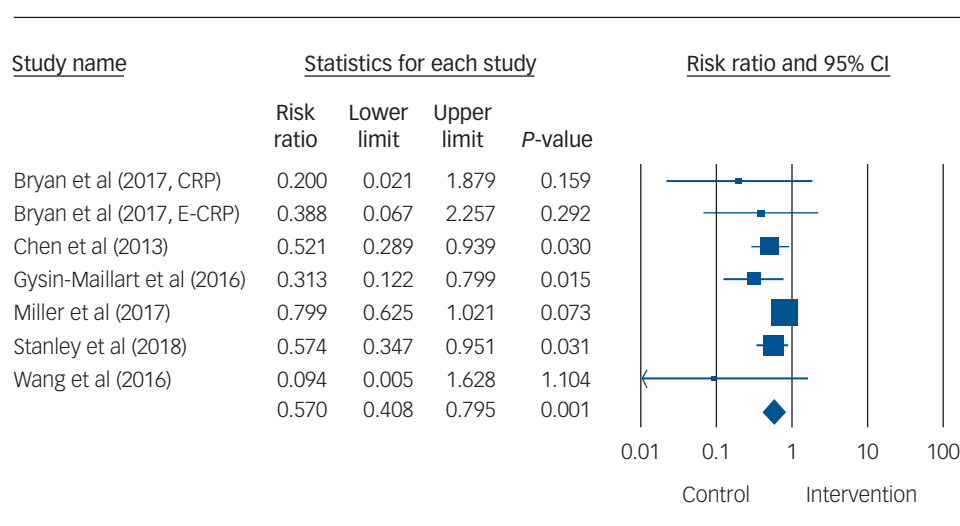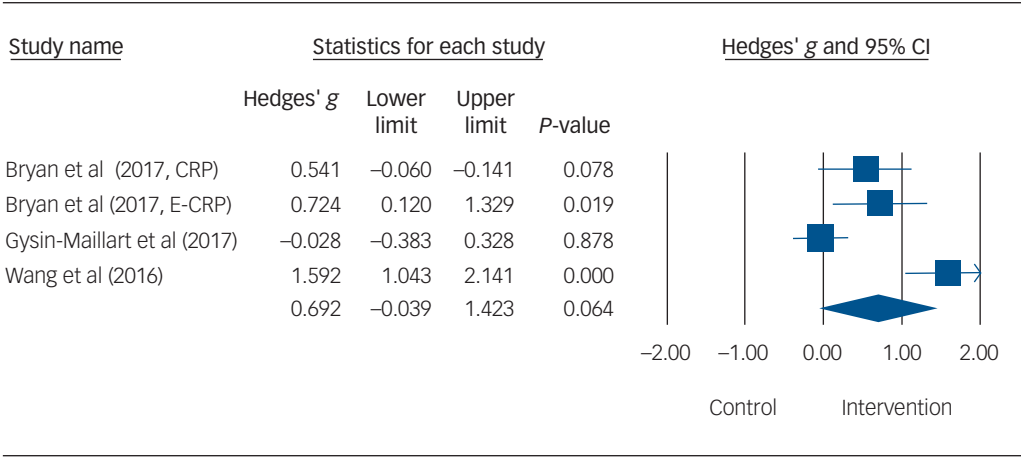

Study name	Statistics for each study				Risk ratio and 95% CI
	Risk ratio	Lower limit	Upper limit	P-value	
Bryan et al (2017, CRP)	0.200	0.021	1.879	0.159	
Bryan et al (2017, E-CRP)	0.388	0.067	2.257	0.292	
Chen et al (2013)	0.521	0.289	0.939	0.030	
Gysin-Maillart et al (2016)	0.313	0.122	0.799	0.015	
Miller et al (2017)	0.799	0.625	1.021	0.073	
Stanley et al (2018)	0.574	0.347	0.951	0.031	
Wang et al (2016)	0.094	0.005	1.628	1.104	
	0.570	0.408	0.795	0.001	

Fig. 2 Forest plot for suicidal behaviour. CRP, standard crisis response plan; E-CRP, enhanced crisis response plan.

Study name	Statistics for each study				Hedges' *g* and 95% CI
	Hedges' *g*	Lower limit	Upper limit	*P*-value	
Bryan et al (2017, CRP)	0.541	−0.060	−0.141	0.078	
Bryan et al (2017, E-CRP)	0.724	0.120	1.329	0.019	
Gysin-Maillart et al (2017)	−0.028	−0.383	0.328	0.878	
Wang et al (2016)	1.592	1.043	2.141	0.000	
	0.692	−0.039	1.423	0.064	

Fig. 3 Forest plot for suicidal ideation. CRP, standard crisis response plan; E-CRP, enhanced crisis response plan.

Table 2 Risk of bias within studies

Study	Randomisation	Deviation from intended interventions	Missing outcome data	Measurement of outcomes	Selection of reported results	Overall bias
Bryan et al[12]	Low	Moderate	Low	Low	Moderate	Moderate
Chen et al[29]	High	High	Low	High	Moderate	High
Gysin-Maillart et al[30]	Low	Low	Low	Low	Low	Low
Miller et al[17]	High	Moderate	Low	Low	Moderate	High
Stanley et al[18]	High	Moderate	Low	Low	Moderate	High
Wang et al[13]	High	High	Low	High	Moderate	High
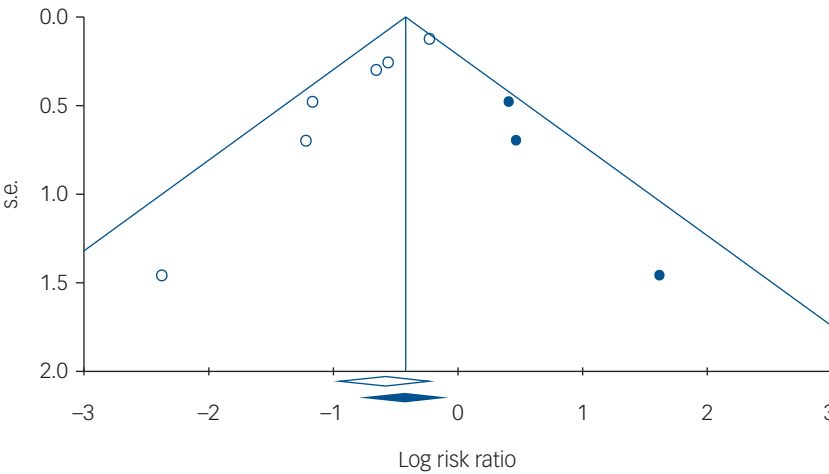
Fig. 4 Funnel plot of s.e., by log risk ratio.

$P = 0.006$; small samples: relative risk 0.285, $P = 0.001$), and between studies with and without randomisation (randomised: relative risk 0.414, $P = 0.000$; not randomised: relative risk 0.713, $P = 0.032$).

Discussion

This meta-analysis found that SPTIs for suicide prevention were associated with reductions in suicidal behaviour, but no effect was identified on suicidal ideation. Overall, six studies were included for analysis. SPTIs were associated with a risk of engagement in

suicidal behaviour that was 0.57 times the risk of patients without such an intervention. This means that the risk of suicidal behaviour was reduced by 43% (NNT = 16) for patients who were utilising an SPTI. The findings from sensitivity analyses supported a robust effect. The observed effect is in line with the hypothesis that safety plans reduce the imminent risk of engagement in suicidal behaviour by presenting alternative coping strategies and sources of support.[10,11] The outcome also appears consistent with clinicians' beliefs in the effectiveness of safety planning.[14,15] However, other interventions may be needed to reduce suicidal ideation.

The lack of an effect from SPTIs on suicidal ideation might be explained by the fact that suicidal ideation was not directly targeted

Table 3 Subgroup analyses of associations between effect sizes and study characteristics

	Number of comparisons	Relative risk	95% CI	I^2	95% CI	P-value[a]
All studies ($N = 6$)	7	0.570	0.408–0.795, $P = 0.001$	32.505	0–71%	
Subgroup analyses ($n = 7$)						
Quality of study						
Low risk of bias	3	0.309	0.142–0.672, $P = 0.003$	0.00	0–90%	0.082
High risk of bias	4	0.651	0.471–0.900, $P = 0.009$	34.230	0–77%	
Setting						
Emergency department	5	0.595	0.404–0.875, $P = 0.008$	35.277	0–76%	0.542
Case management	2	0.339	0.118–1.351	24.926	Not applicable	
Population						
General population	4	0.543	0.320–0.921, $P = 0.024$	56.008	0–85%	0.955
Other	3	0.532	0.331–0.855, $P = 0.009$	0.00	0–90%	

a. The P-values in this column indicate whether the difference between the effect sizes in the subgroups is significant.

by this type of intervention. Such a supposition is supported by a recent systematic review by McCabe et al on brief psychological interventions for suicide prevention, which suggested that such interventions may alter behaviours of individuals at risk of suicide, but their level of cognitive distress remains unaffected.[7] Another explanation for the lack of effect on suicidal ideation may lie in the fact that suicidal thoughts are known to fluctuate over time;[31] hence, possible initial effects might have abated by the end of follow-up. Psychotherapeutic interventions that are known to be effective in reducing suicidal ideation include cognitive–behavioural therapy and dialectical behaviour therapy.[5,6]

Strengths and limitations

To the best of our knowledge, this paper is the first to report a meta-analysis on SPTIs for suicide prevention. Our meta-analysis was adequately powered and supported by sensitivity analyses. Nonetheless, our results should be interpreted with caution because of several limitations. First, the field of SPTIs is relatively new, thus only a few controlled studies could be included in the analyses. Second, not all of the included studies were randomised, implying limited comparability. Third, our findings cannot be generalised to adolescents and children, as only adults were included in the analyses. Fourth, we did not include the term 'self-harm' in our search string because the known SPTIs were developed specifically as suicide prevention tools. However, in response to a reviewer, we have run a *post hoc* search including self-harm as a search term, and this did not yield any additional studies meeting our inclusion criteria. Another limitation is the low methodological quality of the studies, which may have affected outcomes. On the other hand, our use of a single bias risk assessment tool for all studies could have distorted results from non-randomised controlled studies. Furthermore, the studies varied amongst themselves, including differences in the measurement of 'suicide attempt' and in the length of follow-up. That said, variations in terms of quality, settings and included populations did not explain the heterogeneity in this meta-analysis. Other differences between studies might offer explanations; for example, in terms of inclusion criteria or the content of TAU (such as possible variations in the care needed in different countries). Moreover, since the studies implemented safety planning in different ways, future research is required to determine the active ingredients of SPTIs, and to assess whether follow-up telephone calls play a role.

Implications for the future

From a clinical point of view, the present study has important implications. SPTIs are already widely implemented, and they are identified as best practice for suicide prevention by the National Institute for Health and Care Excellence and the Suicide Prevention Resource Center. So far, implementation has been largely based on clinicians' beliefs about the value of the interventions,[14,15] but our study has now demonstrated their effectiveness in reducing suicidal behaviour. This suggests that safety planning should continue to be identified as best practice for the prevention of suicidal behaviour in individuals at risk of suicide, and should be strongly recommended in clinical practice and guidelines for suicide prevention.

Higher-quality, randomised controlled studies on the effectiveness of SPTIs will be needed to replicate the results of the current meta-analysis. For now, SPTIs appear to be an effective strategy to reduce suicidal behaviour.

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Supplementary material

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Data availability

Data availability is not applicable to this article as no new data were created or analysed in this study.

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None.

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Why Does Safety Planning Prevent Suicidal Behavior?

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Safety planning interventions have demonstrated efficacy in reducing suicidal ideation, suicide attempts, and death by suicide. Less is known, however, about potential mechanisms underlying the effectiveness of safety plans. The present manuscript provides an overview of the steps involved in safety planning, reviews literature demonstrating its efficacy, and proposes seven potential factors that may explain why safety planning works: providing distraction, increasing connection, promoting autonomy, building competence, reducing engagement in impulsive urges, hindering engagement in suicidal behavior, and reducing cognitive load. By improving our understanding of why safety planning is effective, future work may be able to enhance, or augment, safety planning to further increase its efficacy and, ultimately, to save lives.

Public Significance Statement
This manuscript provides an overview of two safety planning interventions—Crisis Response Planning and Safety Planning Intervention—and proposes seven potential reasons why these interventions may be effective in managing suicidal thoughts and urges and preventing suicidal behavior.

Keywords: safety plan, suicide, distraction, connection, autonomy

Suicide is a leading cause of death within the United States, with over 47,000 deaths attributable to suicide in 2019 (Centers for Disease Control and Prevention, 2020). Given the magnitude of this public health concern, accurate and efficacious suicide risk assessment and intervention are crucial. Empirically supported interventions for suicidal thoughts and behaviors exist, most notably Dialectical Behavioral Therapy (DBT; Linehan, 1993) and the Collaborative Assessment and Management of Suicidality (CAMS; Jobes, 2006); however, these treatments typically involve repeated and relatively longer term care with a mental health provider and are not necessarily implemented optimally (DeCou et al., 2019).[1] The efficacy of these interventions is limited in emergency departments and other acute care settings in which suicidal individuals often present to care,

however. Although most suicidal individuals who present in these settings are subsequently referred to follow-up outpatient providers (Allen et al., 2002), a notable proportion of patients with suicidal thoughts or intentions refuse or do not attend outpatient treatment (Granboulan et al., 2001; Krulee & Hales, 1988), attend only 1 week

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[1] It is worth noting that CAMS can be modified for use in acute settings as a brief single-session intervention that includes an initial assessment of relevant risk factors, warning signs, reasons for living and dying, and the nature of suicidal ideation and behaviors through the Suicide Status Form, as well as provision of resources, identification of "drivers" of one's wish to die, and safety planning (Jobes, 2006; Jobes et al., 2018). However, to our knowledge, this single-session adaptation has not yet been empirically examined (Swift et al., 2021).

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of treatment postdischarge from the emergency department (Granboulan et al., 2001; O'Brien et al., 1987), or terminate treatment within 3 months (Monti et al., 2003). Thus, the development and implementation of brief psychosocial interventions in acute care settings may improve patient outcomes and save lives. The importance of brief interventions in these acute settings is further underscored by the substantially elevated rates of suicide posthospital discharge (Chung et al., 2017), though these rates can be attenuated somewhat by postdischarge follow-up contacts (Luxton et al., 2013).

In response to the need for brief psychosocial interventions that may aid patients in managing acute periods of arousal and suicidal thoughts and urges (i.e., crises) without engaging in harmful or maladaptive behaviors, two comparable brief interventions were developed and validated: crisis response planning (CRP; Rudd et al., 2004) and safety planning intervention (SPI; Stanley & Brown, 2012). Each of these interventions involves the creation of a safety plan: written individualized steps for patients to follow during moments of intense emotional distress and/or suicidal crises, when these skills might otherwise be challenging to cognitively access. Both CRP and SPI focus first on self-management strategies (e.g., distracting activities), followed by external sources of intervention (e.g., contacting family/friends for support, outreach to health care providers, accessing crisis services); however, SPI provides an additional emphasis on means safety counseling to further reduce risk of suicidal actions. Designated as a recommended standard for health care systems by the National Action Alliance for Suicide Prevention (2018), CRP/SPI is brief (completed in 20–45 min), can be used across healthcare settings and populations, and is based on the collaborative creation of a safety plan, following a thorough suicide risk assessment.

The purpose of this manuscript is to highlight potential mechanisms underlying safety planning and explore reasons why safety plans are efficacious in reducing the incidence of suicide-related outcomes. We first provide an overview of the steps associated with safety planning and review research examining the efficacy of both CRP and SPI. We then propose and elaborate on potential mechanisms that underlie the utility of safety planning in improving patient outcomes and reducing the severity of suicidal crises and engagement in suicidal behaviors. Finally, we briefly highlight several specific areas in need of further consideration, including the generalizability of safety planning across diverse individuals, the integration and individualization of safety planning across settings and patients, and existing limitations and recommendations for the clinical implementation of, and research on, safety planning. Ultimately, through emphasizing safety planning's potential mechanisms of action, we strive to spur future empirical research to better understand the efficacy of safety planning, with the goal of augmenting these interventions and improving on the benefits that they already provide, thereby reducing the prevalence of suicidal thoughts and behaviors.

Steps Associated With Safety Planning

Safety plans consist of six primary components: (1) recognition of warning signs; (2) use of internal coping strategies; (3) utilizing social contacts as distractions and/or for support in managing the crisis; (4) connecting with mental health professionals or agencies; (5) identifying reasons for living, as noted specifically in CRP; and (6) means safety planning, as noted specifically in SPI. These components are included as part of a comprehensive plan in both CRP and SPI:

1. *Recognition of Warning Signs*: Clinicians and patients first collaboratively identify patient-specific warning signs that typically precede a suicidal crisis. These signs include but are not limited to thoughts (e.g., "I can't deal with this anymore"), images (e.g., scenes of humiliation), physiological sensations (e.g., increased heart rate), affects/moods (e.g., feeling depressed/hopeless), behaviors (e.g., fidgeting, avoidance/withdrawal), and situations that may signal an impending crisis, which if attended to, may signal to a patient times at which the safety plan should be deployed.

2. *Internal Coping Strategies*: To foster a sense of autonomy and mastery, patients are encouraged to first engage in self-directed coping strategies to address emotional distress and suicide-related thoughts and urges. Such strategies function as a form of distraction that prevent urges and suicidal thoughts from escalating; typically, several (i.e., 4–5) strategies are identified across a variety of domains, including activities that (a) require attention and/or are distracting (e.g., doing chores, completing a puzzle, reading); (b) involve physical activity (e.g., going on a walk or run, playing a sport, playing with a pet); (c) are soothing, calming, and/or sensation-based (e.g., taking a hot or cold shower, listening to calming music, laying under a soft blanket); and/or (d) have worked in the past. Patients are encouraged to repeat these internal coping strategies should intense urges persist. Importantly, patients should be supported in identifying specific and personalized internal coping strategies to increase the likelihood of engagement with the safety plan and further underscore patients' autonomy and sense of mastery.

3. *Social Contacts for Distraction, Support, and/or Assistance in Resolving Crises*: Should internal coping strategies be ineffective in managing one's distress, patients are encouraged to engage in socialization strategies. Such strategies may include socializing (including social activities) with friends or family members and/or visiting healthy social settings (e.g., settings in which socialization occurs naturally, such as a coffee shop, park, or place of worship). Socialization is intended to first serve as a distraction, without explicitly focusing on or revealing one's problems, distress, or suicidal thoughts, and a mechanism for increasing connection and a sense of belongingness with other individuals. Importantly, distraction is intended to be time-limited, active, and intentional, rather than promoting avoidance of distressing thoughts, emotions, and situations. However, either in addition to or including individuals identified for distraction/support more broadly, patients are encouraged to identify individuals with whom they can explicitly discuss their emotions and experiences, and ask for support and assistance in coping with the crisis. In collaboration with clinicians, patients should weigh pros and cons, as well as the likelihood of actually contacting and disclosing to certain individuals, when selecting individuals for this step.

4. Professional and Agency Contacts: Patients are instructed to list the names and phone numbers of professional assistance who they could contact, which may include ongoing treating clinicians, local- and/or national-based agencies, and/or emergency services, should acute distress or suicidal crises continue.

In conjunction with these four steps in developing a safety plan that are consistent across both CRP and SPI, there are unique components emphasized by each safety planning method. Specifically, CRP includes identification of individualized reasons for living (i.e., things that provide a sense of purpose or meaning in life, or that are reasons to not kill oneself; Linehan et al., 1983). Evidence suggests that identifying reasons for living may protect against suicidal ideation and attempts (see Bakhiyi et al., 2016, for systematic review); however, these associations are not always found in longitudinal samples (Brüdern et al., 2018) and may be dependent on a number of contextual factors, such as psychiatric diagnosis, personality features, coping abilities, and social support (Bakhiyi et al., 2016). Within CRP, patients are explicitly instructed to write down reasons for living and keep a physical copy of them on their person. On the other hand, the SPI also incorporates a discussion on means safety, which can be held either before or immediately after the identification of each safety plan step described above. Risk for suicide is magnified when patients report a specific plan for suicide that involves readily accessible and potentially lethal means (Joiner et al., 2003). Means safety interventions limit access to or decrease the lethality of means for suicide (Barber & Miller, 2014; Khazem et al., 2017), with the ultimate goal of mitigating risk of harm to patients. Although total removal of methods is preferred, discussions may include strategies for limiting access or making access to means more difficult (e.g., storing kitchen knives at the top of high cabinets instead of on the counter, using gun locks and storing ammunition separately from firearms, giving medications to a close other for storage). In essence, means safety strategies are devoted to creating physical and psychological (i.e., cognitive accessibility and psychological attachment to specific means for suicide; see Rogers et al., 2019) distance between an at-risk individual and potential suicide methods to reduce the likelihood of these items being used for suicidal behaviors. Overall, although CRP and SPI have minor differences, the primary steps and goals remain consistent.

Research examining CRP and SPI suggest that both interventions are efficacious in managing suicidal crises. For instance, in a randomized clinical trial, active duty military personnel who collaboratively created a CRP were 76% less likely to make a suicide attempt during the follow-up period than service members who received treatment as usual (Bryan et al., 2017). Furthermore, the inclusion of reasons for living in CRP, specifically, was associated with increases in positive emotions and quicker reductions in suicidal ideation (Bryan, Mintz, et al., 2018; Rozek et al., 2019), though the inclusion of reasons for living did not incrementally protect against suicide attempts within a 6-month follow-up (Bryan et al., 2017). Likewise, in examination of the SPI, patients presenting to an emergency department who created a safety plan had 45% fewer instances of suicidal behaviors over a 6-month follow-up and more than double the odds of attending at least one outpatient mental health treatment session than patients who did not receive SPI (Stanley et al., 2018). However, no study has explicitly examined the incremental utility of incorporating means safety planning within SPI.

Patient satisfaction regarding the creation and use of CRP/SPIs is also high. In one study, patients found CRP to be highly useful, over 80% of patients retained their written CRP up to 6 months later, and those who completed a CRP were more likely to recall self-management strategies and sources of social support (Bryan, May, et al., 2018). Similarly, both patients and staff members view SPI as acceptable and helpful in increasing safety, preventing suicidal behavior, and increasing treatment engagement (Chesin et al., 2017; Stanley et al., 2016). Overall, there is no direct empirical comparison of these two methods to date, precluding determinations of the superiority of one method over the other.

Beyond the empirical evidence underlying the efficacy of safety planning in managing suicidal crises, there are several additional strengths, including its brevity, relative ease of clinician training and implementation across settings, and ability to serve as a standalone intervention in cases in which follow-up treatment may not be provided, available, or accessed. Further, given the need to proceed with care in the face of current and potential epidemics and pandemics by employing physical distancing during sessions, safety planning is attractive in that it can easily be delivered via telehealth. As we alluded to previously, however, less is known about the potential mechanisms underlying the utility of safety planning. In the remainder of this manuscript, we highlight and elaborate on several avenues through which we speculate safety planning may improve patient outcomes, reduce the severity of suicidal crises, and decrease engagement in suicidal behaviors. These mechanisms include providing distraction, increasing connection, fostering autonomy, building competence, reducing engagement in impulsive urges, creating additional barriers to engaging in suicidal behavior, and reducing patients' cognitive load.

Proposed Mechanisms for Safety Planning

Based on a literature review of articles summarizing the tenets of safety planning and its empirical evidence (e.g., Bryan et al., 2017; Stanley et al., 2018), as well as our own clinical experiences and consensus/discussion, we propose seven candidate mechanisms that we believe may be foundational to the efficacy of safety planning. We emphasize, however, that this list is preliminary and not intended to be exhaustive; additional mechanisms may emerge through future research, and some of these proposed mechanisms may not be supported through subsequent empirical work. Indeed, a primary aim of this manuscript is to describe the rationale behind each proposed mechanism to encourage and spur future qualitative and quantitative work that directly identify and empirically examine these mechanisms.

Providing Distraction

Two of six steps in safety planning are devoted entirely to distraction from emotional urges and suicidal thoughts (i.e., engaging in internal coping strategies and reaching out to social contacts for distraction and support). Accordingly, the developers of both CRP and SPI implicitly highlighted the relative importance of distraction as a mechanism involved in maintaining patient safety. These steps specifically instructed patients—whether on their own or with the help of loved ones—to involve themselves mindfully in

internal and/or external activities designed to distract from crises. Humans experience finite cognitive resources (Franconeri et al., 2013; Norman & Bobrow, 1975), and as demands on these resources increase, cognitive performance decreases. As such, and consistent with capacity theory (Kahneman, 1973), which proposes that using one's capacity of cognitive resources for one activity limits attention and information-processing for other stimuli, the goal of distraction is for patients to allocate the lion's share of cognitive resources to other thoughts and behaviors at the exclusion of one's distress and/or suicidal ideation. Following this diversion of cognitive resources, the likelihood that patients will perseverate on, seek out, or use lethal means to engage in suicidal behaviors is thought to diminish. Importantly, evidence suggests that the efficacy of distraction relates to a multitude of factors, including qualities of the distractor, qualities of the crisis, and individual differences (Johnson, 2005), further underscoring the necessity of personalizing coping strategies and distractors to individual patients and situations.

Notwithstanding the benefits of distraction strategies, there are some potentially worrisome drawbacks of using distraction to manage emotional and suicidal crises. Although helpful in managing short-term situations, distraction—which is intended to be active, time-limited, and intentional—often leads to cognitive and/or behavioral avoidance. Avoidance constitutes a major maintaining factor in symptoms of psychopathology (e.g., social anxiety; Hofmann, 2007) and precludes problem-solving strategies if done in excess. Further, both thought and emotional suppression have been positively associated with suicidal ideation and attempts (Kaplow et al., 2014; Najmi et al., 2007; Pettit et al., 2009), likely in part due to a tendency for suppressed thoughts and emotions to have a "rebound effect" and resurge with more intense preoccupation than was initially experienced (Wegner et al., 1987). Likewise, past research has indicated that individuals who combine distraction with avoidance tend to have poorer well-being than individuals who combine distraction with acceptance (Wolgast & Lundh, 2017). Thus, tailoring distraction strategies in an intentional manner to ensure that activities are time-limited, foster acceptance, and lead to other skills use to address specific situations and cognitions may ultimately further increase the efficacy of distraction within safety planning.

Increasing Connection

A thwarted sense of social belonging, or connection, is proposed to underlie suicidal thoughts and behaviors (Chu et al., 2017; Van Orden et al., 2010). Humans have a fundamental need to belong (Baumeister & Leary, 1995) that, when left unfilled, leads to a multitude of negative health outcomes, including increased mortality by all causes, including suicide (Holt-Lunstad et al., 2015). Research supports the role of connection in reducing suicide risk. For instance, receiving non-demanding, caring letters or text messages from others—including healthcare workers or researchers—has been associated with reductions in suicidal ideation, suicide attempts, and death by suicide (Comtois et al., 2019; Luxton et al., 2013; Motto & Bostrom, 2001). Improved social connectedness with peers, family, and the community has also been linked to decreases in suicidal ideation and behavior across the lifespan (Czyz et al., 2012; Fässberg et al., 2012). Two of six steps in safety planning are explicitly dedicated to building connections with friends, family members, and/or acquaintances, either by distracting

with social activities (Step 3) or discussing the contents of one's emotional state and soliciting assistance (Step 4). Consistent with research indicating that momentary perceptions of social support negatively covaries with suicidal ideation over time (Coppersmith et al., 2019), safety planning likely buffers against suicidal actions through increasing individuals' connections with others and engagement in meaningful activities and/or discussions. Among patients who are physically isolated, have limited or no social supports, and/or who are unwilling to reach out to others due to fears of being a burden, encouraging any alternate activity that may serve to increase connectedness may be beneficial. Such activities could include posting or commenting on an online forum related to a topic of interest, or volunteering and contributing to society, nature, and the world (e.g., at an animal shelter, picking up trash around the community). Finally, connecting with mental health professionals and agencies (Step 5) may also foster an increased sense of connection with the world, as evidenced by studies on Caring Contacts (Motto & Bostrom, 2001).

Fostering Autonomy

Another potential primary mechanism underlying the efficacy of safety planning is the promotion of autonomy, in which patients independently feel empowered to keep themselves safe from lethal means and reduce their distress. Importantly, autonomy is encouraged both during the creation of the safety plan and during its implementation in times of crisis. From the outset, creating a safety plan allows patients to play a central role in their treatment. Generally, mental health professionals hold considerable power to decide what options patients have, and intentional or unintentional biases may adversely impact opportunities for patients' voices and preferences to be heard and accounted for (Pelto-Piri et al., 2013). The power imbalance that subsequently often arises when patients are expected to comply with clinicians' professional recommendations without providing input may strip patients of their autonomy and right to contribute to decisions pertaining to their health. On the other hand, shared decision-making, mutual respect, and cooperation—in essence, core features of the collaborative development of a safety plan (Bryan, Mintz, et al., 2018; Rudd et al., 2004; Stanley & Brown, 2012)—promote self-determination and successful mental health treatment (Pelto-Piri et al., 2013), highlighting the essential nature of patient autonomy in mental healthcare settings (Katsakou & Priebe, 2007). Thus, the creation of a safety plan may reinstill a sense of independence by allowing patients the opportunity to actively participate in decision-making, promoting a sense of value and capability, and empowering patients to recognize both their worth and their strengths.

Moreover, following the development of a safety plan, patients have total autonomy in choosing if, when, and how to follow the outlined steps. This approach encourages the use of alternative coping strategies rather than potentially lethal means, allowing patients to begin to view treatment largely in terms of their own, relatively unintimidating, coping mechanisms. For instance, if patients are able to begin thinking of treatment as including activities like reading, walking in the park, completing crafting projects, or speaking with a trusted friend or family member, patients may be more open to engaging in these strategies before a crisis occurs. Similarly, as it pertains to the means safety counseling section of a safety plan recommended by Stanley and Brown (2012), patients

have autonomy in deciding how to engage in safe storage practices for potential means. For instance, although the goal of means safety counseling is to encourage the complete removal of access to means, either permanently or temporarily, discussions around safer storage practices, ultimately dependent on the patient's autonomy, can be conducted with flexibility. Furthermore, if patients are able to understand the goals of safety planning as generating strategies as they relate to distraction, coping, interpersonal support, and crisis intervention, then they have the autonomy to create new safety plans if the original plan becomes outdated. Indeed, many clinicians view safety plans as "living documents" that are updated as patients' circumstances (e.g., interpersonal relationships) change over time. Finally, theories of suicide have spoken to the role of autonomy in suicidal patients. For example, the interpersonal theory of suicide (Chu et al., 2017) hypothesizes that the perception of being a burden on one's friends and family—likely experienced when individuals lack autonomy—leads to the development of suicidal ideation. In essence, perceived burdensomeness is an antithesis of contribution, and contributing to others and the world involves both self-efficacy and autonomy. It is possible then, that as safety plans foster a sense of autonomy in patients, their feelings of being a burden on loved ones are reduced, thus quelling thoughts of suicide.

Building Competence

Similar to the notion of autonomy, safety planning introduces patients to a meaningful sense of competence, which may account, in part, for the efficacy of the intervention. By encouraging patients to identify strategies that work best for them, safety planning equips individuals with the skills needed to cope productively and independently, thereby increasing engagement, emphasizing their own abilities, and ultimately, building mastery (Linehan, 1993). Increasing confidence through perceptions of mastery and competence may motivate suicidal individuals to continue to engage in self-care through difficult times. For example, should an individual choose to dispose of pharmacological drugs that could be used for lethal means in exchange for purchasing puzzles, books, and candles used for self-soothing and distraction, they intentionally, actively, and quite pragmatically take control of their own life. When accompanied by perceptions of autonomy, patients who feel capable and competent in their ability to stay safe may feel increasingly motivated via an elevated sense of responsibility to themselves. Moreover, intrinsic motivation is increased by positive verbal feedback (Deci et al., 1999); thus, clinicians who overtly support patients' treatment-related behaviors, particularly interaction with one's safety plan, may provide exactly the type of encouragement patients need to feel confident in their ability to follow the safety plan.

Reducing Engagement in Impulsive Urges

Extant research suggests that suicidal ideation fluctuates substantially over the course of hours to days (Kleiman et al., 2017), that suicidal crises tend to be relatively brief in nature (Rogers et al., 2017), and that the progression from suicidal ideations to actions can be, in some circumstances, rapid (i.e., 86.5% of proximal planning steps taking place within 1 week of a suicide attempt, 66.6% within 12 hr of a suicide attempt; Millner et al., 2017). Another potential mechanism underlying the efficacy of safety planning is its utility in delaying and forestalling suicidal (or other maladaptive) actions

while a crisis abates. The steps in a safety plan are designed to take several hours to complete, in part due to the number of steps and activities involved. Although the nature of "impulsive" suicide attempts is contested in the literature (Anestis et al., 2014; May & Klonsky, 2016), one possibility is that the amount of time that elapses while completing the steps on a safety plan is effective in reducing patients' suicidal intent and, thereby, suicidal behaviors.

Increasing Difficulty of Suicidal Behavior

Suicide is a daunting, fearsome, and challenging act, in which individuals must overcome biological instincts for survival (Van Orden et al., 2010). Anything that further hinders engagement in suicidal behavior—on top of how difficult it already is—is beneficial in mitigating suicide risk. In addition to delaying suicidal behavior, the means safety counseling component that is unique to SPI may be efficacious through its ability to increase both physical (Barber & Miller, 2014) and psychological (e.g., cognitive accessibility, fixation; Rogers et al., 2019) distance to potential suicide means. Indeed, capability for suicide is theorized as necessary for the engagement in lethal or near lethal suicide attempts (Klonsky & May, 2015; Van Orden et al., 2010). One facet of capability is practical capability, which references the concrete factors that make a suicide attempt easier (e.g., familiarity with means and their use, as well as access to means). In terms of safety planning, the means safety counseling component targets practical capability directly. As a standalone intervention, means safety, also referred to as means restriction (Stanley et al., 2017), has accumulated empirical evidence in reducing rates of self-injury and suicide (Jin et al., 2016; Yip et al., 2012). Within a safety plan, means safety counseling is another aspect of a comprehensive approach to managing suicide risk, in this case by making suicidal actions more challenging to enact.

Beyond means safety counseling, safety plans may further increase the difficulty associated with suicidal behavior by increasing one's ambivalence toward suicide. Evidence suggests that the majority of individuals with suicidal ideation experience an internal struggle between the wish to live and the wish to die (Kovacs & Beck, 1977), that these states fluctuate substantially over time (Bryan et al., 2016), and that changes in the relative balance of wish to live and wish to die are associated with different trajectories of suicide risk (Goods et al., 2020). Using a safety plan to engage in activities that foster connection, competence, and enjoyment may tip the balance toward a wish to live.

Managing Cognitive Load

Cognitive load is characterized by the amount of working memory resources being utilized (Sweller, 1988); high cognitive loads have been linked to impairments in problem-solving and task performance (Haji et al., 2015; Sweller, 1988). Individuals with suicidal thoughts and urges have a tendency to ruminate on their experiences (Rogers & Joiner, 2017), characterized by a tendency to repetitively and passively perseverate on the causes and consequences of one's distress (Nolen-Hoeksema et al., 2008). These tendencies involve an impaired ability to disengage from negative emotional and cognitive content (Grafton et al., 2016), and in the context of suicidal ideations, may result in an attentional fixation ("tunnel vision") that consists of an overwhelmingly high cognitive

load and a perceived inability to disengage from a suicidal crisis (Shneidman, 1993; Wenzel & Beck, 2008), ultimately leading to a higher likelihood of engaging in suicidal behavior (Cha et al., 2010; Rogers & Joiner, 2018). Following explicitly written steps in a safety plan may facilitate disengagement from suicide-specific attentional fixations or ruminations by both serving as a readily available, written source of information and by interrupting stuck cognitive processes with other activities. In this sense, reducing one's cognitive load is also accomplished through several of the other mechanisms described in this paper: providing distraction, increasing connection, and promoting autonomy (i.e., by providing patients with a sense of control when distressing and suicidal thoughts are often perceived as uncontrollable; Gorday et al., 2018; Nock et al., 2018).

Specific Considerations

We wish to highlight that there are several unknown factors regarding the efficacy of safety planning and these seven proposed mechanisms, including their applicability and generalizability to diverse patients, diagnoses, and treatment settings. All suicidal patients are not the same with regard to prior experiences, presenting problems, and clinical needs, nor should they be treated as identical. Nearly all studies of the CRP/SPI to date have been conducted in either active duty service members (e.g., Bryan et al., 2017), veterans in VA-affiliated medical centers (e.g., Stanley et al., 2016), or emergency departments (e.g., Stanley et al., 2018); much less is known about the comparative efficacy of safety planning in civilians or others of varying sociodemographic characteristics. For instance, how might safety plans need to be tailored across the lifespan (in children vs. adolescents vs. adults vs. older adults); across cultural groups (e.g., individualistic vs. collectivistic cultures); or across racial/ethnic groups (with accumulating evidence pointing to the urgent need to address racial tensions and traumas among people of color; Walker, 2020)? Similarly, mechanisms and implementation of safety planning among those with significant chronic illness or who have other health/mobility concerns (e.g., older adults residing in nursing homes; Reiss & Tishler, 2008), who may have decreased autonomy and increased perceptions of being a burden (Rogers et al., 2021), may vary. Nevertheless, no empirical data exist yet regarding the efficacy and acceptability of safety planning across diverse groups of individuals, highlighting an imperative need for future research in this area.

Additionally, as highlighted by Stanley and Brown (2012), the implementation of safety planning—while proposed to be a useful intervention across settings—will likely vary across patient populations and treatment settings. Patients with emotion dysregulation and impulsivity (e.g., those with borderline personality disorder) may need different emphasis on certain components of the safety plan than those who are withdrawn and avoidant (e.g., those with anxiety disorders). Adaptations are also likely needed for acute (e.g., emergency department) settings versus outpatient clinics, in which safety planning could be augmented through its integration with other interventions (e.g., DBT, CAMS) or modified across sessions. It is plausible that safety planning is more effective in certain settings or when administered in a certain way, though this possibility has yet to be empirically tested. For instance, although teletherapy has demonstrated equivalency to in-person therapy consistently across studies (Carlbring et al., 2018; Novella et al.,

2020), there may be differences and unique challenges associated with safety planning via teletherapy. In particular, a printed copy of the identified plan cannot be immediately provided to patients when sessions are conducted virtually; in such cases, using screen-sharing and whiteboard technologies on online platforms that allow the patient and therapist to jointly complete the safety plan and subsequently take a photo on their phones may be one way to overcome this limitation.

Further, we caution that clinicians should not rely on safety planning as a standalone intervention whenever possible. Indeed, it is not our goal to propose that safety planning is superior to established interventions (e.g., cognitive-behavioral therapy, DBT, CAMS) in mitigating suicide risk; rather, it is one brief, empirically-supported, intervention that has numerous avenues through which it may be effective. Other mechanisms may account for decreases in suicidal thoughts and behaviors across other suicide-specific interventions (e.g., problem-solving orientation in CAMS; Jobes, 2006); as such, exploring alternative mechanisms beyond those presented here may also be warranted. Moreover, some patients may be hesitant to create and/or use the safety plan due to current symptoms and psychopathology (e.g., high levels of hopelessness). Engaging in motivational interviewing techniques (Rubak et al., 2005) to identify and mobilize patients' intrinsic values and goals may be essential when patients are unwilling to engage in safety planning to manage such ambivalence. Likewise, some patients may be willing to create a safety plan but are unable to identify specific, personalized strategies to include. Among these individuals, providing several concrete example steps may aid in developing initial options for strategies. However, should patients be unable to identify strategies for particular steps of the safety plan (e.g., internal coping strategies, lacking social contacts or supports), these may be indicated targets for longer term treatment and follow-up, when possible.

Lastly, societal and contextual factors likely play a role in the efficacy and need to tailor safety planning to meet patient needs. Whereas some individuals may have supportive families and communities, in which seeking social support and increasing connection is more readily achievable, this is not always the case. In situations in which nearby connections are unsupportive or unhelpful (e.g., dismissive or critical family members, rural areas without LGBTQ+ supports; c.f., The Trevor Project, 2021), clinicians and patients may need to rely on other forms of support (e.g., online-based communities) or address other potential mechanisms underlying the effectiveness of safety planning (e.g., distraction, autonomy) instead. In contrast, when patients have numerous close and trusted relationships, these connections may be able to be strategically utilized within a safety plan to further increase perceived connectedness. Altogether, future research on safety planning needs to take a multitude of diverse individual, interpersonal, societal, and contextual factors to better optimize safety planning alongside identifying relevant mechanisms.

Conclusions

Overall, the efficacy of safety planning in reducing suicidal thoughts and behaviors has been established empirically. This manuscript provides a discussion of seven potential mechanisms underlying the efficacy of CRP and SPI in mitigating suicidal crises, with the hope of empirically examining, enhancing, and further

developing these interventions. However, it is important to note that the vast majority, if not all, of these potential mechanisms have not been tested empirically. We encourage researchers to examine the roles of distraction, connection, autonomy, competence, delaying actions, hindering engagement in suicidal behavior, and reducing cognitive load in managing suicidal urges and, in turn, reducing the incidence of suicidal behavior among patients who have created safety plans. Should certain factors (e.g., distraction, autonomy) play a relatively larger role than others in explaining the efficacy of safety planning, these factors can then be emphasized and utilized in augmentations of safety planning to further improve its efficacy. A greater understanding of the reasons why safety planning can be effective may help improve the intervention further and, subsequently, save lives.

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JAMA Psychiatry | **Original Investigation**

Comparison of the Safety Planning Intervention With Follow-up vs Usual Care of Suicidal Patients Treated in the Emergency Department

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IMPORTANCE Suicidal behavior is a major public health problem in the United States. The suicide rate has steadily increased over the past 2 decades; middle-aged men and military veterans are at particularly high risk. There is a dearth of empirically supported brief intervention strategies to address this problem in health care settings generally and particularly in emergency departments (EDs), where many suicidal patients present for care.

OBJECTIVE To determine whether the Safety Planning Intervention (SPI), administered in EDs with follow-up contact for suicidal patients, was associated with reduced suicidal behavior and improved outpatient treatment engagement in the 6 months following discharge, an established high-risk period.

DESIGN, SETTING, AND PARTICIPANTS Cohort comparison design with 6-month follow-up at 9 EDs (5 intervention sites and 4 control sites) in Veterans Health Administration hospital EDs. Patients were eligible for the study if they were 18 years or older, had an ED visit for a suicide-related concern, had inpatient hospitalization not clinically indicated, and were able to read English. Data were collected between 2010 and 2015; data were analyzed between 2016 and 2018.

INTERVENTIONS The intervention combines SPI and telephone follow-up. The SPI was defined as a brief clinical intervention that combined evidence-based strategies to reduce suicidal behavior through a prioritized list of coping skills and strategies. In telephone follow-up, patients were contacted at least 2 times to monitor suicide risk, review and revise the SPI, and support treatment engagement.

MAIN OUTCOMES AND MEASURES Suicidal behavior and behavioral health outpatient services extracted from medical records for 6 months following ED discharge.

RESULTS Of the 1640 total patients, 1186 were in the intervention group and 454 were in the comparison group. Patients in the intervention group had a mean (SD) age of 47.15 (14.89) years and 88.5% were men (n = 1050); patients in the comparison group had a mean (SD) age of 49.38 (14.47) years and 88.1% were men (n = 400). Patients in the SPI+ condition were less likely to engage in suicidal behavior (n = 36 of 1186; 3.03%) than those receiving usual care (n = 24 of 454; 5.29%) during the 6-month follow-up period. The SPI+ was associated with 45% fewer suicidal behaviors, approximately halving the odds of suicidal behavior over 6 months (odds ratio, 0.56; 95% CI, 0.33-0.95, *P* = .03). Intervention patients had more than double the odds of attending at least 1 outpatient mental health visit (odds ratio, 2.06; 95% CI, 1.57-2.71; *P* < .001).

CONCLUSIONS AND RELEVANCE This large-scale cohort comparison study found that SPI+ was associated with a reduction in suicidal behavior and increased treatment engagement among suicidal patients following ED discharge and may be a valuable clinical tool in health care settings.

+ **Author Audio Interview**

+ **CME Quiz** at jamanetwork.com/learning and **CME Questions** page 980

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The suicide rate in the United States increased dramatically over the past 2 decades, with more than 44 000 suicides in 2016.[1] The rate among veterans is 21% higher than nonveterans.[2] Development of effective treatments has not kept pace. Often the only treatment patients receive during a suicidal crisis is in hospital emergency departments (EDs),[3-5] in which care usually consists of risk assessment and triage to inpatient or outpatient treatment. More than 4% of ED visits are attributable to psychiatric conditions,[6] with approximately 420 000 visits annually for intentional self-harm.[7] Patients are at increased risk for suicide attempts and suicide following an ED visit.[8-11] Unfortunately, nearly half of suicidal ED patients do not attend treatment[12,13] or discontinue quickly.[14] Poor engagement is troubling because risk for subsequent suicidal behavior is greatest during the 6 months following a suicidal crisis.[15] Given this picture, the ED visit is an important opportunity for brief, targeted interventions to prevent further suicidal crises.

Up to 10 years ago, no-suicide contracts, in which patients promised to not engage in suicidal behavior,[16-18] were frequently used. However, these contracts are ineffective.[16,19-21] The Joint Commission[22] recommended development of a collaborative safety plan as an alternative to no-suicide contracts.[23,24] Safety planning has been found to be acceptable to and feasible by both suicidal patients and staff. Patients report it helps maintain their safety.[25,26] In a randomized clinical trial, crisis response planning, a form of safety planning, resulted in fewer suicide attempts, lower suicidal ideation, and greater treatment engagement than no-suicide contracts during a 6-month follow-up with active duty military members.[27]

Postdischarge follow-up interventions, particularly those that involve in-person and telephone contact, are effective.[28-32] One ED study found a 30% lower suicide attempt rate with an intervention consisting of screening, providing basic written material on safety planning, and several calls to suicidal patients and their significant others.[30] Some[33-35] but not all[36] studies have reported similar findings with mail interventions.

Given the potential of safety planning and follow-up contact in reducing suicidal behavior, we evaluated a combination intervention, SPI+, which consisted of (1) the Safety Planning Intervention (SPI)[24] administered in the ED and (2) structured follow-up[37] following ED discharge to prevent suicidal behavior and enhance treatment engagement. The SPI is a brief clinical intervention[24,38] widely used in health systems including the Veterans Health Administration.[38] The SPI combines evidence-based strategies to reduce suicidal behavior by providing prioritized coping strategies including lethal means counseling to reduce access to potential suicide methods. Coping strategies were prioritized, ranging from strategies that can be done alone to those involving social contacts (ie, family and friends), followed by outreach to professionals and the ED. The follow-up component (SPI+) consisted of at least 2 brief telephone calls following ED discharge to assess risk, review and revise the safety plan, and support treatment engagement. Calls continued on a weekly basis until the patient began treatment or withdrew. In a pilot study of repeated ED patients, SPI+ was associated with improved treatment attendance at 3-month follow-up compared with a prior ED visit for suicidal behavior.[39]

Key Points

Question Can a brief suicide prevention intervention reduce suicidal behaviors and improve treatment engagement among patients who present to the emergency department for suicide-related concerns?

Findings In this cohort comparison study, patients who visited the emergency department for suicide-related concerns and received the Safety Planning Intervention with structured follow-up telephone contact were half as likely to exhibit suicidal behavior and more than twice as likely to attend mental health treatment during the 6-month follow-up period compared with their counterparts who received usual care following their ED visit.

Meaning The Safety Planning Intervention with structured follow-up telephone contact may be an effective brief suicide prevention intervention that can be implemented in emergency departments.

We also found that, among suicidal patients provided with a safety plan, nearly two-thirds reported using the plan to mitigate risk.[25] The purpose of this cohort comparison study was to evaluate the association of SPI+ compared with usual care with suicidal behavior and treatment engagement in the 6 months following discharge from the ED. We hypothesized that SPI+ would be associated with fewer suicidal behavior reports and that SPI+ would be associated with enhanced treatment engagement in the 6 months following ED discharge.

Methods

Procedure

A total of 1640 patients (1186 in the intervention group and 454 in the comparison group) meeting eligibility criteria from 5 Veterans Affairs (VA) ED intervention sites where SPI+ was implemented as standard care and 4 VA ED comparison usual care sites were included in the analyses. Patients were not prospectively assigned to intervention or comparison groups. Instead, in the intervention site EDs, all eligible patients were provided the SPI+ as standard care. Matched sites that did not have the intervention were identified later to obtain electronic health record data during the same time as a comparison. Sites were matched on geographic location, approximate number of psychiatric ED evaluations per year, and presence of a psychiatric inpatient unit. Each ED treated a mean of approximately 10 000 patients per year; about 10% of these patients were admitted for mental health/substance abuse treatment.

Patients who came to the ED for a suicidal crisis and were determined to not require inpatient hospitalization were included. Usual care for suicidal patients not requiring inpatient hospitalization typically consisted of evaluation and outpatient referral. Emergency department patients who met eligibility criteria were included in the project. Inclusion criteria were (1) 18 years or older; (2) ED visit for a suicide-related concern; (3) inpatient hospitalization not clinically indicated; and (4) able to read and understand English. This project was reviewed and approved by each of the VA institutional review boards at the

VA Medical Center of Denver, Colorado, the Manhattan VA Medical Center, the Portland Corporal Michael J. Crescenz VA Medical Center, and the VA Medical Center of Philadelphia, Pennsylvania. Because this was a clinical demonstration project, the institutional review boards determined that informed consent was not required. Patients were able to opt out of the SPI+ during the ED visit or during follow-up calls.

Intervention Condition

In addition to usual care, SPI+ included the original SPI, a brief, structured intervention[24,38] and a best practice on the Suicide Prevention Resource Center/American Foundation for Suicide Prevention Best Practices Registry (http://www.sprc.org), designed to mitigate future risk by providing suicidal individuals with a written, personalized safety plan to be used in the event of a suicidal crisis. The SPI has 6 key steps: (1) identify personalized warning signs for an impending suicide crisis; (2) determine internal coping strategies that distract from suicidal thoughts and urges; (3) identify family and friends who are able to distract from suicidal thoughts and urges and social places that provide the opportunity for interaction; (4) identify individuals who can help provide support during a suicidal crisis; (5) list mental health professionals and urgent care services to contact during a suicidal crisis; and (6) lethal means counseling for making the environment safer (http://www.suicidesafetyplan.com).

The SPI+ adds a component that consists of telephone contact after discharge from the ED, usually done by project staff who were social workers or psychologists and trained and supervised by senior project staff. Contacts were attempted within 72 hours of discharge and included 3 components: (1) brief risk assessment and mood check; (2) review and revision of the SPI, if needed; and (3) facilitation of treatment engagement. Follow-up outreach continued weekly and generally discontinued after at least 2 calls if the patient had at least 1 outpatient behavioral health appointment or no longer wished to be contacted.

Usual Care Condition

Usual care varied somewhat between sites because it was not protocol driven; it generally consisted of an initial assessment by a nurse or social worker followed by a secondary evaluation by an ED physician. Medical care was provided if indicated and the patient was medically stabilized. Medications were initiated or adjusted as indicated. Patients discharged were typically provided with either a specific outpatient appointment or information about how to seek psychiatric care if they declined a referral at discharge. Usual care patients did not receive a safety plan during the ED visit, although some may have received one in the past if they were at risk for suicide. Patients in the usual care condition were identified retrospectively by clinical medical record review for the same time that SPI+ was implemented in the intervention EDs.

Assessments

Medical records were reviewed to obtain demographic information, diagnoses, health service use, and physician-rated Global Assessment of Functioning scores at the index ED visit.

Suicide Behavior Reports for suicide behaviors in the postdischarge 6 months were also retrieved from the medical records at each hospital. These reports are mandated in the VA and include descriptions of all suicide attempts, suicide deaths, and other suicidal behaviors including interrupted attempts.[2,40]

Statistical Analyses

All statistical analyses were performed in the statistical language R, version 3.1.2 (2014-10-31, The R Foundation for Statistical Computing). All tests performed were 2-sided and used α = .05 for significance level cutoff. All eligible patients were included in the analyses. Comparisons of demographic and clinical characteristics between patients receiving SPI+ and usual care were conducted using t tests for quantitative measures and Pearson χ^2 tests for categorical measures. To account for intrasite correlations in the outcome measures, mixed-effect logistic regression models were run using the "glmer" function[41] in R, with intervention group as a fixed effect and with site-specific random intervention effects to account for differences in treatment outcome by site to test for differences in suicidal behavior reports between the intervention and comparison groups. This generalized linear mixed model uses the logit link and was estimated using maximum likelihood methods through the Laplace approximation. We performed 2 analyses using this model to examine whether treatment condition predicted suicidal behavior during the 6-month follow-up, 1 with only treatment condition as the independent variable and 1 where we controlled for patient suicidal behavior in the 6 months preintervention (not including suicidal behavior that was the reason for the ED visit). Because patients were not randomized, we next calculated propensity scores based on variables that differed by condition. Significant predictors of group membership (**Table**) with less than 5% missing data, namely age, homelessness status, service period Operation Enduring Freedom or Operation Iraqi Freedom vs other service periods (World War II, Vietnam-era, post-Vietnam, and Gulf War), indicator variables for a history of more than 5 mental health visits, bipolar, depression, posttraumatic stress disorder (PTSD), and substance abuse diagnoses and suicidal behavior 6 months preintervention, were entered into a binary logistic regression model with group as outcome, and the propensity score was calculated as the patient-level predicted values of likelihood of belonging to the intervention vs control group. We used propensity scores to perform covariate adjustment: first with a categorical propensity variable by breaking the propensity score into quartiles (ie, 4 strata) and then with a continuous covariate. We adjusted the mixed-effect logistic model with postintervention suicidal behavior as the outcome variable by the strata and strata by condition interaction, removing the interaction when found to be not significant. We repeated the analysis with the quantitative propensity score to test for linear effect. Owing to the relatively low event rate, we did not perform separate analyses by propensity score strata. In exploratory analyses, the effect of baseline diagnosis on treatment outcome was tested using separate mixed-effect logistic regression models as described here, with randomization group, baseline diagnosis, and their interaction as fixed predictors.

Table. Demographic and Clinical Characteristics of SPI+ and Usual Care Groups

Characteristics	SPI+ No./Total No. (%)	Mean (SD)	Usual Care No./Total No. (%)	Mean (SD)	Analyses χ^2	df	P Value
Age, No., y	1179	47.15 (14.89)	448	49.38 (14.47)	2.716[a]	1625	.007
Global Assessment of Functioning score, No.	849	50.45 (9.39)	404	51.05 (8.36)	1.085[a]	1251	.28
White race/ethnicity	715/1186 (65.7)	NA	251/454 (62.4)	NA	1.334	1	.25
Male	1044/1179 (88.5)	NA	399/453 (88.1)	NA	0.071	1	.79
High school diploma, ≤ GED	391/813 (48.1)	NA	13/32 (41.0)	NA	4.627	1	.03
Homeless	139/1184 (11.7)	NA	78/454 (17.2)	NA	8.453	1	.004
Combat-eligible veteran	361/1119 (32.3)	NA	72/452 (15.9)	NA	43.011	1	<.001
≥1 Mental health visit in past 3 years	818/1158 (70.6)	NA	303/450 (67.3)	NA	1.677	1	.20
Mental health service connection ≥10%	341/1159 (29.4)	NA	170/429 (39.6)	NA	14.941	1	<.001
History of suicide attempt	501/1114 (45.0)	NA	202/435 (46.4)	NA	.270	1	.60
Bipolar diagnosis	74/1186 (6.2)	NA	48/454 (10.6)	NA	8.953	1	<.001
Depression diagnosis	525/1186 (44.3)	NA	241/454 (53.1)	NA	10.254	1	<.001
PTSD diagnosis	325/1186 (27.4)	NA	150/454 (33.0)	NA	5.070	1	.02
Substance abuse diagnosis	328/1186 (27.7)	NA	192/454 (42.3)	NA	32.474	1	<.001

Abbreviations: GED, general education development; NA, not applicable, PTSD, posttraumatic stress disorder; SPI+, Safety Planning Intervention with structured follow-up telephone contact.

[a] t Test used instead of χ^2 test.

Results

Enrollment

A total of 1640 patients with a mean (SD) age of 48 (14) years, 88% men, were included in the analyses. Of the eligible patients at the intervention sites, 99.4% (n = 1179) agreed to receive the SPI. Fewer patients (89.6%; n = 1063) were able to be contacted for at least 1 follow-up call. Patients completed a mean (SD) of 3.7 (3.3) calls (median, 4; range, 0-26).

Demographic Characteristics

Patients in the SPI+ and usual care conditions did not differ on race/ethnicity or sex. However, there were some baseline differences between conditions. Specifically, those in SPI+ were significantly younger (t_{1625} = 2.716; P = .007), less educated (χ^2_1 = 4.627; P = .03), and less likely to be homeless (χ^2_1 = 8.453; P = .004) than those in usual care (Table). Those in the SPI+ group were more likely to have more than 5 mental health visits in the prior 3 years than those in the usual care (Table). Also, patients in SPI+ were also more likely to have served in the 2 most recent military operations (Operation Enduring Freedom or Operation Iraqi Freedom) vs other service periods (Table).

Clinical Characteristics

Patients in SPI+ did not differ significantly from those in usual care on Global Assessment of Functioning at the index ED visit. Patients in the SPI+ condition were more likely to have had suicidal behavior in the 6 months previous (χ^2_1 = 8.31; P = .004). Patients in the SPI+ condition were significantly less likely to have had the following lifetime diagnoses: major depression, bipolar disorder, PTSD, and substance abuse (Table).

### Suicidal Behavior Report Outcomes

The SPI+ was associated with 45% fewer suicidal behaviors in the 6-month period following the ED visit compared with usual care (Figure 1). Patients in the SPI+ condition were less likely to engage in suicidal behavior (n = 36 of 1186; 3.03%) than those receiving usual care (n = 24 of 454; 5.29%) during the 6-month follow-up period, yielding a number needed to treat of 44.43. Mixed-effect logistic regression analysis examining whether treatment condition was related to suicidal behavior found that when we included treatment condition as the independent variable and adjusted for random intervention effects by site, SPI+ had approximately half the odds of suicidal behavior reports during the study period (OR, 0.50; 95% CI, 0.25-0.99; P = .05). In a secondary analysis using the mixed-effect logistic model, when we controlled for whether the patient had a history of suicidal behavior in the 6 months preintervention, we found that treatment condition remained significantly associated with suicidal behavior 6 months following intervention (odds ratio [OR], 0.48; 95% CI, 0.24-0.93; P = .03). Preintervention suicidal behavior was found to be a significant factor in this model (OR, 2.93; 95% CI, 1.16-7.37; P = .02). In another secondary analysis, we used the propensity score to adjust for the significant differences between the groups. The propensity score for each individual in SPI+ vs comparison groups was calculated based on significant factors from the Table with less than 5% missing values, as described previously. Patients were stratified into 4 groups based on its quartiles. In a mixed-effect logistic regression with condition, propensity-based strata and their interaction as predictors, we found no evidence for differential treatment effect by strata (χ^2_3 = 1.38; P = .71), and after removing the interaction, we found that treatment condition remained significant (OR, 0.47; 95% CI, 0.24-0.92; P = .03), while the propensity strata was also significant (χ^2_3 = 17.88; P < .001).

Figure 1. Suicidal Behavior in 6-Month Follow-up for Safety Planning Intervention With Structured Follow-up Telephone Contact (SPI+) and Usual Care
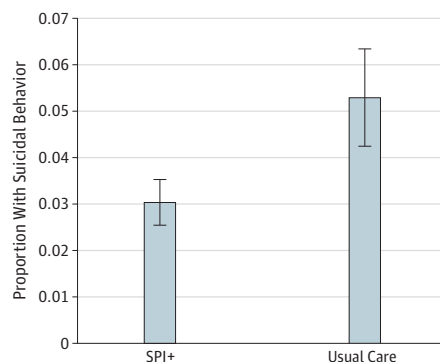
Proportion of patients with suicidal behavior in the 6 months following emergency department discharge in SPI+ compared with usual care patients. Error bars denote the standard error of the proportion.

Figure 2. Treatment Engagement in 6-Month Follow-up for Safety Planning Intervention With Structured Follow-up Telephone Contact (SPI+) and Usual Care
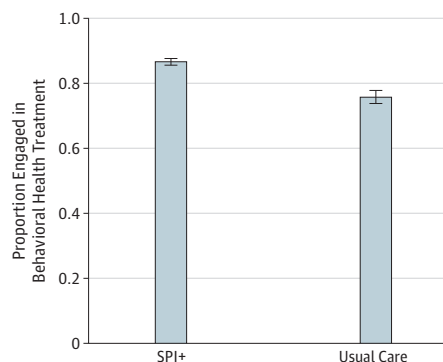
Proportion of patients with at least 1 outpatient behavioral health appointment in the 6 months following emergency department discharge in SPI+ compared with usual care patients. Error bars denote the standard error of the proportion.

Adjusting for the propensity score as a linear covariate yielded a significant treatment effect (OR, 0.46; 95% CI, 0.23-0.91; P = .03) and a nonsignificant propensity score effect (OR, 1.08; 95% CI, 0.81-1.43; P = .60).

Baseline Diagnosis and Suicidal Behavior Outcomes

In exploratory analyses, we tested the association of baseline diagnosis with suicidal behavior outcomes using separate mixed-effect logistic regression models. Depression, PTSD, and substance use disorder had no moderating effect on the treatment (interaction with treatment: depression OR, 0.62; 95% CI, 0.21-1.85; P = .39; PTSD OR, 0.37; 95% CI, 0.11-1.28; P = .12; and substance abuse OR, 2.72; 95% CI, 0.87-8.51; P = .09) nor were they significantly associated with suicidal behavior during follow-up overall (depression: z = −0.71; P = .48; PTSD: z = −1.05; P = .29; substance abuse: z = 0.22; P = .83). However, bipolar disorder was a significant moderator of treatment effect (interaction OR, 7.05; 95% CI, 1.30-38.18; P = .02), whereby patients with bipolar disorder who received SPI+ did not differ in the risk of suicidal behavior from those in the usual care condition (SPI: OR, 2.1; 95% CI, 0.28-15.73; P = .47). For patients with all other diagnoses, those in the SPI+ intervention had fewer suicidal behaviors in the 6-month postintervention period (OR, 0.40; 95% CI, 0.22-0.75; P = .05).

Treatment Engagement Outcomes

Using mixed-effect logistic models, we tested whether the intervention was associated with the likelihood of attending mental health and/or substance abuse treatment (at least 1 visit in the 6 months following ED discharge). Patients in SPI+ had more than double the odds of attending mental health treatment (OR, 2.20; 95% CI, 1.35-2.20; P = .002) (Figure 2), and the difference stayed significant after adjusting for the propensity score strata (OR, 1.74; 95% CI, 1.08-2.81; P = .02). The likelihood of attending substance abuse treatment did not differ between the groups (OR, 1.23; 95% CI, 0.88-1.71; P = .22), even

after adjusting for the propensity score strata (OR, 1.44; 95% CI, 0.90-2.28; P = .13).

Components of SPI+ and Suicidal Behavior Outcomes

When entering both treatment group and mental health treatment attendance as predictors of posttreatment suicidal behavior, the treatment group effect stayed significant, and the effect size did not decrease (OR, 0.46; 95% CI, 0.23-0.91; P = .03), indicating that the protective effect of the intervention was not mediated by the increased likelihood of attending mental health treatment. We also examined the association between the number of follow-up calls and suicidal behavior within the SPI+ group and found that the number of calls was not associated with whether the patient had at least 1 suicide event (Wilcoxon W = 23 711.5; P = .13), possibly pointing to a key role of the safety plan.

Discussion

To our knowledge, this is the first large-scale study to demonstrate the association of SPI+ with decreased suicidal behavior and increased behavioral health treatment engagement following ED discharge for suicide-related concerns. The SPI+ was associated with about 50% fewer suicidal behaviors over a 6-month follow-up and more than double the odds of engaging in outpatient behavioral health care. The significant decrease in suicidal behavior underscores the utility of SPI+ as an effective prevention strategy in EDs. Interestingly, our mediation analysis demonstrated that the association with suicidal behavior was not attributable to the increased treatment engagement in the intervention group nor was it accounted for by the number of follow-up calls. This finding suggests that SPI+ has a positive association with suicidal behavior apart from attendance in outpatient behavioral health care. We chose attendance at more than 1 outpatient appointment as our outcome because the principal difficulty with suicidal patients is that they tend to not attend a first appointment.

Because patients admitted to inpatient units were not included, the range of suicidality in our sample is restricted to a lower-risk population. The reach of this intervention may be greater if the range of suicide risk is not restricted and the intervention is provided to all suicidal patients including those admitted to inpatient units.

Our results are consistent with findings that crisis response planning reduced suicide attempts during a 6-month follow-up period in high-risk active duty soldiers.[42] Crisis response planning is an abbreviated form of safety planning that uses 4 of 6 elements of the SPI (without social interaction as a means of distracting from suicidal thoughts and lethal means counseling). Our results are also consistent with past research[30] that found that a combination of in-person intervention using screening and a safety plan coupled with telephone phone follow-up reduced suicide attempts.

Limitations

There are several limitations to consider. Although intervention sites were matched with control sites and the analyses used propensity scoring, this was not a randomized trial, so there is a potential for confounding. Given that this was a clinical demonstration project, limited information is available about individual patients. We were reliant on medical records for suicidal behavior reports and diagnostic and demographic information. Some suicidal behaviors may have occurred that were not entered into the medical record because staff were unaware of them. However, we have no reason to believe that this occurred more often in either condition. Also, some patients in usual care may have had a safety plan in prior treatment. This could have diminished the difference between the SPI+ and usual care groups. Furthermore, this project was conducted in Veterans Health Administration hospital EDs with predominantly men; therefore, we do not know how well our findings generalize to civilian settings and women.

Additional limitations are the low observed suicide event rate in both groups and the lower proportion of eligible patients in the comparison group. This low rate probably resulted from excluding patients admitted to inpatient units from the ED. Thus, the study likely included patients at lower risk for suicide. Interestingly, this lower-than-expected rate may indicate that ED clinicians are correctly hospitalizing higher-risk patients. Another possibility is that some suicide events were not captured by suicide behavior reports either because reports were not written or patients did not reveal all events to clinicians. Given that our sample was limited to patients who presented to an ED for suicide-related concerns but were not hospitalized, the efficacy of SPI+ is unknown for patients who required immediate psychiatric hospitalization. Further randomized trials with the full range of suicidal patients are required to assess the effect of SPI+ on suicidal behavior.

Conclusions

Our findings are promising and indicate that safety planning and active outreach, a set of low-burden strategies, are useful components of effective suicide prevention. Importantly, using the low-burden intervention in this project and others[30] was associated with about the same reduction in suicidal behavior as more intensive and costly psychosocial interventions.[43,44] If implemented broadly, SPI+ has the potential to reduce suicidal behavior and enhance behavioral health treatment engagement, particularly during high-risk periods following ED discharge. This strategy may help decrease suicide risk in the long term.

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STANLEY - BROWN SAFETY PLAN

STEP 1: WARNING SIGNS:

1. _____
2. _____
3. _____

STEP 2: INTERNAL COPING STRATEGIES – THINGS I CAN DO TO TAKE MY MIND OFF MY PROBLEMS WITHOUT CONTACTING ANOTHER PERSON:

1. _____
2. _____
3. _____

STEP 3: PEOPLE AND SOCIAL SETTINGS THAT PROVIDE DISTRACTION:

1. Name: _____ Contact: _____

2. Name: _____ Contact: _____

3. Place: _____ 4. Place: _____

STEP 4: PEOPLE WHOM I CAN ASK FOR HELP DURING A CRISIS:

1. Name: _____ Contact: _____

2. Name: _____ Contact: _____

3. Name: _____ Contact: _____

STEP 5: PROFESSIONALS OR AGENCIES I CAN CONTACT DURING A CRISIS:

1. Clinician/Agency Name: _____ Phone: _____

Emergency Contact : _____

2. Clinician/Agency Name: _____ Phone: _____

Emergency Contact : _____

3. Local Emergency Department: _____

Emergency Department Address: _____

Emergency Department Phone : _____

4. Suicide Prevention Lifeline Phone: 1-800-273-TALK (8255)

STEP 6: MAKING THE ENVIRONMENT SAFER (PLAN FOR LETHAL MEANS SAFETY):

1. _____
2. _____

Stanley-Brown
Safety Planning Intervention

SUICIDE RISK CURVE

Danger of acting on suicidal feelings
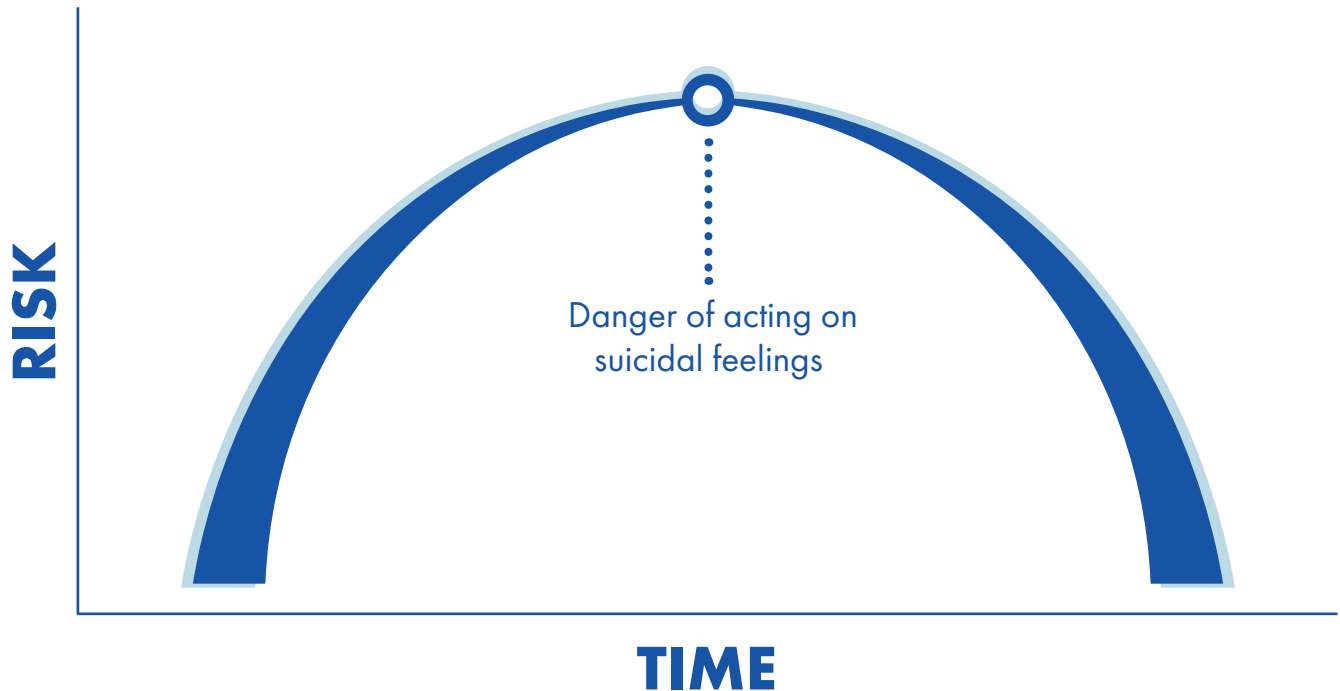
RISK

TIME

Why is it important to understand the suicide risk curve ?

- People at risk for suicide are likely to experience changes in their level of risk over time; acute suicide risk usually increases and then decreases over a short period of time.

- The goal of safety planning is for people to become more aware of their personal warning signs that a suicidal crisis is beginning or escalating so that they can take action before they are in danger of acting on their suicidal feelings.

Stanley-Brown
Safety Planning Intervention

Effectiveness of Suicide Safety Planning Interventions: A Systematic Review Informing Occupational Therapy

Efficacité des interventions de planification en prévention du suicide : une revue systématique pour la pratique de l'ergothérapie

Carrie Anne Marshall (iD), Pavlina Crowley, Dave Carmichael, Rebecca Goldszmidt, Suliman Aryobi, Julia Holmes, Corinna Easton (iD), Roxanne Isard, and Susanne Murphy

Key words: Mental health; Mortality; Prevention; Evidence-based practice; Activity-based intervention.

Mots clés: Intervention basée sur les activités ; mortalité ; pratique fondée sur les données probantes ; prévention ; santé mentale.

Abstract
Background. Suicide safety planning (SSP) is a suicide prevention approach that involves developing a collaborative plan between a service provider such as an occupational therapist and a person who is at risk of suicide. **Purpose.** To synthesize effectiveness studies on SSP. **Method.** Using the Joanna Briggs Institute methodology, we conducted a systematic review of effectiveness studies including a: (1) title and abstract screening; (2) full-text review; (3) critical appraisal; and (4) narrative synthesis. **Findings.** We included 22 studies. Critical appraisal scores ranged from 38.5 to 92.3 (m = 63.7). The types of interventions included were: standard and enhanced SSP (n = 11); electronically delivered SSP (n = 5); and SSP integrated with other approaches (n = 6). Only three studies identified meaningful activity as a component of SSP. Evidence across a range of studies indicates that SSP is effective for reducing suicide behavior (SB) and ideation (SI). While some studies have demonstrated effectiveness for reducing symptoms of mental illness, promoting resilience and service use, the number of studies exploring these outcomes is currently limited. **Implications.** Occupational therapists support individuals expressing SI, and SSP is a necessary skill for practice.

Résumé
Description. La planification de la prévention du suicide (PPS) est une approche qui consiste à élaborer un plan de collaboration entre une ou un ergothérapeute et une personne qui présente un risque de suicide. **But.** Synthétiser les études d'efficacité portant sur la PPS. **Méthodologie.** À l'aide de la méthodologie du Joanna Briggs Institute, nous avons réalisé : (1) un filtrage des titres et des résumés; (2) un examen des textes complets; (3) une évaluation critique et (4) une synthèse narrative. **Résultats.** Nous avons inclus 22 études. Les scores attribués lors de l'évaluation critique vont de 38.5 à 92.3 (m = 63.7). Les types d'interventions inclus étaient les suivants : PPS standard et bonifiée (n = 11); prestation électronique de la PPS (n = 5) et PPS intégrée à d'autres approches (n = 6). Trois études seulement incluaient les activités significatives comme composante de la PPS. Les résultats d'une série d'études indiquent que la PPS est efficace pour réduire les comportements suicidaires (CS) et les idées suicidaires (IS). Si certaines études ont démontré son efficacité pour réduire les symptômes de la maladie mentale

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ou promouvoir la résilience et l'utilisation des services, le nombre d'études explorant ces résultats est actuellement limité. **Conséquences.** Les ergothérapeutes aident les personnes exprimant des IS, et la PPS est une compétence nécessaire pour l'exercice de la profession.

Introduction

Suicide safety planning (SSP) is an individualized approach aimed at reducing suicide risk by helping individuals to recall coping strategies and resources that can be drawn upon when suicide ideation occurs (Zonana et al., 2018). This approach is known by a range of names including "safety plan," "crisis response plan," and "coping cards," and is typically a written document developed collaboratively between a service user and provider based on the person's own unique coping strategies and resources (Nuij et al., 2021). The most commonly known SSP has been developed by Stanley and Brown (2012) and includes six primary elements: (1) identifying warning signs of a suicide crisis; (2) internal coping strategies; (3) social supports that can distract from the current crisis; (4) contact information for these social supports; (5) contact information for health care services; and (6) reducing access to lethal means (Stanley & Brown, 2012). SSP was developed as a response to growing recognition that "contracting for safety," an approach involving a verbal contract in which a service user agrees to avoid attempting suicide before reaching out for professional support, was largely ineffective for mitigating suicide risk (Bryan et al., 2017; Egan, 1997; Rudd et al., 2006). SSP is closely aligned with the values and culture of occupational therapy through its emphasis on collaboration and person-centered care (ACOTRO et al., 2021; Egan & Restall, 2022). As such, its use has been encouraged by occupational therapy scholars and the Canadian Association of Occupational Therapists (CAOT) (Hewitt et al., 2019).

Suicide and Its Impacts in Canada and Internationally

Suicide is a serious public health problem internationally and a leading cause of mortality worldwide (WHO, 2021). At least 700,000 individuals die by suicide annually and many more try suicide (WHO, 2021). In Canada, approximately 11 Canadians die by suicide every day, resulting in an estimated 4,000 deaths per year (Government of Canada, 2021). Suicide is a leading cause of mortality among Canadians and is the second leading cause of death among youth aged 15–34 (Government of Canada, 2021). While these prevalence rates raise alarm, they are particularly concerning when one considers that such estimates are low since suicide rates are often under-reported, and the quality of data internationally is known to be poor (WHO, 2021). The impact of suicide is even more concerning when one considers the deep and lasting impacts on individuals who are personally affected by the suicide of a family member, friend, or service user (Hvidkjaer et al., 2021; Kolves et al., 2020; Sandford et al., 2021). Suicide is a preventable and far-reaching public health problem that reverberates across individuals, families, communities, and societies. The broad scope of this issue highlights the need for prevention efforts to reduce overall suicide rates, and to limit impacts on society more broadly.

The Role of Occupational Therapy in Suicide Prevention and Intervention

Occupational therapists work with a range of individuals who are at increased risk of suicide, and it is imperative that the profession is knowledgeable about the effectiveness of existing approaches aimed at prevention, intervention and postvention. The losses associated with the onset of disability are frequently associated with suicide ideation (Khazem, 2018), and occupational therapists frequently support individuals who have been recently diagnosed. Further, occupational therapists support a range of populations who are at increased risk of suicide, including, but not limited to, persons living with mental illness (Windfuhr & Kapur, 2011), older adults (Holm et al., 2021), Indigenous persons (Ansloos, 2018), persons who experience homelessness (Fazel et al., 2014), veterans (Kashiwa et al., 2017), 2SLGBTQ+ persons (Hottes et al., 2016), youth (Kirby et al., 2020), persons living with physical disabilities (Khazem, 2018), and individuals who experience chronic pain (Racine, 2018). Often a person's health and social circumstances layer over one another to increase the likelihood that suicide ideation can occur. In a recent study exploring the experiences of persons living in low income during the first year of the COVID-19 pandemic, individuals who identified as living with a disability described how the social isolation introduced by the need for physical distancing caused them to feel so hopeless that they thought of pursuing medical assistance in dying to cope (Marshall et al., 2022). The emergent nature of suicide, combined with occupational therapists' frequent interactions with individuals at risk emphasizes the critical importance that occupational therapists are both comfortable in discussing suicide, and have the foundational knowledge to respond when a suicide crisis occurs.

The role of occupational therapists in suicide prevention, intervention, and postvention has been acknowledged by the profession in Canada, and has resulted in the development of a recent role paper published by CAOT that describes how occupational therapists can support individuals who are at risk of suicide (Hewitt et al., 2019). One of the unique contributions of this document is its emphasis on the important relationship between meaningful activity engagement and suicide risk. Several studies have identified associations between meaningful activity engagement and suicide risk including research

focused on youth (Ramey et al., 2010), inmates in correctional facilities (Senior et al., 2007), veterans (Bryan et al., 2015), and older adults (Conti et al., 2020) to name a few. Engagement in meaningful activity can promote resilience by helping to provide purpose and thereby overcome the hopelessness that is frequently a predictor of suicide ideation (Huen et al., 2015). A second key contribution of this role paper is its emphasis on suicide prevention and intervention through SSP.

What Is the Known About the Effectiveness of SSP Approaches?

While systematic reviews have focused on synthesizing literature on a range of strategies for suicide prevention and intervention (Witt et al., 2017; Zalsman et al., 2016), few have focused specifically on the effectiveness of SSP. One recent systematic review identified only six studies evaluating the effectiveness of SSPs, and after conducting a meta-analysis, the authors concluded that SSP reduced suicide behavior by 43% but was ineffective for reducing suicide ideation (Nuij et al., 2021). The inclusion criteria of this review were narrow, however, and included only studies that evaluated SSP as a standalone approach. Further, this study explored the effectiveness of the included interventions on only two key outcomes—suicide attempts and suicide ideation (Nuij et al., 2021). Occupational therapists frequently work in contexts in which complex approaches are required, and there is a need to understand the full scope of effectiveness studies in which SSP is either a standalone approach or a key component of a broader intervention. Further, there is a need to identify the components of a range of SSP approaches, including any occupational components, and their effectiveness on a range of psychosocial outcomes including and beyond suicide ideation and behavior. Identifying the range of approaches in which SSP is a key component, elements of these interventions, and their effectiveness on a broader range of psychosocial outcomes is necessary for informing occupational therapy practice and research within and beyond the profession in this area.

The Current Study

We conducted this review to synthesize the findings of effectiveness studies that have evaluated SSP, to summarize their various components, and report the effectiveness of these interventions on a range of psychosocial outcomes. Further, given the focus of existing occupational therapy literature on the relationship between meaningful activity engagement and suicide risk, it is important to understand how meaningful activity engagement has been incorporated in SSPs that have been evaluated in existing literature. This information is not only important for occupational therapists, but for the range of health and social care providers who may wish to consider incorporating meaningful activity in their support of individuals who experience suicide ideation. As such, the research question used to guide this review was: *What are the effectiveness, quality, and components of SSP interventions evaluated within the existing experimental literature?*

Methods

To synthesize the findings of existing empirical research, we conducted a systematic review of effectiveness studies using the method advanced by the Joanna Briggs Institute (JBI) (Tufanaru et al., 2017) following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2010). This method involves designing a search strategy, conducting a title and abstract screening and full-text review, critical appraisal, and narrative synthesis (Aromataris & Munn, 2017). Our review was registered prospectively with PROSPERO (CRD42020216597).

Search Strategy

We developed a search strategy in collaboration with an Academic Research Librarian, an author on this study (RI). We initially deployed our search in November 2020 and updated this search in December 2021. Following PRISMA guidelines (Moher et al., 2010), we searched five databases: Medline, PsycInfo, CINAHL, EMBASE, and Sociological Abstracts. We translated the search strategies using each database platform's command language, controlled vocabulary, and appropriate search fields using terms related to the concept of suicide (i.e., suicide, hopelessness, suicidal ideation), combined with terms pertaining to SSP (i.e., safety plan, crisis response plan, crisis plan) with a Boolean "AND." In addition to this search, we hand searched the reference lists of all included articles to identify any additional studies not captured using our search strategy. A sample of our Medline search is provided in Appendix 1.

Study Selection

Acting as two independent raters, several members of our research team (CM, PC, DC, RG, JH, CE, and SM) conducted a title and abstract screening and full text review using Covidence, a cloud-based systematic review software program (VeritasHealthInnovation, 2016). A summary of inclusion and exclusion criteria used to guide the selection of studies is provided in Figure 1. Any conflicts emerging at the title and abstract screening and full-text review were resolved through discussion and consensus using at least two independent raters including the principal investigator (CM) and at least one other member of the research team.

Critical Appraisal

Three members of our team (CM, JH, CE) acted as two independent raters and conducted a critical appraisal of each included study using the JBI Critical Appraisal Checklists for Randomized Controlled Trials (RCT) and Quasi-Experimental Studies (Tufanaru et al., 2017). We assigned a score of one to

Inclusion criteria:
1. Levels I and II evidence for effectiveness studies according to the JBI level of evidence hierarchy (randomized control trial, quasi-experimental studies, and systematic reviews of these study designs) (Munn et al., 2014)
2. Studies that evaluated safety planning interventions for mitigating suicide risk using the following definition: "A safety plan document is created collaboratively by a patient and clinician and typically consists of written strategies and sources of support that patients can use to alleviate suicidal urges or other safety crises." (Zonana, Simberlund, & Christos, 2018, p. 304)
3. Studies evaluating interventions in which safety planning (using the definition identified above) was a key component
4. Interventions delivering in individual or group formats
5. Involved participants over the age of 18
6. Were written in the English language
7. Were published from the inception date of each database through December 2021

Exclusion criteria:
1. Studies not subjected to peer review
2. RCT protocols or other studies lacking outcome data
3. Conference abstracts
4. Non-empirical studies
5. Dissertations or theses

Figure 1. Inclusion and exclusion criteria.

each criterion rated "yes," and zero to items rated as "no" or "unclear." After rating each study independently, we compared our ratings and through discussion, arrived at a consensus score. We converted the scores on each rating form to a percentage score between 0 and 100 to facilitate comparison as the total criteria scored on each form differs based on the form used and study appraised. When a criterion was not applicable to the study that we were appraising, we calculated a percentage based on a reduced number of overall criteria.

Data Extraction

Using a custom data extraction form developed in Covidence, three members of our team acted as two independent raters (CM, RG, JH) and extracted the following information for studies included in our review: study design; sample country; sample size, gender, age, race, sexual orientation; intervention name; comparator(s); outcome measures; and the reported effectiveness of the intervention on measured outcomes. Once data was extracted by two raters, we compared information entered, and resolved any conflicts through discussion and consensus.

Narrative Synthesis

The principal investigator (CM) arranged each intervention evaluated in included studies into like categories and presented these categories to other members of the research team. These categories were then refined further in response to these discussions. Included studies were: (1) arranged into tables corresponding to each intervention category; (2) summarized in a descriptive table; (3) described in detail narratively according to intervention type; (4) presented in a table according to their various components; and (5) presented visually according to the reported effectiveness of each intervention.

Findings

A total of 5,897 titles and abstracts remained following the removal of duplicates, of which 76 were subjected to full-text review. A total of 22 studies were included in our analyses and narrative synthesis. A summary of the study selection process and reasons for exclusion are provided in a PRISMA flow diagram in Figure 2.

Study Characteristics

The majority of studies included in this review represented samples of participants residing in the USA (n = 15; 68.2%), followed by Taiwan (n = 2; 9.1%). Of these, 12 were RCTs (54.5%), nine were quasi-experimental studies (40.9%), and one was a systematic review of effectiveness studies (4.5%). A summary of the characteristics of included studies is provided in Table 1.

Participant Characteristics

The studies included in this review represented 2,388 participants. A full summary of the characteristics of participants in included studies can be found in Table 1.

Critical Appraisal

Critical appraisal scores ranged from 38.5 to 92.3 (m = 63.7) representing a moderate-high quality of evidence overall. See Tables 2–4 for scores assigned to individual studies included in this review.

Narrative Synthesis

Studies were assigned to three intervention categories including: standard and enhanced SSP interventions (n = 11; 50%);
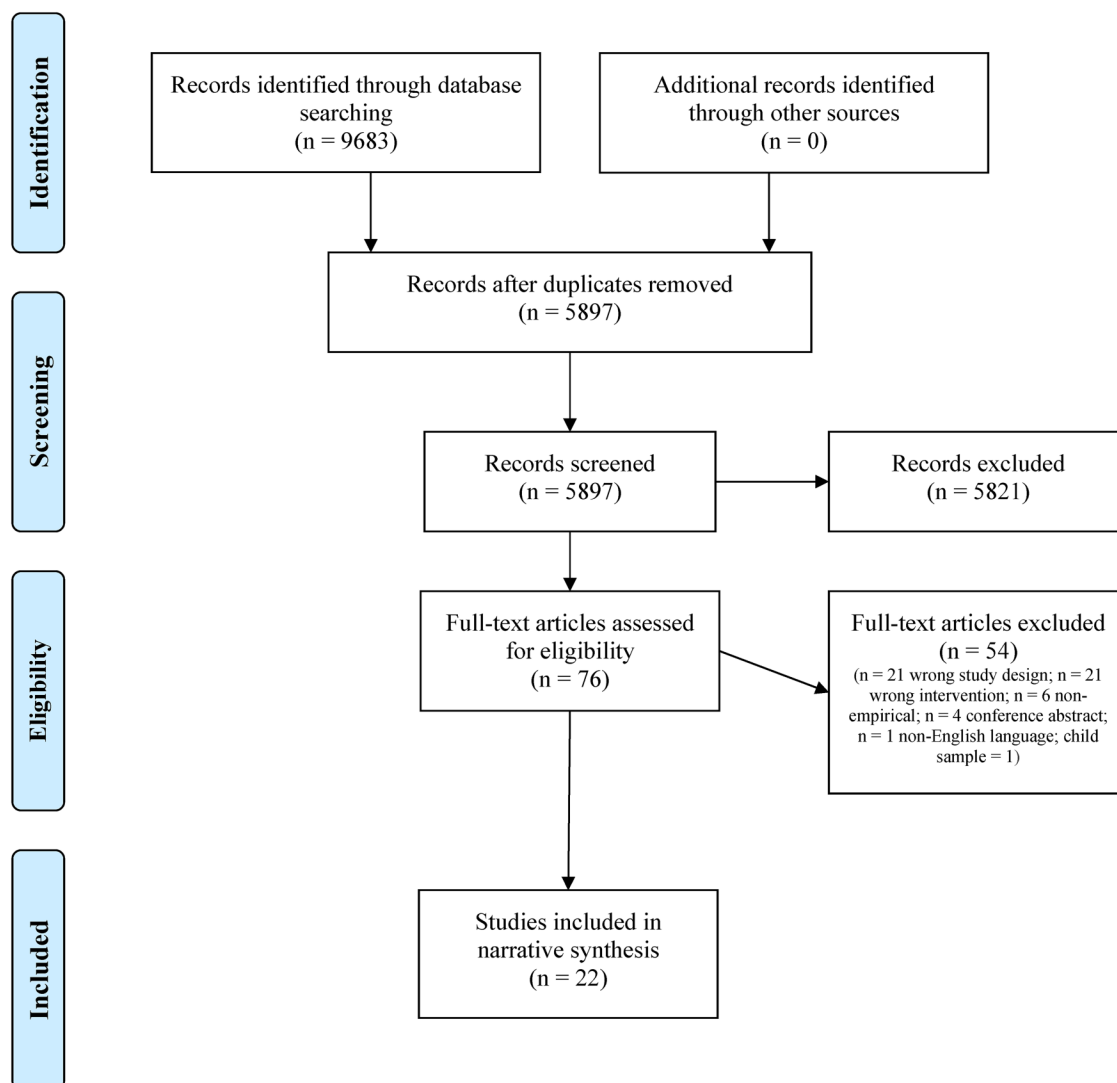
Figure 2. PRISMA flow diagram.

electronically delivered SSP interventions (n = 5; 22.7%); and SSP integrated within complex approaches (n = 6; 27.3%). See Tables 2–4 for a detailed description of each study included in these categories.

Standard and enhanced SSP interventions. The most common interventions evaluated in the studies included in this review were standard (S-SSP) and enhanced (E-SSP) SSP interventions (n = 11). The critical appraisal scores of these studies ranged from 46.2–92.3 (m = 68.2) representing moderate-high quality evidence. See Table 2.

S-SSP and E-SSP interventions included in this category were called "crisis response plans" (Bryan et al., 2017, 2018a, 2018b; Rozek et al., 2019) and "safety plans" (Green et al., 2018; Stanley et al., 2015, 2020). S-SSPs included identification of warning signs, self-management and coping strategies, and social supports and healthcare professionals who could help during a suicide crisis. Four of these plans also included identifying crisis services (Bryan et al., 2017, 2018a,

2018b; Rozek et al., 2019), three included a component of reducing access to lethal means (Green et al., 2018; Stanley et al., 2015, 2020), and one included a component of identifying places that could serve as a distraction (Green et al., 2018). E-SSPs included the components included in S-SSPs, while also including verbal contracts for safety and identifying reasons for living (Bryan et al., 2017, 2018a, 2018b; Rozek et al., 2019).

SSPs in this category also included a crisis postcard intervention (CPI), in which participants collaborated with a case manager to identify individualized coping strategies, healthcare services, and crisis services on a wallet-sized postcard that they could refer to when thoughts of suicide emerged (Chen et al., 2013). They then received support from a case manager as they worked through a suicide crisis (Chen et al., 2013). In a similar intervention, individuals were provided with case management services and then engaged in sessions delivered over six weeks that helped them to develop individualized "crisis coping cards" (CCC) (Wang et al., 2016). These cards were

Table 1.
Description of Included Studies (n = 22).

Characteristic	
Participant Characteristics (n = 2,388)[a]	**n (%)**
Gender	
Women	1,034 (43.3)
Men	1,080 (45.2)
Other genders	9 (0.4)
Not specified	265 (11.1)
Race	
White	681 (28.5)
Black	114 (4.8)
Asian	17 (0.7)
Indigenous	19 (0.8)
Mixed race	17 (0.7)
Other	59 (2.5)
Unspecified	1,401 (57.4)[a]
Missing	80 (3.4)
2SLGBTQ+ Status	
2SLGBTQ+	23 (1.0)
Unspecified	2,365 (99.0)
	n studies (%)
Setting in which study was conducted	
Veteran services	6 (27.3)
Emergency department	4 (18.2)
Community	3 (13.6)
College/University	1 (4.5)
Specialized mental health/behavioral	2 (9.1)
Outpatient clinic	1 (4.5)
Refugee camp	1 (4.5)
Virtual	1 (4.5)
Other	2 (9.1)
Country of publication	
USA	15 (68.2)
Taiwan	2 (9.1)
Australia	1 (4.5)
India	1 (4.5)
Switzerland	1 (4.5)
Mixed	1 (4.5)
n/a	1 (4.5)
Journal discipline	
Interdisciplinary	18 (81.8)
Medicine	3 (13.6)
Psychology	1 (4.5)
Study design	
Randomized control trial (RCT)	12 (54.5)
Quasi-experimental	9 (40.9)
Systematic review effectiveness studies	1 (4.5)

Note. Percentage sums do not all equal 100 due to rounding.
[a]The number of participants identified in this table should be regarded as an estimate. Small inconsistencies in reporting race characteristics across studies resulted in a surplus of 45 participants beyond the reported sample sizes. These participants were removed from the "unspecified" category as they were assumed to have been reported more than once in the included studies. Otherwise, the total number of participants according to race would equal an additional 45 participants over the reported number of participants across studies.

small enough to be folded so they could fit into a wallet or pocket and consulted when a person had thoughts of suicide. Individuals engaged in this intervention received follow-up by phone or in-person depending on their preference (Wang et al., 2016). A final intervention called the Contract and Safety Planning (CASP) intervention was developed for use with individuals living in refugee camps (Vijayakumar et al., 2017). This intervention involves the use of community volunteers who meet with individuals who are at risk of suicide in refugee camps to engage them in the development of SSPs with added follow-up.

Electronically delivered SSP interventions. A total of five studies included in this review evaluated the effectiveness of electronically delivered SSP interventions (21.7%). The critical appraisal scores of these studies ranged from 38.5 to 71.4 (m = 52.5) representing moderate-high quality studies. See Table 3.

Interventions forming this category are newly developed approaches given that technology has enabled the development of research and practice in this area in recent years. These included: Web-Based Safety Planning Application (WBSPA) (Boudreaux et al., 2017); Jaspr Health (Dimeff et al., 2021); Virtual Hope Box (VHB) (Denneson et al., 2019); BeyondNow App (Melvin et al., 2019); and Internet Based Safety Plan (IBSP) (Spangler et al., 2020). All of these approaches included elements of SSPs designed to be delivered in-person, but in a virtual environment. While a range of SSP apps are available, WBSPA and Jaspr Health were designed for delivery in clinical settings (Boudreaux et al., 2017; Dimeff et al., 2021). The WBSPA integrates elements of the SSP developed by Stanley and Brown (2012) into a format that could be self-administered via computer within an emergency department rather than by clinical interview (Boudreaux et al., 2017). Jaspr Health integrates both a crisis stabilization plan and psychoeducation modules pertaining to suicide and mental health that are aimed at reducing reduce suicide risk while a person is accessing support in an emergency department for suicide ideation (Dimeff et al., 2021).

The BeyondNow App and IBSP similarly included the six elements typically included in the SSP designed by Stanley & Brown (2012), yet the BeyondNow app is designed to be self-administered via cell-phone app (Melvin et al., 2019), and the IBSP is designed to be self-administered over the internet (Spangler et al., 2020). A final intervention, VHB, aims to replicate the Hope Box intervention, an intervention that engages individuals in compiling items that enable recall of reasons for living and coping with suicide ideation (Denneson et al., 2019). The VHB replicates the physical Hope Box by providing an app in which the individual can save reminders of strategies for coping during periods of suicide ideation or emotional dysregulation. The benefit of a VHB over its physical counterpart is that a virtual hope box is portable, and is therefore easily accessible across multiple locations in which suicide ideation can occur (Denneson et al., 2019).

SSP integrated within complex approaches. A total of six studies included in this review evaluated the effectiveness of SSP interventions that were integrated within other

Table 2.
Standard and Enhanced Safety Planning Interventions (n = 11).

Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
Bryan et al. (2018a)	Enhanced Crisis Response Plan (E-CRP) Standard Crisis Response Plan (S-CRP)	Contracting for Safety (CFS)	*Age:* m = 26.1; sd = 6.4 *Gender:* men = 76 (78%) *Clinical characteristics:* Previous suicide attempt = 54 (56%) *Race:* White = 71 (74%); Black = 17(18%); Native American = 8(8%); Asian = 4(4%); Pacific Island = 3(3%); Other = 2(2%) *Ethnicity:* Hispanic = 7(7%) *2SLGBTQ+ status:* not reported *Setting:* Military emergency department/behavioral health clinic *Population:* Active-duty U.S. army personnel	E-CRP = 33; S-CRP = 32; CFS = 32	RCT	92.3	*1. Suicidal ideation:* Scale for Suicide Ideation (Beck et al., 1988). *2. Acceptability and feasibility:* recollection and use of the plan.	*1. Suicidal ideation:* Frequency of using E-CRP was associated with a statistically significant decline in suicide ideation severity such that individuals who used the E-CRP one or twice, and those who used it three to six times experienced a statistically significant and large decrease in suicide ideation ($p < .001$, d = 2.9). The difference between those who used the E-CRP three to six times and those who used it seven or more times was also statistically significant ($p < .001$, d = 1.3). These effects were not demonstrated with participants in the S-CRP or TAU groups. *2. Acceptability and feasibility:* 87.8–92.2% of participants recalled, and 78.9–89.9% retained a physical copy of the plan six months post-intervention across all groups. No statistically significant differences across groups were observed in recall or retention of the plan across all three conditions.
Bryan et al. (2018b)	Enhanced Crisis Response Plan (E-CRP) Standard Crisis Response Plan (S-CRP)	Contract for Safety (CFS)	*Age:* m = 26.1; sd = 6.4 *Gender:* men = 76 (78%); women = 21 (22%) *Clinical characteristics:*	E-CRP = 33; S-CRP = 32; CFS = 32	RCT	92.3	*1. Suicide behavior:* Suicide Attempt Self-Injury Interview (SASII) (Linehan et al., 2006); Suicidal Behaviours	*1. Suicide behavior:* use of the E-CRP and S-CRP were associated with a decreased urge to follow-through with suicide ($p < .001$) that was not observed in the CFS

(continued)

Table 2. *Continued*

Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
			Psychiatric hospitalization in past 3 months = 53 (54%) *Race:* White = 71 (74%); Black = 17 (18%); Native American = 8 (8%); Asian = 4 (4%); Pacific Island = 3 (3%); Other = 2 (2%) *Ethnicity:* Hispanic = 7 (7%) *2SLGBTQ+ status:* not reported *Setting:* Military emergency department/behavioral health clinic *Population:* Active-duty U.S. army personnel				Questionnaire-Revised (Osman et al., 2001). 2. *Mental health symptoms:* Visual mood Analog Scale (VMAS) (Bryan et al., 2018a, 2018b) 3. *Service use:* assessed via medical records.	group. No other significant treatment effects wereobserved on other measures. 2. *Mental health symptoms:* the E-CRP and S-CRP yielded significantly larger changes over the CFS on depression (p < .001), agitation (p < .001), shame (p < .05), and tiredness (p < .001). The E-CRP yielded significantly larger changes than the CFS on measures of calmness (p < .05), hopefulness (p < .05), and burdensomeness (p < .001). While both E-CRP and S-CRP were demonstrated to positively influence these outcomes, neither intervention demonstrated differences in effectiveness on improving affective states. 3. *Service use:* individuals in the E-CRP group were significantly less likely than those in the S-CRP or CFS to be admitted to hospital for psychiatric care (p < .05).
Bryan et al. (2017)	Enhanced Crisis Response Plan (E-CRP); Standard Crisis Response Plan (S-CRP)	Contract For Safety (CFS)	*Age:* m = 26.1; sd = 6.4 *Gender:* men = 76 (78%) *Clinical characteristics:* adjustment disorder = 43 (44%); Depressive disorder = 38 (39%); bipolar disorder = 15 (16%); anxiety	E-CRP = 33; S-CRP = 32; CFS = 32	RCT	84.6	1. *Suicidal ideation:* Beck Scale for Suicide Ideation (BSSI) (Beck et al., 1988). 2. *Suicide behavior:* Suicide Attempts: SASII (Linehan et al., 2006); and 3. *Service use:* medical	1. *Suicidal ideation: Suicide Ideation:* E-CRP and S-CRP use was associated with significantly faster decline in suicide ideation (p < .001) over CFS. No significant differences between E-CRP and S-CRP groups on these outcomes were identified. 2. *Suicide behavior:* from

(continued)

Table 2.
Continued

Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
			disorder = 19(20%); Stressor disorder = 12(12%); Personality disorder = 8(8%); Psychotic disorder = 2(2%) Race: White = 71(74%); Black = 17(18%); Native American = 8(8%); Asian = 4(4%); Pacific Island = 3(3%); Other = 2(2%) Ethnicity: Hispanic = 7(7%) 2SLGBTQ+ status: not reported Setting: Military emergency department/behavioral health clinic Population: Active-duty U.S. army personnel				records; modified Cornell services Index (CSI) (Sirey et al., 2005).	baseline to the six-month follow-up, three participants receiving either E-CRP or S-CRP (5%) and five receiving a CFS (19%) tried suicide ($p < .05$), suggesting a 76% reduction in suicide attempts. 3. Service use: E-CRP and S-CRP use was associated with fewer inpatient hospitalization days ($p < .001$) over CFS. There were no significant differences between the E-CRP and S-CRP conditions on this outcome. Length of inpatient stay was significantly shorter in the E-CRP ($p < .001$) and S-CRP ($p < .001$) groups compared to the CFS. Number of outpatient therapy sessions was nonsignificant.
Chen et al. (2013)	Crisis Postcard Intervention (CPI)	TAU	Age: CPI: m = 39.8, sd = 14; TAU: m = 40, sd = 16; Gender: women = 509 (66.9%) Clinical characteristics: not reported Race: not reported Ethnicity: not reported 2SLGBTQ+ status: not reported Setting: hospital and community Population: general population	CPI = 373 TAU = 388	RCT	53.8	1. Suicide behavior: length of time before suicide re-attempt during a six-month follow-up period.	1. Suicide behavior: No significant effects of the CPI on length of time before suicide re-attempts were identified based on the intention to treat analysis. The per-protocol analysis, however, demonstrated a strong effect of the CPI on this outcome ($p < .05$).
Green et al. (2018)	Safety Planning	n/a	Age: m = 35.8; sd = 8.8	SPI = 68	Quasi-experimental	57.1	1. Suicide behavior: inpatient psychiatric	1. Suicidal behavior: SPI quality was used to predict suicide-

(continued)

Table 2.
Continued

Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
	Intervention (SPI)		Gender: women = 37; men = 31 Clinical characteristics: not reported Race: White = 51 (83.8%); Black = 9 (13.2%); Asian = 3 (4.4%); American Indian or Alaska Native = 2 (2.9%); Other = 3 (4.4%) Ethnicity: Hispanic = 11 (16.2%) 2SLGBTQ+ status: not reported Setting: community Population: veterans				hospitalization, attempted suicide, suicide death, suicide behavior reports (SBRs).	related outcomes. SPI quality was low. Higher SPI quality scores predicted a decreased likelihood of future suicide behavior reports ($p < .05$). Higher scores on step three of the SPI (people and places that serve as distractions) predicted a decreased likelihood of future suicide behavior ($p < .05$). The authors conclude that more personally relevant safety plans may reduce future suicide-related outcomes among veterans. Low SPI quality scores highlight the need for training around SPI implementation among service providers who support veterans.
Nuij et al. (2021)	Safety Planning-Type Interventions	n/a	n/a	n/a	Systematic Review and Meta-Aggregation	81.8	1. Suicidal ideation: as per included studies 2. Suicide behavior: as per included studies	1. Suicide ideation: in a meta-analysis performed for this study, there was no significant reduction in suicide ideation across studies. 2. Suicide behavior: in a meta-analysis performed for this study, the authors identified that suicidal behavior was reduced by 43% for participants in the intervention groups of included studies.
Rozek et al. (2019)	Enhanced Crisis Response Plan (E-CRP) Standard Crisis	TAU	Age: m = 25.9; sd = 5.5 Gender: men = 52 (81%)	E-CRP = 21; S-CRP = 21; TAU = 22	RCT	92.3	1. Resilience: Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994)	1. Resilience: baseline optimism predicted post-intervention optimism ($p < .01$). For participants with low

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Table 2.
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Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
	Response Plan (S-CRP)		*Clinical characteristics:* not reported *Race:* White = 52(81%); Black/African American = 9(14%); Asian = 2(3%); Pacific Islander = 1(2%); Native American = 5(8%); Other = 2(3%) *Ethnicity:* not reported *2SLGBTQ+ status:* not reported *Setting:* community *Population:* active-duty U.S. army personnel					optimism at baseline, E-CRP significantly increased optimism (*p* < .05). A significant interaction was found for E-CRP and baseline optimism (*p* <.05).
Stanley et al. (2015)	Safety Plan Intervention	n/a	*Age:* >35 = 71 (75%) *Gender:* men = 83 (86%) *Clinical characteristics:* PTSD: 33(34%) *Race:* White = 63 (66%) *Ethnicity:* not reported *2SLGBTQ+ status:* not reported *Setting:* emergency department *Population:* Veterans	SPI = 96	Quasi-experimental	57.1	*I. Service use:* appointment attendance; psychiatric emergency department visits; hospitalizations for suicide-related concerns.	*I. Service use:* appointment attendance significantly increased post-intervention (*p* <.01). Emergency department visits were unchanged post-intervention. While the hospitalization rate was lower at 3 months post-intervention, this decrease was not statistically significant (*p* =.07).
Stanley et al. (2020)	Safety Plan Intervention with 4 conditions: I(1) = low-fear/low-temporariness; I(2) = low-fear/	n/a	*Age:* m = 19.5; sd = 2.6 *Gender:* men = 42 (43.8%); women = 53 (55.2%); other = 1 (1.0%) *Clinical characteristics:*	I(1) = 23; I(2) = 24; I(3) = 23; I(4) = 26	RCT	46.2	*I. Adherence to recommendations of health professionals:* intention to adhere to clinician recommendations *2. Firearm access:* self-	*I. Adherence to recommendations of health professionals:* An increase in adherence occurred across time (*p* <.01). A significantly greater increase occurred in the

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Table 2.
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Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
	high-temporariness; I(3) = high-fear/low-temporariness; I(4) = high-fear/high-temporariness		suicidal ideation = 95 (99%) *Race*: White/Caucasian = 78 (82.1%); Black/African American = 8 (8.4%); Asian/Pacific Islander = 5 (5.3%); Other = 4 (4.2%); Missing = 1 *Ethnicity*: Hispanic = 20 (20.8%) *2SLGBTQ+ status*: heterosexual = 77 (80.2%); gay/lesbian/homosexual = 3 (3.1%); bisexual = 15 (15.6%); declined = 1 (1.0%) *Setting*: university in-person visits *Population*: college enrolled students with access to a firearm				reported likelihood of encouraging limited firearm access 3. *Firearm Safety*: engaging in thoughts and behaviors that increase firearm safety 4. *Feasibility and acceptability*: acceptability and quality of intervention	low-fear/high-temporariness group compared to the other three groups across T1-T2 ($p < .01$) and T1-T3 ($p < .05$). 2. *Firearm access*: An increase occurred across time points ($p < .01$). 3. *Firearm Safety*: increased engagement in thoughts and behaviors that increased firearm safety was reported by 35.4% of participants. 4. *Feasibility and acceptability*: participants rated quality of services as excellent with high acceptability.
Vijayakumar et al. (2017)	Contact and Safety Planning Intervention (CASP)	TAU	*Age*: CASP: m = 41.6, sd = 15; TAU: m = 39.1; sd = 15.1 *Gender*: not clear *Clinical characteristics*: not clear *Race*: not reported *Ethnicity*: not reported *2SLGBTQ+ status*: not reported *Setting*: refugee camps *Population*: refugees living in camps	CASP = 139 TAU = 126	RCT	46.2	1. *Suicide ideation*: *Suicide Ideation*: modified 21-item Beck's Scale for suicidal Ideation (SSI) (Beck et al., 1988) 2. *Suicide behavior*: number of completed and attempted suicides 3. *Mental health symptoms*: Centre for Epidemiological Studies Depression-	1. *Suicidal ideation*: no statistically significant change was observed from baseline to follow up for the CASP or TAU groups. 2. *Suicide behavior*: there was a significant difference between groups ($p < .01$) in suicide attempts. The CASP group had a decrease from 13 to 6 suicides and suicide attempts post-intervention. 3. *Mental health symptoms*: no statistically significant differences in depression or

(continued)

Table 2.
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Study	Intervention	Comparator	Participants	Sample Size	Study Design	Critical Appraisal Score	Outcomes Measured	Findings
							Revised (CESD-R) (Mohanraj, 2014 in Vijayakumar et al., 2017); Post-Traumatic Stress Disorder Checklist (PCL) (Rao et al., 2016) *4. Feasibility and acceptability:* participants thoughts about the community volunteers	PTSD were observed between conditions. *4. Feasibility and acceptability:* community volunteers were seen as encouraging and supportive which motivated positive behaviors.
Wang et al. (2016)	Crisis Coping Cards (CCC)	TAU	*Age:* m = 37.96; sd = 11.07 *Gender:* men = 17 (26.6%); women = 47 (73.4%) *Clinical characteristics:* psychiatric history = 39 (61%) *Race:* not reported *Ethnicity:* not reported *2SLGBTQ+ status:* not reported *Setting:* lifeline association case management services *Population:* general population	CCC = 32 TAU = 32	RCT	46.2	*1. Suicide behavior:* occurrence of suicide attempt; Suicide Risk Inventory (SRI) (Hsu & Chung, 1997); *2. Mental health symptoms:* Brief Symptoms Rating Scale (BSRS-5) (Lee et al., 1990); Beck Hopelessness Scale (BHS) (Steed, 2016)	*1. Suicide behavior:* CCC participants who re-tried suicide did so much later than TAU participants who re-tried suicide (p < .05). Participation in the CCC intervention was significantly associated with: decreased suicide risk (p < .001); and decreased suicide ideation (p < .001) post intervention. *2. Mental health symptoms:* Participation in the CCC intervention was significantly associated with: improvements in BSRS-5 score (p < .001); and BHS (p < .01) post intervention.

Note. I = intervention group; C = control group; RCT = randomized control trial; TAU = treatment as usual.

Table 3.
Electronically Delivered Safety Planning Interventions (n = 5).

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
Boudreaux et al. (2017)	Web-Based Safety Planning Application (WBSPA)	n/a	*Age:* m = 39; sd = 14 *Gender:* men = 14 (47%) *Clinical characteristics:* Alcohol misuse = 9 (30%); Drug misuse = 9 (30%); Depressed mood = 16 (53%); Depressed disposition = 3 (10%) *Race:* White = 25 (83%) *Ethnicity:* Hispanic = 3 (10%) *LGBTQ+ status:* not reported *Setting:* Emergency department *Population:* general population	WBSPA = 30	Quasi-experimental	57.1	1. *Suicide ideation:* Self reported suicide intensity; ability to cope with suicidal ideation. 2. *Service use:* Number of ED visits related to suicide. 3. *Feasibility and acceptability:* Ability to register; view screens, complete all elements of the plan.	1. *Suicide ideation:* Suicide intensity was significantly lower post intervention ($p < .05$); Ability to cope with suicidal ideation was higher post intervention ($p < .05$) 2. *Service use:* Visits to the ED related to suicide decreased significantly ($p < .001$) 3. *Feasibility and acceptability:* All participants were able to register; view all screens, and create a one-page safety plan. Mean steps completed = 5.5 (sd = 0.9), with n = 27 (90%) completing at least 5 steps and n = 20 (67%) completing all steps. Qualitative feedback supported useability.
Dimeff et al. (2021)	Jaspr Health	TAU	*Age:* m = 34.4; sd = 15.2 *Gender:* men = 11 (35%); women = 20 (65%) *Clinical characteristics:* n = 19 (61%) had a history of non-suicidal self-injury *Race:* White = 27 (87%); Black = 11 (3%); Other = 3 (10%) *Ethnicity:* unspecified *LGBTQ+ status:* unspecified *Setting:* emergency department *Population:* unspecified	Jaspr Health = 14 TAU = 17	RCT	38.5	1. *Suicide ideation:* Suicide-Related Coping Scale (SRCS) (Stanley et al., 2017); Safety & Imminent Distress Questionnaire (SIDQ) (Boudreaux et al., 2017) including distress, agitation, coping ability, and readiness to go home subtests. 2. *Acquired skills:* number of new behavioral skills learned; thoroughness of exposure to new practices on a 5-point Likert scale from 1 = poor to 5 = excellent 3. *Feasibility and acceptability:* Satisfaction with the intervention on a 5-point Likert scale from 1 = poor to 5 = excellent; exposure to elements of the intervention during participation including: crisis stabilization plan; lethal means counselling; skills; people with lived experience of suicide (PLE)	1. *Suicide ideation:* post-intervention, SCRS scores improved significantly for participants in the intervention group ($p < .001$; d = 1.11); statistically significant time × condition effects showed that during the 2-h intervention, compared with TAU patients, Jaspr Health participants reported greater decreases in intensity of agitation and distress and greater increases in their ability to cope with thoughts of suicide. Within-condition effect sizes were large to very large for Jaspr Health participants' decreases in agitation and distress (Cohen d = 0.61 and 1.00, respectively) and increases in coping ability (Cohen d = 0.90). In contrast, effect sizes for TAU participants were small. Specifically, a decrease in

Table 3.
Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
								distress (Cohen d = 0.33), a small increase in agitation (d = 0.11), and an increase in coping ability (Cohen d = 0.32) were observed in the TAU group. 2. *Acquired skills*: participants reported learning a mean of three new behavioral skills (sd = 1.3) and engaged with four PLEs (sd = 2.63). 3. *Feasibility and acceptability*: mean rating of satisfaction was 4.4 (sd = 0.63). Intervention participants experienced a more thorough degree of exposure to elements of the intervention [crisis plan (m = 3.4; sd = 1.1); lethal means counselling (m = 3.5; sd = 1.31; skills (m = 3.7; sd = 1.38); PLE (m = 4.1; sd = 0.86)] on the 5-point scale.
Denneson et al. (2019)	Virtual Hope Box (VHB)	Enhanced TAU (e-TAU)	*Age*: m = 47.5; sd = 14 *Gender*: men = 80 (68.4%); women = 37 (31.6%) *Clinical characteristics*: not reported *Race*: White = 84 (71.8%); Other = 24(20.5) *Ethnicity*: Hispanic = 9 (7.7%) *LGBTQ+ status*: not reported *Setting*: behavioral health treatment programs *Population*: veterans	VHB = 58; e-TAU = 59	RCT	38.5	1. *Suicide ideation*: the first five items on the Beck Scale for Suicidal Ideation (BSS) (Beck et al., 1988) 2. *Resilience*: Coping Self-Efficacy instrument (CSE) (Chesney et al., 2006)	1. *Suicide ideation*: no statistically significant difference detected between groups over time on the BSS. 2. *Resilience*: larger increases in coping-self efficacy as measured by the CSE occurred in the VHB group over time.
Melvin et al. (2019)	BeyondNow App	n/a	*Age*: m = 19.8; sd = 6.0 *Gender*: women = 24 (66.7%) *Clinical characteristics*: depressive disorder = 29 (80.5%); anxiety disorder = 20 (55.5%); borderline personality disorder/traits = 7 (19.4%); eating disorder = 6 (16.7%); trauma disorder = 3(8.3%) *Race*: not reported	BeyondNow = 36	Quasi-Experimental	71.4	1. *Suicide ideation*: Columbia Suicide Severity Rating Scale (C-SSRS) (Posner et al., 2011); Suicide-Related Coping Scale (SRCS) (Stanley et al., 2017); Coping Strategy Usage Questionnaire (CSUQ) (Melvin & Gresham, 2016 in Melvin et al., 2019) 2. *Resilience*: Suicide Resilience Inventory-25 (SRI-25) (Gutierrez et al., 2012); 3. *Feasibility and acceptability*: frequency of	1. *Suicide ideation*: there was a statistically significant reduction in severity (p < .001) and intensity (p < .01) of suicidal ideation post-intervention, and a significant increase in suicide-related coping over time (p < .01). 2. *Resilience*: There was no statistically significant increase

(continued)

Table 3. Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
			Ethnicity: non-aboriginal Australians = 36(100%) LGBTQ+ status: not reported Setting: tertiary mental health services Population: general population				use, difficulty, recommendation of the app to a friend, qualitative question about best features of the app.	in resilience as measured by the SRI-25. 3. Feasibility and acceptability: participants entered between 2.78–6.28 entries. Majority of participants used the app to edit their safety plans (77.3%) and reported using the app 'occasionally' (63.6%). 81.8% used the app when experiencing suicidal thoughts and 69.2% used the app during a suicidal crisis. The majority (90.9%) found the app 'very easy'. 100% of participants would recommend the app to a friend. Three themes of hope, connection, and utility were revealed using thematic analysis of qualitative data collected to determine feasibility and acceptability.

Table 3.
Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
Spangler et al. (2020)	Internet Based Safety Plan (IBSB)	n/a	Age: m = 29.2; sd = 13.7 Gender: women = 56.7% Clinical characteristics: major depressive episode = 118 (78.9%) Race: not reported Ethnicity: not reported LGBTQ+ status: not reported Setting: virtual Population: visitors to an internet-based depression/ suicidal screening website	IBSB = 150	Quasi-Experimental	57.1	1. Feasibility and acceptability: At baseline, participants were asked to rate the following on a 10-point Likert scale (1 = not at all to 10 = yes, definitely): (1) ability to cope with distress; (2) availability of resources if they begin to experience suicidal urges; (3) level of safety. After participating in the development of a safety plan, participants were asked to rate the following on a 10-point Likert scale (1 = not at all to 10 = yes, definitely): (1) if they experience thoughts of self-harm; (2) whether their SP could help them cope; (3) whether they could stay safe; and (4) whether they could think of resources. They also rated the likelihood that they will remember and use their SP, and its perceived usefulness on a Likert scale (1 = not at all to 10 = yes, definitely).	1. Feasibility and acceptability: Participants reported that they believed moderately that the IBSP could help them remember that they have resources (m = 5.73; sd = 3.07), that they would remember making the safety plan (m = 5.69; sd = 2.87), and that they may actually use it (m = 4.83; sd = 2.98). The ratings of IBSP in helping participants to cope (m = 5.00; sd = 2.81) and stay safe (m = 5.23; sd = 2.95) were also rated moderately. Participants were more likely to report the belief that the IBSP could help others with suicide ideation (m = 6.08; sd = 2.96) than themselves (m = 4.91; sd = 3.03), a difference that was statistically significant (p = .001).

Note. I = intervention group; C = control group; ED = emergency department; TAU = treatment as usual; RCT = randomized control trial.

Table 4.
Safety Planning Integrated Within Complex Approaches (n = 6).

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
Chesin et al. (2016)	Mindfulness-Based Cognitive Therapy and Safety Planning (MBCT-S)	n/a	*Age:* m = 41.7; sd = 16.3 *Gender:* women = 8 (80%) *Clinical characteristics:* major depressive episode = 9 (90%); dysthymic = 1 (10%); anxiety disorder = 6 (60%); borderline personality disorder = 5 (50%) *Race:* not reported *Ethnicity:* not reported *LGBTQ+ status:* not reported *Setting:* community outpatient clinic *Population:* general population	MBCT-S = 10	Quasi-Experimental	71.4	*1. Suicide ideation:* The Leiden Index of Depression Sensitivity-Revised (LEIDS-R) (Van der Does, 2002) *2. Mental health symptoms:* The Response Style Questionnaire-Ruminative Reponses Brooding Subscale (RRS-B) (Treynor et al., 2003) *3. Resilience:* Five Facet Mindfulness Questionnaire (FFMQ) (Baer et al., 2006); Self Compassion Scale-Short (SCS-S) (Raes et al., 2011) *4. Attention and Memory:* Computerized Stroop Task (Keilp et al., 2005)	*1. Suicide ideation:* there was a significant observed decrease in hopelessness/suicidality ($p < .01$, d = 1.1) as measured by the LEIDS-R. *2. Mental health symptoms:* a significant decrease in rumination on the RRS-B was observed ($p < .001$, d = 3.2). *3. Resilience:* there was a significant increase in acting with awareness on the FFMQ ($p < .01$, d = 1.1). There were no statistically significant changes in self-compassion. *4. Attention and Memory:* there was a significant increase in attention and memory span as measured by the Stroop test ($p < .05$, d = .75).
Chesin et al. (2015)	Mindfulness-Based Cognitive Therapy to Prevent Suicidal Behavior (MBCT-S)	n/a	*Age:* m = 41.7; sd = 14.1 *Gender:* women = 15 (83%) *Clinical characteristics:* major depressive episode = 16 (82%); dysthymic = 2 (18%); mental disorder = 10 (56%); borderline personality disorder = 8 (44%) *Race:* White = 13 (72%); Mixed race = 3 (17%); Asian = 1 (6%); Unknown = 1 (6%) *Ethnicity:* Hispanic = 1 (5.6%) *LGBTQ+ status:* not reported *Setting:* outpatient clinic *Population:* general population	MBCT-S = 18	Quasi-experimental	85.7	*1. Suicide ideation:* Beck Scale for Suicide Ideation (BSSI) (Beck et al., 1988) *2. Mental health symptoms:* Beck Depression Inventory-II (BDI-II) (Beck et al., 1996); Beck Hopelessness Scale (BHS) (Beck et al., 1974) *3. Feasibility and acceptability:* completion rate; average sessions attended; satisfaction ratings; open ended questions.	*1. Suicide ideation:* significant reduction on the BSSI was observed post-intervention ($p < .05$, d = .59). *2. Mental health symptoms:* significant reduction in depression occurred post-intervention ($p < .05$, d = .61). There was no statistically significant change in hopelessness. *3. Feasibility and acceptability:* 16/18 completed treatment. Mean attendance = 7 sessions (range = 5–9). Satisfaction was high (m = 3.4, sd = 8, range = 0–4), perception of

(continued)

Table 4.
Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
								safety plan was neutral (m = 2.6, sd = 1.1, range = 0–4). Responses were overall positive.
Comtois et al. (2011)	Collaborative Assessment and Management of Suicidal Ideation and Behaviour (CAMS)	Enhanced Care As Usual (E-CAU)	Age: m = 36.8; sd = 10.1 Gender: women = 18 (62%) Clinical characteristics: not reported Race: White–Caucasian = 19 (66%); Black–African American = 4 (14%); Asian/Asian American = 1 (3%); Latino/Latina = 1 (3%); Mixed/Other = 3 (10%); Doesn't know = 1 (3% Ethnicity: not reported 2SLGBTQ+ status: heterosexual = 24 (83%); Bisexual = 5 (17%); Homosexual = 0(0% Setting: outpatient crisis intervention service Population: general population	CAMS = 16 E-CAU = 16	RCT	46.2	1. Suicide ideation: The Beck Scale for Suicide Ideation-current (BSSI) (Beck et al., 1988). 2. Mental health symptoms: The Outcome Questionnaire-45 (OQ-45) (Lambert et al., 1996). 3. Resilience: The Reasons for Living Scale (RFL) (Osman et al., 1999); The Optimism and Hope Scale (OHS) (Snyder et al., 1991). 4. Feasibility and acceptability: measures of treatment completion; number of sessions attended; the Client Satisfaction Questionnaire (CSQ) (Attkisson & Zwick, 1982).	1. Suicide ideation: at 12 months, CAMS participants demonstrated a significant reduction in suicide ideation as measured by the BSSI (p < .05). No significant differences were found at two, four, or six months. 2. Mental health symptoms: at 12 months, CAMS participants showed significantly less distress compared to E-CAU participants. CAMS participants showed significant improvement compared to baseline at four, six, and 12 months (p < .05). 3. Resilience: no significant changes in RFL scores occurred across time for either condition. At 12 months, CAMS participants had significantly greater hope compared to E-CAU participants (p < .05). Hope increased more substantially among CAMS participants starting at four months and increasing to 12-months (p < .05). 4. Feasibility and acceptability: A total of 86% (n = 14) of the CAMS participants and 67% (n = 10) of the E-CAU

(continued)

Table 4.
Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
Goodman et al. (2021)	Project Life Force (PLF)	n/a	*Age:* m = 46.4; sd = 11.8 *Gender:* men = 24 (78.4%) *Clinical characteristics:* major depressive disorder = 22 (70.3%); PTSD = 17 (56.8%); substance abuse disorder = 8 (27.0%); anxiety disorder = 7 (21.6%); bipolar disorder = 3 (10.8%); borderline personality disorder = 8 (27.0%) *Race:* White = 10 (32%); Black = 12 (38%); Asian = 1 (3%); Mixed race = 1 (3%); Unspecified = 7 (24%) *Ethnicity:* Hispanic = 17 (54%) *LGBTQ+ status:* not reported *Setting:* VA medical center outpatients *Population:* veterans	PLF = 31	Quasi-experimental	57.1	1. *Suicide ideation:* Columbia Suicide Rating Scale (C-SSRS). 2. *Mental health symptoms:* Beck Depression Inventory-II (BDI-II) (Beck et al., 1996); Beck Hopelessness Scale (BHS) (Beck et al., 1974). 3. *Feasibility and Acceptability:* retention; attendance; acceptability survey (5-point Likert scale)	participants completed treatment. CAMS patients attended a mean of 8.4 (sd = 4.4) sessions over 13.5 weeks and E-CAU patients attended a mean of 4.7 sessions (sd = 3.1) over 9.5 weeks. Participant satisfaction was significantly higher in the CAMS condition ($p < .01$). 1. *Suicide ideation:* significant decrease in severity ($p < .001$), frequency ($p < .05$), and duration ($p < .01$) of suicidal ideation was observed pre-post intervention. 2. *Mental health symptoms:* significant decreases in depression ($p < .05$) and hopelessness ($p < .05$) occurred post-intervention. 3. *Feasibility & Acceptability:* retention rate of 77%, attendance was 100% for completers. Mean satisfaction = 4.74.
Gysin-Maillart et al. (2016)	Attempted Suicide Short Intervention Program (ASSIP)	TAU	*Age:* m = 37.8 (sd = 14.4) *Gender:* women = 66 (55%); men = 54 (45%) *Clinical characteristics:* affective disorder = 76 (63%) *Race:* not reported *Ethnicity:* not reported *LGBTQ+ status:* not reported *Setting:* emergency	ASSIP = 60 TAU = 60	RCT	61.5	1. *Suicide behavior:* repeat suicide attempts during 24-month follow up period. 2. *Service use:* days in hospital	1. *Suicide behavior:* during the 24-month follow up period, there were five repeat suicide attempts in the ASSIP group, and 41 in the TAU group. A total of five participants in the ASSIP group (8.3%) attempted suicide at least once,

(continued)

Table 4.
Continued

Study	Intervention	Control	Participants	Sample Size	Study Design	Critical Appraisal Score (Quality Level)	Outcomes Measured	Findings
			department Population: patients admitted to ED following suicide attempt					compared with 16 (26.7%) in the TAU group representing an 80% reduced risk of suicide attempts in the ASSIP group ($p < .001$). 2. Service use: during follow-up period, ASSIP participants spent 72% fewer days in hospital ($p < .05$).
Matarazzo et al. (2019)	Home-Based Mental Health Evaluation (HOME)	Enhanced Care as Usual (E-CARE)	Age: I: m = 48.8, sd = 13.8; C: m = 49.3, sd = 14.0 Gender: men = 248 (82.1%); women = 46 (15.2%); other = 8(2.6%) Clinical characteristics: not reported Race: Caucasian = 188 (62.3%); African American = 54 (17.9%); Mixed race = 10 (3.3%); Other = 21 (7.0%) Ethnicity: not reported LGBTQ+ status: not reported Setting: community-recruited after in-patient admission Population: veterans	HOME = 166 E-CARE = 136	Quasi-experimental	66.7	1. Feasibility and acceptability: Likelihood, attendance, speed of engagement	1. Feasibility and acceptability: HOME program participants were 1.33 times more likely to engage in treatment ($p < .001$), attended 70% more appointments ($p < .05$), and attended treatment an average of 15 days earlier than E-CAU participants.

Note. I = intervention group; C = control group; TAU = treatment as usual; RCT = randomized control trial; ED = emergency department.

approaches (27.3%). Critical appraisal scores ranged from 46.2 to 85.7 (m = 64.8) representing moderate-high quality evidence. See Table 4.

Interventions in this category included Mindfulness-Based Cognitive Therapy with Safety Planning (MBCT-S) (Chesin et al., 2015, 2016), Project Life Force (PLF) (Goodman et al., 2021), Attempted Suicide Short Intervention Program (ASSIP) (Gysin-Maillart et al., 2016), Home-Based Mental Health Evaluation (HOME) (Matarazzo et al., 2019), and Collaborative Assessment and Management of Suicidal (CAMS) ideation and behavior (Comtois et al., 2011).

MBCT-S and PLF are both group-based interventions. MBCT-S is a structured approach developed by Chesin et al. (2016) that combines Mindfulness-Based Cognitive Therapy (MBCT), an evidence-based intervention integrating both principles of mindfulness and cognitive behavioral therapy, with the six-component SSP intervention introduced by Stanley & Brown (2012). PLF was developed to assist veterans to manage suicide risk by developing five key skills: (1) managing aggression and impulsivity; (2) managing medication and adhering to treatment; (3) emotion regulation to alleviate psychological distress and hopelessness; (4) reducing access to lethal means; and (5) asking for support and help (Goodman et al., 2021). Six of the 11 sessions included in this group intervention are dedicated to each of the six components of the SSP developed by Stanley et al. (Stanley & Brown, 2012), making SSP a core component of this intervention.

ASSIP, HOME, and CAMS are designed to be delivered individually. ASSIP was developed as a 3–4 session brief protocol for supporting individuals through a suicide crisis (Gysin-Maillart et al., 2016). In the first session of ASSIP, a health professional conducts a narrative interview with the person at risk of suicide to understand their experience and factors related to suicide ideation. This interview is video recorded. In the second session, the health professional plays back parts of the video recorded session to reactivate the person's psychological state at the time of the suicide crisis. During this time, the health professional supports the person to emotionally process their experiences and to begin planning to manage thoughts of suicide. In the third session, the person develops a structured SSP with the health professional that includes long-term goals, warning signs, and safety strategies (Gysin-Maillart et al., 2016). A fourth session is added for ongoing support should the health professional or service user deem that this is necessary (Gysin-Maillart et al., 2016).

HOME is an intervention designed to assist veterans who have been hospitalized for suicide attempts and/or ideation (Matarazzo et al., 2019). In this intervention, a health professional meets with the person in hospital, and provides support during and following discharge. The health professional introduces SSP using the six components introduced by Stanley et al. (2012), and collaborates with the service user to ensure that information on the plan is updated throughout the intervention process (Matarazzo et al., 2019). Finally, in CAMS, a mental health clinician provides counseling to support a person through a suicide crisis. This support is accompanied by identification of individual triggers that elicit suicide ideation. These triggers are captured on a suicide status form (SSF), which is used for collaborative and ongoing assessment and treatment planning (Comtois et al., 2011).

Intervention Components

To describe the various components of each included intervention to inform practice and future research, we summarized the various components of each intervention in Table 5. Of the 16 components of safety planning in the included studies, the most common component used was "identifying warning signs" of a suicide crisis (n = 17 interventions) and "identifying healthcare professionals" that could be accessed (n = 17 interventions). The least common components were "case management" (n = 2 interventions) and 'triggers of suicide ideation' (n = 2). Only three interventions evaluated in the included studies involved a component related to meaningful activity engagement (i.e., "activities that can serve as a distraction"): CCC (Wang et al., 2016); IBSB (Spangler et al., 2020); and VHB (Denneson et al., 2019).

Effectiveness of Included Interventions on Key Outcomes

In addition to our narrative synthesis of included studies, we have provided a visual summary of the effectiveness of these interventions in terms of key psychosocial outcomes in Table 6. Overall, existing moderate-high quality studies that have evaluated the effectiveness of suicide safety planning interventions have demonstrated effectiveness for suicide ideation (n = 7 studies), suicide behavior (n = 7), mental health symptoms (n = 5), resilience (n = 2), and service use (n = 4). Table 6 details the specific studies and their effectiveness on each of these outcomes.

Discussion

Occupational therapists support individuals who experience suicide ideation in a range of practice areas (Hewitt et al., 2019). For this reason, developing and maintaining competence as an occupational therapist in the use of evidence-based interventions for mitigating suicide risk is important across practice settings. By conducting this review, we identified and evaluated a range of studies that addressed standalone SSP interventions, electronically delivered SSPs, and complex interventions that include SSP. The findings from the current review indicate that SSP is an established evidence-based approach for reducing suicide behavior; a finding that also emerged from another systematic review (Nuij et al., 2021). While Nuij et al.'s (2021) meta-analysis suggested that suicide ideation is not effectively targeted by SSP, results from our review indicate that a range of SSP interventions are effective for targeting suicide ideation (Boudreaux et al., 2017; Bryan et al., 2017, 2018a; Chesin et al., 2016; Chesin et al., 2015; Dimeff et al., 2021; Goodman et al., 2021; Melvin et al., 2019). Other

Table 5.
Components of Safety Planning Interventions Evaluated in Included Studies (n = 21).[a]

Category	Intervention name	Identifying warning signs (n=17)	Activities that can serve as a distraction (n=3)	Identifying internal coping strategies (n=16)	Identifying reasons for living (n=5)	Identifying social support (n=14)	Identifying places that as distractions (n=6)	Identifying healthcare professionals (n=17)	Identifying crisis services (n=11)	Contract for Safety (n=4)	Reducing access to lethal means (n=10)	Triggers of suicidal ideation (n=2)	Counselling/Psychotherapy (n=6)	Case Management (n=2)	Telephone/in-person follow-up (n=5)	Suicide/mental health psychoeducation (n=4)	Crisis stabilization plan (n=3)
Standard and enhanced safety planning interventions (n=11)	Enhanced Crisis Response Plan (Bryan, May et al., 2018; Bryan, Mintz et al., 2018; Bryan et al., 2017)	X		X	X	X		X	X	X							
	Standard Crisis Response Plan (Bryan, May et al., 2018; Bryan, Mintz et al., 2018; Bryan et al., 2017)	X		X		X		X	X								
	Safety Planning Intervention (Green et al., 2018)	X		X		X		X	X		X						
	Standard Crisis Response Plan (Rozek et al., 2019)	X		X		X		X									
	Enhanced Crisis Response Plan (Rozek et al., 2019)	X		X		X		X	X		X						
	Safety Plan Intervention (Stanley et al., 2015)	X		X		X		X	X		X						
	Safety Plan Intervention (Stanley et al., 2020)	X		X		X		X	X		X						
	Contact and Safety Planning Intervention (CASP) (Vijayakumar et al., 2017)		X			X		X	X	X					X		X
	Crisis Coping Cards (CCC) (Wang et al., 2016)							X	X						X		X
	Crisis Postcard Intervention (Chen et al., 2013)														X		
Safety planning integrated with other approaches (n=6)	Mindfulness-Based Cognitive Therapy and Safety Planning (MBCT-S) (Chesin et al., 2015; Chesin et al., 2016)												X			X	
	Project Life Force (PLF) (Goodman et al., 2020)												X				
	Attempted Suicide Short Intervention Program (ASSIP) (Gysin-Maillart et al., 2016)												X		X	X	
	Home-Based Mental Health Evaluation (HOME) (Matarazzo et al., 2019)												X	X	X		
	Collaborative Assessment and Management of Suicidal ideation and behaviour (CAMS) (Comtois et al., 2011)					X		X			X		X				
Electronically delivered safety planning interventions (n=5)	Web-Based Safety Planning Application (WBSPA) (Boudreaux et al., 2017)	X		X		X	X	X	X		X						
	BeyondNow App (Melvin et al., 2019)	X	X	X		X	X	X		X	X						X
	Internet Based Safety Plan (IBSB) (Spangler et al., 2020)	X		X		X	X	X									X
	Jaspr Health (Dimeff et al., 2021)	X		X		X	X	X	X		X						
	Virtual Hope Box (VHB) (Denneson et al., 2019)	X		X	X	X											

[a] The systematic review included in this review (Nuij et al., 2021) included a range of studies evaluating the effectiveness of several interventions with multiple components, and for this reason was not included in this table

Intervention Components

Table 6.
Summary of Intervention Effectiveness on Suicide Ideation and Behavior, Mental Health Symptoms, Resilience, and Service Use (n = 22).

Intervention Category	Intervention	SI	SB	MHS	Res	SU
Standard and enhanced safety planning interventions (n = 11)	Enhanced Crisis Response Plan (Bryan et al., 2018a)	●	●	●		●
	Enhanced Crisis Response Plan (Bryan et al., 2018b)	●	●			●
	Enhanced Crisis Response Plan (Bryan et al., 2017)	○				
	Standard Crisis Response Plan (Bryan et al., 2018a)	●	●	●		◇
	Standard Crisis Response Plan (Bryan et al., 2018b)		●			●
	Standard Crisis Response Plan (Bryan et al., 2017)		●			
	Safety Planning Intervention (Green et al., 2018)		◇			
	Standard Crisis Response Plan (Rozek et al., 2019)				○	
	Enhanced Crisis Response Plan (Rozek et al., 2019)				●	◇
	Safety Plan Intervention (Stanley et al., 2015)					
	Safety Plan Intervention (Stanley et al., 2020)[a]					
	Contact and Safety Planning Intervention (CASP) (Vijayakumar et al., 2017)	○	●	○		
	Crisis Coping Cards (CCC) (Wang et al., 2016)		●	●		
	Crisis Postcard Intervention (Chen et al., 2013)		●			
	Systematic review of safety planning interventions (Nuij et al., 2021)	○	●			
Safety planning integrated with other approaches (n = 6)	Mindfulness-Based Cognitive Therapy and Safety Planning (MBCT-S) (Chesin et al., 2015)	●		◇		
	Mindfulness-Based Cognitive Therapy and Safety Planning (MBCT-S) (Chesin et al., 2016)	●		●		
	Project Life Force (PLF) (Goodman et al., 2021)	●		●	◇	
	Attempted Suicide Short Intervention Program (ASSIP) (Gysin-Maillart et al., 2016)		●			
	Home-Based Mental Health Evaluation (HOME) (Matarazzo et al., 2019)[a]					
	Collaborative Assessment and Management of Suicidal ideation and behavior (CAMS) (Comtois et al., 2011)	◇		●	◇	●
Electronically delivered safety planning interventions (n = 5)	Web-Based Safety Planning Application (WBSPA) (Boudreaux et al., 2017)	●				●
	BeyondNow App (Melvin et al., 2019)	●			○	
	Internet Based Safety Plan (IBSB) (Spangler et al., 2020)[a]	●				
	Jaspr Health (Dimeff et al., 2021)	○				
	Virtual Hope Box (VHB) (Denneson et al., 2019)				●	

Note. ● = intervention had a statistically significant positive effect on the outcome; ○ = no statistically significant effect on the outcome; ◇ = mixed findings. Studies identified twice in this table represent those that evaluated different interventions in the same study. SI = suicide ideation; SB = suicide behavior; MHS = mental health symptoms; Res = resilience; SU = service use.
[a]Studies with this notation did not present findings related to the outcomes in this table. See specific findings of these studies in Tables 2–4.

outcomes, however, including resilience and service use, have yet to be studied extensively, and therefore, we cannot draw conclusions concerning their effectiveness at this time.

The majority of studies included in this review were published in the United States, followed by Taiwan. Only one of the included studies was conducted in Canada, and none were conducted with or by occupational therapy researchers. Researchers in Canada and other countries may consider conducting effectiveness studies of SSP interventions that reflect the unique cultural and service contexts of their countries to generate data on the effectiveness of these approaches across a range of contexts. Conducting this research will provide critical data for informing both policy and practice for mitigating suicide risk, and will lead to the development of SSP approaches that reflect the cultural and service contexts in which they are used.

Although the profession of occupational therapy has encouraged the use of SSP for mitigating suicide risk (Hewitt et al., 2019), none of the included studies were published by occupational therapy scholars. Only three of the included studies incorporated activity engagement in their SSP, and these studies identified activities as a "distraction" (Denneson et al., 2019; Spangler et al., 2020; Wang et al., 2016). While it is encouraging from an occupational therapy perspective that this component was included in some studies, little is known about the contribution of meaningful activity engagement for mitigating suicide risk. While we recognize that activity could be an important distraction from SI, future research exploring the inclusion of meaningful activity in SSPs should account for the meaning attributed to the activity itself, and the ways in which it may mitigate SI and SB. Theoretically, it makes sense that meaning might be a remedy for the hopelessness that is a frequent precursor to SI (Baryshnikov et al., 2020). Occupational therapy researchers should consider the framing of meaning within future occupation-focused research in this area. While we recognize that components of the interventions included in this review might implicitly incorporate a focus on meaningful activity engagement (e.g., coping), future occupational therapy research on SSP should make these components explicit to enable scholars and practitioners within and beyond the profession to evaluate the contribution of meaningful activity on key psychosocial outcomes.

Seven of the included studies incorporated existential components, including reasons for living (Bryan et al., 2017, 2018a, 2018b; Denneson et al., 2019; Melvin et al., 2019; Rozek et al., 2019; Spangler et al., 2020). In at least one of these studies, suicide ideation was more effectively targeted by E-CRP, which added the component of identifying reasons for living (Bryan et al., 2018a). This evidence suggests that including such existential elements are an important and worthy direction for future research to enhance the effectiveness of SSP for addressing SI (Nuij et al., 2021). For example, an SSP called the "Living Safety Plan" has been developed by an author on the current study (DC), which includes collaborating with a service user on developing a mission statement of one's life (Carmichael, n.d.). This plan has been adapted by another occupational therapist, who developed the "Suicide Safety Plan for Occupational Engagement and Recovery" (SSP-OEAR) (Straathof, 2022). These plans have yet to be formally evaluated empirically. Further, research aimed at identifying associations between meaningful activity engagement and suicide risk is needed to inform ongoing development of SSP interventions.

Practice Implications

The findings of this review indicate that SSP is an important and evidence-based intervention for addressing SI and SB. Occupational therapists who currently use SSP should be reassured that their use of this approach is supported by evidence, and those who are unfamiliar with this intervention may consider training opportunities to deliver SSP as part their practice. University educators in entry-level occupational therapy programs should be aware of the need for incorporating SSP in their curriculum to prepare graduates with the skills needed to intervene when service users express thoughts of suicide. Occupational therapists who are familiar with SSP and have been developing these plans with service users in analog format (paper and pencil) may consider incorporating electronically delivered SSPs based on evidence of their effectiveness from this review. Using electronically delivered approaches, such as software applications, may be more amenable to some service users and provide additional options for person-centered care. Finally, incorporating an occupational perspective and existential components into one's SSP approach may enhance its effectiveness, while aligning more closely with the core occupational values of the profession (Egan & Restall, 2022).

Policy Implications

Policymakers should be aware of existing evidence that support the use of SSP for mitigating suicide risk. While only a handful of the included studies explored service use as an outcome, two studies identified that individuals who were supported using SSP spent fewer days in hospital and had shorter inpatient stays than those using the traditional CFS (Bryan et al., 2017; Gysin-Maillart et al., 2016). While more research is needed to determine whether the use of SSP decreases the need for inpatient services across a range of studies, policymakers should be aware of the potential for decreasing the overall cost of care, while improving the lives of persons who experience suicide ideation through implementing the use of SSP across programs. Policymakers at provincial and federal levels may consider: (1) allocating funding for training health and social care professionals, including occupational therapists, in SSP; and (2) dedicating funding for the conduct of effectiveness research in a Canadian context.

Limitations

While our search was comprehensive, there is a possibility that with any scoping or systematic review that our search strategy

may have missed some studies. Readers should be aware that the findings of this review primarily represent the effectiveness of SSP primarily in a US context, and findings should be interpreted accordingly. Further, the findings of existing studies represent the effectiveness of these approaches primarily for individuals who identify as men and women. Persons identifying with other genders have been largely underrepresented by the findings of this review. Similarly, included studies represent the effectiveness of SSP for persons who are primarily White and who have not explicitly identified as 2SLGBTQ+. As such, the findings of this review should be interpreted with caution.

Conclusion

SSP is an evidence-based intervention for mitigating suicide risk. Such interventions need to be encouraged in occupational therapy (Hewitt et al., 2019). Occupational therapists support individuals who are at risk of suicide in range of practice contexts, and for this reason, SSP should be incorporated into education and practice. SSP interventions that incorporate existential and occupational components may be promising additions for improving effectiveness on addressing suicide ideation. Researchers may consider designing novel interventions that incorporate these components and evaluate their specific contributions on indices of psychosocial well-being. Given this evidence, policymakers should ensure that occupational therapists and others working with at risk populations receive the training and support needed to deliver SSP within their practice.

Key Messages

- Occupational therapists support persons at risk of suicide ideation (SI). Competence in the delivery of evidence-based approaches that address SI is critical.
- Suicide Safety Planning (SSP) is an evidence-based approach that reduces suicide behaviors, yet evidence is mixed regarding its effectiveness for managing SI.
- Occupational therapy researchers and practitioners should consider strategies for incorporating meaningful activity engagement in SSPs and evaluating the respective contribution of occupation-focused approaches with at-risk populations.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Supplemental Material

Supplemental material for this article is available online.

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Staff Perspectives of Safety Planning as a Suicide Prevention Intervention for People of Refugee and Asylum-Seeker Background

A Qualitative Investigation

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Abstract. *Background:* Safety planning involves the co-development of a personalized list of coping strategies to prevent a suicide crisis. *Aims:* We explored the perspectives of workers regarding safety planning as a suicide prevention strategy for people of refugee background and those seeking asylum in Australia. *Method:* Participants attended suicide prevention training, specific to refugees and asylum seekers, at which safety planning was a key component. Semistructured, posttraining interviews (*n* = 12) were analyzed thematically. *Results:* Four key themes were identified: safety planning as a co-created, personalized activity for the client; therapeutic benefits of developing a safety plan; barriers to engaging in safety planning; strategies to enhance safety planning engagement. *Limitations:* First-hand refugee and asylum-seeker experiences were not included. *Conclusion:* As a relatively low-cost, flexible intervention, safety planning may be valuable and effective for these groups.

Keywords: safety planning, suicide prevention, refugees, asylum seekers

In 2018, nearly 30 million refugees and asylum seekers were forcibly displaced worldwide (United Nations High Commissioner for Refugees, 2019). These individuals are at increased risk of suicide, including ideation, behavior, and fatalities (Cohen, 2008; Goosen et al., 2011; Hagaman et al., 2016; van Oostrum et al., 2011; Vijayakumar & Jotheeswaran, 2010). In Australia, there were over 800 reported incidents of self-harm in immigration detention between 2012 and 2013 (Australian Human Rights Commission, 2013), and nearly 30 confirmed/suspected suicide deaths by refugees and asylum seekers who had arrived by boat between 2014 and 2019 (Border Crossing Observatory, 2019). Numerous pre- and postmigration factors contribute to these elevated suicide experiences: a deep, pervasive feeling of "lethal hopelessness" (Procter et al., 2018), often associated with prolonged uncertainty regarding visa status (Nickerson et al., 2019); ongoing trauma associated with exposure to war and conflict; discrimination; isolation and relationship loss; separation from, and ongoing concern for, family (Ao et al., 2012;

Hagaman et al., 2016; Vijayakumar & Jotheeswaran, 2010; World Health Organization [WHO], 2014).

Targeted suicide prevention approaches for vulnerable groups are needed (Department of Health, 2017; WHO, 2014), and specific, tailored interventions for high-risk groups are a critical new development in suicidology (O'Connor & Portzky, 2018). However, despite the concerning prevalence of suicidality among refugees and asylum seekers, particularly those experiencing ongoing uncertainty, there is a paucity of research exploring evidence-based suicide prevention strategies for these groups.

The Safety Planning Intervention

Safety planning is gaining momentum as a valuable indicated suicide prevention intervention. Through the co-creation of a personalized list of coping strategies for a person to support themselves during the onset or

worsening of suicide-related distress, safety plans typically comprise six components: (1) recognizing individual warning signs for an impending suicidal crisis; (2) identifying and employing internal coping strategies; (3) using social supports to distract from suicidal thoughts; (4) contacting trusted family/friends to help address the crisis; (5) contacting specific mental health services; and (6) reducing use of lethal means (Stanley & Brown, 2012).

Practically, there are many benefits to safety planning. It is a brief intervention (approximately 20–45 min), coproduced between the client and multidisciplinary staff in diverse care settings (Stanley & Brown, 2012), and can be an adjunct to other interventions (e.g., telephone follow-up; Stanley et al., 2015). Further, safety plans are "living documents," and the coproduction process means that they can be personalized with strategies that are meaningful to the person's life context, and can be revised to address the fluctuating states of suicidality (Kleiman & Nock, 2018).

Safety planning is associated with reduced suicidal behavior and hospitalizations, and improved treatment attendance (Gamarra et al., 2015; Green et al., 2018; Stanley et al., 2018, 2015; Zonana et al., 2018). It is perceived as acceptable and feasible to consumers (Kayman et al., 2015; Stanley et al., 2016) and clinicians (Chesin et al., 2017). While promising, this research has largely been conducted with veterans, in the United States.

Safety Planning for Refugees and Asylum Seekers

A feasibility study by Vijayakumar et al. (2017) appears to be the only published research examining the use of safety planning by refugees and/or asylum seekers, finding significantly fewer suicide attempts among Sri Lankan refugees in South Indian intervention camps versus those in control camps after the intervention (15-month follow-up) compared with baseline.

Given the dearth of evidence-based suicide prevention strategies for refugees and asylum seekers, one starting point is to understand worker perspectives of engaging in safety planning with these clients. Notwithstanding the importance of understanding direct client impacts, as suicide interventions are likely to be worker-initiated, worker perspectives are valuable for understanding the barriers and enablers to engaging in interventions in the first place, and for uncovering the support needs of workers to engage in this practice.

Aim

This study explored the experiences and perspectives of safety planning from workers who support refugee and asylum seeker clients.

Method

The University of South Australia Ethics Committee approved this study. It draws on data from a larger, mixed-methods project investigating the impact of an Australia-wide, 2-day suicide prevention education program for staff/volunteers ($n = 430$) supporting refugees and asylum seekers. Safety planning was a key component, including theoretical rationale and practical steps, a role play, and implementation considerations. The first phase of the research was a repeated measures survey of participants' attitudes, competence, and confidence, immediately pre- and posttraining, and at 6-month follow-up, which has been reported elsewhere (Procter et al., 2021). This study describes methodology and data from the second, qualitative study phase, which sought a more in-depth understanding of participants' posttraining experiences.

Study Design

This is a qualitative interview study, reported according to the Consolidated Criteria for Reporting Qualitative Research guidelines (Tong et al., 2007).

Participants and Recruitment

Participants were workers from various Australian non-government organizations providing case management, support, or counselling to refugees and asylum seekers who had varied prior training and experience of working with this population group (see Results). Purposive sampling for the interviews was used to recruit attendees of the suicide prevention education program (the original population group), who completed pre/post and follow-up surveys and opted in to the interview. Potential participants were contacted 6 months after training, by telephone and/or email.

Data Collection/Procedure

With participants located around Australia, individual interviews were conducted by telephone (May–September 2018), from the location of the participants' choice. The interviews were conducted by MP, who was minimally involved in the program development/delivery. MP is a postdoctoral research fellow, and a clinical psychologist, with experience conducting qualitative research and working with refugee and asylum seeker clients.

We developed a semistructured protocol to guide and provide consistency across interviews. The protocol

included information about the interview process (e.g., reminding participants about informed consent), demographic items, as well as various questions and prompts related to the research questions, including: "Have you had opportunity to apply the knowledge and skills gained in the training?"; "Have you engaged in safety planning with clients since the training? Can you give me examples?"

To preserve anonymity, participants selected a pseudonym. All interviews were audio-recorded and lasted approximately 1 h each.

Data Analysis

Interviews were transcribed by a paid, independent transcriber, who signed a confidentiality agreement. As the interviews were transcribed verbatim, they were not returned to participants, but were checked for accuracy prior to analysis.

Data analysis followed a reflexive thematic analysis approach (Braun & Clarke, 2006; Braun et al., 2019), initially conducted by MF, with input from the project team. MF is an early-career suicide prevention academic, involved in developing and delivering the education program.

Six phases of data analysis were undertaken recursively: MF immersed herself in the data through repeatedly reading hard copy and electronic transcripts, taking notes to generate initial understandings within and across the data; NVivo 12 Plus (QSR International Pty Ltd, 2020), an electronic software program for collecting and analyzing qualitative data, was used to inductively organize data into preliminary codes, with meaning initially identified at the semantic level, followed by codes being reorganized at the latent level; early themes were developed by collapsing codes into preliminary themes for discussion (MF and NP – a professorial-level suicide prevention researcher); preliminary themes were revised and reorganized as required; finally, themes were further refined through the write-up process (with input from the author team). Findings were not returned to participants for checking.

Results

Of the 75 follow-up survey participants, 20 provided contact details for interview, and 15 participated. This paper is based on 12 interviews where participants had used and/or expressed an opinion of safety planning. During the interview, participants could discuss their use of the safety planning tool, with their clients, at any time in the previous 6 months since the training occurred.

Participants were primarily female (n = 8; average age = 41 years, range = 27–64 years), including four case workers/managers, four counsellors, two team leaders, a social worker, and a community services coordinator. Participants had an average of 8 years' (range = 3–20 years) experience working with refugees and asylum seekers, and over 4 years' (range = 1.5–10 years) experience in their current roles.

Four key themes related to participants' experiences with and perceptions of safety planning were generated.

Theme 1: Safety Planning as a Cocreated, Personalized Activity for the Client

Participants reflected on the collaborative and personalized nature of safety planning.

A Collaborative Process
Participants commonly described the collaborative nature of safety planning, recognizing that it is not something that is done, or given, to the person ("It's not a risk assessment" [Kuia]), but rather something that the worker and client cocreate and codevelop:

The safety plan is for the client but not for us, so it's really important that its actually done, you know, really with, pretty much the clients; us facilitating it, but pretty much really the client doing their own safety plan, because it's for them. (Betty)

This collaborative process allows the individual to "be in control" (Kuia) and acknowledges the client as the expert in their life:

…utilizing clients' skills and knowledge to come up with the safety plan and then mutually deciding with them what will be the best way to follow up. (Catherine)

Nonetheless, the worker needs to be active in the process:

…we have responsibilities to assist where they can find social supports or professional supports, and ask the questions that work out further understanding of what reasons they have to live. We're responsible and accountable to fleshing out those conversations... (Peter)

An Ongoing Conversation, for All
Participants reflected that a safety plan is an ongoing, living document, revised and revisited as part of ongoing client–worker interactions. Participants guided this

process by checking in on, and encouraging, use of the safety plan:

> …reminding them every time as well about their safety plan, so that…there is more of the chance of them to remember it when they are in distress. (Tom)

Participants recognized that safety planning is not just for clients in acute suicide distress:

> [Safety planning is] something that we ought to do with the majority of clients I work with rather than just with those that are expressing [suicidality] or we feel that they are at risk of suicide… (Janice)

Theme 2: Therapeutic Benefits of Having a Safety Plan

Participants reflected on their perceived benefits of safety planning for the client, particularly its value as a therapeutic tool to address suicidality.

Increasing Client Awareness of Triggers and Coping Strategies

The main benefit was that cocreating a safety plan can help to highlight the person's unique distress triggers, as well to externalize their unique coping strategies and supports:

> …like really clearly identifying that going to the beach is something that makes [the client] happy. He might have already known that, but it might not have sort of been identified that he did know that. (Fiona)

Normalizing the Client Experience

Similarly, safety planning can be a catalyst for normalizing and acknowledging the client's experience, supporting them to externalize, and develop a sense of agency to respond to, their suicide-related distress:

> …it's helping the person I am working with to be more assertive, understanding of why and how, you know, the triggers that make him to feel more low, then he's aware of those moments, so we are normalizing not just the moment where he's feeling very low but also the whole process…I think that he feels more safe to have the discussion where before…he was feeling very embarrassed. (Janice)

Reminders Can Help to Keep People Safe

The importance of strategies to help keep people safe – particularly using visual reminders (e.g., family photographs – is a key benefit of safety planning. These reminders can interrupt the trajectory of suicidal thoughts:

> …the result can be very big and with some clients it helps them when they get very emotional, they want to just see something that changes their mind and think about a different picture. (John)

Reminders may also include written notes:

> …something that [the client] found useful was writing notes that he would stick around his bedroom…Kind of reminding him of things, alternatives… (Betty)

Theme 3: The Barriers to Engaging in Safety Planning

Participants reflected on several barriers to implementation and use, some familiar across settings, and others specific to the refugee and asylum seeker context.

Client Readiness

A common message related to client readiness. Participants highlighted that it can be challenging when "a client doesn't really want to engage in safety planning" (Betty). They may decline to participate – "When I first introduced the word "safety plan" to the client, because there was a suicide idea, they said "no"…they didn't want to do it" (Peter) – and there may be little shifting in this view: "they just won't budge an inch" (Kuia). This may be attributed to cognitive constriction as a feature of the suicidal mind, with clients being very focused on their suicide outcome and unable to see alternatives. In other instances, clients will have more immediate, practical concerns (e.g., securing housing or transport) that take priority.

Specific to this client group, fear of disclosing suicidality and the perceived impact on their visa status is a critical barrier to trust and can hinder engagement:

> …[clients] know that we would convey some information about them back to immigration and they don't know what information…because it is a little bit, sort of vague, as to how much immigration can take of our information.
> And so they would sometimes worry… "how is this going to affect my visa?" … "maybe I will not tell her that [I'm suicidal] because maybe then they'll think I'm a risk to society and then they won't want me here…?" (Fiona)

Language and Literacy

Speaking a language other than English is a barrier, particularly given the typical written format of safety

planning. Similarly, literacy and mental health literacy can be obstacles:

> …we assume that all clients will be able to engage with the content that we are discussing and come up with safety plans in their own words but it's not always the case… there needs to be mental health literacy first before we even ask about suicide. (Catherine)

Organizational Conditions

Organizational-level factors can impact safety planning implementation. The "hub" style service provision model, whereby clients lack a regular caseworker, can hinder the continuity of the relationship and trust in the worker:

> …a client might not necessarily have a one-on-one case worker…they may be seen by any available case worker…so it's difficult to maintain a relationship or to build up a rapport to have such a difficult and really vulnerable conversation. (Sally)

Practical Challenges

Participants articulated practical difficulties associated with cocreating safety plans. Identifying information to include in the safety plan can be challenging for these clients, particularly given the absence of obvious protective factors (e.g., employment or family), or difficulty accessing mainstream support services:

> …unfortunately, what we find is a lot of the services that [you] might be able to rely on normally, like the, you know, the call-back services and things like that, if our clients don't have a fair level of English, sometimes those services can be difficult for them to navigate. (Betty)

Another barrier, linked to client readiness, is that while some clients are receptive to safety planning conversations, they may be fearful about writing it down:

> Some others don't prefer to write, some they just prefer to hold those thoughts in their minds, maybe they don't want to write them down because somebody will see them…some other clients will say 'no way, we can't write it down because that makes it more real'. (Catherine)

Theme 4: Strategies to Enhance Engagement in Safety Planning

Participants highlighted various strategies for maximizing the use and impact of safety planning.

Being Flexible and Creative

Participants stressed needing to be creative, moving beyond a written safety plan template in English language, to alternatives more accessible to these clients:

> …to make those safety plans culturally, linguistically and I think literacy, considering the literacy levels of the client, making them appropriate for the client. (Catherine)

This could include the use of photographs, images, or drawings. Janice explained a colleague's strategy of using an image of a hand:

> The [client] that she was working with put in each of the fingers hope and what matters and how it shows strong meaning culturally…

Employing Therapeutic Strategies

A number of therapeutic strategies may assist to gently ease in to safety planning conversations. Peter shared an experience after a client initially declined to cocreate a safety planning:

> …after he said "no," I then said to him, "would you be able to tell me what reasons you have to live?" And he answered it…And then I started to chat about the supports he had.

Trust and rapport were also seen as important enablers, as well as the ability to establish a "human connection" (Rose).

Addressing Language Barriers

Participants described the role of interpreters to address language barriers:

> …an interpreter needs to be available to ensure that communication is clear and meaningful. (John)

Enlisting the support of a trusted family member might also be helpful.

Support for Workers

Workers must be supported to engage in safety planning. Participants saw a need for, and value in, opportunities to debrief with their peers. This can open opportunities to share experiences of strategies to enhance safety planning, such as "showing alternative ways to do safety plans" (John).

Discussion

To our knowledge, this is the first study exploring workers' experiences and perspectives of safety planning as a suicide prevention strategy for refugees and asylum seekers. Four key themes related to participants' (primarily case workers and counsellors) experiences with and perceptions of safety planning were generated. Participants reflected on the unique nature of safety planning (Theme 1: Safety planning as a cocreated, personalized activity *for* the client) in a way that aligns with the intervention's intended purpose. Cocreation of safety planning was commonly described as a collaborative activity involving equal contribution from the worker and the client with both acknowledging that the client is the expert in their own life. Similarly, participants identified strengths of this intervention (Theme 2: The therapeutic benefits of developing a safety plan) consistent with the general benefits and intentions of what a safety plan can, and has been found to, produce in other studies. However, they also identified challenges (Theme 3: The barriers to engaging in safety planning); while some of these may be experienced across various practice settings (e.g., a person not being "ready" for a safety plan), other barriers are unique to this client group (e.g., language, immediate living/practical concerns, fear of disclosure impacting visa status). Participants highlighted numerous strategies and worker skills to address these barriers and maximize the use and impact of safety planning (Theme 4: Strategies to enhance engagement in safety planning).

These findings support the value of safety planning indicating that the universal rationale underpinning this intervention may be translatable to diverse populations. This may be attributed to its flexible and personalized nature. This complements the known benefits of safety planning from quantitative research with veterans in the United States (Gamarra et al., 2015; Green et al., 2018; Stanley et al., 2018, 2015; Zonana et al., 2018), and Sri Lankan refugees (Vijayakumar et al., 2017). Despite our focus on worker perspectives, the findings align with a qualitative study of veterans' experiences with safety planning, in which clients found the collaborative aspect of the process to be beneficial (Kayman et al., 2015).

This research reveals some notable barriers and practical considerations for cocreating safety plans with refugees and asylum seekers. Client readiness was a key barrier, particularly regarding their experience of immediate concerns, the high acuity of their distress, and fears about how disclosing suicidality might impact their visa status. This latter concern highlights the importance of explicit processes for sharing these disclosures with authorities, to dispel client concerns where possible but also ensure they are fully aware of the process. Staff may need education around communicating this to clients. Anecdotally, these barriers were also frequently discussed during the training program.

Given issues of client readiness, the timing of when to introduce and cocreate a safety plan requires consideration, along with how to support workers to confidently engage in it. Similarly, alternatives to hard-copy safety planning may be preferred, such as a smartphone application (Melvin et al., 2019), or visual safety plans that do not require literacy. These areas must be better understood to ensure the accessibility, uptake, and benefits of safety planning can be maximized.

Future Directions

These findings indicate the potential of safety planning for refugees and asylum seekers, particularly given that it is a relatively low-cost intervention, and can be coproduced by diverse workers. However, as an exploratory study, future research should focus specifically on safety planning through mixed-methods evaluations of safety planning from client, family/carer, and worker perspectives. This information could facilitate safety planning interventions that are culturally appropriate and acceptable, and that address the barriers that participants raised.

Limitations

This study adds to the small evidence base regarding suicide prevention strategies for refugees and asylum seekers. However, a key limitation is that this is a study of worker perspectives, rather than the direct experiences of refugees and asylum seekers. Another limitation is the amount of exposure participants had to safety planning – while all had opinions of safety planning, some had limited opportunities to engage in it since the training (e.g., due to the nature of their workload). Perceptions may differ among those with more safety planning experience; this may have been realized with a larger sample size (for an explanation of limitations to the study's sample size, see Procter et al., 2021).

Conclusion

This study indicates that safety planning is perceived by workers as a valuable suicide prevention intervention for people of refugee and asylum-seeker background. As a flexible and personalized approach, safety planning can provide practitioners with a clear path forward for working with clients, which may be particularly empowering in this difficult space. Further research is warranted to understand how best to maximize this approach.

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Safety Planning Intervention: A Brief Intervention to Mitigate Suicide Risk

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The usual care for suicidal patients who are seen in the emergency department (ED) and other emergency settings is to assess level of risk and refer to the appropriate level of care. Brief psychosocial interventions such as those administered to promote lower alcohol intake or to reduce domestic violence in the ED are not typically employed for suicidal individuals to reduce their risk. Given that suicidal patients who are seen in the ED do not consistently follow up with recommended outpatient mental health treatment, brief ED interventions to reduce suicide risk may be especially useful. We describe an innovative and brief intervention, the Safety Planning Intervention (SPI), identified as a best practice by the Suicide Prevention Resource Center/American Foundation for Suicide Prevention Best Practices Registry for Suicide Prevention (www.sprc.org), which can be administered as a stand-alone intervention. The SPI consists of a written, prioritized list of coping strategies and sources of support that patients can use to alleviate a suicidal crisis. The basic components of the SPI include (a) recognizing warning signs of an impending suicidal crisis; (b) employing internal coping strategies; (c) utilizing social contacts and social settings as a means of distraction from suicidal thoughts; (d) utilizing family members or friends to help resolve the crisis; (e) contacting mental health professionals or agencies; and (f) restricting access to lethal means. A detailed description of SPI is described and a case example is provided to illustrate how the SPI may be implemented.

A ssessing risk for suicide is a crucial component of evaluations aimed at treatment disposition and planning for individuals with psychological problems. Although clinical practice guidelines have been published for conducting suicide risk assessments in emergency settings (American Psychiatric Association, 2003), current standards of care do not include providing brief psychosocial interventions for suicidal patients in the emergency department (ED) or other acute care settings (Allen, Forster, Zealberg, & Currier, 2002). Typically, when suicidal patients are evaluated in the ED and hospitalization is not clinically indicated, they are provided with a referral for outpatient mental health treatment (Allen et al., 2002).

The "assess and refer" approach can be disconcerting to patients and their families as well as to clinicians making disposition plans, and such concerns may be exacerbated by the potential for dire consequences associated with not hospitalizing patients who may actually need it. Adding to the anxiety of discharging

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patients who are experiencing some measure of suicidal feelings is the fact that many suicidal individuals do not attend recommended outpatient treatment following the ED visit (Craig et al., 1974; Krulee & Hales, 1988; Litt, Cuskey, & Rudd, 1983; Rudd, 2006). Intervening in the ED with suicidal individuals is important because between 11% and 50% of attempters refuse outpatient treatment or drop out of outpatient therapy very quickly (Kessler, Berglund, Borges, Nock, & Wang, 2005; Kurz & Moller, 1984). Furthermore, up to 60% of suicide attempters attend only 1 week of treatment postdischarge from the ED (Granboulan, Roudot-Thoraval, Lemerle, & Alvin, 2001; Kurz & Moller, 1984; Litt et al., 1983; O'Brien, Holton, Hurren, & Watt, 1987; Piacentini et al., 1995; Spirito, Stanton, Donaldson, & Boergers, 2002; Trautman, Stewart, & Morishima, 1993). Of those suicide attempters who attend treatment, 38% terminate within three months (Monti, Cedereke, & Ojehagen, 2003), a statistic that is particularly troubling because the first three months following a suicide attempt is when individuals are at the highest risk of additional suicidal behavior (Monti et al., 2003).

Thus, conducting a brief "treatment" when the suicidal patient is present in the ED may be valuable and is consistent with the way in which most medical conditions are addressed in the ED. Treatment of acute medical problems in the ED most often includes some form of immediate intervention.

Clinicians are beginning to recognize the ED setting as an opportunity to provide brief interventions for mental health problems (D'Onofrio, Pantalon, Degutis, Fiellin, & O'Connor, 2005; Rotheram-Borus, Piacentini, Cantwell, Belin, & Song, 2000). For example, D'Onofrio and her colleagues developed a 10- to 15-minute intervention approach—Screening, Brief Intervention, and Referral to Treatment (SBIRT)—to counsel problem drinkers who visit the ED. The SBIRT intervention includes: (a) a screening component to quickly assess the severity of substance use and identify the appropriate level of treatment, (b) a brief intervention focused on increasing insight and awareness regarding substance use and motivation toward behavioral change, and (c) a referral for those identified as needing more extensive treatment.

We have developed a similar, innovative and brief treatment, the Safety Planning Intervention (SPI), for suicidal patients evaluated in the ED, trauma centers, crisis hot lines, psychiatric inpatient units, and other acute care settings Stanley, B. & Brown, G. K. (with Karlin, B., Kemp, J. E, VonBergen, H. A.) (2008). The SPI has its roots in CT tested by Brown et al. (2005), further expanded by Stanley & Brown (2006) and then adapted for use by high suicide risk Veterans (Stanley & Brown, 2008a) and depressed, suicidal adolescents in CBT for Suicide Prevention (CBT-SP) (Stanley et al., 2009). SPI has been determined to be a best practice by the Suicide Prevention Resource Center/ American Foundation for Suicide Prevention Best Practices Registry for Suicide Prevention (www.sprc.org). Furthermore, this intervention can be used in the context of ongoing outpatient treatment or during inpatient care of suicidal patients. In this paper, the SPI is described in detail and a case example is provided to illustrate how the safety plan may be implemented.

Rationale for the Safety Planning Intervention (SPI) as a Clinical Intervention

Recognizing that, despite best efforts, some patients will not seek treatment following an emergency evaluation for a suicidal crisis, and further recognizing that there is an inevitable lag between an ED evaluation and outpatient mental health appointments, we suggest that the ED visit or other acute care setting may serve as a valuable opportunity to conduct a brief intervention that may reduce further suicidal behavior. Furthermore, given that suicidal crises may be relatively short-lived and have an ebb and flow pattern, an intervention that assists patients in coping with such crises may be particularly useful, even if the intervention is only used for a brief period of time until the crisis diminishes. For example, the effectiveness of means restriction is largely based on the fact that suicidal thoughts tend to subside over time and that making it more difficult for patients to act on these thoughts would be a helpful preventive measure (Daigle, 2005). Similarly, if patients are given tools that

enable them to resist or decrease suicidal urges for brief periods of time, then the risk for suicide is likely to decrease.

Similar approaches to addressing acute suicidal crises have been developed by others, predominantly in the context of ongoing outpatient or inpatient care, but not as stand-alone interventions. For example, Rudd and his colleagues developed the crisis response plan that emphasizes what patients will do during a suicidal crisis (Rudd, Joiner, & Rajab, 2001). The crisis response plan is part of a cognitive behavioral therapy intervention that is aimed at reducing suicide risk. It involves helping patients to identify what triggers the crisis, use skills to tolerate distress or regulate emotions, and, should the crisis not resolve, access emergency care. Specifically, the crisis response plan is a series of therapeutic interventions that ensures the safety of the patient by removing access to lethal means; initiating self-monitoring of the suicidal thoughts, feelings, and behaviors; targeting symptoms that are most likely to interrupt day-to-day functioning; targeting hopelessness and sense of isolation, reinforcing the commitment to treatment and solidifying the therapeutic relationship. Similarly, David Jobes uses a safety plan approach in the context of his approach, Collaborative Assessment and Management of Suicidality (CAMS), a psychotherapeutic approach for managing suicidal patients, in both outpatient and inpatient settings (Jobes, 2006). The CAMS safety plan focuses on whom to call during a suicidal crisis and cleansing the environment of means to commit suicide.

Both safety plans and crisis response plans have been used as therapeutic strategies in the context of other short-term, empirically supported treatments that have been found to reduce suicide risk, such as cognitive therapy (Brown et al., 2005; Wenzel, Brown, & Beck, 2009) or cognitive behavior therapy for suicide prevention (CBT-SP; Stanley et al., 2009). However, to our knowledge, the use of a safety planning intervention as a single-session, stand-alone intervention for emergency care settings has not been explicitly described. Yet other novel targeted interventions have been proposed. Rotheram-Borus et al. (2000) tested an ED intervention for suicidal adolescents that involved psychoeducation about the importance of treatment in suicidal teens for both the ED staff and the patients. Kruesi et al. (1999) and McManus et al. (1997) developed psychoeducation programs that stressed the need to restrict access to means when there was a suicidal adolescent in the home. Sneed, Balestri, and Belfi (2003) adapted dialectical behavior therapy (DBT) skills in a single-session format for the ED. Despite these proposed interventions, the standard of "assess and refer" approach to care remains.

While other efforts at safety planning have been described in the literature, the SPI is unique in that it is a systematic and comprehensive approach to maintaining safety in suicidal patients. Prior efforts have primarily focused on a single aspect of safety (e.g., means restriction or

emergency contacts). Furthermore, the explicit focus on utilizing internal coping and distracting strategies as a step in an emergency plan to deal with suicidal urges is not typically an aspect of most safety plan efforts even though it is an aspect of therapies targeting suicidal feelings (e.g., CT and DBT).

Safety Planning vs. No-Suicide Contract

Another type of brief intervention that is provided for suicidal patients is a "no-suicide contract." This intervention is a written or verbal agreement between the clinician and patient requesting that the patient refrain from engaging in suicide behavior. The SPI is quite different from a no-suicide contract intervention given that the no-suicide contract does not necessarily provide detailed information about *how* patients should respond if they become suicidal.

A no-suicide contract usually takes the form of asking patients to promise not to kill themselves and to contact professionals during times of crisis (Stanford, Goetz, & Bloom, 1994). In contrast, the safety plan is *not* presented to patients as a no-suicide contract. Despite the anecdotal observation that no-suicide contracts may help to lower clinician anxiety regarding potential suicide risk, there is no empirical evidence to support the effectiveness of no-suicide contracts for preventing suicidal behavior (Kelly & Knudson, 2000; Reid, 1998; Shaffer & Pfeffer, 2001; Stanford et al., 1994). To our knowledge, there are no randomized controlled trials (RCTs) that have examined the efficacy of no-suicide contracts for preventing suicide or suicide attempts. There have been a few studies that have examined the clinical utility of no-suicide contracts, but findings have been inconsistent (Drew, 2001; Jones, O'Brien, & McMahon, 1993; Kroll, 2000; Mishara & Daigle, 1997). The methodological problems with these studies and the lack of RCTs have led to the conclusion that there is no empirical support for the efficacy of this intervention. (see Rudd, Mandrusiak, & Joiner, 2006). Clinical guidelines also caution against using no-suicide contracts as a way to coerce patients not to kill themselves, as it may obscure the determination of the patients' actual suicidal risk (Rudd et al., 2006; Shaffer & Pfeffer, 2001). For example, patients may withhold information about their desire to kill themselves for fear that they will disappoint their treating clinicians by violating the contract. Rather, the SPI is presented as a strategy to illustrate *how* to prevent a future suicide attempt, and identifies coping and help-seeking skills for use during times of crisis.

Methods

Intervention Description

The SPI, a very brief intervention that takes approximately 20 to 45 minutes to complete, provides patients with a prioritized and specific set of coping strategies and sources of support that can be used should suicidal thoughts reemerge. The intent of the safety plan is to help individuals lower their imminent risk for suicidal behavior by consulting a predetermined set of potential coping strategies and a list of individuals or agencies they may contact; it is a therapeutic technique that provides patients with more than just a referral at the completion of the suicide risk assessment during an emergency evaluation. By following a predetermined set of internal coping strategies, social support activities, and help-seeking behaviors, patients have the opportunity to evaluate those strategies that are most effective. While we recommend that the interventions be followed in a stepwise manner, it is important to note that if a patient feels at imminent risk and unable to stay safe even for a brief time, then the patient should immediately go to an emergency setting. Furthermore, some patients may feel that they cannot or do not wish to use one of the steps in the safety plan. In this instance, they should not feel that they must do so as the intent of the safety plan is to be helpful and not a source of additional stress or burden.

The SPI is best developed with the patient following a comprehensive suicide risk assessment (cf. American Psychiatric Association, 2003). During the risk assessment, the clinician should obtain an accurate account of the events that transpired before, during, and after the recent suicidal crisis. Patients typically are asked to describe the suicidal crisis, including the precipitating events and their reactions to these events. This review of the crisis facilitates the identification of warning signs to be included in the safety plan and helps to build rapport. Consistent with an approach described by Jobes (2006), a collaborative stance is most effective for developing the safety plan. The basic components of the safety plan include (a) recognizing warning signs of an impending suicidal crisis; (b) employing internal coping strategies; (c) utilizing social contacts as a means of distraction from suicidal thoughts; (d) contacting family members or friends who may help to resolve the crisis; (e) contacting mental health professionals or agencies; and (f) reducing the potential use of lethal means. The first five components are employed when suicidal thoughts and other warning signs emerge. Reducing access to means is discussed after the rest of the safety plan has been completed, often with the aid of a family member or friend, for an agreed upon period of time. Each of these steps is reviewed in greater detail below.

Recognition of Warning Signs

The first step in developing the safety plan involves the recognition of the signs that immediately precede a suicidal crisis. These warning signs include personal situations, thoughts, images, thinking styles, moods, or behaviors. One of the most effective ways of averting a suicidal crisis is to address the problem before it fully

emerges. Examples of warning signs include feeling irritable, depressed, hopeless, or having thoughts such as, "I cannot take it anymore." Similarly, patients can identify problematic behaviors that are typically associated with suicidality, such as spending increased time alone, avoiding interactions, or drinking more than usual. Generally, more specifically described warning signs will cue the patient to use the safety plan, than warning signs that are more vaguely described.

Internal Coping Strategies

As a therapeutic strategy, it is useful to have patients attempt to cope on their own with their suicidal thoughts, even if it is just for a brief time. In this step, patients are asked to identify what they can do, without the assistance of another person, should they become suicidal again. Prioritizing internal strategies as a first-level technique is important because internal strategies enhance patients' self-efficacy and can help to create a sense that suicidal urges can be mastered. This, in turn, may help them feel less vulnerable and less at the mercy of their suicidal thoughts. Such activities function as a way for patients to distract themselves from the crisis and prevent suicide ideation from escalating. This technique is similar to those described in DBT (Linehan, 1993), a cognitive behavioral therapy for suicidal individuals with borderline personality disorder that instructs patients to employ distraction techniques when they are experiencing intense urges to make a suicide attempt. Examples of these coping strategies include going for a walk, listening to inspirational music, going online, taking a shower, playing with a pet, exercising, engaging in a hobby, reading, or doing chores. Activities that serve as "strong" distractions vary from person to person and, therefore, the patient should be an active participant in identifying these activities. Engaging in such activities may also help patients experience some pleasure, sense of mastery, or facilitate a sense of meaning in their lives. However, the primary aim of identifying and doing such activities is to serve as a distraction from the crisis.

After the internal coping strategies have been generated, the clinician may use a collaborative, problem-solving approach to ensure that potential roadblocks to using these strategies are addressed and/or that alternative coping strategies are identified. If patients still remain unconvinced that they can apply the particular strategy during a crisis, other strategies should be developed. Clinicians should help patients to identify a few of these strategies that they would use in order of priority; the strategies that are easiest to do or most likely to be effective may be listed at the top of the list.

Socialization Strategies for Distraction and Support

If the internal coping strategies are ineffective and do not reduce suicidal ideation, patients can utilize socialization strategies of two types: socializing with other people in

their natural social environment who may help to distract themselves from their suicidal thoughts and urges or visiting healthy social settings. In this step, patients may identify individuals, such as friends or family members, or settings where socializing occurs naturally. Examples of the latter include coffee shops, places of worship, and Alcoholics Anonymous (AA) meetings. These settings depend, to a certain extent, on local customs, but patients should be encouraged to exclude environments in which alcohol or other substances may be present. In this step, patients should be advised to identify social settings or individuals who are good "distractors" from their own thoughts and worries. Socializing with friends or family members, without explicitly revealing their suicidal state, may assist in distracting patients from their problems and their suicidal thoughts; this strategy is not intended as a means of seeking specific help with the suicidal crisis. A suicidal crisis may also be alleviated if patients feel more connected with other people or feel a sense of belongingness.

Social Contacts for Assistance in Resolving Suicidal Crises

If the internal coping strategies or social contacts used for purposes of distraction offer little benefit to alleviating the crisis, patients may choose to inform family members or friends that they are experiencing a suicidal crisis. This step is distinguished from the previous one in that patients explicitly reveal to others that they are in crisis and need support and assistance in coping with the crisis.

Given the complexity of deciding if patients should or should not disclose to others that they are thinking about suicide, the clinician and patient should work collaboratively to formulate an optimal plan. This may include weighing the pros and cons of disclosing their suicidal thoughts or behavior to a person who may offer support. Thus, for this step, someone who may help to distract patients from their suicidal urges may not be the best person for assisting patients with a suicidal crisis when suicidal thoughts are disclosed. Patients should be asked about the likelihood that they would contact these individuals and whether these individuals would be helpful or could possibly exacerbate the crisis. If possible, someone close to the patient with whom the safety plan can be shared should be identified and should be named on the plan. It should be noted that sometimes patients are unable to identify someone because they may not feel comfortable sharing the plan with family or friends.

Professional and Agency Contacts to Help Resolve Suicidal Crises

This component of the plan consists of identifying and seeking help from professionals or other clinicians who could assist patients during a crisis. The clinicians' names and the corresponding telephone numbers and/or locations are listed on the plan and may be prioritized. Patients are instructed to contact a professional or agency

if the previous strategies (i.e., coping strategies, contacting friends or family members) are not effective for resolving the crisis. If patients are actively engaged in mental health treatment, the safety plan may include contact information for this provider. However, the safety plan should also include other professionals who may be reached, especially during nonbusiness hours. Additionally, contact information for a local 24-hour emergency treatment facility should be listed as well as other local or national support services that handle emergency calls, such as the national Suicide Prevention Lifeline: 800-273-8255 (TALK).

The safety plan emphasizes the accessibility of appropriate professional help during a crisis and, when necessary, indicates how these services may be obtained. The clinician should discuss the patients' expectations when they contact professionals and agencies for assistance and discuss any roadblocks or challenges in doing so. Patients may be reluctant, at times, to contact professionals and disclose their suicidality for fear of being hospitalized or being rescued using a method that is not acceptable to them. As with the other components of the plan, the clinician should discuss any concerns or other obstacles that may hinder patients from contacting a professional or agency. Only those professionals whom patients are willing to contact during a time of crisis should be included on the safety plan.

Means Restriction

The risk for suicide is amplified when patients report a specific plan to kill themselves that involves a readily available lethal method (Joiner et al., 2003). Even if no specific plan is identified by patients, a key component of the safety plan intervention involves eliminating or limiting access to any potential lethal means in the environment. This may include safely storing and dispensing of medication, implementing firearm safety procedures, or restricting access to knives or other lethal means. In developing a safety plan, means restriction is addressed after patients have identified ways of coping with suicidal feelings because, if they see that there are other options to acting on their suicidal urges than committing suicide, they may be more likely to engage in a discussion about removing or restricting access to means. Depending on the lethality of the method, the manner in which the method is removed or restricted will vary. Generally, clinicians should ask patients which means they would consider using during a suicidal crisis and *collaboratively identify ways to secure or limit access to these means.* Clinicians should routinely ask whether patients have access to firearms, regardless of whether it is considered a "method of choice," and make arrangements for securing them. For methods with lower lethality (such as drugs or medication with a low level of toxicity),

clinicians may ask patients to remove or restrict their access to these methods themselves when they are not experiencing a crisis. For example, if patients are considering overdosing, having them ask a trusted family member to store the medication in a secure place might be a useful strategy.

The urgency and importance of restricting access to a lethal method is more pronounced for highly lethal methods. For methods of high lethality, such as a firearm, asking patients to temporarily limit their access to such means themselves by giving it to a family member or other responsible person may be problematic, as patients' risk for suicide may increase further as a result of direct contact with the highly lethal method. Instead, an optimal plan would be to restrict patients' access to a highly lethal method by having it safely stored by a designated, responsible person—usually a family member or close friend, or even the police (Simon, 2007). Patients who are unwilling to remove their access to a firearm may be willing to limit their access to the firearm by having a critical part of the firearm removed or by using a gunlock and having the gunlock key removed. Clinicians should also be aware that restricting access to one lethal method does not guarantee patients' safety because they may decide to use another one. The specific behaviors necessary to make the patients' environment safer should be noted on the safety plan and the length of time (e.g., 1 month, 2 weeks) that this restriction should be in place can be noted.

Implementation of the Safety Plan

It is important to note that the SPI should be administered in a collaborative manner with patients. The coping strategies, external supports and triggers to suicidal urges are generated together by the clinician and patient and the patient's own words are used in the written document. The collaborative nature of this intervention is essential to developing an effective safety plan. A clinician-generated list of coping strategies is unlikely to be helpful to a patient in the absence of knowing what strategies are most compelling for the individual. Similarly, "typical" triggers to suicidal feelings are not useful if they do not have personal relevance. On the other hand, the patient is not left alone to struggle with identifying his or her triggers and best means for coping. Instead, clinicians can offer suggestions and inquire in a supportive manner to help the patient complete the intervention.

After the SPI is complete, clinicians should assess the patient's reactions to it and the likelihood he or she will use the safety plan. One strategy for increasing patient motivation to use the safety plan during a crisis is to ask the patient to identify the most helpful aspects of the plan.

If the patient reports or the clinician determines that there is reluctance or ambivalence to use the plan, then the clinician should collaborate with the patient to *identify* and *problem solve* potential obstacles and difficulties to using the safety plan. Role playing the use of the SPI may be helpful if clinicians have sufficient time available and the patient is willing to engage in this exercise. Once a patient indicates his or her willingness to use the safety plan during a crisis, then the original document is given to the patient to take with him or her and a copy is kept in the medical record. The clinician also discusses where the patient will keep the safety plan and how it will be retrieved during a crisis. This may include making multiple copies of the plan to keep in various locations or changing the size or format of the plan so that it could be stored in a wallet or electronic device that is easily accessible. In order to increase the likelihood that the safety plan would be used, the clinician may consider conducting a role-play during which the patient would describe a suicidal crisis and then would provide a detailed description of locating the safety plan and following each of the steps listed on the it.

Training

Clinicians with a wide range of backgrounds (e.g., nurses, psychologists, primary care physicians, psychiatrists, social workers) can be trained to implement the SPI. The typical training includes: (a) reading the safety plan manual (Stanley & Brown, 2008a), reviewing the brief instructions (Stanley & Brown, 2008b) and the safety planning form; (b) attending a training in which the intervention, its rationale and evidence base are described; and (c) conducting role-plays to practice implementing the intervention.

Adaptation for Special Settings and Special Populations

The SPI was developed to be used in settings where emergency services or acute care services are provided, such as EDs, trauma units, crisis hot lines, or medical emergency response units. In addition, the SPI may be used as a part of ongoing mental health treatment in outpatient settings for individuals at risk for suicidal behavior. In this context, safety plans may be revised over time as new coping skills are learned, as new risk factors and precipitants are identified or as the social network changes. We propose that the SPI may be useful in other settings where psychiatric, medical, or psychosocial services are provided, such as inpatient psychiatric settings, military or correctional settings. For these settings, the SPI has to be adapted to acknowledge the limited availability of coping strategies and people who can be enlisted. Institutional staff may require specialized training for determining when patients should be

encouraged or coached to follow their safety plan and when a higher level of observation or other external precaution should be implemented.

It is recognized that the application of the SPI will vary depending on the population as well. For example, when developing safety plans with adolescents, it may be important to identify key adults who may become part of the plan. Adolescents are able to aid in determining which family members or other responsible adults are more likely to have a calming and positive influence. Some family members, particularly those with whom the adolescents have frequent conflicts, may not be good candidates to enlist as contacts on the safety plan. Family members can also be coached to help the adolescent use the safety plan. In addition, special care must be taken when helping the adolescent identify individuals other than family members who may offer support and distraction from the suicidal crisis.

Safety Plan Intervention: An Illustrative Case Example

A 28-year-old divorced male and father of two young children presented at the local hospital ED following a suicide attempt. The patient became depressed 2 months ago after his paternal grandfather died from pancreatic cancer. The patient, who cared for his grandfather during his illness, was fired from his job due to excess absences. In the past month, the patient began seeing a psychiatrist at the local community mental health clinic for depression.

During ED evaluation with the psychiatry resident, the patient stated that he "felt down" and sometimes wondered whether "life was not worth living." He described that the onset of his depression coincided with his grandfather's death and loss of his job. Most recently, he stated that he had thoughts of killing himself following several intense arguments with his girlfriend who was considering leaving him because he was out of work. After the most recent argument, the patient impulsively ingested 4 to 6 (325 mg) tablets of acetaminophen and six 12-ounce beers with the intention of dying. However, immediately after he swallowed the pills, he thought about his two young children, realized he did not want to die, and went to the ED. He had no prior suicide attempts and no psychiatric admissions. Upon clinical interview, the resident found the patient's mood to be depressed. The patient reported feeling hopeless, especially about resolving the conflict with his girlfriend and finding a job, but denied any current thoughts of wanting to kill himself or plans to do so. He regretted that he had made the attempt and stated that he realized he "could never do this to his children." He denied hallucinations, delusions, and homicidal ideation. His tentative diagnoses were major depressive disorder and possible alcohol

abuse disorder. His blood alcohol level, 8-panel drug test, acetaminophen and liver function test results were within normal limits. The patient reported a history of "problems with drinking" in the past but, until the suicide attempt, had been abstinent for the past year, having found AA meetings to be very helpful.

The resident consulted with the attending psychiatrist about whether the patient should be admitted for a psychiatric hospitalization or discharged with a referral to his local mental health clinic. The patient's risk for suicide was determined to be moderately high but not at imminent risk. Based on the consultation, the patient was discharged

and scheduled for an appointment with his psychiatrist the next day. The patient agreed to attend daily AA meetings and increase contact with his AA sponsor. The patient's motivation to continue psychiatric treatment was ambivalent but he said he would attend the scheduled follow-up appointment. While it was determined that the patient could be safely discharged from the ED, the resident remained uneasy about the disposition.

This case illustrates a frequent clinical scenario in the ED. As is the case with most ED interviews with a suicidal patient, the interaction focuses on suicide risk assessment and treatment disposition. We propose that the ED is

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SAFETY PLAN

Step 1: Warning signs:

1. _Suicidal thoughts and feeling worthless and hopeless_____
2. _Urges to drink_____
3. _Intense arguing with girlfriend_____

Step 2: Internal coping strategies - Things I can do to distract myself without contacting anyone:

1. _Play the guitar_____
2. _Watch sports on television_____
3. _Work out_____

Step 3: Social situations and people that can help to distract me:

1. _AA Meeting_____
2. _Joe Smith (cousin)_____
3. _Local Coffee Shop_____

Step 4: People who I can ask for help:

1. Name_Mother_____ Phone __333-8666_____
2. Name_AA Sponsor (Frank)_____Phone__333-7215_____

Step 5: Professionals or agencies I can contact during a crisis:

1. Clinician Name__Dr John Jones_____ Phone__333-7000_____
   Clinician Pager or Emergency Contact #__555 822-9999_____
2. Clinician Name_____ Phone_____
   Clinician Pager or Emergency Contact #_____
3. Local Hospital ED __City Hospital Center_____
   Local Hospital ED Address_222 Main St_____
   Local Hospital ED Phone ___333-9000_____
4. Suicide Prevention Lifeline Phone: 1-800-273-TALK_____

Making the environment safe:

1. ____Keep only a small amount of pills in home_____
2. ____Don't keep alcohol in home_____
3. _____

Figure 1. Safety Plan Example.

ideally suited for implementation of a very brief psycho-social intervention that may increase the safety of this patient and similar patients, particularly during the interval between ED visit and follow-up appointments.

Figure 1 shows the safety plan that was developed for the patient. The patient explicitly identified suicide ideation, arguing with his girlfriend, urges to drink and feelings of hopelessness and worthlessness as personal warning signs. His internal coping strategies included working out, playing the guitar, and watching sports on television. Social distractors, where suicidal feelings are not revealed, included attending AA meetings, going to the local coffee shop, and talking with a cousin with whom he felt close. The patient then identified his mother and his AA sponsor as people in his support network with whom he could talk if he were in a suicidal crisis again.

In addition, his current psychiatrist's name and contact information was listed as was the local ED and the suicide prevention hot line number. The plan was written in a collaborative manner with the ED physician. A copy was placed in the patient's chart and the patient was given a copy on discharge. The patient stated that he would make another copy so that he could keep one copy in his bedside stand and one copy in his wallet.

Discussion

Patients evaluated for suicide risk in EDs and other emergency settings for whom hospitalization is not clinically indicated are often offered the same disposition as nonsuicidal outpatients (Schulberg, Bruce, Lee, Williams, & Dietrich, 2004; Spirito et al., 2002). The management and treatment of suicidal patients in outpatient settings can be burdensome and anxiety-provoking for clinicians and may diminish their motivation to treat these patients. Although protocols have been developed for managing suicidal crises in outpatient settings (Jobes, 2006; Rudd, 2006, Stanley et al., 2009; Wenzel et al., 2009), these strategies have been developed as part of ongoing and longer-term treatment. Brief crisis interventions, such as safety planning, may be especially useful when the opportunity for longer-term care is limited or, alternatively, as an adjunct to treatment.

The SPI is a promising intervention to mitigate risk of suicide when evaluating and treating patients who are at increased risk for suicide. It can serve as a valuable complement to risk assessment, particularly for those patients who do not require psychiatric hospitalization. The SPI has several advantages. It is both easy to learn and easy to utilize. Staff can be trained readily, and in our clinical experience, the safety plan intervention is easier to learn than conducting a comprehensive risk assessment. Furthermore, it may be incorporated into the treatment of suicidal individuals, regardless of the clinician's theoretical perspective.

This intervention has been used clinically by the authors (e.g., Stanley et al., 2009) and has been used as part of other evidence-based psychotherapy interventions in clinical trial research. Its efficacy as a stand-alone intervention is currently being evaluated by us in an urban ED and nationally in a Department of Veteran Affairs clinical demonstration project. We describe only one format or version of a safety plan and recognize that other formats may be useful as well.

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