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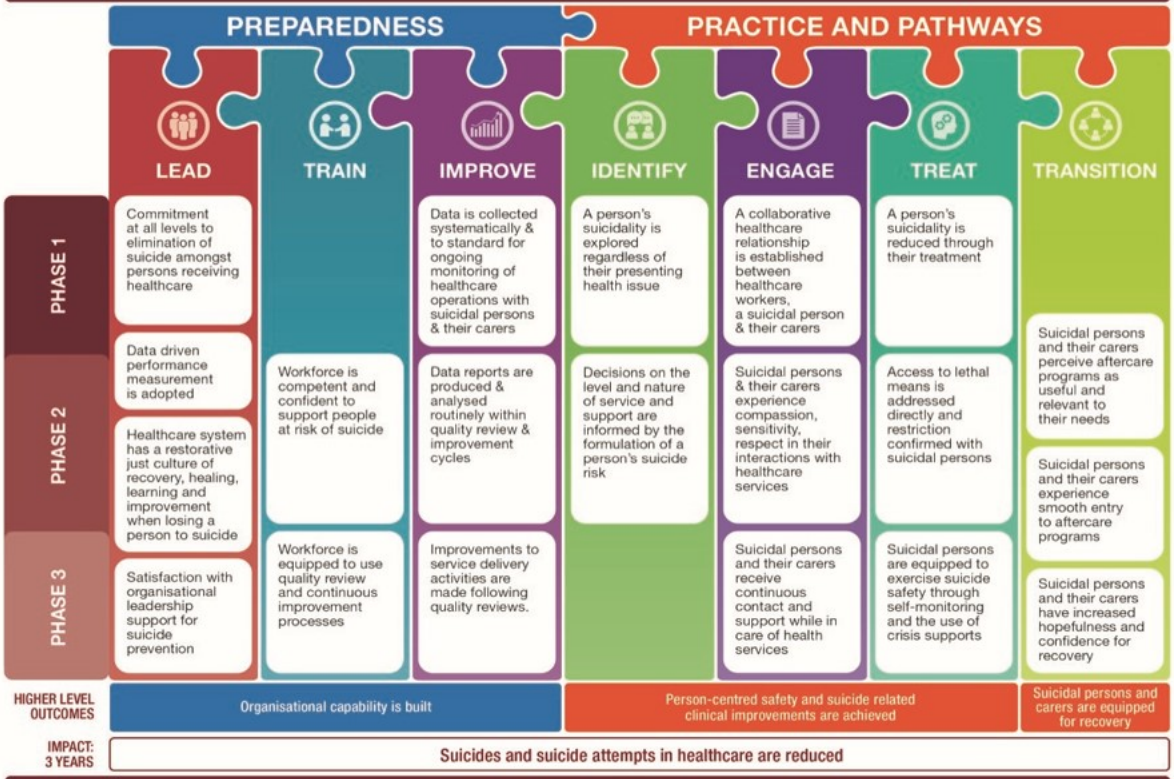
Zero Suicide Healthcare Part 2

A compendium of publications supporting the planning & implementation of the Zero Suicide Healthcare Framework

Zero Suicide Healthcare: Theory of Change



A restorative, just & learning culture is foundational for Zero Suicide Healthcare

Foreword

Across the globe health services are adopting and adapting the seven elements of the *Zero Suicide Healthcare Framework* in an effort to reduce suicide among people who present to the health service in suicidal distress. While there are both advocates and detractors for the label of *Zero Suicide Healthcare*, there is universal agreement that quality improvement is an ongoing requirement for health services to receive, treat, support and discharge people who present with suicidal distress.

The Zero Suicide Institute of Australasia advocates for health services to adopt the model as a key component of efforts to reduce the impact of suicide on communities. Like its US counterpart the Australian organisation seeks to identify gaps in resources that will assist health services implement the framework. This may involve identifying existing resources, on the US website or in other countries, or developing additional resources that are relevant to the local context.

Building the evidence base is also a key driver for health service leadership to adopt the *Zero Suicide Healthcare* approach. This compendium of published papers is designed to provide that evidence. It does not include all the papers published on the model - but it is a start. Also, not every paper is directly related to the framework. We think some offer interesting perspectives that will provide food for thought. However, we hope it will contribute towards health services building the case for change and make it easier to engage leadership in adopting the framework.

Part 1 is directed towards the outcome of Building Organisational Capability. Part 2 contains articles that are most relevant to suicide safety and related clinical improvements outcome. Whenever possible ZSIA will add papers to this compendium as they are made available in the public domain.

Thank you for your interest in this important aspect of suicide prevention.

Susan Murray OAM
Managing Director

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Psychiatric Times. Vol. 26 No. 12
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Suicide Assessment

Part 1: Uncovering Suicidal IntentA Sophisticated Art

By Shawn Christopher Shea, MD | December 3, 2009
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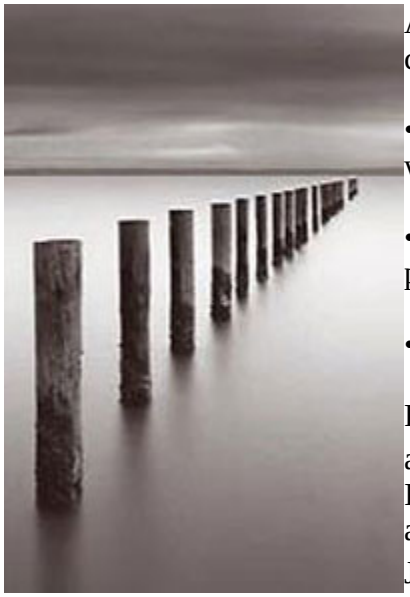

A sound suicide assessment approach or protocol is made up of 3 components:

• Gathering information related to risk factors, protective factors, and warning signs of suicide.

• Collecting information related to the patient's suicidal ideation, planning, behaviors, desire, and intent.

• Making a clinical formulation of risk based on these 2 databases.

Practical approaches to integrating these 3 aspects of a suicide assessment have been well delineated for adults and adolescents.[1-8] Innovative systematic approaches, such as the Collaborative Assessment and Management of Suicidality (CAMS) approach created by David Jobes,[9] have also been developed for integrating all 3 tasks while providing collaborative intervention, which may help lay the foundation for a more evidence-based protocol for suicide assessment. Recently, Joiner and colleagues[10] have delineated a promising approach based on the interpersonal theory of suicide, which gracefully integrates all 3 components necessary for a suicide assessment.

In the clinical and research literature, much attention has been given to the first and third tasks (gathering risk/protective factors/warning signs and clinical formulation). Significantly less attention has been given to the second task—the detailed set of interviewing skills needed to effectively elicit suicidal ideation, behaviors, and intent. But in many respects, it is the validity of the information from the second component that may yield the greatest hint of imminent suicide. Moreover, as any clinical supervisor will testify, there is little doubt that 2 clinicians, after eliciting suicidal ideation from the same patient, can walk away with surprisingly different information.

The importance of uncovering suicidal ideation

Some patients who are seriously suicidal may actually share their real intent, secondary to their own ambivalence and/or the effective interviewing skills of the clinician. Such information subsequently serves to sculpt safe triage, whether offered in an emergency department (ED), outpatient clinic, or on the telephone with a crisis counselor.

CHECK POINTS

- ✓ Patients who have the most serious suicidal intent may be the most likely to withhold it.
- ✓ The actual suicidal intent of the patient may be a combination of what the patient tells the interviewer is his or her intent, what plans and actions may reflect the patient's actual intent, and what intent the patient consciously or unconsciously withholds.
- ✓ Motivational theory suggests that in some instances, reflected intent—amount of ideation, extent of planning, and actions taken on planning—may be a more accurate indicator of actual intent than what a patient states is his intent.

This information may also be useful in a prospective sense if accurately documented; a thorough record of suicidal ideation and action provides subsequent clinicians with a baseline of the patient's suicidal activity at a specific point. This reference point can be used by future clinicians—such as crisis intervention clinicians or inpatient staff contemplating a pass for a patient—to determine whether the patient's current suicidal ideation is increasing or decreasing.

Not all dangerous patients relay suicidal ideation to clinicians.[11] One could argue that many dangerous patients—those who truly want to die and see no hope for relief from their suffering—would have little incentive to do so. Even if their ambivalence about attempting suicide leads them to voluntarily call a crisis line or go to an ED, they may be quite cautious about revealing the full truth, for a large part of them still wants to die. Such patients may be predisposed to share only some of their suicidal ideation or action taken on a particular plan, while hiding their real intent or even their method of choice (such as a gun tucked away at home).

Many reasons exist why patients, even with various ranges of intent, may be hesitant to openly share, including the following:

- The impulsive patient may lack extensive suicidal ideation before his or her attempt. (This is one reason it may be necessary to hospitalize a patient who denies suicidal ideation.)
- The patient has had marked suicidal ideation and is serious about completing the act but is purposely not relaying suicidal ideation or is withholding the method of choice because he does not want the attempt to be thwarted (another reason to hospitalize a patient who may be denying or minimizing suicidal ideation).
- The patient feels that suicide is a sign of weakness and is ashamed to acknowledge it.
- The patient feels that suicide is immoral or a sin.
- The patient feels that discussion of suicide is, literally, taboo.
- The patient is worried that the clinician will perceive him as crazy.
- The patient fears that he will be locked up if suicidal ideation is shared or, if during a crisis call, that the police will appear at his door.

- The patient fears that others will find out about his suicidal thoughts through a break in confidentiality.

- The patient does not believe that anyone can help.

- The patient has alexithymia and has trouble describing emotional pain or material.[12]

It is sometimes easy to believe that if we ask directly about suicide, the patient will answer directly—and truthfully. From the above considerations, it is apparent that this is not necessarily the case. The real suicidal intent of a patient can be more accurately conceptualized by the following "Equation of Suicidal Intent":

Real Suicidal Intent = Stated Intent + Reflected Intent + Withheld Intent

Thus, a patient's actual intent may equal his stated intent, reflected intent, and withheld intent; any one of these 3; or any combination of the 3. The more intensely a patient wants to proceed with suicide, the more likely he is to withhold his true intent. In addition, the more taboo a topic is (eg, incest and suicide) the more one would expect a patient to withhold information. In such instances, both conscious and unconscious processes may underlie the withholding of vital information.

From a psychodynamic perspective, a curious paradox can arise. If a patient believes that suicide is a sign of weakness or a sin, unconscious defense mechanisms (such as denial, repression, rationalization, or intellectualization) may create the conscious belief that the patient's intent is much less than it actually is. When asked directly about his suicidal intent, this patient may provide a gross underestimate of his potential lethality even though he is genuinely trying to answer the question honestly.

From a phenomenological perspective, it is not surprising that some seriously suicidal patients may relay their actual intent in stages. Whether evaluating such patients in an ED or on a crisis line, one would expect that the patient would share some information, see how the clinician responds, then share some more information, reevaluate "where this session is going," and so on.

Indeed, patients with serious suicidal intent who are trying to decide how much to reveal may share information about a mild overdose while consciously withholding their main method of choice (such as a gun, for they are well aware that once they share information about the gun it may be removed) until they arrive at a decision during the interview that they do not want to die. At this point, they may feel safe enough to share the full truth with the clinician.

Reflected intent: one of the master keys to unlocking real intent

Reflected intent is the quality and quantity of the patient's suicidal thoughts, desires, plans, and extent of action taken to complete the plans, which reflect how much the patient truly wants to commit suicide. The extent, thoroughness, and time spent by the patient on suicidal planning may be a better reflection of the seriousness of his intent and the proximity of his desire to act on that intent than is his actual stated intent.

Such reflections of intent may prove to be life-saving pieces of the suicide assessment puzzle. The work of Thomas Joiner[10,13] has provided insight into the importance of acquired capability for suicide (eg, intensive planning, multiple past attempts) as a reflection of the seriousness of intent and the potential for action.

A wealth of research and theory from an unexpected source—motivational theory—can help us better understand the importance of reflected intent. Prochaska and colleagues'[14,15] transtheoretical stages of change—precontemplation, contemplation, preparation, action, and maintenance—helped lay the foundation from which Miller and Rollnick's[16,17] influential work on motivational interviewing arose. When it comes to motivation to do something that is hard to do but good for oneself (eg, counseling), the extent of the patient's goal-directed thinking and his subsequent actions may be much better indicators of intent to proceed than his stated intent. In short, the old adage "actions speak louder than words" appears to be on the mark in predicting recovery behavior.

A patient in alcohol counseling may tell the counselor all sorts of things about his intent to change. Nevertheless, it is the amount of time he spends thinking about the need for change (reading the literature from Alcoholics Anonymous [AA]), arranging ways to make the change (finding out where the local AA meetings are), and the actions taken for change (finding someone to drive him to the meetings) that, according to Prochaska's theory, may better reflect the intent to change than the client's verbal report.

Motivational theories are usually related to initiating difficult-to-do actions for positive change. But they may be equally effective for initiating a difficult-to-do action that is negative, such as suicide. (Joiner [10,13] has pointed out that suicide can be quite a difficult act with which to proceed.) Once again, the amount of time spent thinking, planning, and practicing a suicide attempt may speak louder about imminent risk than the patient's immediate words about his intent.

Pitfalls of an incomplete elicitation of suicidal ideation

Premature crisis resolution. Arguably, the single most important task in a suicide assessment, whether in a face-to-face interview or on the phone, is to estimate the immediate risk of suicide and to triage safely with appropriate follow-up. Much of this determination of risk is contingent on an accurate estimate of the patient's suicidal intent. However, significant errors can be made, whether a clinician is in an ED or manning a crisis line.

Picture a patient who mentions suicidal thought and openly admits to a plan (eg, overdosing) yet is withholding much of his intent because of a strong desire to die. The clinician explores the ideation related to overdosing and then prematurely (before carefully eliciting other suicidal ideation and planning that may better reflect the patient's true intent and method of choice) begins crisis transformation. Being a skilled clinician, the crisis is effectively resolved. The client reports feeling much better. The clinician makes a recommendation for follow-up such as, "Sometime in the near future, I urge you to seek out a therapist."

Because the clinician did not do a thorough assessment of reflected intent before beginning crisis transformation (he or she prematurely assumed that the method first supplied by the client—overdosing—was the method of choice), the clinician is unaware that the client has been thinking about shooting himself for weeks; has gotten the gun out on several occasions (loaded it once); and was in need of much more careful follow-up, including the fact that the patient's mother could have removed the gun. Unfortunately, three days after the "successful" crisis intervention, the patient's girlfriend leaves him, he begins drinking, and his suicidal intent returns with a vengeance and the sound of a gunshot.

Lost data for the receiving clinician. A clinician who helps a patient to open up about his suicidal ideation and who uses effective interviewing techniques **(described in Part 2 of this article online)** may have an unusually good opportunity to obtain an accurate picture of both stated and reflected intents during the initial crisis intervention. The patient may be affectively charged at the time and such

emotional turmoil may make the client's unconscious and conscious defenses less active so that it is easier for the truth to emerge.

It is of great value for a triage clinician, such as a school counselor, primary care physician, or crisis line counselor to gather as much information as possible at this time because during the trip to the ED a surprising number of patients undergo a "miraculous cure" during transport. In short, they clam up. It is important for professional gatekeepers to gather as much information as possible regarding reflected intent because the receiving mental health professional, whether in an ED later that night or in a community mental health center 2 days later, may be dependent on this relayed information when making a formulation of risk.

The power of a thorough elicitation of suicidal ideation, behavior, and intent to save a life

The issue of credibility. Especially in situations in which the patient is not known to the interviewer, such as may occur in EDs and during consultation and liaison assessments following a suicide attempt, a determination of the credibility of the patient's self-report is of vital importance. In such situations, one can compare the validity of what is being reported with what has been documented in the past. Although previous charts are not always available (electronic records may diminish this problem), when they are, information documented on reflected intent may be invaluable in assessing the reliability of the patient's current self-reporting.

A marked discrepancy between what the patient reports about past suicidal ideation and what is actually documented may be the best indicator of whether the patient is telling the truth. Such a contradiction may guide the clinician to seek collaborative sources of information and/or to discuss the discrepancies with the patient. It also emphasizes the need to reevaluate the patient's immediate safety.

Reaching for life. Regarding future safety, the act of eliciting a thorough database on suicidal ideation and actions may be of value not only in the content of the database obtained but in the therapeutic fashion in which this information is garnered. Clinicians who have been trained to use an engaging strategy for eliciting suicidal ideation, such as the **Chronological Assessment of Suicide Events–CASE Approach (see online article),**[1,18-20] may often create a positive interpersonal experience during the initial assessment. Such a patient may remember the sense of safety and comfort he felt talking with this clinician who neither overreacted nor underreacted to the patient's description of his suicidal thought. If, in the future, that patient becomes dangerously suicidal—and is debating whether to call for help or proceed with the attempt—the patient may decide to reach for the phone, not for a gun.

Closing comments

In **Part 2** of this series on suicide assessment, we will look at a flexible approach for uncovering suicidal ideation and intent that addresses the concerns described above. The CASE Approach is an interviewing strategy designed to increase the likelihood that the patient's stated intent is accurate, that the reflected intent is comprehensive and valid, and that the amount of withheld intent is minimized or absent.

But before we leave the topic of the importance of eliciting a thorough history of suicidal ideation and action, it cannot be overemphasized that collaborative sources, such as family members, therapists, and police, may play a defining role in gathering the pieces of the risk assessment puzzle. One study of completed suicides showed that 60% of the patients had communicated suicidal thoughts to a spouse and 50% to a relative.[21] Fortunately, the interviewing strategy described in the online article may prove to be equally useful in obtaining valid information from collaborative sources, who may have their own hesitation about sharing the patient's suicidal ideation.

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Suicide Assessment

Part 2: Uncovering Suicidal Intent Using the Chronological Assessment of Suicide Events (CASE Approach)

By Shawn Christopher Shea, MD | December 21, 2009
(Part 1 of this article online: "Uncovering Suicidal IntentA Sophisticated Art")
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The Equation of Suicidal Intent, which was introduced in **Part 1** of this 2-part series, postulates that the real suicidal intent of any given patient may be equal to any one of the following or a combination of the following[1]:

• Stated intent: what the patient directly tells the clinician about his or her suicidal intent

• Reflected intent: the amount of thinking, planning, or actions taken on suicidal ideation that may reflect the intensity of the actual suicidal intent

• Withheld intent: suicidal intent that is unconsciously or purposefully withheld from the clinician

Reflected intent was defined as the quality and quantity of the patient's suicidal thoughts, desires, plans, and extent of action taken on those plans, which may reflect how much the patient truly wants to commit suicide. The extent, thoroughness, and time spent by the patient on suicidal planning may, not in all, but in some patients be a better reflection of the seriousness of their intent and the proximity of their desire to proceed on that intent than the patient's actual stated intent. Such reflections of intent may prove to be lifesaving pieces of the suicide assessment puzzle.

The interviewing strategy known as the Chronological Assessment of Suicide Events (the CASE Approach) was designed to minimize the likelihood that at the time of risk formulation, such essential pieces of the puzzle would be missing. The goal was to create a practical interviewing strategy that could be reliably used to maximize the validity of the patient's stated and reflected intent while

minimizing withheld intent—no matter how tired or overwhelmed the clinician might be or how hectic the clinical environment may have become. The ultimate goal of the interviewing strategy is to help the clinician determine the patient's actual suicidal intent.

Key design elements and development

The CASE Approach is a flexible, practical, and easily learned interviewing strategy for eliciting suicidal ideation, planning, behavior, desire, and intent. It was developed to help the clinician explore both the patient's inner pain and the suicidal planning that often reflects this pain. It was specifically designed to help transform the hindrances that often block the open sharing of suicidal intent. Used effectively, it may lead a seriously dangerous patient—predisposed to withhold his suicidal intent—to share his intent. It may also help clinicians to determine more accurately the dangerousness of a patient by bringing to the surface hidden elements of the patient's reflected intent.

For clinicians, the practical problems related to uncovering a valid history of suicidal ideation, behaviors, desire, and intent are compounded by the hectic clinical settings of contemporary practice. The time constraints related to managed care pressures, the increased workloads necessitated by down-staffing, and an increasingly litigious society combine to place additional pressures on clinicians who may already be under considerable stress.

Moreover, complicated suicide assessments have a knack for occurring at the "wrong" times: in the middle of an extremely hectic clinic day or in the chaotic environment of a packed emergency department (ED) or crisis line center. And the stakes are high. An error can result in not only an unnecessary death—a terrible tragedy—but also in a lawsuit, much less important but very disturbing in its own right. In many suicide assessment scenarios, we find a harried clinician performing a difficult task, under extreme pressure, in an unforgiving environment. No wonder mistakes are made.

Some of the more common errors that occur during the elicitation of suicidal ideation are omissions, distortions, and assumptions—a potentially deadly triad. In my experience, as a past director of a psychiatric ED, a full-intake assessment center, and a call center, it appeared that errors in suicide assessment often did not stem from poor clinical decision making. More frequently, they seemed to result from a good clinical decision being made from a bad database. In my experience, the pieces of the puzzle most frequently distorted or missing at the time of the clinical formulation were those related to the extent of the patient's suicidal history, planning, and current intent.

The CASE Approach is not presented as the *right* way to elicit suicidal ideation or as a standard of care, but as a reasonable way that can help clinicians develop their own methodology. From an understanding of the CASE Approach, clinicians may directly adopt what they like, reject what they do not like, and add new ideas. It can be used and/or adapted with any suicide assessment protocol the clinician deems useful. The goal of the CASE Approach is to provide clinicians with a practical framework for exploring and better understanding how they approach eliciting suicidal ideation, behavior, desire, and intent so that they may develop an individualized approach with which they personally feel comfortable and competent.

Background

First developed at the Diagnostic and Evaluation Center of Western Psychiatric Institute and Clinic at the University of Pittsburgh in the 1980s, the CASE Approach was refined at the Department of Psychiatry in the Dartmouth Medical School and in front-line community mental health center work during the 1990s. Subsequent refinements in the 2000s have been implemented at the Training Institute for Suicide Assessment and Clinical Interviewing (TISA).

The CASE Approach has been extensively described in the literature.[2-6] Interviewing techniques from the CASE Approach have been positively received among mental health professionals and suicidologists, substance abuse counselors, primary care clinicians, clinicians in the correctional system, legal experts, military/VA mental health professionals, and psychiatric residency directors.[7-26] A free training monograph on how to teach the CASE Approach to psychiatric residents and other mental health professionals as well as an article emphasizing the importance of incorporating training in uncovering suicidal ideation in clinical interviewing courses for psychiatric residents and other mental health disciplines has appeared in the literature.[27,28]

Organizationally, the CASE Approach is a recommended practice by organizations as diverse as Magellan and the government of British Columbia.[29,30] It is routinely taught as one of the core clinical courses provided at the annual meeting of the American Association of Suicidology (AAS).[31] It is also one of the techniques described in the 1-day Assessing and Managing Suicide Risk (AMSR) course cosponsored by the Suicide Prevention and Resource Center and the AAS and in the 2-day Recognizing and Responding to Suicide Risk course sponsored by the AAS.[32,33]

The question of validity

The noted social scientist Thomas Kuhn once quipped, "The answers you get depend upon the questions you ask."[34] In no clinical task is this more self-evident than in the elicitation of suicidal ideation, which remains—excluding that subset of patients with characterological disorder who may garner comfort through talk of suicide—one of the most taboo topics in our culture.

Helping patients share this sensitive material in a valid manner becomes one of the cornerstones of the art of eliciting suicidal ideation. Excellent lists of potentially useful questions for uncovering suicidal ideation exist.[35] It is important to contemplate not only what material needs to be asked but also what the impact of the phrasing of such questions is on the validity of the data received.

The problem of maximizing validity was addressed in the development of the CASE Approach by returning to the core clinical interviewing literature where specific "validity techniques"—created to uncover sensitive and taboo material such as incest and substance abuse—had been described in detail. These techniques were designed by experts in various disciplines, including psychiatry, clinical psychology, and counseling.

Validity techniques are used throughout the CASE Approach and emphasize not only the impact of what we ask, but of how we ask it. Consequently, to understand the practical use of the CASE Approach it is first important to review those validity techniques used to sensitively raise the topic of suicide and also those used to explore the patient's suicidal planning and behaviors once the topic has been raised.

Two validity techniques for sensitively raising the topic of suicide

Before one can explore a patient's suicidal ideation, the topic must first be addressed. Sometimes patients do so spontaneously. In other instances, the interviewer must raise the topic in a fashion that is both engaging and likely to foster open sharing. Two validity techniques may prove to be of value here: normalization and shame attenuation.

Normalization (the process of normalizing the topic for the patient) is an unobtrusive method of raising the issue of suicide.[3] The clinician can relate that he or she has had patients who were undergoing pains and/or stresses similar to those of the current interviewee and share that they had experienced suicidal thoughts. The clinician might say, "You know, Mike, some of my patients, when they are feeling as

stressed out and depressed as you have been feeling, tell me that they sometimes get thoughts of killing themselves. I'm wondering if you've been having any thoughts like that recently?" or simply "Sometimes when people feel as much pain as you are feeling, they have thought of killing themselves, has that happened to you?"

A related but slightly different method is to use the validity technique called shame attenuation.[3] With normalization, the patient is always asked to look at what other people have felt. With shame attenuation, the patient's own pain is used as the gateway to the topic of suicide. The clinician might ask, "Considering all of the pain you've been feeling in the past couple of weeks, I'm wondering if you have had any thoughts of killing yourself?"

Both techniques are effective and engaging. Whichever one feels most comfortable to the interviewer and/or may be best suited for a specific patient can be used. Sometimes patients who may be feeling awkward about having suicidal ideation (secondary to stigmatization) may respond particularly well to the reassurance that other people have had such feelings. If the patient denies any suicidal ideation, ask a second time, softening the second inquiry by asking for even subtle suicidal ideation, "Have you had fleeting thoughts of suicide, even for a moment or two?" Sometimes the answer is surprising, and it may prompt hesitant patients to begin sharing the depth of their pain and the extent of their ideation.

Four cornerstone validity techniques used to explore the extent of suicidal ideation

The following four validity techniques although not developed with suicide assessment per se in mind, form the cornerstones of the CASE Approach:

- Behavioral incident
- Gentle assumption
- Symptom amplification
- Denial of the specific

These techniques were devised to increase the likelihood of eliciting a valid response to any question that might raise sensitive or taboo material for the patient.

The techniques were created to help clinicians explore traditionally sensitive histories, including sexual abuse, physical and psychological abuse, alcohol and drug use, and violence and antisocial behavior. Consequently, in addition to being useful in eliciting suicidal ideation, these validity techniques are "the bread and butter" of busy mental health professionals, substance abuse counselors, crisis line workers and counselors, and primary care clinicians whose patients often have sensitive issues they hesitate to discuss.

Behavioral incident

A patient may provide distorted information for any number of reasons, including anxiety, embarrassment, protecting family secrets, unconscious defense mechanisms, or conscious attempts at deception. These distortions are more likely to appear if the interviewer asks a patient for opinions rather than behavioral descriptions of events.

Behavioral incidents, originally described by Gerald Pascal,[36] are questions that ask for specific facts, behavioral details, or trains of thought (called fact-finding behavioral incidents), such as, "How many

pills did you take?" or that simply ask the patient what happened sequentially (called sequencing behavioral incidents), such as, "What did she say next?" or "What did your father do then?" By using a series of behavioral incidents, the interviewer can sometimes help a patient enhance validity by re-creating, step by step, the unfolding of a potentially taboo topic such as a suicide attempt.

As Pascal states, it is generally best for clinicians to make their own clinical judgments on the basis of the details of the story itself rather than relying on patients to proffer "objective opinions" on matters that have strong subjective implications. The following are prototypes of typical behavioral incidents:

- Did you put the razor blade up to your wrist? (fact-finding behavioral incident)
- How many bottles of pills did you actually store up? (fact-finding behavioral incident)
- When you say that "you taught your son a lesson" what did you actually do? (fact-finding behavioral incident)
- What did your father say right after he hit you? (sequencing behavioral incident)
- Tell me what happened next? (sequencing behavioral incident)

Clinical caveat: Behavioral incidents are outstanding at uncovering hidden information, but they are time-consuming. For instance, the time it would take to do a full initial intake only using behavioral incidents would be impractical. Obviously, the interviewer must pick and choose when to employ behavioral incidents, with a heavy emphasis on use when sensitive areas such as drug abuse, domestic violence, and suicide assessment are at issue.

Gentle assumption

Gentle assumption (originally delineated by Pomeroy and colleagues[37] for use in eliciting a valid sex history) is used when a clinician suspects that a patient may be hesitant to discuss a taboo behavior. With gentle assumption, the clinician assumes that the potentially embarrassing or incriminating behavior is occurring and frames his question accordingly, in a gentle tone of voice.

Questions about sexual history, such as, "What do you experience when you masturbate?" or "How frequently do you find yourself masturbating?" have been found to be much more likely to yield valid answers than, "Do you masturbate?" If the clinician is concerned that the patient may be potentially disconcerted by the assumptive nature of the question, it can be softened by adding the phrase "if at all" (eg, "How often do you find yourself masturbating, if at all?"). If engagement has gone well and an appropriate tone of voice is used, patients are seldom bothered by gentle assumptions. The following are prototypes of gentle assumption:

- What other street drugs have you ever tried?
- What other types of vandalism have you been involved in?
- What kinds of problems have you ever had at work?
- What other ways have you thought of killing yourself?

Clinical caveat: Gentle assumptions are powerful examples of leading questions. The clinician must use them with care. They should not be used with patients who may feel intimidated by the clinician or with

patients who are trying to provide what they think the clinician wants to hear. For instance, they are inappropriate with children when uncovering abuse histories because they could potentially lead to false memories of abuse.

Denial of the specific

After a patient has denied a generic question, it is surprising how many positives will be uncovered if the patient is asked a series of questions about specific entities. This technique appears to jar the memory, and it also appears to be harder to falsely deny a specific as opposed to a generic question.[3] Examples of denial of the specific, concerning drug use, would be: "Have you ever tried cocaine?" "Have you ever smoked crack?" "Have you ever used crystal meth?" and "Have you ever dropped acid?" The following are prototypes of denial of the specific:

- Have you thought of shooting yourself?
- Have you thought of overdosing?
- Have you thought of hanging yourself?

Clinical caveat: It is important to frame each denial of the specific as a separate question, pausing between each inquiry and waiting for the patient's denial or admission before asking the next question. The clinician should avoid combining the inquiries into a single question, such as, "Have you thought of shooting yourself, overdosing, or hanging yourself?" A series of items combined in this way is called a "cannon question." Such cannon questions frequently lead to invalid information because patients only hear parts of them or choose to respond to only one item in the string—often the last one.

Symptom amplification

This technique is based on the observation that patients often minimize the frequency or amount of their disturbing behaviors, such as the amount they drink or the frequency with which they gamble. Symptom amplification bypasses this minimizing mechanism: it sets the upper limits of the quantity in the question at such a high level that the clinician is still aware that there is a significant problem when the patient downplays the amount.[3] For a question to be viewed as symptom amplification, the clinician must suggest an actual number.

For instance, when a clinician asks "How much liquor can you hold in a single night. . . a pint? a fifth?" and the patient responds, "Oh no, not a fifth, I don't know, maybe a pint," the clinician is still alerted that there is a problem despite the patient's minimizations. The beauty of the technique lies in the fact that it avoids the creation of a confrontational atmosphere, even though the patient is patently minimizing behavior. It always involves the interviewer suggesting a specific number, set high.

It is worth repeating that symptom amplification is used in an effort to determine an actual quantity and it is only used if the clinician suspects that the patient is about to minimize. It would not be used with a client who wanted to "maximize," as with an adolescent who might want to give the impression that he is a "big-time drinker." The following are examples of symptom amplification.

- How many physical fights have you had in your whole life . . . 25, 40, 50?
- How many times have you tripped on acid in your whole life . . . 25, 40, 100 times or more?

• On the days when your thoughts of suicide are most intense, how much of your time do you spend thinking about killing yourself . . . 70% of your waking hours, 80%, 90%?

Clinical caveat: The clinician must be careful not to set the upper limit at such a high number that it seems absurd or creates the appearance that the interviewer doesn't know what he or she is talking about.

The macrostructure of the CASE Approach: avoiding errors of omission

The patient's history of suicidal ideation and actions can appear, at first glance, as a sprawling hodgepodge of details spanning the patient's life. The gathering of this vital information in a short period while attending to the delicate issues regarding patient engagement is a daunting task.

Besides invalid data, the other major problem for the front-line clinician is missing puzzle pieces, ie, errors of omission. A 2-part question faced the developers of the CASE Approach, "Why do interviewers frequently miss important data while eliciting suicidal ideation? Is there a way to decrease such errors of omission?"

The answers lie in a field of study known as facilics. Facilics is the study of how clinicians effectively structure interviews and has given rise to the supervision method known as "facilic supervision." This is a supervision system designed to train clinicians to uncover a comprehensive database while ensuring that the patient feels that he has been talking with a caring clinician rather than "being interviewed" by some guy with a clipboard.

From a technical standpoint, facilics is the study of how clinicians structure interviews, explore databases, make transitions, and use time. Over the past 20 years, facilic supervision has become a popular tool.[3,28,38,39] It is used to train psychiatric residents and clinicians across disciplines to efficiently and sensitively perform an initial interview—including a *DSM-IV-TR* differential and a bio-psycho-social-spiritual overview.[40]

According to facilic principles, clinicians tend to make more errors of omission as the amount and range of required data increase. Errors of omission decrease if the clinician can split a large amount of data into smaller, well-defined regions. With such well-defined and limited data regions, the interviewer can more easily recognize when a patient has wandered from the subject. The clinician is also more apt to easily track whether the desired inquiry has been completed and does not feel as overwhelmed by the interview process.

If the desired data within each region is logically chosen, the databases make innate sense to the interviewer and require little memorization. Such a simplified interview format is easily learned and hard to forget, and it provides a reliable interview strategy available on a consistent basis no matter how stressed the clinician may feel.

These principles are applied to the elicitation of suicidal ideation by organizing the sprawling set of clinically relevant questions into 4 smaller and more manageable regions. The regions represent 4 contiguous time frames from the distant past to the present, hence the name "chronological." In each region the clinician investigates the suicidal ideation and actions present during that specific time frame. Generally, each region is explored thoroughly before moving to the next; the clinician consciously chooses not to move with a patient's tangential wandering unless there is a very good reason to do so. In the description below, the term "suicide events" can include any of the following: death wishes, suicidal feelings and thoughts, planning, behaviors, desire, and intent.

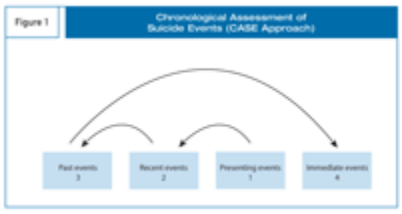
In the CASE Approach (**Figure 1**) the clinician sequentially explores the following 4 chronological regions in this order:

1. Presenting suicide events (past 48 hours)

2. Recent suicide events (over the preceding 2 months)

3. Past suicide events (from 2 months ago back in time)

4. Immediate suicide events (suicidal feelings, ideation, and intent that arise during the interview itself)



The sequencing of the regions shown in **Figure 1** was specifically designed to maximize both engagement and the validity of the obtained data. For most patients, once the topic of suicide has been raised, it seems natural to talk about the presenting ideation or attempt, if one exists, first. Following this exploration, it is easy for the interviewer to make a natural progression into recent ideation followed by past suicide events.

When performed sensitively by the interviewer, explorations of the 3 time frames before the interview generally improve both engagement and trust as the patient realizes that it is okay to talk about suicidal ideation. Once trust has been maximized, it is hoped that this positive alliance will increase the likelihood of the patient sharing valid information. It is then an opportune time to explore suicidal ideation and intentions that are being experienced by the patient during the interview itself, a critically important area of a suicide assessment. Here, the most subtle nuances of facial expression or hesitancy of speech may indicate that a suicide attempt is imminent.

The microstructure of the CASE Approach: exploring specific time frames

When exploring each of the 4 time frames, the CASE Approach addresses 2 complementary aspects of interviewing strategy: (1) Which data are important to gather in this time frame? (2) Which specific validity techniques may be the most valuable for uncovering the desired data and what sequence may enhance their effectiveness?

In this article, a brief but illustrative overview of the exploration of each time frame is presented. This overview emphasizes the required database for each region. In two of the regions—presenting suicide events and recent suicide events—the second aspect, concerning the actual choice of validity techniques and their sequencing, will be delineated in full, including a reconstructed dialogue of the techniques put into action.

For the interested reader, an article that details the recommended interviewing techniques and sequencing for all 4 time frames of the CASE Approach can be found at the TISA Web site (http://www.suicideassessment.com). A word-for-word annotated transcript of the entire CASE Approach used in a patient with a complicated presentation is also available.[2]

Step 1: The exploration of presenting suicide events

Whether the patient spontaneously raises the topic of suicide or the topic is sensitively uncovered with techniques such as normalization or shame attenuation, if the suicidal events are active during the previous 2 days' time, they are viewed as "presenting events," in the sense that the patient has been

"currently" experiencing them. If a patient presents with such current suicidal behavior or with pressing suicidal ideation, it becomes critical to understand their severity. Depending on the severity of the ideation or attempt, the patient may require hospitalization or further crisis intervention. Moreover, the clinician's formulation of the patient's immediate risk will determine the urgency of recommended follow-up, whether this triage is made from an ED or from a crisis hotline.

But what specific information would give the clinician the most accurate picture of the seriousness of presenting suicidal thought or behavior? The answer seems to lie in entering the patient's world at the time of the suicidal ideation, to find out exactly how close the patient came to attempting or completing suicide. If there was indeed an attempt, then answers to the following questions can provide valuable information:

- How did the patient try to commit suicide? (What method was used?)

- How serious was the action taken with this method? (If the patient overdosed, what pills and how many were taken? If the patient cut himself, where was the cut, and did it require stitches?)

- How serious were the patient's intentions? (Did the patient tell anyone about the attempt afterwards? Did the patient hint to anyone beforehand? Did the patient make the attempt in an isolated area or in a place where he or she was likely to be found? Did the patient write a will, check on insurance, write suicide notes, or say good-bye to significant others in the days preceding the event? How many pills were left in the bottle?)

- How does the patient feel about the fact that the attempt was not completed? (A very good question here is "What are some of your thoughts about the fact that you are still alive now?")

- Was the attempt well planned or an impulsive act?

- Did alcohol or drugs play a role in the attempt?

- Were interpersonal factors a major role in the attempt? These factors might include feelings of failure or speculation that the world would be better off without the patient, as well as anger toward others (a suicide attempt undertaken to make others feel pain or guilt).

- Did a specific stressor or set of stressors prompt the attempt?

- At the time of the attempt, how hopeless did the patient feel?

- Why did the attempt fail? (How was the patient found, and how did the patient finally get help?)

Answers to such questions can provide invaluable information regarding how serious the patient's attempt was, reflecting the patient's true intent to die, no matter what the patient's stated intent may be. Statistical risk factors will not reveal whether a given patient intended death or not. Aside from patients who may accidentally kill themselves when not intending to die (ie, perhaps acute intoxication has so clouded the patient's consciousness that he or she becomes unaware of how many pills have been ingested), in most instances people kill themselves because they have decided to do so. Suicide is not only an act of the heart but an act of the mind—a cognitive decision.

If no actual attempt has been made in the past 48 hours, then it is the reflected intent—the extent of suicidal desire, ideation, planning, and procurement of means—that will help the clinician determine the triage (inpatient versus outpatient) and rapidity of follow-up if outpatient care is recommended. This

information is coupled with what has been uncovered regarding risk factors, protective factors, and warning signs in other areas of the interview in determining safe disposition and follow-up whether seeing the patient in a clinic or ED, or listening to the patient on a crisis line.

For these reasons, it is useful to find answers to the questions described above if an attempt has occurred, or if one has not, a detailed uncovering of suicidal ideation and reflected intent is helpful. At first glance, especially for a clinician in training, this list of questions may appear intimidating to remember. Fortunately, one of the validity techniques discussed earlier—the behavioral incident—can provide the clinician with a simpler and more logical approach than memorization. The reader will recall that behavioral incidents are used when the clinician asks for a specific piece of data (eg, "Did you put the gun up to your head?") or asks the patient to continue a description of what happened sequentially (eg, "Tell me what you did next").

In the CASE Approach, during the exploration of the presenting events, the interviewer asks the patient to describe the suicide attempt or ideation itself from beginning to end. During this description the clinician gently, but persistently, uses a series of behavioral incidents guiding the patient to create a "verbal videotape" of the attempt, step by step. Readers familiar with cognitive behavioral therapy (CBT) and dialectical behavioral therapy will recognize this strategy as one of the cornerstone assessment tools—behavioral analysis.

If the patient begins to skip over an important piece of the account, the clinician gently stops the patient. The clinician "rewinds the videotape" by asking the patient to return to where the gap began. The clinician then uses a string of behavioral incidents from that point forward to fill in the gap, until the clinician feels confident that he has an accurate picture of what happened.

This serial use of behavioral incidents not only increases the clinician's understanding of the extent of the patient's intent and actions, it also decreases any unwarranted assumptions by the clinician that may distort the database. Creating such a verbal videotape, the clinician will frequently cover all of the material described above in a naturally unfolding conversational mode, without much need for memorization of what questions to ask when.

The serial use of behavioral incidents can be particularly powerful at uncovering the extent of action taken by the patient regarding a specific suicide plan, an area in which patients frequently minimize. For example, the series may look something like this in a patient who actually took some actions with a gun: "Do you have a gun in the house?" "Have you ever gotten the gun out with the intention of thinking about using it to kill yourself?" "When did you do this?" "Where were you sitting when you had the gun out?" "Did you load the gun?" "What did you do next?" "Did you put the gun up to your body or head?" "Did you take the safety off or load the chamber?" "How long did you hold the gun there?" "What thoughts were going through your mind then?" "What did you do then?" "What stopped you from pulling the trigger?"

In this fashion, the clinician can feel more confident at obtaining a valid picture of how close the patient actually came to committing suicide. The resulting scenario may prove to be radically different—and more suggestive of imminent danger—from what would have been assumed if the interviewer had merely asked, "Did you come close to actually using the gun?" to which an embarrassed or cagey patient may quickly reply, "Oh no, not really." Once again, an example of reflected intent being potentially more accurate than the patient's stated intent.

Also note, in the above sequence, the use of questions such as, "When did you do this?" and "Where were you sitting when you had the gun out?" These types of questions, also borrowed from CBT, are known as "anchor questions" for they anchor the patient into a specific memory as opposed to a

collection of nebulous feelings. Such a refined focus will often bring forth more valid information as the episode becomes both more real and more vivid to the patient.

The exploration of presenting suicide events can be summarized as follows. The clinician begins with a question, such as, "It sounds like last night was a very difficult time. It will help me to understand exactly what you experienced if you can sort of walk me through what happened step by step. Once you decided to kill yourself, what did you do next?"

As the patient begins to describe the unfolding suicide attempt, the clinician uses 1 or 2 anchor questions to maximize validity. The interviewer then proceeds to use a series of behavioral incidents, making it easy to picture the unfolding events—the "verbal videotape." The strategy and the metaphor of making a verbal video tape has been quite popular with residents and graduate students, as well as front-line staff, for the clinical task seems clear and is easily remembered even at 3 am in a busy ED. The best way to further our understanding of exploring the region of presenting events using the CASE Approach is to see the strategy in action.

Clinical illustration of Step 1: exploring the region of presenting suicide events (past 48 hours)

Frank Thompson is a good soul. He is also a tired soul. He commented to the charge nurse, "I've had a good life, I don't know, maybe it's just time to pass on." Frank has been a farmer in the rolling hills of western Pennsylvania for over 5 decades. His dad was a farmer. His grandfathers were both farmers. He was married to a wonderful woman, Sally, for 50 years. She died of brain cancer 2 years ago. Frank is plagued by diabetes and moderately severe heart and lung disease from having sucked on far too many cigarettes for far too many years. He occasionally uses oxygen to help with his labored breathing. Frank has had 7 hospitalizations since Sally died. Since her death, he has developed a mild drinking problem. On top of it all, there is a chance that he is going to lose his farm to foreclosure.

Frank has 5 children and 21 grandchildren and a pack of great grandkids to boot. His children are supportive, but only 1 lives nearby—Nick. It is Nick who has brought his dad in to the ED. Nick received a call from his dad earlier in the morning that he wasn't doing well. Nick got off work early and was caught off-guard by the depressive look of his father. Later during the night, while the two of them were sitting on the front porch, his dad shared a secret that prompted Nick to get in the car and bring him down to the ED immediately. Apparently, his dad had taken a handful of aspirin and some antibiotics 2 days ago.

We are picking up this interview about 20 minutes deep, where the clinician is about to enter the region of presenting events using the CASE Approach:

Patient: It's been a long haul over the past 2 years. Sometimes too long a haul, if you know what I mean. I'm way too old for all this crap.

Clinician: And it's got to be hard to do it alone.

Patient: You bet! With Sally gone it's all so very different.

Clinician: I'm sure the pain of her loss is beyond words. With that amount of pain on board, Mr Thompson, have you had any thoughts of killing yourself? (shame attenuation used to gently raise the topic of suicide)

Patient: I suppose my son may have already said something to you. . . . I took some pills . . . I know it was dumb, but nothing came of it anyway.

Clinician: When was that? (behavioral incident)

Patient: Couple of nights ago. But like I said, nothing came of it. I'm not sure I need any help. I'm not going to do anything stupid, you don't have to worry about that. (Note that the clinician is not going to take the clients "stated intent" as necessarily an accurate picture of his real intent. Instead, the clinician is going to uncover Mr Thompson's reflected intent by weaving a verbal videotape using behavioral incidents.)

Clinician: You know what, Mr Thompson . . . that may be true, but I just want to get a better feeling for what you've been going through so we can make a wise decision together. Where were you when you took the pills? (behavioral incident serving as an anchor point)

Patient: In the kitchen. I was sitting in a little kitchen nook where Sally and I used to eat lunch. I always loved that little place.

Clinician: (gently smiling) Yea, I bet it brings back warm memories of Sally.

Patient: (smiling back) Yea, it does.

Clinician: What kind of pills did you take? (behavioral incident)

Patient: Some aspirin, some penicillin.

Clinician: How much did you take of each one? (behavioral incident)

Patient: About a handful of each. (Note that there can be quite a difference in what a patient means by a "handful." It is a perfect time to clarify with a behavioral incident.)

Clinician: When you say a handful, how many of each do you mean? (behavioral incident)

Patient: About 10 of each.

Clinician: Any other pills?

Patient: (pause) I also took about 5 digoxin I'm on, more than I'm supposed to, I know that. (This is a fact that the son was unaware of and had not reported to the clinician.)

Clinician: Did you have any pills left? (behavioral incident)

Patient: Not a lot, I don't keep many pills in the house and my prescriptions have basically run out.

Clinician: Did you look for any other pills? (behavioral incident)

Patient: (pause) Not really pills (pause) I did go through the drawer wondering if there was any rat poison around, but I realized that was stupid too. (pause) Trust me, suicide is not the answer, God did not put us on this earth to kill ourselves. (Unexpected information is coming to the surface. Clearly, the son has not been told everything. The searching for the rat poison reflects more suicidal intent than might be expected from phrases like, "God did not put us on this earth to kill ourselves.")

Clinician: I'm glad you feel that way. And maybe we can help some too. At least I hope so.

Patient: Maybe.

Clinician: You know, right after you took the pills, what was the next thing you did. (sequencing behavioral incident)

Patient: Went to bed, just to sort of to see what would happen? I was just so tired of it all.

Clinician: How did you feel about the fact that you woke up okay?

Patient: I don't know. Sort of didn't care. It's just the way it is.

Clinician: Had you been drinking at all, even a little bit? (behavioral incident)

Patient: Nope. I'm trying to lay off the stuff. It just gets me more depressed. Don't get me wrong, I'm still drinking, but not over the past couple of days. (Notice that the clinician does not pursue a complete drug and alcohol history here; this will be carefully delineated as a risk factor in a different section of the interview or may have already been done.)

Clinician: I know from your son that you called him the next day. Had you tried any other ways of killing yourself before you called him?

Patient: Nope. I just thought I needed a rest of some sort, and I wanted to talk it all over with Nick.

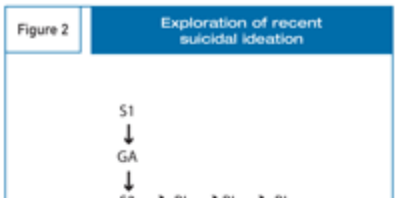
Clinician: Good. How about over the past couple of months, have you had any other thoughts of overdosing? (behavioral incident, the clinician is gracefully moving into the region of recent suicide events with a bridging question)

Step 2: The exploration of recent suicide events

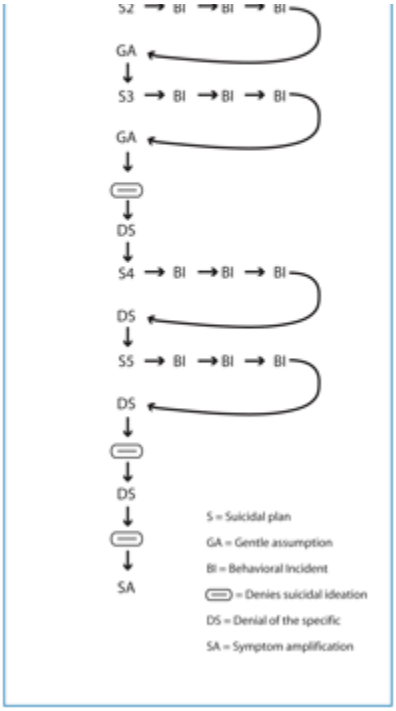
The region of recent events may very well represent—from the perspective of motivational theory—the single richest arena for uncovering reflected intent. It is here that with an ambivalent patient or with a patient who strongly wants to die and is hesitant to share his real intent for fear of what will happen (possible hospitalization, involuntary commitment, or removal of a method of choice) that a skilled interviewer may uncover ideation and planning that provide a more accurate indication of the patient's real intent, which is being consciously withheld.

It is also the arena when, with a patient whose unconscious defense mechanisms may be minimizing their conscious awareness of the intensity of their real suicidal intent, a more accurate picture of the patient's intent may emerge. Specifically, the patient's actions taken toward procuring a method of suicide and/or the amount of time spent preoccupied with suicide may betray the severity of the patient's real intent better than his or her stated intent would suggest. In my opinion, the ability to explore effectively the region of recent suicide events represents one of the most critical of all clinical interviewing skills for mental health professionals to master. It is also the region of the CASE Approach where all 4 of the cornerstone validity techniques are put to strategic use. Consequently, it warrants some careful delineation.

Sometimes when the clinician raises the topic of suicide with techniques such as normalization or shame attenuation, the patient's reported events do not lie within the previous 2 days' time (in essence there are no presenting events), in which case the clinician immediately begins exploring the region of recent events. On the other hand, if the patient



had reported a true presenting event, the clinician would have needed to make a bridging statement to transition into the recent suicide events after having explored the presenting event in detail (**Figure 2**). Often this is initiated by smoothly eliciting any thoughts in the past 2 months related to the same plan that the patient discussed in the presenting events. Once recent thoughts or actions regarding the same method have been explored, a gentle assumption is used to look for a second suicide method. My favorite gentle assumption is the simplest one, "What other ways have you thought of killing yourself?"



If the same plan was also contemplated or a second method is uncovered, sequential behavioral incidents are used to create another verbal videotape reflecting the extent of action taken with this new method. The interviewer continues this use of gentle assumptions, with follow-up verbal videotapes as indicated with each newly uncovered plan, until the patient denies any other methods when asked, "What other ways have you thought of killing yourself?"

Once the use of a gentle assumption yields a blanket denial of other methods, if, and only if, the clinician feels that the patient may be withholding other methods of suicide, the clinician uses a short series of denials of the specific. The interviewer must use his or her clinical judgment to decide whether or not the use of denials of the specific is indicated. None would be warranted if the patient had low risk factors, had high protective factors, and had reported minimal or no suicidal ideation to that point in the interview. On the other hand, if the clinician's intuition was suggesting that this particular patient may be withholding critical suicidal ideation or planning, then denials of the specific could be employed. This technique can be surprisingly effective at uncovering previously withheld suicidal material. The interviewer doesn't drive this technique into the ground with an exhaustive series of methods but simply asks for any unmentioned methods that are common to the patient's culture and of which the clinician is suspicious that this specific patient might be withholding.

By way of example, if the patient has talked about overdosing, guns, and driving a car off the road, the clinician might employ the following short list of denials of the specific, pausing after each for an answer: "Have you thought about cutting or stabbing yourself?" "Have you thought about hanging yourself?" "Have you thought about jumping off a bridge or other high place?" "Have you thought about carbon monoxide?" As before, if a new method is revealed, the clinician uncovers the extent of action taken by asking a series of behavioral incidents. It is here—with the selective and well-timed use of denials of the specific—that a highly dangerous patient, who has been purposefully withholding his method of choice, may suddenly share it, perhaps prompted by a wedge of healthy ambivalence.

After establishing the list of methods considered by the patient and the extent of action taken on each method, the interviewer hones in on the frequency, duration, and intensity of the suicidal ideation with a symptom amplification. He might ask, for example, "Over the past 2 months, during the days when you were most thinking about killing yourself, how much time did you spend thinking about it . . . 70% of your waking hours, 80%? 90%?"

The strategy for exploring the suicidal history of the past 2 months is easy to learn and simple to remember. It also flows imperceptibly for the patient, frequently increasing engagement as the patient is pleasantly surprised at how easy it is to talk to the clinician about issues that had frequently been

shouldered as a topic of shame. It also becomes apparent from the questioning that the interviewer is quite comfortable talking about suicide and has clearly discussed it with many others. This represents yet another shame-reducing metacommunication.

With each bit of information, the clinician is invited deeper and deeper into the patient's unique world. A clearer and clearer picture emerges of how serious the patient's suicidal planning has become; this may better reflect the real intent than the patient's stated intent. Moreover, a sound database has been collected for future clinicians that can alert them to the types of methods the patient frequently contemplates and it can also serve as a method of assessing the patient's current credibility as a historian as discussed in **Part 1** of this series.

There is no better way to illustrate the power of this strategy than to see it directly at work with Mr Thompson. The skilled interviewing has already uncovered information that suggests that Mr Thompson's real intent may be higher than his stated intent would suggest. Moreover, his list of risk factors is high and his support system other than his nearest son have been markedly weakened by the loss of his wife. The fact that he is wrestling with the notion that it is "wrong" to kill oneself may be creating both ambivalence (good) and a skewed self-admission as to the depth of his suicidal desire and intent (bad), because unconscious defense mechanisms could be protecting him from viewing himself as a bad person by minimizing the severity of his real intent.

Notice that the clinician is quite explicit with the time frame, stating the exact duration as opposed to using a vague term such as "recently." This specificity is important because it helps the patient remain focused on the desired time frame while decreasing time-wasting sidetracks.

Patient: Nope. I just thought I needed a rest of some sort, and I wanted to talk it all over with Nick.

Clinician: Good. How about over the past couple of months, have you had any other thoughts of overdosing? (behavioral incident, the clinician is gracefully moving into the region of recent suicide events with a classic bridging question)

Patient: A few times but I never got no pills out or something.

Clinician: What other ways have you thought about killing yourself? (gentle assumption)

Patient: Oh not much. . . . I suppose I thought about hangin' myself, but that is not a good way to die. You know, it doesn't always work, at least that's what I been told.

Clinician: Have you ever gotten a rope out or something else to use to hang yourself? (behavioral incident)

Patient: No sir, I haven't.

Clinician: What other ways have you thought about killing yourself? (gentle assumption)

Patient: Well, I have gone out to the barn to see if we still had some of that pesticide I used a couple of years ago.

Clinician: And? (variant of a sequencing behavioral incident)

Patient: Oh we did. And . . . and I was thinking about taking some and then burning the barn down with me inside it.

Clinician: Hmmm.

Patient: Yea (pause) sort of Hollywoodish (smiles) but it's no good, way too apt to not work out right.

Clinician: How often did you go out to the barn thinking about that? (behavioral incident)

Patient: Maybe 4 or 5 times, I don't really remember exactly.

Clinician: What other ways have you thought of killing yourself? (behavioral incident)

Patient: That's about it. Nothing else really.

The CASE Approach is doing exactly what it is supposed to be doing . . . getting those puzzle pieces out on the table that might better reflect the severity of Mr Thompson's suicidal intent in the recent past. The resulting information is a bit surprising. The use of the gentle assumptions has resulted in a method (pesticides and burning down the barn) that quite frankly the clinician would not have thought to ask about. Gentle assumptions allow patients to provide such individualized plans that may never have come to the clinician's awareness had gentle assumptions not been used. The number of times Mr Thompson went to the barn is also disturbing. Despite his ability to still retain a sense of humor, the depth of his angst is becoming more and more apparent.

Note that Mr Thompson has now flat-out denied any other methods when presented with a gentle assumption. "What other ways have you thought about killing yourself?" The clinician is about to use a short string of denials of the specific. His persistence is prompted by the presence of high risk factors, the clear depth of Mr Thompson's anguish, and by the fact that during the exploration of presenting events, and thus far in the exploration of recent events, details are being uncovered that Mr Thompson had not shared earlier. In addition, there was one other fact that seems odd to the clinician:

Clinician: What about carbon monoxide, you know, with a car or tractor? (denial of the specific)

Patient: My old barn is so drafty, you couldn't do that if you tried (smiles weakly)

Clinician: Have you thought of jumping off a building or bridge? (denial of the specific)

Patient: Nope.

Clinician: You know, Mr Thompson, most farmers I know like to hunt or at least have a gun around to protect their animals, and sometimes when they are in a lot of pain like you've been having they think of shooting themselves, I'm wondering if that has crossed your mind? (denial of the specific introduced with a normalization)

Patient: (long pause, looks away ever so slightly) I suppose.

Clinician: Did you ever picture a place where you might shoot yourself? (behavioral incident)

Patient: There is a place down by Willow Creek that was the favorite place that Sally and I used to go. (pause) It's just lovely, even in the winter it's lovely. (sigh) And I've often thought that if I had to go, that's where I would do it.

Clinician: Did you ever go there with a gun, thinking you might kill yourself? (behavioral incident)

Patient: Yea, (pause) yea, I've done that.

Clinician: Did you load the gun? (behavioral incident)

Patient: Yea.

Clinician: What did you do next? (sequencing behavioral incident)

Patient: Put it in my mouth. I read somewhere that's how you should do it. (pause) Someone told me once they knew a guy who did that but didn't point it upwards so the darn thing shot right out the back of his neck (slight chuckle) hard to believe (shakes his head).

Clinician: Sounds like you were pretty close though.

Patient: Yea. Yea. I guess I was.

Clinician: Was the safety off? (behavioral incident)

Patient: Yea. (looks down)

Clinician: (said very gently) You really miss her don't you?

Patient: (patient bursts into tears) Oh God, I miss her. She made my world. She was my world.

Clinician: What made you put the gun down, Mr Thompson? (behavioral incident)

Patient: I don't really know. Maybe I thought I should be around for all my grandkids, but I just don't know anymore.

Clinician: Mr Thompson, roughly when was this? (behavioral incident)

Patient: About 2 weeks ago.

Clinician: Right around then, when things were really tough, how much time were you spending thinking about killing yourself, 70% of your waking hours, 80%, 90%? (symptom amplification)

Patient: (Lifts head up and looks the clinician right in the eye) The truth is—I couldn't get it out of my mind.

This interviewer is earning his pay. He may also be saving Mr Thompson's life. Mr Thompson's intent to kill himself is much higher than his originally stated intent implied. In addition, it was only through the skilled use of a denial of the specific that the patient's true method of choice emerged. With this added information reflecting the potential seriousness of Mr Thompson's suicidal intent, hospitalization appears to be more appropriate, and there is now an opportunity to have the gun removed from the farmhouse as well.

The CASE Approach is built to uncover pieces of the puzzle that enhance the likelihood that our clinical formulation of risk will be more accurate. Some of the pieces of the puzzle will alert the clinician to the possible dangerousness of the patient (as seen with Mr Thompson) and others may point to the patient's

safety. It is not the domain of this article to discuss the way these pieces are used for clinical formulation—the third task of a suicide assessment. We are interested in the power of the interviewing techniques to uncover the pieces in the first place.

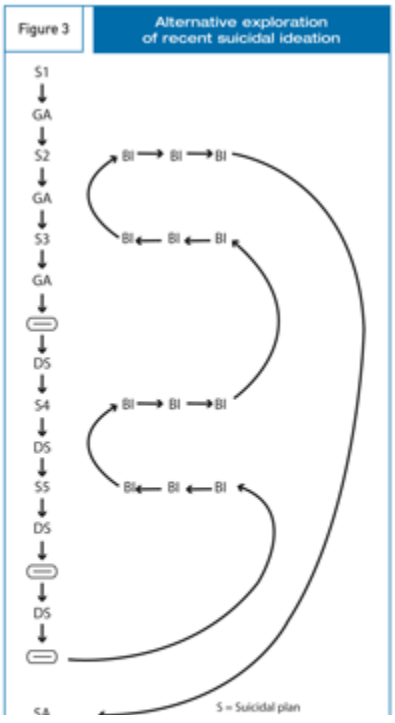
Also note that the interview strategy has uncovered clear-cut grounds for an involuntary commitment. The behavioral specificity of the CASE Approach is ideal for uncovering grounds for commitment. In this instance, the newly uncovered information serves to alert us to the intensity of the patient's intent, which even if it has settled a bit could easily be rekindled to a dangerous level in a day or two, merely by the power of his grief or perhaps by news of a foreclosure with a subsequent return to drinking.

From the perspective of interviewing technique, notice that once the use of a gun was uncovered, the clinician deftly used a series of behavioral incidents to create a verbal videotape of what actually happened. Fact-finding behavioral incidents such as, "Did you load the gun?" and sequencing behavioral incidents such as, "What did you do next?" provided concrete information regarding the seriousness of Mr Thompson's intent.

Also note that the string of behavioral incidents led the patient to remember and describe his inner world at the time of the gun incident. This is a common phenomenon—a rather beneficial side effect of the behavioral incident technique. The technique is designed to improve the validity of hard behavioral data, but as patients begin to re-imagine their experiences, they are often drawn into their internal cognitions and emotions at the time as well. This often provides a window into the soul of the patient. Within the soul, we may find strong reasons to live or, as with Mr Thompson, a shattered soul where there seems to be only good reasons to die as reflected by his telling comment, "She was my world." It is exactly this type of important puzzle piece, which may not spontaneously emerge in an interview, that interview strategies such as the CASE Approach are designed to gently coax to the surface.

In short, while responding to a series of behavioral incidents, patients sometimes share the delicate arabesque that occurs as they weigh their reasons for dying against their reasons for living. As Jobes and Mann41 and others have pointed out, an understanding of a patient's reasons for living is an important aspect of suicide assessment that has traditionally not been given the attention in the literature that it warrants.

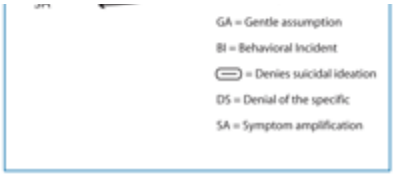
There are other ways to approach the task of exploring the region of recent events. In another method (**Figure 3**), the clinician first generates the entire list of suicide methods contemplated by the patient and then explores each one in detail.



Both strategies are easy to remember. The clinician can try both strategies or develop entirely new ones. There is no correct strategy. The goal is not to have a cookbook method of exploring recent suicidal ideation but to be comfortable with a well-practiced strategy so that one can creatively modify it to the specific needs of the clinical situation at hand.

I want to re-emphasize that the extensiveness of the questioning during the region of recent events is entirely dependent on the interviewer's ever-evolving read on the dangerousness of the patient. For example, if a client has low risk factors, has high protective factors, denies any thoughts of suicide during the exploration of presenting events, and reports only one fleeting thought of shooting himself (no gun at home) during the early exploration of the recent events, a clinician most likely

would not use denials of the specific nor symptom amplification. It would not make sense to do so and might even appear odd to the patient. The CASE Approach is flexibly sculpted to the specific needs of the patient as determined by the perceptions of the clinician.



Step 3: The exploration of past suicide events

Clinicians sometimes, during the initial interview, spend too much time on this area. Patients with complicated psychiatric histories (eg, some people with a borderline personality disorder) may have lengthy past histories of suicidal material. One could spend an hour just reviewing this material, but it would be an hour poorly spent.

Under the time constraints of busy practices and managed care, initial assessments by mental health professionals usually must be completed in an hour or less. Time is at a premium. What past suicidal history is important to gather? In the CASE Approach the interviewer seeks only information that could potentially change the clinical triage and decision about the follow-up of the patient. Thus, the following questions are worth investigating:

- What is the most serious past suicide attempt? (Is the current ideation focused on the same method? "Practice" can be deadly in this arena. Does the patient view the current stressors and options in the same light as during the most dangerous past attempt?)

- Are the current triggers and the patient's current psychopathological state similar now as to when the most serious attempts were made? (The patient may be prone to suicide following the break-up of relationships or during episodes of acute intoxication, intense anxiety, or psychosis.)

- What is the approximate number of past gestures and attempts? (Large numbers here can alert the clinician to issues of manipulation, making one less concerned, or may alert the clinician that the patient has truly exhausted all hope, making one more concerned. In either case, it is important to know.)

- When was the most recent attempt outside of the 2 months explored in Step 2? (There could have been a significant attempt within the past 6 months that may signal the need for more immediate concern.)

Step 4: The exploration of immediate suicide events

In this region, the interviewer focuses on, "What is this patient's immediate suicidal intent?'' As with previous regions, it remains important to remember that reflected intent (which might be revealed by nonverbal communications) may be a better indicator of real intent than what the patient states in his or her intent. The clinician explores any suicidal ideation, desire, and intent that the patient may be experiencing during the interview itself and also inquires whether the patient thinks he or she is likely to have further thoughts of suicide after leaving the office, ED, or inpatient unit, or gets off the phone following a crisis call. The region of immediate events also includes any appropriate safety planning. The focus of the exploration of immediate events is thus on the present and future (easily remembered as the region of Now/Next).

Exploring immediate desire (the intensity of the client's pain and desire to die) and the client's intent (the degree with which the client has decided to actually proceed with suicide) is clarified by discerning the relationship between the two, for they are not identical despite being intimately related. A patient could have intense pain with a strong desire to die yet have no intent as reflected by, "I could never do

that to my children." Conversely, over time, a patient's pain could become so intense that it overrides his or her defenses that had prevented intent, resulting in a patient who impulsively acts.

A sound starting place is the question, "Right now, are you having any thoughts about wanting to kill yourself?" From this inquiry, a variety of questions can be used to further explore the patient's desire to die, such as:

1. "How would you describe how bad the pain is for you in your divorce right now, ranging from 'It's sort of tough, but I can handle it okay' to 'If it doesn't let up, I don't know if I can go on'?"

2. "In the upcoming week, how will you handle your pain if it worsens?"

Questions such as the following can help delineate intent:

1. "I realize that you can't know for sure, but what is your best guess as to how likely it is that you will try to kill yourself during the next week from highly unlikely to very likely?"

2. "What keeps you from killing yourself?"

It is important to explore the patient's current level of hopelessness and to assess whether the patient is making productive plans for the future or is amenable to preparing concrete plans for dealing with current problems and stresses. Questions such as, "How does the future look to you?" "Do you feel hopeful about the future?" and "What things would make you feel more or less hopeful about the future?" are useful entrance points for this exploration. If not addressed in an earlier time frame, an exploration of reasons for living can be nicely introduced here with, "What things in your life make you want to go on living?"

The task of developing a safety plan is frequently facilitated by asking questions, such as, "What would you do later tonight or tomorrow if you began to have suicidal thoughts again?" From the patient's answer, one can sometimes better surmise how serious the patient is about ensuring his safety. Such a question also provides a chance for the joint brainstorming of plans to handle the reemergence of suicidal ideation. Sound safety planning often includes a series of steps that the patient will take to transform and/or control suicidal ideation if it should arise. Such planning could begin with something as simple as taking a warm shower or listening to soothing music and end with calling a crisis line or contacting a cab to return to the hospital if out on a pass.

Such questioning leads the clinician to the complex issue of whether or not "safety contracting" as opposed to "safety planning" may be of use with any specific patient. In my opinion, each patient is unique in this regard.

Safety contracting has become somewhat of a controversial topic. To understand its use in a practical sense, it is important to remember that in addition to the fact that it may metacommunicate caring and concern on the part of the interviewer, there are 2 main reasons or applications for safety contracting: (1) as a method of deterrence and (2) as a sensitive means of suicide assessment. These applications are radically different and their pros and cons are equally radically different. The intensity of the debate, in my opinion, is generated because most of what is "debated" has to deal primarily with its application as a deterrent, which has many limitations.

For instance, safety contracting may frequently be counterproductive in patients dealing with borderline or passive-aggressive pathology. With such patients, it is sometimes best to avoid the whole issue of safety contracting, because it may embroil the dyad in ineffective debates with statements such as, "I

don't know what to tell you. I guess I'm safe, but on the other hand, I can't make any guarantees. Do you know anybody who can?"

If one uses safety contracting as a deterrent, it is critical to use it cautiously. It guarantees nothing and may yield a false sense of security. Moreover it should never be done before a sound suicide assessment has been completed. Generally speaking, I believe that safety contracting as a deterrent is viewed by most suicidologists as inferior to sound safety planning, although, to date, there is no research to prove the effectiveness of safety planning as a deterrent.

The power of the patient's superego and the power of the therapeutic alliance may play significant roles in whether safety contracting, employed as a deterrent, may have use with a specific patient. I am convinced that in some patients, it may play a role in deterrence as with a patient in a long-standing therapeutic alliance, with minimal characterological pathology and a powerful superego. I have had several seasoned therapists approach me after workshops commenting that they have had patients clearly state that the safety contract functioned as a deterrent with one patient saying on a Monday after a particularly bad weekend, "The only reason I am alive today is our contract, for I couldn't do that to you. I couldn't break my word to you."

But deterrence is not the only, and, in my opinion, is not the main reason to use safety contracting. The process of contracting for safety may be more frequently useful as an exquisitely sensitive assessment tool. In this capacity, it is selectively used in a small number of patients, who have no characterological pathology, in which the interviewer is leaning toward nonhospitalization after completing a suicide assessment but is bothered either by his or her intuition that the patient is more dangerous than they have stated or analytically feels something does "not add up here." In such cases, rather than use safety planning, which has no interpersonal pressure to it, the clinician may opt to use safety contracting, in which the patient is "put on the spot" to make an agreement. Such an "interpersonal push" may prompt nonverbal leakage of hidden ambivalence or dangerous suicidal intent.

When used in this highly selective fashion, as the interviewer asks whether the patient can promise to contact the clinician or appropriate staff before acting on any suicidal ideation, the interviewer searches the patient's face, body, and tone of voice for any signs of hesitancy, deceit, or ambivalence. Here is the proverbial moment of truth. Nonverbal leakage of suicidal desire or intent at this juncture can be, potentially, the only indicator of the patient's true immediate risk.

Using the interpersonal process of safety contracting as an assessment tool, the clinician may completely change his mind about releasing a patient on the basis of a hesitancy to contract, an avoidance of eye contact, or other signs of deceit or ambivalence displayed while reluctantly agreeing to a safety contract. I vividly remember one patient, who adamantly did not want to be admitted to the hospital, whom I was about to discharge from my ED, but about whom I felt intuitively something was askew despite a careful suicide assessment. I decided to employ safety contracting as an assessment tool. When I asked whether he could promise to call us before ever acting on any suicidal ideation, he hesitated and briefly glanced down. When I pointed out that it looked hard for him to make the contract, he welled up and said, "I just want to die." I commented, "You know, I think we should bring you into the hospital," at which point he looked at me and said, with a pained foreboding "You probably should." It was a chilling moment. He then agreed to be admitted.

The interviewer who notices such nonverbal clues of ambivalence can simply ask, "It looks as though this contract is hard for you to agree to. What's going on in your mind?" The answers can be benign or alarming (as above) and the resulting piece of the puzzle—that could only be provided by the process of safety contracting—may lead to a change in disposition. This use of safety contracting as an assessment tool, based on nonverbal leakage of suicidal intent, unlike safety contracting as a deterrent (which

probably has limited use in an ED) may be particularly useful in an ED. Thus safety contracting is complicated, and CASE-trained clinicians neither generically condemn nor condone its use but attempt to make a wise decision on the basis of the specific needs of the client and the clinical task at hand.

For a practical review of how to effectively use safety contracting, the reader is referred to "Safety Contracting: Pros, Cons, and Documentation Issues" where one will also find references to numerous articles on the subject.[42] Remember that safety contracting is no guarantee of safety whatsoever.

Finally, it cannot be emphasized enough that continuing concerns about the safety of the patient or the validity of the patient's self-report may require contacting collaborative sources.

A few notes on what the CASE Approach is not

It is important to remember that the CASE Approach is a flexible interview strategy devoted solely to the elicitation of suicidal events. It is not a complete interview and is always employed within the body of some other clinical interview, such as an initial assessment, ED assessment, or crisis call.

Neither is the CASE Approach a suicide assessment protocol. A suicide assessment protocol is composed of all 3 of the following tasks: (1) gathering information related to the risk and protective factors and the warning signs for suicide; (2) gathering information related to the patient's suicidal ideation, planning, behaviors, desire, and intent; and (3) the clinical decision making that is subsequently applied to these 2 databases to create a formulation of risk. These are 3 very different tasks and skill sets.

The CASE Approach is merely designed as an aid to the second component of a suicide assessment approach—gathering information related to the patient's suicidal ideation, planning, behaviors, desire, and intent. The CASE Approach complements, not replaces, the 2 other critical components of a sound suicide assessment.

Thus, the CASE Approach is *not* a method of uncovering the risk/protective factors for suicide; such vital information will be gathered in other areas of the overall interview. For example, the role of ongoing alcohol use will be explored in the history of substance abuse. The presence and intensity of the patient's anxiety/agitation will be explored in the exploration of the patient's symptoms and his mental status. The presence of psychosis will be explored in the examination for psychotic disorders, and the availability of support systems (and other related critical risk factors such as Joiner's concepts of not feeling that one belongs to a valued group or feeling that one is a burden to others) will be flexibly and sensitively explored in other areas of the interview, such as the social history or perhaps when the patient is sharing the pain of his presenting crisis or triggering stresses.

The data garnered from the CASE Approach on suicidal ideation, behavior, and intent is added to the previously or subsequently garnered information regarding risk and protective factors in other sections of the interview and/or from collaborative sources to be used in the third component of a suicide assessment protocol—clinical formulation of risk—using whatever style of clinical formulation the clinician feels comfortable using. The CASE Approach says absolutely nothing about how to formulate risk, it is merely an interviewing strategy that attempts to provide the best possible puzzle pieces from which a clinician can make a sound formulation of risk.

Moreover, the CASE Approach is flexibly adapted to the unique needs and personality traits of the individual patient, as well as the unique demands of the clinical situation—ED assessment versus

ongoing psychotherapy versus inpatient setting. For instance, it was not designed nor is it recommended for use with children, although future child researchers may find that elements of the CASE Approach may prove to be useful.

Finally, the Case Approach is not a cookbook style of interviewing, applied in the same way with every client. The CASE Approach is altered markedly with a patient who might want to manipulate himself into a hospital or who might have borderline personality traits and for whom "suicide talk" may be used to seek comfort or concern from caregivers; it may also be markedly altered with actively psychotic patients. Practical details on how the CASE Approach is effectively adapted to patients with specific pathological states, such as psychosis or borderline personality, as well as a detailed exploration of the other 2 critical aspects of suicide assessment—risk/protective factors and clinical formulation of risk—are described elsewhere for the interested reader.[2]

Training applications, research directions, and implications for suicide prevention programs

The CASE Approach is designed to allow the clinician to enter the patient's world of suicidal preoccupation sensitively and deeply. During the elicitation of suicidal ideation and intent with the CASE Approach, something else may have been accomplished that is very important: the interviewer has helped the patient share painful information that, in many instances, the patient has borne alone for too long. Perhaps the thoughtfulness and thoroughness of the questioning, as illustrated with the CASE Approach, will have conveyed that a fellow human cares. To the patient, such caring may represent the first realization of hope.

By using this strategy routinely, clinicians can become adept at it, learning how to flexibly alter it to fit the unique needs of specific clinical settings and with diverse types of patients. In most suicide assessments, the CASE Approach can be completed within several minutes. Even with more complicated patients, as might be seen in a particularly complex ED presentations, it rarely requires more than 5 to 10 minutes. In a patient who has low risk factors, has high protective factors, and answers negatively to questions in the regions of presenting suicide events, recent suicide events, and past suicide events, the CASE Approach can be completed in 3 questions. With such a patient, the clinician wouldn't even enter the region of immediate events.

Because the strategies of the CASE Approach are based on easily identifiable interviewing techniques, the skills of the interviewer employing the strategy can be easily observed, monitored over time, and objectively tested for quality assurance purposes. It is hoped that such behaviorally specific characteristics will also allow quantitative and qualitative research to be done on both the ability of the CASE Approach to be taught (and retained) as well as research regarding its ultimate effectiveness in procuring a comprehensive and reliable database on suicidal ideation and intent. Such research could provide the foundation for an evidence-based model for effectively eliciting suicidal ideation, similar in fashion to the way that cardiopulmonary resuscitation was developed. As with CPR, such an evidence-based interviewing strategy could be used as the basis for certifying clinicians to competence across the country.

In the meantime, as we wait for the appropriate research to be undertaken, the CASE Approach allows experienced clinicians to study how they are currently eliciting suicidal ideation and also suggests new ways of doing so. Returning to the Equation of Suicidal Intent, the CASE Approach provides a platform for exploring suicidal ideation and behaviors that may maximize the likelihood that (1) a patient will share what would have been withheld intent, (2) a patient will more openly share his reflected intent, and (3) the patient's stated intent will be as accurate as possible.

It is hoped that with the versatility and the ease with which the CASE Approach can be taught and competency tested, that it will prove valuable in 2 pressing new populations:

- Military personnel serving or returning from Afghanistan and Iraq (including suicide potential in their highly stressed family members) as well as veterans and soldiers stationed stateside

- Students in college, middle school, and high school

It is hoped that the CASE Approach will play a major role in the training of psychiatric residents and other mental health graduate students in social work, counseling, and psychology, for whom the instillation of sound suicide assessment skills is one of the most pressing of educational tasks.[27,28] More details on how to employ the CASE Approach and information on available workshops and experiential training on its effective use, no matter what the discipline or the clinical setting, are available at the TISA Web site.[43]

A practical example highlights the promise of the CASE Approach in yet another training arena, medical and nursing student education. It is well documented that at least 50% of patients who kill themselves have seen a primary care clinician within a month of their deaths.[44] A typical primary care clinician sees patients who warrant a suicide assessment on a daily basis. To prepare medical and nursing students for this future task—as part of the numerous competency skills that they are currently required to demonstrate before graduation—every student could be asked to learn and effectively demonstrate the use of an interview strategy for eliciting suicidal ideation, such as the CASE Approach.

It is likely that such medical and nursing students would be significantly more competent in eliciting suicidal ideation than the typical medical and nursing graduate of today. Perhaps even more important, because the students would both understand the importance of asking for suicidal ideation and simultaneously be more comfortable with a way of doing it, they might be considerably more aggressive in seeking it out in their future primary care settings. The result could be a tangible decrease in the death rate related to suicide.

The epigraph to this article was the quotation from the always insightful and wry Oscar Wilde, who commented, “My reality is constantly blurred by the mists of words.” Language can indeed be misleading, and during a suicide assessment, miscommunication is not only problematic . . . it is sometimes lethal. The CASE Approach is an attempt to cut through some of the mists created by language to the truth regarding a patient’s intent to die by suicide. If we are lucky, when the mists recede, it is hope that remains.

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Deficiencies in healthcare prior to suicide and actions to deal with them: a retrospective study of investigations after suicide in Swedish healthcare

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To cite: Roos af Hjelmsäter E, Ros A, Gäre BA, *et al*. Deficiencies in healthcare prior to suicide and actions to deal with them: a retrospective study of investigations after suicide in Swedish healthcare. *BMJ Open* 2019;**9**:e032290. doi:10.1136/bmjopen-2019-032290

► Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2019-032290).

Received 13 June 2019
Revised 12 September 2019
Accepted 12 November 2019

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ABSTRACT

Objectives The overall aim of this study was to aggregate the conclusions of all investigations conducted after suicides reported to the supervisory authority in Sweden in 2015, and to identify deficiencies in healthcare found in these investigations; the actions proposed to deal with the deficiencies; the level of the organisational hierarchy (micro–meso–macro) in which the deficiencies and actions were situated; and outcomes of the supervisory authority's decisions.

Design and setting This is a retrospective study of all reports from Swedish primary and secondary healthcare after suicide to the regulatory authority in Sweden in 2015.

Results In 55% (n=240) of cases, healthcare providers reported healthcare deficiencies that contributed to suicide; these deficiencies were primarily in 'suicide risk assessment' and 'treatment'. Actions aimed at preventing new suicides were proposed in 80% of cases (n=347). By far, the most frequent actions were 'education and competence', present in 52% of cases (n=227) and did not much correspond with identified deficiencies. Sixty-five per cent of the deficiencies and actions were at microlevel, while the remainders were at mesolevel. In 65% (n=284) of cases, the supervisory authority approved the investigation without further requirements.

Conclusions The most common identified deficiencies were related to care in the immediate interface between patient and staff. Actions proposed to prevent new suicides were centred on single educational interventions without distinctive sustainable effects in the organisations and usually did not correspond with the identified deficiencies. Future research should examine if application of a framework based on knowledge of the suicide process, suicide prevention strategies and patient safety would enable more sophisticated investigations that could facilitate progress on suicide prevention.

Strengths and limitations of this study

- This is the first national aggregated analysis of the outcomes of investigations following suicides in Sweden.
- The categorisation of deficiencies and actions for improvements was done by a single person to improve consistency.
- All data were based on the healthcare providers' reports of suicide to the supervisory authority, reports performed in different contexts by different persons with a large spectrum of disparities in experiences resulting in variegated quality.

BACKGROUND

Close to 800 000 people die by suicide worldwide every year.[1] Studies show that ~9 out of 10 individuals who die by suicide have a psychiatric disorder at the time of death, and a large proportion of suicide deaths occur among individuals receiving ongoing psychiatric care or who have contact with other healthcare providers.[2–5] There is some evidence that suicide prevention strategies diminish suicide rates[6 7]; however, despite intensified efforts to improve the healthcare safety for suicidal patients, the suicide rate has remained essentially the same in Sweden, at ~1200 deaths every year.[8] In recent decades, awareness and knowledge of patient safety has increased. Many countries have established an incident reporting system, meaning that serious adverse events are to be investigated and reported to a supervisory authority. To better understand if failures in any area of the healthcare system have contributed to suicide, all suicides that occurred while a victim was receiving healthcare or within 4 weeks after healthcare contact were required to be reported by the healthcare provider to the supervisory authority for healthcare in Sweden in 2006–2017. A review conducted 1 year after this obligation was implemented showed that the supervisory authority criticised healthcare providers for healthcare deficiencies in 53% of cases, with the most frequent deficiencies being in routines and risk assessments.[9] Since that report, no further national aggregated analysis of the outcomes of the investigations following suicides has been done. To our knowledge, there are neither any international aggregated analyses nor other analysis of this kind published.

Investigations based on root cause analysis (RCA) have become wide-spread tools in healthcare services efforts to understand and prevent adverse events.[10 11] The principle of RCA is to identify and rectify underlying system vulnerabilities that allow human errors to cause harm to patients.[12] This approach assumes that adverse outcomes can be explained by linear cause-effect chains and have causes that can be found and fixed, and that the actions preceding adverse events differ from those that precede ordinary, successful care.[13] The actual value of incident reporting systems and the RCA approach in healthcare is subject to debate.[14–18] Single analyses usually provide little learning beyond the involved staff and unit. Rather, aggregation of data from multiple analyses should generate more meaningful action plans for improvement and better facilitate the learning processes in organisations.

Swedish law states that when an adverse event has resulted or could have resulted in severe patient harm, this should be reported to the supervisory authority, the Health and Social Care Inspectorate (HaSCI). The role of HaSCI is to '…ensure that reported adverse events have been investigated to a necessary extent, and that appropriate actions have been taken by the healthcare provider to reach a high level of patient safety'.[19] The report to the authority is to be preceded by an investigation of the healthcare services provided to the patient before the adverse event, conducted by the healthcare providing organisation. The head of the departments are formally responsible for the investigation and investigators can be any type of healthcare professional. The investigations aim to identify the causes and contributory causes of the incident and to identify improvements that should prevent the same incident from happening again. A distinction is made in investigations between actions performed immediately after an incident and non-immediate actions proposed or taken some time afterwards. The authority then examines the investigation and decides if the healthcare provider has fulfilled their legislated role of investigating the incident and taking actions to ensure patient safety. If there are shortcomings in the investigation, the HaSCI calls for additions or conducts a site visit to inspect the healthcare provider.

The overall aim of this study was to aggregate the conclusions of all investigations conducted after suicides reported to the supervisory authority in Sweden in 2015, and to identify deficiencies in healthcare found in these investigations; the actions proposed to deal with the deficiencies; the level of the organisational hierarchy (micro–meso–macro) in which the deficiencies and actions were situated; and outcomes of the supervisory authority's decisions.

METHODS

Cases

All suicide cases (n=436) reported to the HaSCI in 2015 were included. Complete incident investigations from healthcare providers with associated patient records and decisions of the supervisory authority were obtained from the supervisory authority. Every individual suicide was given a code number and the patient's demographic data, contact with all areas of healthcare and received treatment in the 3 months before death were registered. Major diagnoses documented and coded in accordance with the International Statistical Classification of Diseases and Related Health Problems - Tenth Revision (ICD-10) coding system in the records were registered.

Categorisation of data

A coding scheme was used to categorise the causes and contributory causes of the suicide, as well as the immediately performed actions and non-immediate actions reported in the investigations. The coding scheme was based on the general categories of the most widespread method of investigating adverse events in Swedish healthcare, which is based on RCA.[20] The categories were as follows: education and competence, communication and information, organisation and management, technics and equipment, and policies and procedures. To make the categorisation more specific, four of the major categories were divided into additional subcategories. Every category was described and exemplified and a category of 'others' was added in case none of the other categories was considered appropriate (table 1). Since the providers rarely made a distinction between causes and contributory causes in the investigations, these are reported as *deficiencies* in this paper. In this study, an action (immediate or non-immediate) was defined as an intervention that aimed to prevent new suicides. Therefore, actions taken to prevent reported suicides (telephone calls, resuscitations) or actions aimed at informing family or staff that a suicide has occurred were not registered as actions in this study. Separate notes were made when a deficiency or action was related to routines and if patient-related factors were reported. In cases where different providers reported the same suicide case, the outcomes of the investigations were grouped. Identical deficiencies or actions reported by different providers regarding the same patient were excluded, thus ensuring that every factor was counted only once. How learning from the investigation was described; inside the department, outside the department, irrelevant or not mentioned, was registered. All data collection and categorisation was conducted by only one researcher, an experienced psychiatrist, to achieve consistency.

Organisational levels

A classification of the organisational levels of deficiencies and actions was conducted to better understand where in the organisational system the identified deficiencies and actions were situated. The deficiencies and actions were coded according to a micro–meso–macro perspective.[21] Microsystems were defined as the basic building blocks of all healthcare systems formed around the patient and family, such as the inpatient or outpatient care unit. The mesosystem encompassed interactions between different microsystem units, such as cooperation between clinics or healthcare providers. The macrosystem involved the whole system of healthcare, such as legislation, political prioritisations and national policies on healthcare. The highest

Table 1 Coding scheme for categories with examples of deficiencies and actions

Category and definition	Examples of deficiencies	Examples of actions
Communication and information **Communication with peers and family**		
Deficiencies and actions related to cooperation, communication, information and interaction between the healthcare provider and the families and peers of patients.	Shortcomings in provision of adequate information about healthcare from provider to family/peers. Absence of or inadequacies in the providers' contact with family/peers at time of discharge from hospital.	New routines for involving family/peers in healthcare. New written information about psychiatric disorders and treatment. 'Courses' or lectures for family/peers about psychiatric disorders and treatment.
Documentation		
Deficiencies and actions related to administration and documentation.	Non-adherence to local documentation policies. Inadequate, missing, wrong or delayed documentation in patient records.	Patient record reviews for quality improvement. New guidelines or routines for the documentation process.
External communication		
Deficiencies and actions related to cooperation, communication and collaboration with actors outside the unit/clinic of the healthcare provider.	Absence of or inadequacies in information provided at discharge from hospital to other care providers involved in the patient's care.	New meeting points for cooperation between different healthcare providers, consultation meetings.
Internal communication		
Deficiencies and actions related to cooperation, communication and interaction between staff within the unit, and between staff and patient.	Lack of sharing of important information regarding care between staff, or between staff and patient.	New routines for intern communication/reports, written or oral.
Education and competence **Education and competence, not specified**		
Deficiencies and actions related to education and competence, excluding those related to suicide risk assessments.	Inadequacies in competence or experience of staff. Inadequate supervision or introduction of staff.	Case report discussions at staff meetings, lectures. Reminding staff of existing guidelines.
Education and competence in suicide risk assessment		
Deficiencies and actions related to education and competence in suicide risk assessment.	Inadequate knowledge or experience of staff to conduct a sufficient suicide risk assessment.	Lectures and training in suicide risk assessment. Reminding staff about existing policies and guidelines of suicide risk assessment.
Technics and equipment		
Deficiencies and actions regarding technics and equipment.	Ligature points (hooks, doors) in hospital. Shortcomings in information technology systems.	Removal of ligature points (hooks, doors) in hospital. Changes in information technology systems.
Organisation and management **Human resources**		
Deficiencies and actions involving staffing, care availability and psychological working environment.	Lack of staff. Lack of staff continuity. Temporary (rented) doctors. Heavy workload.	Recruiting new staff. Changes in working schedule. Changes in job assignments and work distribution between staff.
Number of beds in hospital		
Deficiencies and actions related to available beds in hospital.	Patient not admitted to inpatient care or discharged because no beds were available.	Efforts to expand the number of beds in hospital.
Organisation/management		
Deficiencies and actions related to leadership, organisational structure of healthcare and physical working environment.	Organisational structures impairing healthcare. Shortcomings in leaders' execution of responsibility. Inadequate premises.	Organisational reconstructions. Rebuilding of premises.

Continued

Table 1 Continued

Category and definition	Examples of deficiencies	Examples of actions
Policies and procedures Care plan and crisis plan		
Deficiencies and actions related to care plan or crisis plan.	Inadequate or lack of care plan/ crisis plan.	New routines for making care plan /crisis plan or follow-up.
Diagnosis		
Deficiencies and actions related to the diagnostic process.	Delayed, missed, wrong or inadequate diagnosis.	New guidelines or routines for the diagnostic process.
Suicide risk assessment		
Deficiencies and actions related to the process of suicide risk assessment.	Non-adherence to local policy or guidelines for suicide risk assessment. Inadequate risk assessment.	New guidelines or routines for suicide risk assessments.
Treatment		
Deficiencies and actions related to treatment of the patient.	Complications or side-effects of medication/treatment. Delayed, inadequate or wrong medication/ treatment. Doctors' prescribing.	New guidelines, recommendations or routines for treatment strategies for specific disorders. New recommendations for prescription of psychotropic drugs.
Work process		
Deficiencies and actions related to the daily working process of staff and the process of reporting and taking care of adverse events.	Non-adherence to local policies, routines or checklists regarding working process of staff Inadequacies in supervision of patients in hospital.	New guidelines or routines regarding working process for staff. New routines in the process of reporting and taking care of adverse events.
Others		
Deficiencies and actions not specified elsewhere.		

organisational level for each deficiency, immediate action and non-immediate action for each case was coded.

Supervisory authority

The decisions of the supervisory authority were coded as follows: 'immediate approval', 'request for one or more additions' or 'inspection'.

Statistical analyses

Summary statistics were calculated for deficiencies, immediate actions, non-immediate actions and decisions of the supervisory authority. Frequencies for each category and organisational hierarchal level in deficiencies, immediate actions and non-immediate actions were analysed per individual and aggregated.

χ^2 tests of independence were used to compare the number of deficiencies and non-immediate actions in the same category. We considered a two-sided p value of <0.005 to be statistically significant. Fisher's exact test was used in cases where 20% of the analysed groups had an expected count of <5. The statistical analyses were performed using IBM SPSS Statistics V.24.

Ethical review

According to the Swedish *Act Concerning the Ethical Review of Research Involving Humans* (2003:460) and an advisory opinion from the Regional Ethical Review Board (no. 2017/234), this study did not require ethical review as it did not include human participants.

Patient and public involvement

Patients or public were not involved in this study.

RESULTS

Cases

In total, 1179 suicides were registered in Sweden in 2015.[8] The supervisory authority received 473 reports. In 35 cases, the same suicide was reported by two different healthcare providers, regarding different parts and perspectives of the care process, and for one case, the same suicide was reported by three providers, resulting in 436 unique suicide cases. Characteristics of the cases and healthcare received in the last 3 months before suicide are presented in table 2.

Deficiencies in healthcare before suicide

In 55% (n=240) of suicide cases, the healthcare provider identified deficiencies in the healthcare that were considered to have contributed to the suicide. Among all cases, a total of 952 deficiencies were identified. The number of deficiencies per case ranged from 1 to 21, with a median of 3.

The most frequent deficiencies were in 'treatment' and 'suicide risk assessment'. Examples were inadequate or delayed pharmacological treatment, non-adherence to existing guidelines, inadequacies in doctors' prescribing, a misleading suicide risk assessment and non-adherence

Table 2 Characteristics of cases and care received during the last 3 months before suicide (including all areas of healthcare; primary and secondary, psychiatric and somatic)

Characteristic		n (%)
Gender	Men	284 (65)
	Women	152 (35)
Age, years	Median 49, range 13–93	
Healthcare provider last in contact with the patient	Psychiatric care	290 (67)
	Primary care	94 (22)
	Somatic care	33 (8)
	Other	18 (4)
Time until death after last contact with healthcare system, days	Median 4, range 0–88	
Number of contacts with outpatient healthcare services during the last 3 months	1	38 (9)
	2-4	105 (24)
	>5	216 (50)
Inpatient care	During the last 3 months	146 (33)
	Inpatient at time of death	36 (8)
Major psychiatric diagnosis documented and coded in accordance with ICD-10 in patient record	Total (F00-F98)	370 (85)
	Affective disorder (F30)	153 (35)
	Anxiety disorder (F40)	77 (18)
	Substance abuse (F10)	51 (12)
	Psychosis (F20)	36 (8)
	Attention deficit disorder (F90)	20 (5)
	Personality disorder (F60)	13 (3)
	Autism spectrum (F84)	13 (3)
	Other	7 (2)
Prescribed psychotropic drugs at time of death	Total	349 (80)
	Hypnotic drugs	274 (63)
	Antidepressants	265 (61)
	Anxiolytics	216 (50)
	Antipsychotics, oral	97 (22)
	Mood stabilisers	47 (11)
	Antipsychotics, injection	18 (4)
Suicide risk assessment documented in patient record in the 3 months before death	Absent	108 (25)
	Low/non-existent	171 (39)
	Elevated, not acute	116 (27)
	High/acute	41 (9)

to local guidelines for suicide risk assessment. Deficiencies in 'external communication' were the third most frequent. Examples were shortcomings in communication between a somatic and psychiatric clinic and a lack of important information being handed over from one healthcare provider to another. For further details, see tables 3 and 4. In seven cases, identical deficiencies for the same case were reported by different providers, categorised as external communication, treatment, suicide risk assessment and 'care plan'.

All reported deficiencies were at the microlevel in 65% (n=157) of cases (table 5). An example of a deficiency at the microlevel was inadequacies in doctors' prescribing or in suicide risk assessment. The remaining 35% (n=83) had at least one deficiency at the mesolevel, such as shortcomings in cooperation between a psychiatric clinic and somatic clinic or inadequacies in communication between hospital and municipality. No deficiencies were considered to be at the macrolevel.

Routines

Deficiencies in routines were reported in 20% (n=96) of all cases. These often reflected non-adherence to existing routines. Missing or defective routines were reported in 11% (n=49) of cases. Deficiencies in routines could occur in any category.

Patient-related factors

In 31% (n=135) of cases, patient-related factors were reported to have contributed to the suicide. Examples were changes in the patient's private relationships or life conditions, or circumstances the provider considered to be outside the influence of healthcare.

Immediately performed actions

Immediately performed actions were reported in 6% (n=26) of cases. In these, 45 immediate actions were described. The number of immediate actions per case ranged from 1 to 7, with a median of 1. The most frequent immediate actions taken were categorised as 'human resources', usually recruitment of physicians (tables 3 and 4). In one case, there was an action at the mesolevel; the remainders were all at the microlevel (table 5).

Non-immediate actions

Non-immediate actions aiming to prevent new suicides were taken or proposed in 80% (n=347) of all cases. In these, a total of 1330 interventions were described. The number of actions per case ranged from 1 to 20, with a median of 3.

The most frequent non-immediate actions were in the category of 'education and competence not specified'. Examples were case report discussions at staff meetings, lectures about affective disorders and reminding staff about existing local guidelines. The second most frequently reported non-immediate action category was 'education and competence in suicide risk assessment'. Examples were lectures for staff about suicide risk assessment and reminding staff about existing guidelines for suicide risk assessment. Together, non-immediate actions in either of these two categories were described in 52% (n=227) of all cases, corresponding to 32% of all reported non-immediate actions.

The third most frequent non-immediate action category was changes in 'work process'. Examples were new checklists and changes in the intern system of reporting

Table 3 Proportions of cases with deficiencies, immediate actions and non-immediate actions reported in the investigations of healthcare made after suicide

Category	Cases with deficiencies n (%)	Cases with immediate actions n (%)	Cases with non-immediate actions n (%)
All cases	240 (55)	26 (6)	347 (80)
Communication and information			
Communication with peers and family	51 (12)	2 (0.5)	51 (12)
Documentation	65 (15)	1 (0.2)	71 (16)
External communication	74 (17)	2 (0.5)	80 (18)
Internal communication	61 (14)	0 (0)	55 (13)
Education and competence			
Education and competence not specified	54 (11)	1 (0.2)	166 (38)*
Education and competence in suicide risk assessment	9 (2)	6 (1)	136 (31)*
Organisation and management			
Human resources	60 (14)	6 (1)	67 (15)
Number of beds	9 (2)	0 (0)	4 (1)
Organisation/management	13 (3)	2 (0.5)	22 (5)†
Policies and procedures			
Treatment	84 (19)	2 (0.5)	57 (13)‡
Suicide risk assessment	86 (20)	6 (1)	94 (22)
Work process	50 (11)	6 (1)	119 (27)*
Diagnostics	54 (12)	2 (0.5)	28 (6)‡
Care plan and crisis plan	46 (11)	0 (0)	46 (11)
Technics and equipment	13 (3)	6 (1)	22 (5)†
Other	11 (3)	1 (0.2)	8 (2)

*Significantly more cases with reported non-immediate actions compared with deficiencies, p<0.0001.
†Significantly more cases with reported non-immediate actions compared with deficiencies, p<0.002.
‡Significantly more cases with reported deficiencies compared with non-immediate actions, p<0.0001.

adverse events. For further details, see tables 3 and 4. Identical actions regarding the same case were reported by different providers in 12 cases and were in the categories of external communication, education and competence not specified, suicide risk assessment, care plan, work process and education and competence in suicide risk assessment.

The organisational levels of the non-immediate actions were equal to those of the deficiencies; in 65% (n=225) of the cases, all actions were at the microlevel and in 35% (n=120) there was at least one action at the mesolevel (table 5). Examples of actions at the microlevel were case discussions at staff meetings, lectures and new checklists. Examples of actions at the mesolevel were changed procedures for communication or cooperation between different healthcare providers. Only one proposal was at the macrolevel, and this involved the possibility of the prescribing doctor checking what medications a patient received from pharmacies throughout the country.

Learning from the investigations were described to be inside the department in 56% (n=266) of the reports. In only 4% (n=20) of the reports, sharing of the experiences and conclusions outside the own department were described. In all other reports, nothing was mentioned about the learning or considered not being relevant.

Routines

Changes in routines were proposed in 35% (n=152) of all cases, and these actions could be in any category.

Decisions of the supervisory authority

In 65% (n=284) of cases, the supervisory authority approved the report from the healthcare provider without further requirements. In 29% (n=126), the supervisory authority called for one or more additions to the investigation before approval. In 6% (n=25), an inspection took place at the healthcare provider before the decision, and in these cases the supervisory authority usually called for additional actions before their decision. Of the 36 cases with more than one investigation, the decisions of the authority differed in 16 cases.

Table 4 Total number of deficiencies, immediate actions and non-immediate actions reported in the investigations of healthcare made after suicide

Category	Total number of deficiencies, n	Total number of immediate actions, n	Total number of non-immediate actions, n
Total number reported in all investigations	952	45	1330
Communication and information			
Communication with peers and family	61	2	56
Documentation	87	1	84
External communication	103	2	109
Internal communication	77	0	59
Education and competence			
Education and competence not specified	73	1	261
Education and competence in suicide risk assessment	9	6	168
Organisation and management			
Human resources	81	7	86
Number of beds	10	0	4
Organisation/management	14	3	27
Policies and procedures			
Treatment	115	2	72
Suicide risk assessment	101	6	112
Work process	74	6	161
Diagnostics	70	2	33
Care plan and crisis plan	50	0	57
Technics and equipment			
Technics and equipment	16	6	33
Other			
Other	11	1	8

Each case can be represented by several factors in the same category. Total numbers of reported factors in the investigations (n) are given in the table.

DISCUSSION

This study describes the aggregate results of healthcare provider investigations made after suicides in Sweden in 2015. In more than half of the studied cases, there were deficiencies in the healthcare provided before suicide that were considered by the providers to be of significance to the death. The majority of the deficiencies were at the micro organisational level, and no deficiency was found at the macrolevel. The most common deficiencies involved care delivered in the immediate interface between patient and staff, which were relatively easy for the investigators to identify. Actions to deal with the deficiencies were substantially more frequent than the number of described deficiencies and were dominated by educational actions. The majority of the actions were at the microlevel, and only one proposed action was at the macrolevel.

Table 5 Distribution of the highest organisational hierarchy level of deficiencies, immediate actions and non-immediate actions in the cases

Organisational level	Deficiencies	Immediate actions	Non-immediate actions
Micro	157 (65)	25 (96)	225 (65)
Meso	83 (35)	1 (4)	120 (35)
Macro	0 (0)	0 (0)	1 (0)

Only the highest level in every case is noted. Number and percentage of cases at each level are given in the table, n (%).

The most frequently reported deficiencies were related to treatment. Four out of five patients in this study were prescribed psychotropic drugs, most commonly sleeping pills and antidepressants. Pharmacological treatment of psychiatric disorders is regarded as a central and evidence-based component of the prevention of suicide.[7 22] To deliver the right treatment for the patient, correct diagnoses are essential: diagnostic errors are known to be

common causes of adverse events in all areas of healthcare.[23 24] A majority of the patients in this study had at least one documented psychiatric diagnosis, although less than half had a diagnosis of depression. The deficiencies in 'diagnosis' category were lower than would be expected, given the known outcome of suicide, the fact that all cases had contact with healthcare shortly before death, and the fact that a vast majority of suicide deaths involve individuals who meet the diagnostic criteria for depression at time of death.[5] Many investigations were performed without the participation of a physician, which could help explain the low number of reported diagnostic errors.

Admission to inpatient care is a common choice of treatment for those at risk of suicide. One-third of the patients in this study were admitted to the hospital in the 3 months before their death; however, only 8% of the suicide deaths involved inpatients, which is notably lower than the 24% found in a review of suicides in Sweden in 2007.[9] This decrease could be a result of safer inpatient care; however, it could also reflect a shift of suicides from inpatient care to the postdischarge period, mirroring the reduction in the number of beds in psychiatric care during the last few decades.[25] However, investigators in the present study did not reach this conclusion, as the number of hospital beds was reported as contributing to suicides in only 2% of cases. At the same time, it is not clear if this low frequency resulted because investigators considered this to be an issue outside their mandate.

Deficiencies in suicide risk assessment were frequently reported, as exemplified by inadequate performance of risk assessment or insufficient supervision of patients assessed to be at high risk for suicide at psychiatric inpatient units. All cases in this study were in contact with healthcare services during the 3 months before their suicide, and 90% were in contact more than once. Documentation of suicide risk in patients' records during the last 3 months before suicide was absent in 25% of cases and regarded as low/non-existent in 39%. Suicide is usually the final outcome of a process over time and involves the interaction of several factors. As suicide intentions also fluctuate rapidly, assessments must be repeated to catch suicidal crises.[6] The small number of cases in this study where suicide risk was assessed as high might reflect difficulties in assessments. However, it could also indicate success of healthcare in cases when suicide risk was assessed as high and then followed by preventive actions. Further research is needed to confirm this hypothesis.

Substantially, more actions to prevent new suicides were reported compared with the number of identified deficiencies, possibly reflecting insights into the weaknesses of the healthcare system that confer risk to patient safety. The proposed actions centred on educational interventions: these actions were proposed for half of cases and corresponded to one-third of all reported actions. In comparison, deficiencies in 'education and competence' were reported in only 10% of cases, indicated that providers aimed to solve deficiencies in different categories with educational actions. Most of the proposed educational actions represented a single case discussion or reminder of a routine in staff meetings, suggesting that the deficiencies were being simplified and quick fixes were being applied. Evidence that educational interventions reduce suicide rates relies on studies of extensive education programme.[26–30] In order to reach successful implementation and sustainable behaviour change, considerable work—including long-term multifaceted interventions—is usually needed. Macrae emphasises the importance of active reflection, mindful participation and emotional engagement.[31 32] If this kind of reflection is not part of how healthcare providers promote learning, the large amount of single educational actions can create a false sense of security without making the organisation safer. Strong leadership with visible engagement in patient safety at all levels is of high importance in shaping and maintaining safe structures in organisations.[32–36] Very few deficiencies regarding management were reported in this study, probably reflecting the investigators' lack of understanding of this issue rather than an absence of management shortcomings.

Even though missing or defective routines seldom were reported as contributing to suicides, new or changed routines were proposed to prevent new suicides in one-third of the investigations, often in the category of work process. This focus on routines in patient harm investigations has been shown before.[9 35 37] Well-functioning work processes and adherence to routines are indisputably of high importance for ensuring safe healthcare. However, the large number of changes without corresponding shortcomings shown in this study might result in insecurity, rather than safety, among staff. This suggests that providers oversimplify the challenges of patient safety at the frontlines of healthcare.

Immediate action was taken in only a few cases, which probably reflects the absence of obvious deficiencies possible to be fixed. Compared with non-immediate actions, a larger share of immediate actions concerned 'technics and equipment', usually the removal of ligature points such as hooks and doors.

A majority of identified deficiencies and actions were at the organisational microlevel—they were usually within the care unit where the patient had their last contact with healthcare services. These findings were similar to those of a prior Swedish study.[18] The results probably reflect the investigators' knowledge and understanding of suicide and what they consider can be fixed more than the actual circumstances. The real purpose of investigations of healthcare after adverse events should be to reveal gaps and inadequacies in the healthcare system and to find effective and meaningful actions leading to sustainable improvement of healthcare.[38] To succeed in this, we need to develop methods appropriate to current healthcare services and to improve the ability of healthcare organisations to learn from and recall incidents and investigation outcomes.[10 31 32] In this study, learning from the investigations were in most cases described to be inside

the own department, sharing of the experiences and conclusions outside the own department were described in only a few cases. Past studies have shown that the results and conclusions of investigations are rarely passed down to the organisation and that there is an absence of formalised organisational memory, even though many patient safety activities that arise from the investigations after incidents are based on such memory-making activities.[18 39] Vincent suggests the use of a 'safety analysis of the patient journey' to identify the series of events and combinations of errors and system vulnerabilities that in combination and gradually unfold over time.[32] Analyses over a longer period of time would enable identification of successful recovery from suicidal crises, which is necessary knowledge to progress in work on suicide prevention. This approach also requires investigators to view care through the eyes of patients, understand the patient's journey in the care system, and to grasp the reality of the complex healthcare system the patient and next of kin have to navigate. Attention to interactions between different levels of the organisation is also needed. What happens at the microlevel, such as in personal meetings with patients, reflects decisions and management at the top of the healthcare organisation; as well what happens at the microlevel influences top-level decisions.[40] These reflections on time, patient perspectives and organisations were generally non-existent in the investigations in this study but appear necessary to achieve progress in the care of suicidal patients.

The deficiencies in healthcare reported by the healthcare providers were in their investigations considered to be contributing factors to the completed suicide. This way of describing contributing factors is according to Swedish law and the RCA method. Healthcare and the suicide process both are complex processes, and such a linear approach might not be appropriate. This study illustrates how suicide as a possible patient harm is investigated in a nation where a RCA-inspired method is the recommended method, and what kind of learning and change in the healthcare systems that are possible with that approach. The result implies that sharper methods of investigation are needed to achieve progress in patient safety.

Limitations and strengths

All data were based on the healthcare providers' reports of suicide to the supervisory authority. The contents in these reports are regulated by law; however, there still may have been shortcomings and inadequacies not pointed out and that the authority did not observe. The investigations were performed in different contexts by different persons with a large spectrum of disparities in experiences resulting in variegated quality. The investigations were performed after suicides, which often upset and strongly affect involved staff, and an awareness of external supervision might have biassed the outcomes. Furthermore, there is no national taxonomy for categorisation of deficiencies and actions; a coding scheme was therefore created and used in this study. The category of others was used only in a few cases, suggesting the categories in the coding scheme covered most of the reported deficiencies and actions.

The strengths of this study are that the data collection and categorisation were conducted by only one researcher, an experienced psychiatrist, to achieve consistency, and that the data were population based. This study was performed almost a decade after the obligation to report suicides was implemented and most providers and investigators would have been familiar with the procedure. Therefore, the cases in the study are expected to match the actual numbers to a good extent and the investigations are expected to be representative for suicides completed by patients in contact with healthcare within 4 weeks before death.

CONCLUSIONS

Many of the individuals who died by suicide were in contact with healthcare services shortly before death, and deficiencies in healthcare considered to be of significance to these deaths were reported for more than half of these patients. The majority of reported deficiencies and actions were at the organisational microlevel and the most common deficiencies related to care delivered in the immediate interface between patient and involved staff, which was easy for the investigators to identify. Actions proposed to prevent new suicides were centred on single educational interventions without distinctive sustainable effects in the organisations and usually did not correspond with the identified deficiencies. Conclusions from the investigations usually stayed inside the own department, systematic sharing and learning from experiences should be a future possibility to improve healthcare in a wider way and facilitate learning in practice.

Generally, the investigations lacked the perspectives of the patients and an analysis of the suicide process over time in connection with the complexity of healthcare organisations. Future research should examine if application of a framework based on knowledge of the suicide process, strategies of suicide prevention and patient safety would enable more sophisticated investigations facilitating progress in work on the prevention of suicide.

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Acknowledgements The authors are grateful to Region Jönköpings county and Futurum for funding and to Public Health Agency of Sweden for support.

Contributors ERaH designed the study, collected and registered the data, made the first analyses and wrote the manuscript. BAG, AR and ÅW contributed to the study design, analyses of the data and revisions of the manuscript. All authors read and approved the final manuscript.

Funding This study was funded by Futurum, the research centre at Region Jönköping county.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request.

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https://doi.org/10.1080/13811118.2023.2173113

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REVIEW

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Factors Influencing Emergency Department Staff Decision-Making for People Attending in Suicidal Crisis: A Systematic Review

Molly McCarthy, Jason McIntyre, Rajan Nathan, and Pooja Saini

ABSTRACT

Background: Emergency department (ED) staff are often the first point of contact for individuals in suicidal crisis. Despite this, there is no published research systematically examining the factors influencing decision-making for this patient group.

Methods: MedLine, CINAHL, PsycINFO, Web of Science and Cochrane Library databases were searched for three key concepts: (1) suicide, (2) accident and emergency department and (3) decision-making. Three reviewers screened titles, abstracts and full papers independently against the eligibility criteria. Data synthesis was achieved by extracting and analyzing study characteristics and findings. The Mixed Methods Appraisal Tool (MMAT) was used to assess the quality of included studies.

Results: Seventeen studies met the eligibility criteria and were included in this systematic review. Studies were published from 2004 to 2020 and were of good methodological quality. A number of patient (method of self-harm, age, gender), contextual (availability of services and staff) and staff-related factors (attitudes, training, knowledge) were reported to influence decision-making for patients in suicidal crisis presenting to EDs.

Conclusion: Decision-making in the ED is complex and is influenced by patient, contextual and staff-related factors. These decisions can have an impact on the future care and clinical pathways of patients in suicidal crisis. Additional training is needed for ED staff specifically related to suicide prevention.

KEYWORDS
Decision-making; emergency department; suicidal crisis

INTRODUCTION

Suicide is a major public health issue (World Health Organisation, 2019). A total of 5,224 deaths by suicide were registered in England and Wales in 2020 (Office of National Statistics, 2021). Suicidal thoughts and self-harm are associated with greater distress and are strong risk factors for death by suicide; indeed, individuals in crisis often need rapid care to minimize potential harm (Kienhorst, 1995). The prevalence of self-harm has been shown to have increased from 2.4% in 2000 to 6.4% in 2014 (McManus et al., 2019). This increasing prevalence of suicide-related thoughts and behaviors are a significant burden on the National Health Service (NHS) (Naghavi, 2019; Vigo, Kestel, Pendakur, Thornicroft, & Atun, 2019).

Supplemental data for this article can be accessed online at https://doi.org/10.1080/13811118.2023.2173113.

The rates of suicidal presentations to EDs are rising and there has been a general increase in self-harm presentations between 2009 and 2018 (Stapelberg, Sveticic, Hughes, & Turner, 2020). An estimated 150,000 people experiencing self-harm present to EDs annually, accounting for 220,000 presentations (Hawton et al., 2007), with this figure expected to be much higher due to inconsistencies in coding (McCarthy, Saini, Nathan, & McIntyre, 2021). EDs are therefore a key setting for suicide prevention (Miller et al., 2017; Siry et al., 2021).

ED staff are often the first point of contact for individuals experiencing suicide-related distress (Ceniti, Heinecke, & McInerney, 2020; Perera et al., 2018). Despite this, staff receive minimal psychiatric training and few opportunities for additional education on the care of patients presenting for suicidal emergencies (Knorr et al., 2020; Zun, 2012). The National Institute for Health and Care Excellence (NICE) guidelines highlight the important role EDs have in the treatment, support and management of patients who self-harm (Carr et al., 2016; Morgan et al., 2018). However, there are no recommendations for the management of suicidal ideation within EDs (National Institute for Health and Care Excellence (NICE), 2004).

Previous research suggests that several factors impact the decision-making and treatment for patients presenting in suicidal crisis. Most notable are factors related to a person's suicidal presentation (i.e., intent) and history (i.e., prior suicide attempt) (Miret et al., 2011; So et al., 2021; Unick et al., 2011). Staff-related factors have also been reported frequently in the literature. Specifically, a clinician's attitude toward self-harm, training and knowledge have been shown to influence patient experience and subsequent care (Owens, Hansford, Sharkey, & Ford, 2016; Saunders, Hawton, Fortune, & Farrell, 2012). The majority of research, however, is based in psychiatric hospital units which often reflect more severe and complex cases. There are a large cohort of patients who experience suicide-related thoughts and behaviors who are therefore not captured in this research.

Although research emphasizes the importance of appropriate treatment plans and care pathways for patients in suicidal crisis, both internal and external factors may hinder the care of such patients. There is no synthesized evidence regarding the factors that affect decision-making of ED staff involved in the management of this group. The aim of this systematic review is to examine patient, contextual and staff factors influencing ED decision-making and how these specific factors can affect clinical pathways for patients presenting in suicidal crisis, with self-injury and/or following a suicide attempt.

METHOD

Protocol

The protocol was registered with PROSPERO (CRD42022303429). Available from: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=303429

Search Strategy

A comprehensive search for relevant studies was conducted on five electronic databases (MedLine, CINAHL, PsycINFO, Web of Science and Cochrane Library) for three key

concepts: (1) suicide, (2) accident and emergency department and (3) decision-making. Search terms were revised after the initial searches revealed new terms. MeSH terms were run in combination with free-text searches of titles and abstracts. A supplementary search was conducted to include the term "disposition" following review of the included papers.

Eligibility Criteria

Studies were included if they reported factors affecting the decision-making of ED staff, including medical (e.g., triage nurses, ED doctors) and mental health staff (e.g., mental health nurses, consultant liaison psychiatrists). Studies were included if theory or past research hypothesized the factor would be related to decision-making. Studies were included regardless of whether they found significant effects related to clinical pathways or decision-making. Outcome variables were identified using relevant literature and included medical admission, self-discharge, psychiatric admission and psychosocial assessment. The study eligibility criteria are outlined in Table 1.

Study Screening and Selection

Three authors independently reviewed titles, abstracts and full texts against the eligibility criteria. Discrepancies were resolved though discussion. There was high agreement between authors (85%).

Data Extraction and Quality Assessment

Eligible full texts were subjected to data extraction and quality assessment by the primary author. Data were extracted on the study aims, design, location, sample size and demographic information. Detailed data relating to the factors influencing decision-making were also extracted.

TABLE 1. Inclusion and exclusion criteria.

Inclusion criteria	
Population(s) and condition of interest	Population(s): ED doctors, triage nurses, mental health nurses, psychiatrists/psychiatry residents, medical record coders, ED managers. Condition of interest: suicidal ideation, self-harm, suicide attempt.
Intervention(s)/Exposure	People who have attended an ED for suicidal behavior and/or thoughts.
Comparators	None.
Outcome	Factors influencing ED staff decision-making on patient clinical pathways. Outcomes included: admission to hospital, self-discharge, referral to psychiatric inpatient unit.
Setting	Accident and emergency departments.
Study designs	Qualitative, mixed methods, randomized controlled trial, non-randomized quantitative studies.
Exclusion criteria	Non-English language studies where translation could not be obtained. Studies only reporting on mental health, with no mention of suicide. Studies outside of the ED, e.g., psychiatric emergency units, GP setting. Studies examining patient decision-making. Exclude: protocols, chapters, case studies.

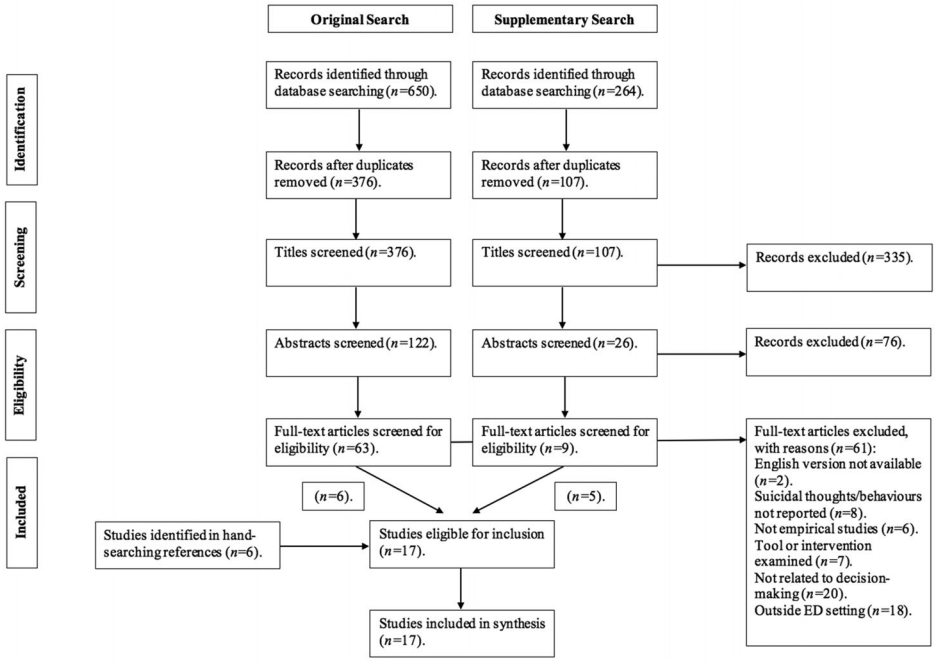

FIGURE 1. PRISMA flow diagram indicating the steps taken to retrieve relevant articles for systematic review.

The Mixed Methods Appraisal Tool (MMAT) was used to assess methodological quality of included studies (Pace et al., 2012; Pluye, Gagnon, Griffiths, & Johnson-Lafleur, 2009). All studies found in the review were included in data synthesis, regardless of risk of bias/quality assessment.

Data Synthesis

Narrative synthesis using the framework developed by Popay et al. (2006) was conducted. Using synthesis tables, the sample characteristics and factors(s) influencing decision-making were reported. The relationship within and across studies were explored by examining the similarities and differences between them (see supplementary Table 1 for further information).

RESULTS

The search yielded 650 records from which 376 citations were screened. Sixty-one full texts were reviewed for eligibility. A supplementary search revealed an additional nine full texts to review. Seventeen studies were included in the final synthesis. Figure 1 outlines the flow of studies within the review.

Study Characteristics

Included studies involved a range of ED staff (ED doctors, nurses, psychiatrists/psychiatry residents, medical record coders, ED managers) from Europe ($n = 8$), USA ($n = 6$),

Australia ($n = 2$) and Asia ($n = 1$). The mean age of included participants was 34.84, with the majority of studies ($n = 14$) including more female than male participants. The majority of studies ($n = 11$) utilized hospital data sets as a means for data collection. Study characteristics and details are reported in Table 2.

Quality Assessment

The MMAT was used in this review. MMAT includes two screening questions followed by a series of additional questions dependent on the study design. These criteria are scored on a nominal scale (Yes/No/Can't tell) and allow for the assessment of five main type of studies. Studies were rated as low (0–40%), medium (40–60%) or high quality (60%+). The majority of included studies ($n = 12$) scored high. Reasons for lower quality ratings were low response rate ($n = 3$), incomplete individual dataset ($n = 1$) and limited statistical analysis ($n = 1$). See supplementary Table 2 for further information on MMAT scores and the reasons for the assigned score.

Factors Influencing Decision-Making

The following section reports the primary outcomes of the systematic review: patient, contextual and staff factors that influence ED decision-making for individuals in suicidal crisis.

Patient

Patient-related factors were reported most frequently ($n = 13$). Method of self-harm was cited most commonly insofar as patients using more lethal means were more likely to be hospitalized (Arensman et al., 2018; Baca-García et al., 2004; Griffin, Gunnell, & Corcoran, 2020; Hepp, Moergeli, Trier, Milos, & Schnyder, 2004; Jimenez-Trevino et al. 2015; Phillips, Gerdtz, Elsom, Weiland, & Castle, 2015). One study reported ED visits for self-harm with suicidal ideation were most likely to result in hospitalization (94.7%), compared to suicidal ideation (84.0%) or self-harm alone (73.1%) (Schmutte, Olfson, Xie, & Marcus, 2019b). Similar findings were reported by Schmutte, Olfson, Xie, and Marcus (2020), presentations for suicide attempts or suicidal ideation were less likely to be discharged than self-harm.

Age was shown as a key factor across included studies (Arensman et al., 2018; Griffin et al., 2020; Hepp et al., 2004; Jimenez-Trevino et al. 2015). Older patients were most commonly hospitalized, whereas younger patients were more likely to self-discharge (Griffin et al., 2020). One study, however, reported age to not be associated with hospitalization (Faris et al., 2019). Variation was reported in relation to gender; for example, Griffin et al. (2020) found that males were more likely to self-discharge and be admitted into a psychiatric facility, whereas Faris et al. (2019) reported increased hospital admission for females. Ethnicity was noted in one study which reported patients of an African American ethnicity were less likely to be hospitalized (Schmutte, Olfson, Xie, & Marcus, 2019a). Other patient factors, i.e., previous hospitalizations and axis I diagnosis ("mood disorder") were also found to influence decision-making (Hepp et al., 2004; Jimenez-Trevino et al. 2015; Schmutte et al., 2019a, 2019b). Social support was noted in one study; Kroll et al. (2018) reported 25% of patients who had been hospitalized could

TABLE 2. Studies included in this review.

Author(s)	Study design	Participants	Setting	Relevant findings
Arensman et al. (2018).	Cross-sectional	101,904 Presentations, involving 63,457 self-harm attendances (2004–2012).	Ireland.	Male gender, older age, method of self-harm, time of attendance and residence of patient were identified as influencing care. Lethal methods of self-harm associated with psychiatric admission.
Baca-García et al. (2004).	Cross-sectional	Staff: on-call psychiatry residents. 509 Patients following a suicide attempt (1996–1998).	Madrid, Spain.	Patient factors (intent, lethality, previous psychiatric hospitalization and suicide attempt in past year) increased odds of hospitalization.
Betz et al. (2013)	Questionnaire	631 ED staff. 48% were nurses and half were attending (22%) or resident (30%) physicians.	Eight EDs, USA.	Confidence among clinicians was higher for suicidal ideation screening (81–90%) than creating safety plans (23–40%). Screening for suicidal ideation associated with confidence, feeling that suicidal patient care was a top ED priority and 5+ postgraduate years of experience.
Drew et al. (2006).	Cross-sectional	Hospital A: medical record coders. Hospital B and C: psychiatric residents. 163 Presentations with suicidal ideation ($n = 110$) or behavior ($n = 53$) over 1-month period.	Three EDs, Northeast Ohio, USA.	Regardless of a patient's level of suicidality, decision-making was cautious. Most patients admitted to psychiatric inpatient units (34.4%) or transferred to another facility (36.8%). Of the 19% discharged home, 6% referred to mental health services or addiction treatment programmes.
Egan et al. (2012)	Questionnaire	125 Medical staff (28 doctors and 97 nurses).	Five EDs, Ireland.	Staff knowledge and confidence in managing self-harm influenced decision-making. The majority of staff felt 'somewhat confident' in responding to self-harm (74%). 63.2% reported a 'somewhat negative' attitude toward self-harming patients.
Faris et al. (2019).	Retrospective case review.	195 Patients requiring psychiatric consultation (July–December 2016)	Beirut, Lebanon.	Hospital admission was associated with being female (OR = 3.042), family history of psychiatric disease (OR = 2.040) and suicidal ideation (OR = 12.949). Living alone, age and employment status were not associated with hospitalization.
Griffin et al. (2020).	Cross-sectional	14,555 Self-harm presentations (January 2017–December 2018).	ED, Ireland.	Patient factors were primarily associated with: 1. Self-discharge: male, younger age, alcohol involvement. 2. Medical admission: older age, drug overdose as sole method, ambulance presentations. 3. Psychiatric admission: male, lethal methods and older age. Variation in psychiatric admissions and psychosocial assessments was due to hospital factors (availability of psychiatric inpatient facilities and mental health staff).
Hepp et al. (2004).	Cross-sectional	Staff: psychiatric residents. 324 Presentations following a suicide attempt (1996–1998).	Zurich, Switzerland	Older patients more likely to be hospitalized. Outpatient treatment was received more by women. Lethal methods, history of psychiatric inpatient treatment, and psychotic disorders were associated with inpatient treatment. Outpatient treatment was linked to adjustment and neurotic disorders.
Jimenez-Trevino et al. (2015).	Cross-sectional	2,281 Suicidal presentations.	Three EDs. Madrid, Oviedo and Santa Cruz de Tenerife, Spain.	Intent was the most important factor impacting hospitalization. Older age, living alone, self-harm method, history of suicidal

				behaviors, and psychiatric diagnosis of schizophrenia, mood, or personality disorder were independently associated with being admitted.
Kroll et al. (2018).	Questionnaire	40 Adults requiring inpatient psychiatric care due to suicide risk.	USA.	25% Of the patients could have been discharged had social support become available. Clinical severity was the only driver to admission decision.
McCann et al. (2007).	Questionnaire	43 ED Nurses.	Australia.	Most nurses had no educational preparation or training to support self-harm. Over 20% had either no practice guidelines for self-harm or they did not know of their existence. One-third of those who were aware of their existence had not read them. Overall, nurses had sympathetic attitudes toward self-harm and did not discriminate in their triage or care decisions.
Phillips et al. (2015).	Cross-sectional questionnaire	211 Mental health nurses.	Australia.	High level of variation in outcomes; despite agreement about the intent of self-harm. Agreement was often reached regarding intent, but not for imminent risk. Little agreement about whether to admit a patient with self-harm to hospital or treat in the community.
Polling et al. (2019).	Cross-sectional	20,750 Self-harm attendances (2009–2016).	Four EDs, Southeast London, UK.	Admissions varied substantially between hospitals; one hospital was two and a half times more likely to admit than another. This was not altered by patient demographics, deprivation or self-harm method.
Pope et al. (2017).	Semi-structured interviews	11 ED doctors, 3 ED nurses, 3 managers and 4 inpatient doctors.	Three EDs, London, UK.	Service availability, outpatient alternatives, staffing, busyness, time of day and the 4-hour waiting time target influenced decision to admit rather than discharge. ED culture (staff attitudes, motivation and relationships) had a strong influence (negatively or positively) on the decision to admit patients.
Schmutte et al. (2019a).	Retrospective cohort analysis.	16,495 Adults $\geq$65 years deliberate self-harm attendances.	USA.	Hospitalization associated with recent depression and psychiatric inpatient care. People of African American ethnicity less likely to be hospitalized. 56.4% Of community discharges received an ED medical disorder diagnosis and 39.0% received 30-day follow-up outpatient mental health care.
Schmutte et al. (2019b).	Retrospective cohort analysis.	50,472 Suicidal ideation or self-harm presentations in 2015.	USA.	Self-harm with suicidal ideation attendances were most likely to result in hospitalization (94.7%), compared to ideation (84.0%) or self-harm alone (73.1%). Hospital admission associated with current diagnosis of depression, bipolar, anxiety or personality disorder and severity of current medical comorbidity.
Schmutte et al. (2020).	Retrospective cohort analysis.	52,383 Suicide-related Medicare claims for adults $\geq$65 years (2015).	USA.	Suicide attempt and ideation presentations were less likely to be discharged to the community than self-harm. These encounters were more likely to be diagnosed with a mental disorder in the ED and were also more likely to receive follow-up mental health care compared self-harm presentations.

have been discharged had social support become available. Living alone and employment status was not associated with hospitalization (Faris et al., 2019). One study, however, reported that clinical pathways were not influenced by patient demographics, socioeconomic status and type of self-harm (Polling, Bakolis, Hotopf, & Hatch, 2019).

Contextual

Three studies noted contextual factors that affect ED decision-making. The availability of services and staff were reported across two studies (Griffin et al., 2020; Pope, Burn, Ismail, Harris, & McCoy, 2017). Hospital location affected future care of patients presenting with self-harm (Arensman et al., 2018). For example, there was a reduced risk of self-discharge if presentations were made outside of Dublin city, Ireland (Griffin et al., 2020). Hospital facilities (e.g., onsite psychiatric in-patient facilities) also increased the likelihood of patients being admitted to a psychiatric ward compared to hospitals where the facilities were located offsite (Griffin et al., 2020). Other contextual factors reported were busyness, time of the day and the 4-hour wait target in EDs. Specifically, ED doctors, inpatient doctors and nurses were more likely to admit a patient rather than discharge if these factors were present (Pope et al., 2017). Hospital-related factors (location, availability of services and/or staff) explained the variation in care pathways for patients attending EDs in suicidal crisis (Arensman et al., 2018; Griffin et al., 2020). Arensman et al. (2018) reported regional variation in recommended next care; for example, general admission ranged from 11.2% in Dublin North East Hospital compared to 61.0% in the South Eastern Hospital Group. Admission to a psychiatric ward was also lowest in North Eastern Hospital Group (3.7%) and highest in the South Hospital Group (19.3%).

Staff

Some ED staff held negative attitudes toward patients in suicidal crisis. One study reported 63.2% of staff had "somewhat negative" feelings toward self-harm (Egan, Sarma & O'Neill, 2012). Another study, however, indicated overall positive attitudes as evidenced by high levels of disagreement with several negatively worded questionnaire items, i.e., "individuals who attempted suicide in prominent places were primarily interested in seeking attention" (McCann, Clark, McConnachie, & Harvey, 2007). The culture of the ED was acknowledged in one study (Pope et al., 2017). Many participants felt that departmental culture (staff attitudes, motivation and relationships) had significant influences on admission practices for individuals in suicidal crisis.

Further, confidence and knowledge were reported to impact decision-making (Egan et al., 2012; Betz et al., 2013). One study stated staff felt more confidence screening suicide than creating safety plans (Betz et al., 2013). Egan et al. (2012) reported 82% of staff had a good knowledge of self-harm and 74% expressed that they felt "somewhat confident" managing self-harm. One study, however, reported most nurses had no educational preparation or training to support patients with self-harm and over 20% of EDs had either no practice guidelines or staff did not know of their existence (McCann et al., 2007).

Clinical Pathways

Variation in clinical pathways were reported within and between EDs. The most commonly noted pathway was psychiatric inpatient unit admission, which was reported in 11 studies (Arensman et al., 2018; Baca-García et al., 2004; Drew, Jones, Meldon, & Varley, 2006; Griffin et al., 2020; Jimenez-Trevino et al. 2015; Faris et al., 2019; Hepp et al. 2004; Kroll et al., 2018; Schmutte et al., 2019a, 2019b; Schmutte et al., 2020). The majority of ED presentations in Schmutte et al. (2019b) study resulted in hospital admission (81.9%), with most being admitted to an inpatient psychiatric unit (62.8%). Large variation was also reported by Griffin et al. (2020). Their findings showed self-harm presentations resulting in self-discharge ranged from 4.7 to 17.8%; medical admission 8.2–53.0% and psychiatric admission 0.3 and 28.3%. Follow-up care was reported in Schmutte et al. (2019a) who reported 39.0% of community discharged patient received 30-day follow-up outpatient mental health care. Similarly, those who attended EDs following suicide attempts or suicidal ideation were more likely to receive follow-up mental health support compared to those attending for self-harm (Schmutte et al., 2020).

DISCUSSION

The aim of this review was to examine factors that influence ED decision-making for patients presenting in suicidal crisis, following self-harm and/or a suicide attempt. Three groups of factors were identified: patient, contextual and staff.

Patient factors were most commonly reported to affect care pathways (Arensman et al., 2018; Faris et al., 2019; Griffin et al., 2020; Hepp et al., 2004; Kroll et al., 2018; Schmutte et al., 2019a, 2019b, 2020). Notably, older age was associated with hospitalization, whereas younger age groups were more likely to self-discharge (Griffin et al., 2020). Self-harm methods associated with greater lethality (e.g., attempted hanging or drowning) were associated with hospitalization (Baca-García et al., 2004; Griffin et al., 2020; Schmutte et al., 2019b). Inconsistent findings were reported in relation to gender (e.g., Faris et al., 2019; Griffin et al., 2020). Staff attitudes, knowledge and confidence were also shown to influence decision-making within EDs (Egan et al., 2012; McCann et al., 2007; Pope et al., 2017). Staff felt more confident at earlier stages of the clinical pathway, i.e., screening risk compared to creating safety plans (Betz et al., 2013). Contextual factors, including service and staff availability, were examined much less, yet were still reported to affect decision-making (i.e., Griffin et al., 2020; Pope et al., 2017). Hospital facilities (i.e., onsite psychiatric in-patient facilities) increased the likelihood of patients being admitted to psychiatric wards compared to hospitals where these facilities were located offsite (Griffin et al., 2020).

Prominent across the existing literature is the finding that patient-related factors (e.g., severity of psychiatric symptoms, suicide risk) significantly affects care pathways (So et al., 2021; Unick et al., 2011). This systematic review reported similar findings. Importantly, age, gender and self-harm method were reported in many of the included studies. Contextual factors (i.e., service and staff availability), however, have been reported less frequently in the literature. Despite the low number of studies, contextual factors were still shown to influence decision-making for patients presenting with self-

harm. In contrast, George, Durbin, Sheldon, and Goering (2002) reported site and bed availability were not associated with decision-making. Their study, however, was conducted across two emergency psychiatric services; thus, it is possible that the differences in presentations to EDs and psychiatric services explain the divergent effects.

A study conducted by Zun (2012) reported that EDs may not be the most effective setting to support individuals in suicidal crisis. Rutto, Chepchirchir, and Odero (2012) reported one third of nurses felt uncomfortable and nervous when attending to patients who had attempted suicide and more than half expressed frustration. This is consistent with the present review as confidence and attitudes toward self-harm were identified to influence care pathways. Contradictory findings, however, were reported; McCann et al. (2007) indicated positive attitudes across ED nurses, whereas Egan et al. (2012) noted negative feelings toward self-harm across ED nurses and doctors. Inconsistent findings could be a result of the difficulty in examining and measuring attitudes toward self-harm, particularly among medical staff (Egan et al., 2012; Patterson, Whittington, & Bogg, 2007).

Strengths and Limitations

This is the first systematic review to examine ED decision-making for patients in suicidal crisis. The review methodology was consistent with established standards (PRISMA guidelines) for study selection, data extraction and quality assessment.

The primary limitation of this systematic review relates to the small number of included studies; although, this is reflective of the lack of research into this patient group within an ED setting. It is notable that few studies have investigated contextual (service/staff availability) and staff-related factors in EDs. Studies were also only included if they were published in the English language, or where an English translation was available. This may explain the paucity of non-Western countries explored. Cultural variation in clinician attitudes toward self-harm may also be relevant (e.g., Ramon & Breyter, 1978). Furthermore, study data was extracted by the primary author, thus, limiting the validity and reliability of findings. The validity and reliability of reported findings would have been increased if more than one person extracted data from the included studies (Xu et al., 2022). Finally, the majority of included studies utilized hospital data sets as the primary means of data collection. This may limit current findings due to the underestimation of suicidal presentations to EDs. Research has reported self-harm presentations may be underrepresented by as much as 60% (Clements et al., 2016). Lack of coding for suicidal ideation may result in some presentations being missed, limiting the ability to draw accurate conclusions. Better coding practices and reporting of suicidal crisis among EDs would enable more accurate exploration into clinical pathways.

Implications for Clinical Practice

This review highlights the lack of research into the factors that influence ED decision-making. Particularly evident was the lack of studies examining contextual factors. The COVID-19 pandemic has exacerbated staffing pressures, with an increase in ED wait

time and staff burnout due to the pandemic (Gemine et al., 2021; Mahase, 2022). Poor service availability can have detrimental effects on patient distress and delays in treatment can increase the number of patients needing emergency care. Future research is needed to further explore the impact of contextual factors on ED decision-making for patients in suicidal crisis.

This review also identifies an urgent need for mandatory and ongoing training for ED staff to improve knowledge and confidence in managing suicide-related presentations. Clinicians being cautious in their decision-making may be due to staff feeling unsupported and fearful of future adverse outcomes; the attribution of fault and personal consequences can lead staff to be risk adverse (Nathan et al., 2021). Related to this is the possibility that staff do not have a framework by which to understand suicidal thoughts. Empirical studies can help staff better understand suicidal thoughts that in turn can lead to better approaches toward such patients. Evidence suggests that there is no gold standard for assessing and managing suicidal crisis (Harmer et al. 2021; Bernert, Hom, & Roberts, 2014). Future research would therefore benefit from developing, testing and implementing a measurement to examine ED training and confidence specifically for people attending in suicidal crisis. Integrating research and practice will be beneficial to support patients in suicidal crisis.

A patient's experience and journey through the ED can be affected by staff attitudes. Negative attitudes can be conveyed through the way clinicians interact with patients, i.e., invalidating comments, which may be subtle or overt. The assessment approach can also impact patient outcomes (e.g., reduce feelings of hopelessness and in turn suicidal thoughts/behaviors) (Kapur et al., 2013). Equally, some clinicians adopt counter-therapeutic stances which may increase the likelihood of suicidal thoughts (Dunster-Page, Haddock, Wainwright, & Berry, 2017). Staff attitudes are therefore crucial to future help-seeking behavior. Patients attending EDs in suicidal crisis also encounter a wide range of staff including receptionists, triage nurses and liaison psychiatrists. Prior research, however, mainly recruits nurses to explore attitudes toward self-harm. There is a need for a specific tool to measure a wide range of ED staff attitudes for treating and managing patients in suicidal crisis.

This review highlights substantial variation in the decision-making and subsequent care pathways for patients attending EDs in suicidal crisis. For EDs to assess, treat and support patients in suicidal crisis more effectively a better understanding of why there are differences between and within EDs is needed. This review is an initial step in exploring variation; however, there are still gaps in the current evidence base to be explored further. More research is needed on staff-based factors (i.e., clinicians' conceptualizations of self-harm and uncertainty management) and contextual factors (e.g., the pressure to both manage limited resources whilst not "missing" someone who goes on to seriously harm themselves). Finally, it will be important to explore the impact of different decision-influencing factors identified in this review on patient outcomes.

AUTHOR NOTES

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International Journal of Mental Health Nursing

International Journal of Mental Health Nursing (2021) ••, ••–•• doi: 10.1111/inm.12975

ORIGINAL ARTICLE

Exploring mental health clinicians' perceptions of the Zero Suicide Prevention Initiative

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ABSTRACT: *Suicide continues to impact rural and regional families and communities across Australia and has become a key focus of healthcare, research, and government policy in recent years. The challenge for healthcare organizations is to translate policy visions and research for clinicians to effectively embed in day to day practice when supporting people who experience suicidal crisis. This study explored the introduction of an evidence-based Zero Suicide framework that includes a suicide prevention pathway and training package to a rural and regional community mental health team in Victoria, Australia. A qualitative semi-structured interview technique was used to explore the perceptions of mental health clinicians of the Zero Suicide approach, the training package and the barriers to inform its implementation across a specialist mental health service. Clinicians were complimentary of the intent of Zero Suicide and the training package and felt they had increased confidence in delivering suicide safe care. Four major themes were identified through thematic analysis: (i) Minimizing risk with realistic expectations; (ii) A good approach to making a difference; (iii) Lessons learnt; and (iv) Barriers to implementation needing to change culture. Overall participants identified the importance of continued regular suicide prevention training for all staff but also in tailoring it to different consumer and clinician needs. In addition, organizational structure and adequate staff resourcing were important to participants as was working within a safety culture.*

KEY WORDS: *interviews, mental health, qualitative, suicide prevention, zero.*

INTRODUCTION

Suicide is recognized as a global public health issue, causing devastating effects to communities. Approximately 800 000 people die by suicide each year (World Health Organisation 2020), in which these estimates are predicted to increase, due to the impact of the coronavirus global pandemic and the disruption to livelihoods and usual routines (World Health Organisation, 2021b). In Australia, a Royal Commission was

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Declaration of conflict of interest: One of the authors (Owen Connolly) works as a Suicide Prevention Clinical Lead at Latrobe Regional Hospital. He was not involved in data collection, and he participated in data analysis only after transcripts were de-identified. Despite this potential conflict of interest, the authors consider these findings to be an accurate representation of the research. The CEU was responsible for the data collection and analysis as an independent evaluator. De-identified interview transcripts were used in the process of data analysis working in partnership with the staff member from Latrobe Regional Hospital.

Authorship statement: The paper was co-authored by Joanne Porter (JP), Elissa Dabkowski (ED), Owen Connelly (OC), and Valerie Prokopiv (VP). JP, OC, and VP conceptualized and designed the study. ED and JP completed data collection, with VP assisting in checking the data for accuracy. JP, ED, and OC completed data analysis. ED and JP drafted the manuscript, with contributions by OC and VP. JP and ED finalized the manuscript. All authors have read and approved the final manuscript.

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Accepted December 16 2021.

established in 2019 to investigate the mental health system in the state of Victoria, as the system was failing to support people living with mental illness, their families, and mental health workers (State Government of Victoria, 2020). The final report of the Royal Commission detailed significant concerns, in which the number of people that died by suicide (n = 718) was more than twice the number of road deaths (n = 266) in Victoria in 2019 (Royal Commission into Victoria's Mental Health System, 2021). The Commission outlined the importance of establishing a system-based approach, based on the premise that no single action, service or treatment will work in isolation, with continuous efforts in this space (Royal Commission into Victoria's Mental Health System, 2021). The Zero Suicide initiative is a promising system-based approach that is gaining attention in the literature. The Zero Suicide initiative is a structured holistic framework and healthcare organizational commitment designed to reduce suicide rates and improve outcomes for people identified 'at risk' of suicide (Education Development Centre, 2020).

The Zero Suicide initiative was initially developed in 2011 by the Clinical Care and Intervention Task Force and the National Action Alliance for Suicide Prevention in the United States of America and has been implemented in over 200 healthcare organizations worldwide (Hogan & Grumet, 2016). The Zero Suicide consists of seven elements for health and behavioural healthcare systems to adopt, with the focus on improving patient safety outcomes, continuous quality improvement, and the safety and support of clinical staff (Education Development Centre, 2020). The Zero Suicide approach shows promise with one study reporting significant risk reductions in repeated suicide attempts (Stapelberg *et al*. 2020). This study also found that placement on the suicide prevention pathway resulted in longer times between representations to an emergency department (Stapelberg *et al*. 2020). Further rigorous studies are required to assess the efficacy of the Zero Suicide model, especially the consideration of employees' beliefs, training, and skills in a healthcare organization, to provide appropriate training for staff (Hogan & Grumet, 2016).

There are limited studies that evaluate the Zero Suicide model, particularly in an Australian setting, with further research warranted to evaluate the implementation of this framework (Baker *et al*. 2018; Dabkowski & Porter, 2021; La Guardia *et al*. 2019). Although the Zero Suicide approach has been implemented in various organizations, little is known about the perceptions of mental health clinicians in using this framework. This gap in the research is important to address, given that much of the focus of the Zero Suicide model includes the education and support of the mental health clinicians. The authors intended to gain further insight into the mental health clinicians' first-hand experience of using the Zero Suicide approach with people at risk of suicide and to identify possible areas for improvement.

Purpose

The purpose of this study was to explore the experiences and perceptions of mental health clinicians with the implementation of the Zero Suicide approach across a rural and regional mental health community service.

METHODS

Study design

The paucity of literature regarding the perspectives of mental health clinicians in using the Zero Suicide model influenced the use of a qualitative descriptive design to answer the research question. Qualitative descriptive studies can be used for qualitative research to gain insight from a poorly understood health care or nursing-related phenomenon (Kim *et al*. 2017). This design can be used when the intent of the research is to obtain straight descriptions of phenomena (Neergaard *et al*. 2009) and is less theory-driven than other qualitative approaches (Neergaard *et al*. 2009; Sandelowski, 2000). A semi-structured interview technique was used to explore the perceptions of mental health clinicians about the Zero Suicide approach. The population included mental health professionals who worked in a rural and regional area in Victoria, who had undergone Zero Suicide prevention training and were implementing the approach across community mental health services. This study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Tong *et al*. 2015).

Participants and ethical considerations

Ethics approval was granted from the hospital ethics committee and the University human ethics committee prior to participant recruitment (project No. 2020-20 HREA and A20-070). Interviews were conducted by the Collaborative Evaluation Unit (CEU) independent evaluators and not by the hospital research team

members. The potential risk to participants was considered by the research team, in which the lack of participant anonymity was recognized as a possible risk. Given the likelihood of identifiable data, the authors have opted not to provide demographic data for this study.

Recruitment and data collection

The participants were recruited via a convenience sample of staff who had completed the Zero Suicide training and worked in the community mental health service in a single regional area. Participants who met the inclusion criteria ($N = 16$) were recruited via an email invitation from their employer to voluntary contact the research team. To ensure consistency with the interviews, the first and second authors, who are experienced in qualitative research, conducted the interviews. The two researchers who completed the interviews did not have any prior knowledge of the participants. Due to the COVID-19 pandemic, participants were individually interviewed via virtual meeting software (TEAMS) at their workplace, which was visual and audio recorded and later transcribed verbatim. The date and time of the interview were scheduled at a time that was convenient to the participant. Participants were sent a plain language statement and were asked to provide written consent prior to the interview taking place. Participants were informed that answering interview questions was voluntary, and they were able to withdraw their consent at any time during the interview without consequence. Interviews continued until the research team deemed that data saturation had occurred, in which no new themes emerged. The interview transcripts were not returned to participants for clarification or amendment.

The role of the researcher

The intent of this research was to gather emic views from participants about the Zero Suicide; however, the researchers identified that etic views may influence the interview process and the data analysis. The first two researchers have backgrounds in emergency nursing, whereas the third researcher has significant clinical experience as a mental health nurse practitioner. The third researcher was instrumental in the implementation of the Zero Suicide approach within this regional health service. Considering that these etic views may influence data collection and analysis, the first two researchers conducted all interviews and de-identified transcribed interviews before data analysis. Before commencing data collection, the two researchers related their nursing backgrounds to all participants.

Analysis

Transcribed interviews were de-identified as part of the analytic process. The data were analysed using Braun and Clarke's (2006) six-step approach to thematic analysis which includes (i) familiarizing yourself with the data; (ii) generating initial codes; (iii) searching for themes; (iv) reviewing themes; (v) defining and naming themes; and (vi) producing the report. Initially, the second and fourth authors independently compared the interview transcripts with the audio files to confirm accuracy of the data. The first three authors then used an inductive approach to independently code the data. During this process, the three researchers used reflexive practices to ensure their own beliefs and practices were not influencing the research. The third researcher was able to provide relevant background to the data content as applicable. The researchers combined the datasets where the codes were organized into a visual thematic map and duplicate codes and quotes were eliminated. Minor disagreements were resolved through general consensus. This process of reviewing themes and re-coding the data continued until all three researchers were satisfied with the thematic map. The three researchers who conducted the thematic analysis conceded that the four major themes were representative of the descriptive accounts by the participants.

Findings

A total of seven participants consented to be interviewed for this study ($n = 6$ females, $n = 1$ male) in November 2020, with interviews lasting between 30 and 60 min in duration. Nine participants were unable to participate due to unavailability and technology issues in a rural setting. All participants had received training on Zero Suicide approach and had diverse experience in incorporating the approach into their clinical practice, depending on their area of work in mental health. Participants reported having extensive experience in the mental health field and had worked in a variety of settings. Specific details such as age of participants, years of work in mental health and specific areas of work are not included in this findings section, to maintain confidentiality of the participants. The interview begun by inquiring about the Zero Suicide approach and what were the participants understanding

of how it was implemented into clinical practice. Questions explored the Zero Suicide training and level of ongoing support provided, and asked participants whether using the Zero Suicide approach had increased their confidence in assessing and managing suicide risk. At the time of the interviews participants noted the impact of not only the COVID-19 pandemic but also the devasting bushfires in the region that had affected their clientele. Four major themes were identified through thematic analysis: (i) Minimizing risk with realistic expectations; (ii) A good approach to making a difference; (iii) Lessons learnt; and (iv) Barriers to implementation needing to change culture. The findings of the thematic analysis will be presented under the above headings. In staying close to the qualitative design approach, the description of participants' experiences with the Zero Suicide model will be described using their own language (Neergaard *et al*. 2009).

Theme 1: Minimizing risk with realistic expectations

Participants discussed their role in risk management and the importance of minimizing risk for people with suicidal thoughts. One participant discussed the importance of standards of practice, explaining, *'Establishing that there is a kind of an expectation of what our standard of practice is when it comes to suicide and there's an expectation that certain things will be done in response to certain situations'*. This establishes the importance of updated clinical guidelines and the recognition of evidence-based standards of practice to guide mental health clinicians pertaining to risk minimization for those at risk of suicide. Participants acknowledged that they have a significant role in identifying and minimizing suicidal risk, to which it was imperative they maintained a structured approach. Participants also considered the role of family and the community with risk minimization. They identified risk minimization as a holistic process, requiring education, and personal empowerment for a person's recovery. One participant clarified, *'Empower people, not nurses, not staff, it needs to be people who understand their own behaviours, their own pattern, and that they can actually take a step in their own recovery'*.

Despite the acknowledgement of the significance of their role in risk minimization, participants believed in the importance of maintaining realistic expectations of their capabilities as mental health clinicians. The contributing factors to these viewpoints included the lack of engagement by people at risk of suicide and the high acuity of the suicide drivers. The clinicians revealed that they considered the treatment options to be inadequate compared with the trauma experienced by the person. As one clinician asked, *'How do we remove that driver when that level of torment is so great, for a lot of these guys we have, we've tried every bloody drug in the book. There's nothing left'*. In contrast, one clinician advocated for the person's right to choose and insisted, *'We've got to take it in the context. I don't think all suicides are failures. I think that it's about recognizing people's choice'*. This viewpoint differs to the philosophy of the Zero Suicide model which seeks to create a movement in health care systems by changing the culture around suicide prevention to a 'zero-based approach' (Education Development Centre, 2020). This person's extensive clinical experience in mental health may have shaped these pessimistic predispositions to new treatment approaches.

Theme 2: A good approach for making a difference

Participants identified that the Zero Suicide model provided suitable structure for assessment and management when working with people at risk of suicide. As one participant reported, *'Having a framework in our head as to how we're going to go about extracting the information I think this Zero Suicide is useful because it's been rolled out far and wide. It's common language'*. Participants recognized that the Zero Suicide approach was appropriate and provided a sound and in-depth structure to base their assessment and management of clients.

It was identified as a 'good approach', that benefits both clinician and client. One clinician discussed, *'I think it's a really good initiative and it should definitely be pushed into place because it certainly will help people to have a better experience of mental health services and it will help the clinicians to understand what the needs are for the client'*. Participants identified the relevance of this approach to their work environment and were able to use strategies from this approach to complement their clinical practice, leading to reduced hospital admissions and client recovery. As one clinician explained, *'I've got two clients at the moment. Both of them are stabilizing very well. I believe it's largely due to the program and being able to work with people to get them back on track and do things that they wouldn't normally put their hand up to do'*. Participants had confidence that the Zero Suicide approach made a difference to their clients' recovery. The

mutual benefits from this approach extended to the education of newly graduated mental health clinicians and for clinicians who do not regularly work with people at risk of suicide. Clinician confidence was perceived to be an important factor for working with people at risk of suicide. This confidence was attributed to the structure of the Zero Suicide approach, along with the educational opportunities provided. Some participants likened the Zero Suicide approach to providing extra 'tools in the tool kit', which helped to boost their confidence with management plans and referrals.

Theme 3: Lessons learnt

The introduction of the Zero Suicide approach to a large regional mental health service provided the opportunity to learn from and understand the experiences voiced by mental health clinicians. Participants were largely complimentary towards the Zero Suicide training but provided candid responses regarding future improvements. The suggested improvements resulted from perceived lack of relevance of the simulated scenarios to clinical settings. As one participant explained, *'There's no scenario in the training for young folk either like a 14-year-old who's having Facebook Crisis or snapchat dramas'*. This demonstrates the importance of tailoring the training to encompass all age groups out in the community. The community aged care sector was another area that was identified by clinicians as requiring appropriate simulated scenarios to further the education of mental health clinicians. Participants also identified the need for regular suicide prevention training to improve their skillset and optimize their clinical practice. The issue of mentoring and individualized support was also considered to be a valuable contribution for clinicians. One clinician explained, *'I got some quite targeted one on one support but I don't think other clinicians have had that and I think that was really valuable and actually seeing all your clients and working'*. Future training for this suicide prevention programme should happen on a regular basis and have relevance towards the clinician's area of work. One clinician discussed the difficulties of incorporating the strategies with clients who have complex mental health histories. The participant explained, *'It's not a criticism but in terms of my clients with a major mental illness like schizophrenia and an incredible level of disability from that, I don't think the program really touches the sides of it'*. This is also a learning point for programme facilitators at this organization, in which future education sessions could include complex mental health scenarios. In this way, clinicians would be able to use the suicide prevention training to progress their knowledge and skills.

Theme 4: Barriers to implementation needing to change culture

The last theme generated from the findings related to issues with implementing the Zero Suicide approach. Several participants identified barriers that affected fidelity of incorporating the Zero Suicide approach to their workplace such as clinicians' self-confidence, time, and skillsets. Lack of resources, especially inadequate staffing in a rural and regional setting was frequently cited by clinicians. One clinician explained, *'There's so much pressure. Less staffing, high amount of referrals, loss of acuity, lots of complexity. People don't have the time to be able to change, and I think that's probably the main issue and it doesn't really matter how you do it, you're still shifting their deck chairs on the Titanic'*. The lack of resources voiced by participants represents their concerns of not meeting the community's needs and adds to the undertone of practitioner burnout. Organizational structure and workplace culture were also recognized by participants as impediments to the Zero Suicide approach. From a researcher point of view, the experienced clinicians appeared to be more cynical and guarded towards adopting the Zero Suicide approach. The lack of communication within the organization was identified by some clinicians as the reason for their mistrust and suspicion towards the new system changes. This emphasizes the importance of adopting a system-wide approach to all levels when implementing new changes within an organization.

DISCUSSION

This qualitative descriptive study endeavoured to understand the perspectives of mental health clinicians and their experiences with the Zero Suicide initiative. To the best of the authors' knowledge, this study is the first of its kind to use a qualitative descriptive design to explore this suicide prevention programme. Participants were largely complimentary about the Zero Suicide framework and reported that it positively influenced their clinical practice. The clinicians expressed confidence in their assessment skills and considered that the implementation of this framework led to reduced hospital admissions. The clinicians were of the opinion

that the Zero Suicide approach was 'making a difference' to their clientele, which corresponds with the empirical evidence reported in Stapelberg *et al*. (2020). The reported reduction in repeated suicide attempts and in representation rates to the emergency department in Stapelberg *et al*. (2020) is an example of the promising effects of the Zero Suicide approach. Similarly, another study reported a 65% reduction in suicide rates after the implementation of the Zero Suicide model at Centerstone in Tennessee (Hogan & Grumet, 2016). The safety plan usage by primary clinicians at Centerstone improved from 38% to 84% for people with a positive suicide screen (Hogan & Grumet, 2016), which indicates increased compliance by their mental health clinicians. Another study reported a significant association between clinic fidelity with the Zero Suicide organizational best practices and lower suicidal behaviours under their care (Layman *et al*. 2021). The qualitative data from this study support the premise that the mental health clinicians considered the Zero Suicide framework to assist their clinical practice, subsequently producing favourable results for people at risk of suicide.

Participants identified the importance of ongoing and accessible suicide prevention education for mental health clinicians, to ensure clinical practice is current and evidence-based. Specific recommendations included tailoring the education and clinical scenarios to their relevant areas of clinical practice. One study reported that general suicide prevention training is associated with increased levels of mental health clinicians' skills and confidence, with one-third of their participants receiving no formal training in suicide prevention/intervention (Wakai *et al*. 2020). These findings are comparable to our study, in which participants reported the Zero Suicide training to be a valuable asset to their clinical skills, given their infrequent contact with people at risk of suicide. This also reinforces the need to ensure that all mental health clinicians in a regional setting have regular access to suicide prevention training, despite their areas of expertise. The importance of mentorship was also raised by a participant, who credited their confidence and skillset to regular contact with an experienced clinician. The Zero Suicide model encourages leadership to establish a safety culture in the organization as well as support for staff who regularly care for people at risk of suicide (Hogan & Grumet, 2016). The Zero Suicide programme was specifically recommended by some clinicians for educational purposes for mental health graduate health professionals. Given the lack of evidence in this field, it may be worthwhile for future research to explore the impact of this education for these clinicians.

The lack of staff and resources impacting the rollout of the Zero Suicide initiative was highlighted by participants. Barriers voiced by participants to implementing the Zero Suicide approach included time and cognitive difficulties with completing the assessment, further reinforcing the importance of regular Zero Suicide training. The imbalanced ratio of a high number of referrals to the limited clinicians available in the rural setting indicated a high potential for practitioner stress and burnout. Evidence suggests that resilience programmes are essential for addressing the impact of workplace stressors on MH nurses (Foster *et al*. 2018). This emphasizes the importance of caring for staff who work with people at risk of suicide, due to the difficulty and traumatic nature of this work. Strengthening and building capacity in clinicians, as well as promoting continuous learning, may help to make long-term, sustainable changes in the attitudes of mental health professionals (Donald *et al*. 2013). It also reiterates the importance of organizational communication, in which health professionals have an avenue to provide feedback for continuous quality improvement processes.

The issue of organizational structure and workplace culture was identified by participants as potential barriers to the Zero Suicide initiative. Some participants described non-compliance and scepticism around implementing new systems and commented on the lack of communication within their organization. A healthcare organization's culture is essential to quality improvement and may be the enabling factor for the success of such initiatives and the key to effective implementation of evidence-based practices (Speroff *et al*. 2010). Organizational culture can entrap hospitals into actions from which they have difficulty disengaging or changing the pattern, leading to continued cycles of poor performance (Weick & Sutcliffe, 2003). The WHO suggests that a systems-based approach is required in the design of safety clinical processes, considering aspects such as environment, teamwork, organizational culture and structure, and national policies (World Health Organisation, 2021a). Current literature proposes that the implementation of the Zero Suicide initiative may not be effective if it is not supported by cultural change (Turner *et al*. 2021). The implementation of a Restorative Just Culture, alongside the Zero Suicide framework, has been recommended as an essential systems approach for suicide prevention in a hospital or health service (Turner *et al*. 2021). The

authors report that the just culture is imperative to gaining the clinicians' trust and commitment to these organizational changes (Turner *et al*. 2021). To encourage long-term success in practitioner behaviour with suicide prevention programmes, organizational capacity and policies are needed to support these changes (Donald *et al*. 2013). This provides further evidence of the importance of continually evaluating the processes within the Zero Suicide approach, to improve organizational fidelity and ultimately improving outcomes for people at risk of suicide.

Limitations

The data collection for this study occurred during lockdown restrictions related to COVID-19. Subsequently, we were unable to interview participants in a focus group setting as initially intended, with the interviews occurring through virtual technology. This resulted in nine participants dropping out from the scheduled individual interviews due to unavailability and technology issues working in rural areas. Although the researchers were satisfied that data saturation was achieved, there is a possibility that further interviews may have yielded new information. Another limitation to conducting interviews via virtual technology is the researchers may have missed opportunities to pick up on body language or visual cues by the participants.

Another limitation to this study is that not all of the mental teams included in this study worked with clients with suicidal tendencies on a regular basis. This may affect the accuracy of the findings, given that their perspectives are included alongside clinicians who work in this space in a full-time capacity. Lastly, this study was conducted in a rural and regional setting; thus, the findings of this study may not be applicable to other areas such as metropolitan or urban settings.

CONCLUSION

This study explored the perceptions of mental health clinicians following the introduction of a Zero Suicide pathway in a rural and regional setting. The mental health clinicians were largely complimentary about the Zero Suicide approach and found it to be a positive addition to their clinical practice. Overall participants identified the importance of continued regular suicide prevention training for all staff but also in tailoring it to the different consumer and clinician needs. In addition, organizational structure and adequate staff resourcing were important to participants along with working within a safety culture. This study will guide future recommendations for ongoing development and evaluations of the Zero Suicide approach.

RELEVANCE FOR CLINICAL PRACTICE

Regular evaluation of the Zero Suicide approach is required to improve processes and to gain feedback from mental health clinicians implementing this approach. Specific recommendations include ongoing suicide prevention education; however, this should be tailored and relevant to their specific areas of practice. Communication within a health organization is imperative and may help to alleviate any potential mistrust between organizational staff and those at an executive level. Considerations should also be given to organizational culture, structure and ensuring mental health clinicians are adequately supported.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the mental health practitioners who participated in this study whose valuable insights have helped to inform the recommendations and future implementation of the Zero Suicide Prevention approach across its mental health services.

FUNDING STATEMENT

This research project was funded by Latrobe Regional Hospital (LRH) as part of the evaluation of the Zero Suicide Prevention programme service implementation. The CEU was responsible for the data collection and analysis working in partnership with the Mental Health Coordinator at LRH on the data analysis and writing for publication.

ETHICS APPROVAL

The project received ethics approval from the regional hospital human ethics committee (Project No. 2020-20 HREA) and Federation University human ethics committee (A20-070).

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Suicide and Life-Threatening BEHAVIOR
THE OFFICIAL JOURNAL OF THE AMERICAN ASSOCIATION OF SUICIDOLOGY

Suicide and Life-Threatening Behavior 48 (6) December 2018 745

DOI: 10.1111/sltb.12396

Is It Rational to Pursue Zero Suicides Among Patients in Health Care?

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Suicide prevention is a major health care responsibility in need of new perspectives. This study reviews Zero Suicide, an emerging approach to suicide prevention that embraces the aspirational goal of zero suicides among patients treated in health care systems or organizations. Zero Suicide is gaining international momentum while at the same time evoking objections and concerns. Fundamental to Zero Suicide is a multilevel system view on suicide prevention, with three core elements: a direct approach to suicidal behaviors; continual improvement of the quality and safety of care processes; and an organizational commitment to the aspirational goal of zero suicides. The rationale and evidence for these components are clarified and discussed against the backdrop of concerns and objections that focus on possible undesired consequences of the pursuit of zero suicide, in particular for clinicians and for those who are bereaved by suicide. It is concluded that it is rational to pursue zero suicides as an aspirational goal, provided the journey toward zero suicides is undertaken in a systemic and sustained manner, in a way that professionals feel supported, empowered, and protected against blame and inappropriate guilt.

Prevention of suicide and suicidal behaviors is a major health care responsibility in need of new perspectives. Compared with other major health problems like HIV/AIDS, coronary heart disease, or leukemia, little progress has been made in reducing morbidity and mortality due to suicidal behavior (Insel, 2014). The annual US suicides number increased by 24% between 1999 and 2014 (Curtin, Warner, & Hedegaard, 2016). In the Netherlands, where 39% of all people who die by suicide were

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receiving specialist mental health care, this number increased by 38% between 2007 and 2015 (CBS, 2016).

While it is safe to say that health care helps to prevent many suicides, improving its quality may prevent many more. Routine care for patients at risk of suicide still is highly variable and often far from perfect. Clinical audits, root cause analyses after suicides, and service user reports show common themes directly pertaining to discontinuities and lapses in elementary care processes (Burgess, Pirkis, Morton, & Croke, 2000; Gillies, Chicop, & O'Halloran, 2015; Huisman, Robben, & Kerkhof, 2009; Renaud et al., 2014; Taylor, Hawton, Fortune, & Kapur, 2009). In clinical practice, many workers lack specific training to work with suicidal patients (e.g., Awenat et al., 2017; Castelli Dransart, Heeb, Gulfi, & Gutjahr, 2015). Ready implementation of guideline best practices and recommendations remains problematic (de Beurs et al., 2016; Cooper et al., 2013; Schmitz et al., 2012). In the face of the catastrophic impact of suicide and the lack of progress in the past decades, a transformational approach to suicide prevention in health care is warranted.

Zero Suicide is an emergent approach to suicide prevention in health care (Hampton, 2010; Hogan, 2016; Hogan & Goldstein Grumet, 2016; SPRC, 2016). Zero Suicide is driven by the aspirational view of a future in which no one dies alone and in despair by suicide as a result of excellent health care; and by the conviction that by acting upon this aspiration in a committed, systemic, and sustained manner, many and perhaps most suicides among patients in health care can be prevented. This approach is gaining momentum internationally while at the same time evoking strong concerns. With this study, we aim to clarify the background and core elements that constitute Zero Suicide as well as review its rationale and evidence base against the backdrop of the concerns and objections it has evoked. Regarding its potential to serve suicide prevention, we conclude that—under conditions—it is rational to pursue the aspirational goal of zero suicides in health care.

BACKGROUND AND DEVELOPMENT

In 2011, the U.S. National Action Alliance for Suicide Prevention (NAASP; Covington et al., 2011) published a set of recommendations for health care systems based on the analysis of examples of successful suicide prevention. This analysis focused on the US Air Force multilevel suicide prevention program, which lead to a 33% reduction of suicide (Knox, Litts, Talcott, Feig, & Caine, 2003; Knox et al., 2010), and on the Henry Ford Health System Perfect Depression Care program (HFHS), which resulted in 10 consecutive quarters of no reported suicide deaths (Ahmedani, Coffey, & Coffey, 2013; Coffey, 2006, 2007; Coffey, Coffey, & Ahmedani, 2013; Hampton, 2010). Observing that profound cultural and systems change provide the underpinnings of these effective approaches, the NAASP identified three critical success factors: (1) suicide-specific, evidence-based practices; (2) reliably delivered by well-managed whole systems of care that are continuously improving service access, quality, and safety; and that are (3) firmly rooted in core values reflecting a service culture that no longer accepts suicide as an outcome.

By putting suicide prevention in a framework of entire health care systems, the NAASP founded Zero Suicide as outlined online by the US Suicide Prevention Research Center (SPRC, 2016). Implementation of Zero Suicide best practices is recommended by the US Office of the Surgeon General (2012) and the Joint Commission (2016). The International Association of Suicide Prevention endorsed the preparation of the International Zero Suicide Declaration (IIMHL, 2016), which has inspired its implementation in Canada, Australia, New Zealand, the United Kingdom, and the Netherlands.

CONCERNS

In response to these developments, colleagues have argued that although laudable and appealing, the pursuit of zero

suicides is irrational and inappropriate because it is unrealistic and may be distressing or upsetting to people directly involved. Coyne (2016) pointed at the absence of "extraordinary evidence" to support the "extraordinary claim" that a goal of zero suicides can be achieved and cautioned that the appealing goal of zero suicides can be misused to serve other interests (e.g., political, religious, commercial; or organizational window dressing) than suicide prevention per se. Smith et al. (2015) argued that the pursuit of zero suicides will evoke further "dysregulation" in clinicians working with people at risk of suicide. They suppose this will make matters worse with clinicians having more negative feelings about patients, using an inappropriate narrow focus on diagnosis and risk assessment, and making more ad hoc, abrupt, and inconsistent decisions. They proposed to set the more realistic goal of "suicide risk mitigation." Erlich (2016) proposed to use the label "Envision Zero" arguing that "Zero Suicide" would enhance the already problematic guilt of those who are bereaved as a result of suicide, including clinicians and caregivers. Hawton (2016) commented that Zero Suicide has been introduced in the United Kingdom in various forms without a clear underlying strategy and that it has become a question of using the label rather than implementing a comprehensive suicide prevention program. Urging caution about the enthusiasm for Zero Suicide policies, he suggested use of words like "optimal suicide prevention" to promote action in the field.

MULTILEVEL SYSTEMS APPROACH

Clearly Zero Suicide is an inspirational approach. But given the concerns and objections it has evoked: Is it also a rational approach? Is it even remotely realistic, considering the limited resources in health care and the dearth of evidence-based treatment of suicidal behaviors? How could it be acceptable for practitioners who face a current reality of losing patients to suicide? To start answering these questions, it is important to point out that the goal of zero suicides pertains to the distinct population of people receiving health care. Furthermore, that Zero Suicide entails a multilevel systems approach to suicide prevention that considers patient safety, staff safety, and suicide prevention to be organizational responsibilities. This approach reflects Reason's (2000) "systems" view on safety that moves away from "a person approach that focuses on the errors of individuals, blaming them for forgetfulness, inattention, or moral weakness." A systems view on safety focuses on the conditions under which individuals (in the case of suicide prevention: staff and patients) function, and tries to build protective layers to avert or prevent unsafe behaviors, or mitigate their harmful effects. No single layer is perfectly capable of preventing all accidents from happening at all times. Like slices of Swiss cheese, protective layers are lacunar. Accidents occur when the holes in the layers momentarily align. Thus, to achieve safety, multiple layers are required (Figure 1).

For the purpose of suicide prevention, a variety of defenses can be derived from systematic reviews of suicide prevention strategies (Zalsman et al., 2016), practice guidelines (e.g., van Hemert, Kerkhof, de Keijser, & Verwey, 2012), and multilevel community suicide prevention approaches (van der Feltz-Cornelis et al., 2011; Hegerl et al., 2009). In addition to effective and safe treatment, layers of defenses may involve empowerment of people at risk for suicide, including helplines, self-help, and safety planning; collaboration with relatives and gatekeepers; and restriction of access to lethal means. In addition, protective layers on the organizational level pertain to, for example, workflow and staff capacity; the availability of clear instructions, procedures, and communication lines; levels of training and supervision of the workforce; accessibility and continuity of care; and supportive information and communications technology and electronic health records.

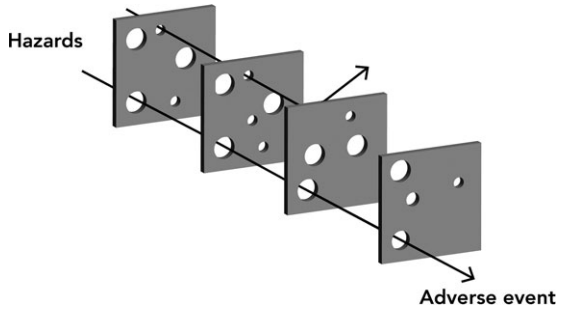

Figure 1. Reason's (2000) Swiss cheese model.

Figure 2. Zero Suicide core components in a health care system.

CORE COMPONENTS

Following the NAASP critical success factors, Zero Suicide core components can be described at three levels (Figure 2): at the practice level—a direct approach of identifying suicidal behavior and treating it as a distinct syndrome using specific, targeted best practices; at the process level—quality and safety improvement to provide highly accessible, reliable, and continuous care processes and routines; and at the organizational level—a safety culture with strong leadership and a system-wide commitment to the aspirational "stretch goal" of zero suicides. These core components will be reviewed and discussed in light of available evidence.

Direct Approach

Zero Suicide views suicidality as a distinct clinical process or syndrome that requires proactive detection, careful exploration, and specific interventions that directly target suicidal behaviors. This direct approach starts at the entrance of every care pathway, where all patients are screened on past and present suicidal behavior with subsequent full assessment for patients screening positive (Boudreaux & Horowitz, 2014). During treatment, screening is repeated systematically to monitor treatment effects and to capture the occurrence or recurrence of suicidal behaviors. To every patient at risk, direct interventions are offered that address suicidal thoughts and behaviors during treatment and aim at adaptive coping (e.g., dialectical behavior therapy, Linehan et al., 2006; cognitive behavior therapy, Brown et al., 2005; Collaborative Assessment and Management of Suicidality, Jobes, 2012; Attempted Suicide Short Intervention Program, Gysin-Maillart, Schwab, Soravia, Megert, & Michel, 2016); risk mitigation by safety planning or crisis response planning (Bryan et al., 2017; Stanley & Brown, 2012); and counseling to reduce access to lethal means (e.g., Johnson, Frank, Ciocca, & Barber, 2011). These suicide-specific interventions are offered in addition to optimal treatment of coexisting mental health problems that elevate the risk of suicide.

While Zalsman et al. (2016) stated that there is insufficient evidence to justify the cost of expensive screening procedures, Coffey (2015) showed that screening can be useful and feasible provided it is embedded in a reliable chain of care where follow-up on screening outcomes (e.g., referral to a specialist setting) is guaranteed. The practice of addressing suicidal thoughts and behaviors directly during treatment rather than indirectly via the treatment of "underlying" mental illness or processes only is endorsed by recent strong evidence. Based on a systematic review and meta-analysis comparing the effects of direct interventions and indirect approaches, Meerwijk et al. (2016) showed direct interventions lead to earlier effects than indirect approaches, with a 1.5 lower likelihood of patients dying by suicide or attempting suicide during treatment.

Quality and Safety Improvement

The second component of Zero Suicide is quality and safety improvement leading to the provision of reliable, continuous, and evidence-based care. This involves the implementation of guidelines and best practices; service redesign involving service users; increasing service access (face to face and online); proactive planning of critical components of care (i.e., intake, screening, assessment, indication, medication, psychosocial therapies); collaboration between staff and patients' relatives; and organizing continuity of care at critical phases (i.e., transfers, postdischarge). In addition, patients' no-show or withdrawal from care is actively responded to. Critical process indicator data are monitored and used to improve workflows, patient safety, and treatment outcomes (Ahmedani et al., 2013). Since quality and safety of care rest on the competence and the confidence of the people who deliver it, all workers are trained to acquire the necessary competences and skills to work with suicidal patients.

Recent quantitative evidence underscores the importance of guideline implementation and the quality of organizations for suicide prevention within health care services. In a national before-and-after analysis, While et al. (2012) showed reductions in suicide rates among persons in care in the United Kingdom associated with the implementation of seven, of a total of nine, selected service guideline recommendations. Kapur et al. (2016) demonstrated a 20 to 30% reduction of suicide rates in all mental health services in England associated with each of 16 specific service improvements and implementation of guideline recommendations pertaining to community services, staff training, guideline implementation, and policies aimed at minimizing the effects of discontinuities in care. In addition, this study

demonstrated the importance of the organizational factors. As an example, low nonmedical staff turnover in an organization enhanced the preventive effects of implemented suicide prevention best practices. Thus, suicide prevention outcomes in mental health services are related to both the nature of interventions offered and the quality of the organization with which they are offered.

Safety Culture Aimed at Zero Suicides

The third component is a safety culture with a system-wide commitment to the "stretch goal" of zero suicides within organizations. This means a transformation of a mindset of resigned acceptance of suicide into a mindset of active prevention of suicide as an outcome of treatment. Instead of asking how not to have more suicides than usual, a Zero Suicide organization challenges itself to have no suicides at all. In this respect, Zero Suicide is a member of the "zero accident vision" family of safety approaches in organizations and industries that require very high levels of safety, like aviation, construction, and the automotive industry (Zwetsloot et al., 2013). Zero Suicide is in accordance with expert views on the imperative to improve patient safety (e.g., Berwick et al., 2013; Dixon-Woods et al., 2014; Leape et al., 2009) that express the need for cultural change, clear goal setting, and the abandoning of blame as an instrument to secure safety.

Transformational approaches aiming at zero preventable harm in very large health care organizations have shown improvement of quality and reduction of mortality and costs within a decade after implementation (Nanji, Ferris, Torchiana, & Meyer, 2013). As an example, Ascension Health, the third largest US health care provider, reported a 21% reduction of mortality among their patients within 3 years of initiation of their "journey towards zero preventable injuries or deaths" (Hilliard et al., 2012; Pryor, Hendrich, Henkel, Beckmann, & Tersigni, 2011). Likewise, within 2 years the Nationwide Children's Hospital Zero Hero program resulted in an 83% reduction of serious safety events, a 53% reduction of preventable harm, a 25% reduction in mortality rate, and a 22% reduction in estimated harm-related hospital costs (Brilli et al., 2013). These examples illustrate that this level of ambition serves well to rapidly improve and enhance patient safety as well as staff safety: "zero" strategies lead not to more litigation, but less.

DISCUSSION

As presented, Zero Suicide aims for a cultural paradigm shift in health care organizations from resigned acceptance of suicide to active prevention of suicides. It draws health care suicide prevention into the realms of safety science, with an assertive stance toward quality improvement and a commitment to patient and staff safety. Zero Suicide is driven by aspiration, but its core components are rational. Although the available evidence is encouraging, it is clear that there are many unresolved questions and that the evidence base should be strengthened. With Coffey (2006) reporting significant positive financial effects, there is still not enough quantitative evidence to conclude that the costs of Zero Suicide implementation are outweighed by its benefits. Equally important is the question of how Zero Suicide would develop in organizations with a less defined leadership culture and organizational structure than the US Air Force and HFHS. Thus, program evaluation and implementation studies in different health care settings and systems that include health economic analyses are an important next step.

Touching on the issue of the preventability of suicide, the goal and label "Zero Suicide" evokes skepticism and strong concerns. This can be understood in that Zero Suicide is in essence a cultural intervention that affects values, habits, and interests. The current pessimism about the preventability of some suicides provides consolation for society, for health care

systems, and for the bereaved, including clinicians. The "promise" of Zero Suicide, its presumption that most if not all suicides can be prevented by excellent health care, offsets a coping style of learned helplessness in health care that is fueled by shame, guilt, and fear of blame (Awenat et al., 2017). In this respect, the concerns expressed by Hawton (2016) and Smith et al. (2015) are justified. Haphazard use of the "Zero Suicide" label without the implementation of its core components and its system approach would be inappropriate and unjust. This would add to already problematic levels of dysregulation in "sick" health care systems (Reason, Carthey, & De Leval, 2001) that are prone to remain unsafe due to a tendency to blame frontline workers and deny systemic errors. The pursuit of zero suicides among patients in health care is only rational in an integral manner that involves practices, processes, and organizational culture across entire health care systems.

Most if not all health care workers would agree to have the mindset that no patient should die alone and in despair by suicide. To overcome reluctance to adopt zero suicides as an aspirational goal, it is of paramount importance that health care leaders empower staff to learn and improve in a genuinely blame-free working environment: patient safety and staff safety go hand in hand. Still, in some contexts, the words "Zero Suicide" may be too bold or too provocative to be engaging. Perhaps in these instances, suicide prevention may initially be better served with an approach called the "Zero Suicide Mindset," "Towards Zero Suicide," or "Every Life Counts."

Irrespective of labels or semantics, health care suicide prevention is about creating safeguards with patients and their relatives that promote their recovery, that help them have a life worth living, and protect them from self-harm when they are unable to protect themselves. It will be a long road to achieve this always, for each and every one of our patients. Setting out on this journey, we feel that the goal of zero suicides provides the clarity to direct us, the ambition to help us make strides, and the confidence to encourage us as we proceed along the way. Thus, it is rational to pursue the aspirational goal of zero suicides in health care.

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Manuscript Received: April 1, 2017
Revision Accepted: June 26, 2017

ORIGINAL PAPER

The sociocultural and behavioural characteristics that patients want in psychiatrists: cross-sectional survey of patients' views

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BJPsych Bulletin (2020) Page 1 of 6, doi:10.1192/bjb.2020.115

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First received 11 Feb 2020, final revision 29 Sep 2020, accepted 7 Oct 2020

Aims and method There appears to be no research to date investigating patients' preferences for sociocultural characteristics or behavioural qualities of psychiatrists. We aimed to assess which are most important to patients. Patients (132) in community mental health teams across two sites (East Cornwall, East London) completed a questionnaire ranking the importance of different sociocultural characteristics and behaviours of psychiatrists.

Results Patients cared more about age and gender than other characteristics. Four preferences (from a choice of ten) regarding behavioural qualities were clearly identified as important: explaining things clearly, dedication to personal treatment, being friendly and polite, and being up to date with medical knowledge.

Clinical implications Patients are fairly unconcerned about the age, gender, religion and social background of psychiatrists. Characteristics they care about most include communication skills, competence, dedication to personal treatment and friendliness. Explaining things clearly is particularly important. This indicates specific areas of improvement for training and further research.

Keywords Patient involvement; community mental health teams; gender; psychiatrists; preference.

Patient preference is a central principle in healthcare. Both patient views and satisfaction are recognised as important as expectations of standards of care rise.[1] Studies on patient satisfaction with care have shown that the therapeutic relationship between patient and doctor and the interpersonal relationship with staff are important to patients.[2]

The evolution of patient-centred care means that patient involvement is increasingly integral to health services research and development, demonstrated by a rapidly growing literature base of patient views. However, there is still a dearth of literature examining patient involvement for improving professional performance in medicine.[3] The literature that does exist largely focuses on communication skills during consultations. This scarcity means that we cannot yet state whether patient feedback can affect performance and what the influential factors are.[4]

We know that judgements are made on the basis of initial perceptions;[5–7] these perceptions are based on easily identifiable features such as gender or age, and on traits judged to be important by each individual, such as standing within society. Gledhill et al found that psychiatric in-patients prefer psychiatrists to wear smart attire and to call them by their first name, although this research was conducted in 1997.[8] However, the smart attire may also lead to patients viewing their psychiatrist as less friendly and approachable.

Patient preference regarding a doctor's gender is an obvious and better explored example of consideration of patients' attitudes. It has been found that significant gender preference is low but trends for same-sex doctors are seen in specific scenarios, including choosing a primary care doctor.[9]

A study undertaken in The Netherlands in 1993 by Kerssens et al used a general household survey to investigate gender preference for 13 different medical specialties and explored possible reasons for any preferences arising. They found that gender preference was stronger in specialties more likely to be engaged in intimate and psychosocial health problems, such as general practitioners (GPs) and gynaecologists. They found that individuals who indicated a preference for a female physician did so on the basis that they found it easier to talk to a female and felt more comfortable being examined by a female and the same reasons were cited by those indicating a preference for a male doctor. For women, 81% had no gender preference for psychiatrists, 4% preferred a male and 15% a female psychiatrist. For men, 91% had no preference, with 3% preferring a female and 6% a male psychiatrist. This was a population, not a patient, survey.[10]

More recently it has been suggested that gender is likely to continue to influence the doctor–patient relationship more in psychiatry than in most other specialties. This may be due to the many entrenched social perceptions and stereotypes that we are still too unaware of.[11] It has also been found that female psychiatrists are still at an advantage when it comes to developing a working relationship with their patients.[12]

Patients are also likely to have strong views on how important various behaviours and skills of clinicians are. When examining communication, there is clear evidence that modifiable human behaviours can have positive or negative effects in consultations. Yet even when specifically examining empathy, Derksen et al found that, although widely promoted as a fundamental skill in clinical practice, evidence is scarce for the effect of greater empathy.[13] A commonly identified negative characteristic of healthcare professionals is paternalism. The desire for an equal power dynamic is one theme that frequently arises in studies examining the patient–medical professional relationship.[14]

Evidence suggests that patients attending out-patient psychiatric services are generally satisfied with the care they receive from their psychiatrists.[1,12] There is some evidence exploring patient satisfaction pertaining to particular qualities in their psychiatrists, such as whether they are attentive, caring in demeanour, knowledgeable about an individual's illness and able to explain conditions well.[15–17]

There is little literature on any aspect of how the patients' role is integrated.[4] Even when patient involvement is promoted, many assumptions are made as to the scope, such as how, when and on what they can give feedback. Indeed, it has been seen that there is sometimes a misalignment between patient priorities and changes put into effect.[18] For example, as part of the revalidation cycle in the UK's National Health Service (NHS), doctors are mandated to submit and evaluate patient feedback. This has been found to have a positive influence overall although its exact purpose and use remain a point of contention for many.[3]

It is also important to question why patient involvement in the development of professional performance has been lacking. Recent analyses have found that negative attitudes of doctors may in fact be a key barrier preventing systems development, thus hindering performance improvement.[3] It is still important to generate the evidence, as clinical outcomes are likely to be affected.

There is also some indication that a therapist's perception of the patient's priorities can be incorrect. When there is a developing relationship, this failure can strongly affect the patient's confidence in their therapist.[19] However, there appears to be no research to date specifically investigating patients' preferences for the sociocultural characteristics of their psychiatrists.

It can take up to 17 years for research to translate into practice in the UK health service; by developing and improving patient involvement we may be able to improve this implementation process and decrease the time frame.[20]

Aims

This study aimed to explore the characteristics and qualities of psychiatrists that are most important to patients. We asked the following research questions:

- What sociocultural characteristics about psychiatrists are important to patients?
- What behaviours are most important to patients in their psychiatrist?

In addition, we hoped the data would be able to shed light on the following gender-based question:

- Are female patients more likely to want a female psychiatrist?

Method

Setting

The study took place in community mental health teams (CMHTs) across two UK NHS foundation trusts. The sites were a general CMHT and a complex care and dementia team in East Cornwall and a CMHT in East London. We therefore approached patients across very different environments – a deprived rural area in south-east Cornwall, which is predominantly White in ethnicity, and a deprived urban area in London, which is significantly ethnically diverse.

Design

This was an exploratory cross-sectional survey of patients' views.

Participants

Patients were identified from the team case-loads. They were included if they were over the age of 18 years, had contact with a psychiatrist within secondary mental health services and were classified as having a severe and enduring mental illness, which included patients with a psychotic illness (for example schizophrenia or bipolar affective disorder), a severe depressive disorder, a personality disorder or dementia. Patients were excluded if they were acutely unwell and therefore lacked capacity to give consent and if they were unable to speak English.

Data collection

In East Cornwall, patients were initially approached via their care coordinator during a pre-existing appointment or following an appointment with their psychiatrist. This initial approach resulted in a fairly low response rate, so an amendment to the study's ethical approval was sought and patients were also approached by a mail shot. In East London, patients were approached via a mail shot after they had been identified by a researcher in conjunction with their care coordinator.

Participants completed a brief questionnaire which asked them about several non-modifiable sociocultural characteristics of psychiatrists, including age, gender, religion, social background and marital status. They were asked to state whether or not they had a preference with regard to the gender, age or level of experience of their psychiatrist. Then the participant was asked to state how important each characteristic was. Finally, they were asked about modifiable characteristics. The participant was asked to

select and rank the three qualities/behaviours most important to them from a list of ten:

(a) the psychiatrist is friendly and polite in manner
(b) the psychiatrist is recommended as good by other patients
(c) the psychiatrist is recommended as good by my GP
(d) the psychiatrist is actively involved in scientific research
(e) the psychiatrist is up to date with medical knowledge
(f) the psychiatrist has a professional appearance and is well dressed
(g) the psychiatrist is dedicated to my personal treatment
(h) the psychiatrist is positive and optimistic
(i) the psychiatrist explains things to me
(j) the psychiatrist has a similar social and cultural background to me.

This list of behaviours was generated from discussions within the research team and consideration of the literature.[1,13,15]

Researchers then collected sociodemographic details about the patients from computerised medical records, including their age and gender.

All data collected were strictly anonymised to prevent patient identification.

Data analysis

The overall results were compiled to reveal:

(a) preference for gender
(b) preference for age
(c) preference for experience
(d) importance of the sociocultural characteristics
(e) ranking in importance for the ten characteristics.

Comparison was then made to see whether female patients had a preference for seeing a female psychiatrist.

Ethical approval

The study received research ethical approval (REC reference number 13/EE/0230) from the National Research Ethics Committee East of England.

Gratuity

Participants were offered £5 (cash in East Cornwall and a voucher in East London) as a token of appreciation for their time. This was not advertised in the patient information leaflet, to reduce potential response bias.

Results

We received 132 returns of the questionnaire across all sites (76 from the East Cornwall CMHT, 28 from the East Cornwall complex care and dementia team and 28 from the East London CMHT). Participants were aged over 18 years, treated in secondary mental healthcare and were diagnosed with a severe and enduring mental illness.

The sociocultural characteristics important to patients

Participants cared more about the age and gender of their psychiatrist than their religion, background and marital status, but the majority of participants were not concerned about any of these factors (Fig. 1). With regard to age, 28% of the total sample expressed a preference regarding the age of their psychiatrist: 16% preferred a psychiatrist under 40 years old, 73% a psychiatrist 40–55 years and 11% a psychiatrist over 55 years. A larger proportion of the total sample (61%) expressed a preference regarding the level of experience of their psychiatrist, with 79% of them stating a preference for a psychiatrist who had been qualified for some time.

Behaviours most important to patients

When asked to rank the three most important qualities/behaviours from the list of ten, there were four clear preferences (Fig. 2):

(a) the psychiatrist explains things to me (more than two-thirds had this in their top three rankings)
(b) the psychiatrist is dedicated to my personal treatment
(c) the psychiatrist is up to date with medical knowledge
(d) the psychiatrist is friendly and polite.

Additional results regarding gender preference

In total 73 women completed the questionnaire; 73% expressed no preference regarding the gender of their psychiatrist (Fig. 3). A similar percentage was observed among the 59 men who completed the questionnaire: 75% expressed no preference with regard to the gender of their psychiatrist. There was no significant difference between genders at the 5% level on statistical analysis (chi-squared test of independence, 5% confidence value).

Discussion

Main findings

In this study the characteristics of psychiatrists that patients cared most about included communication skills, competence, dedication to personal treatment and friendliness. Being able to explain things to patients was particularly important. Of note, being recommended by GPs and other patients was not as important, nor was appearance or being positive and optimistic. The importance of 'dedication to personal treatment' supports early findings by Johansson & Eklund that a common priority of psychiatric patients is the development of a therapeutic relationship.[19]

Participants did not express strong preferences about the age, gender, religion, social background or marital status of their psychiatrist.

As regards the modifiable characteristics analysed, participants did not identify optimism as being important. This aspect of the therapeutic relationship is a quality assessed in some consultant 360-degree appraisal systems. Our finding may be due to a desire for the clinician to be realistic and a feeling that being unduly optimistic can give false hope. As the survey population was patients in secondary care, there may be contributing factors that were not taken into account. These might include the chronicity of

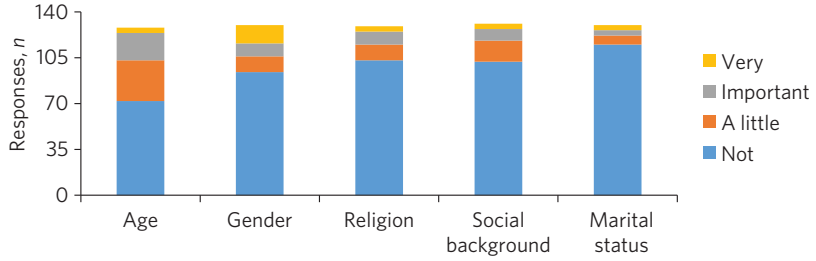

Fig. 1 Participants' rating of the importance of their psychiatrist's sociocultural characteristics.

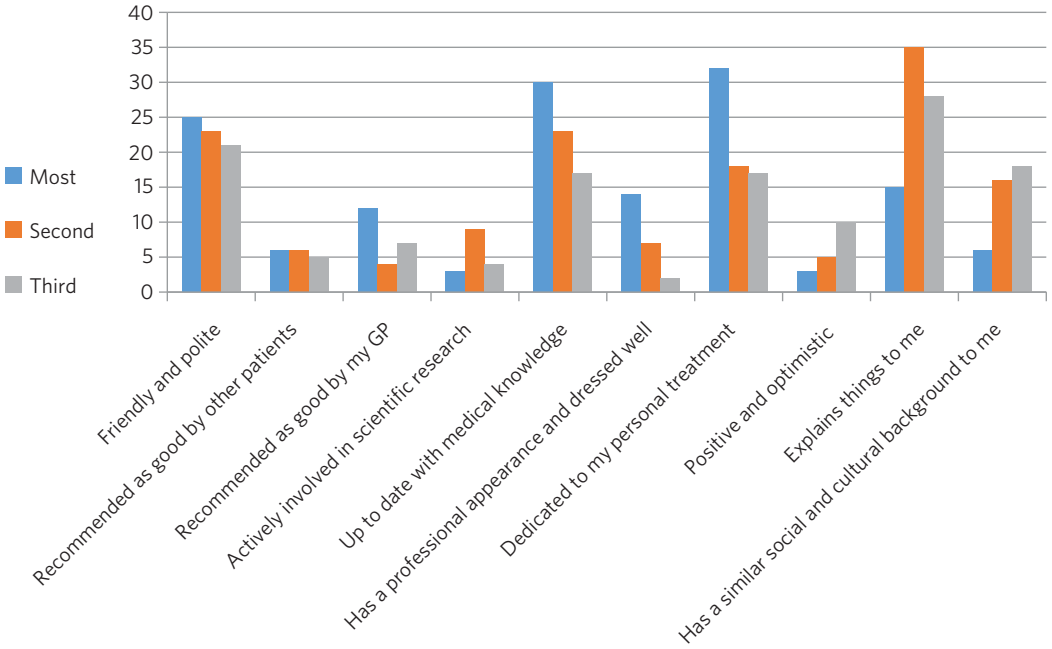

Fig. 2 Participants' ranking of the top three (out of ten) preferred qualities/behaviours shown by their psychiatrist.

specific conditions and the amount of time that the participants have been receiving care.

Another postulation is that the questionnaire asked about a psychiatrist being positive and optimistic; patients might construe a combination of positivity and optimism as lacking in empathy and not understanding their suffering or recognising the impact their presentation/illness is having on their life.

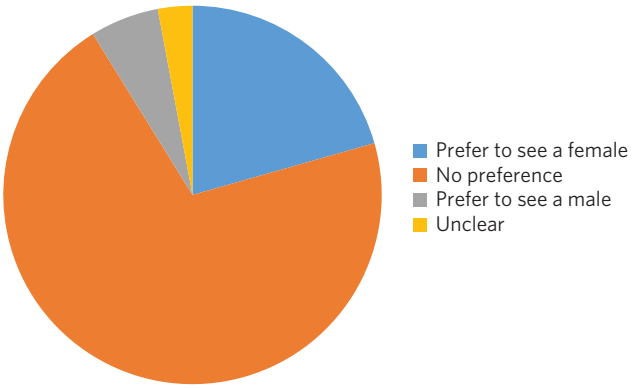

Fig. 3 Female participants' preference for the gender of their psychiatrist.

In terms of non-modifiable characteristics, none were found to have significant importance. The preference for age and experience was of note, as it suggests that more senior clinicians have characteristics desired by patients.

With gender preference, the female participants did not show an overall preference to see a female psychiatrist. This is a comparable finding to the population survey undertaken in The Netherlands in which the majority of both women and men expressed no preference about the gender of the psychiatrist seen.[10] The conflict with more recent studies into gender bias among psychiatric patients may be due to the disparity between preconceptions and outcomes with male/female psychiatrists. This warrants a focused analysis that could be instrumental to professional improvement.

Limitations

We must consider the potential limitations of the study, in particular response bias. One of the factors specifically commented on by the researcher based in East London was the fact that patients were more likely to return a questionnaire if they had previously met her in an earlier role running therapeutic groups in a hospital setting. In conjunction with patient-experience surveys generally having low response rates, this bias may be notable.[21]

The study was also limited to people who spoke English: although this may not have had a significant impact on the results in the East Cornwall sites (nobody on the East Cornwall CMHT case-load required the use of an interpreter or did not speak English as a first or second language at the time of the study), there is a considerably more culturally diverse population in East London who could not then be approached.

In terms of study design, there is no validated questionnaire specific enough to the aims of this survey and applicable to the setting. The behavioural qualities listed in the study were determined through discussion among clinician-researchers. The list might have been strengthened with input from patients.

We did not use a mixed-methods approach owing to limited study resources. Analysing the data by patient characteristics, including experience of services and diagnosed disorder, would have given more insight from a patient perspective, and may be an opportunity for future research.

Implications

Although we may worry about a patient's perception of us based on physical, usually unchangeable characteristics, our focus should be on how we communicate with our patients, as this appears to have more importance for patients. We should not underestimate the significance of being friendly in our clinical work, but also remember that patients value the time-honoured importance of up-to-date knowledge and being dedicated to their personal care.

This research focused on patients in secondary care, many of whom are already experienced with regard to psychiatric treatment. With this in mind, consideration should be given to repeating the research with newly referred patients.

It should also be considered that, in circumstances where the relationship between a patient and their psychiatrist has broken down and a new psychiatrist is to be allocated, attention to matching the psychiatrist and patient on the basis of sociodemographic characteristics is not merited by the evidence.

Some of the behaviours that were identified as important can be trained and regulating authorities such as the General Medical Council and the Care Quality Commission may wish to consider greater encouragement in developing these skills. Psychiatrists are already expected to update their knowledge through continuing professional development, but there is limited systematic training or supervision on how psychiatrists should explain treatments to patients. These communication skills are important to patients.

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Data availability

Data is available from the corresponding author.

Author contributions

Conception and design: S.P., R.L.. Collection and assembly of data: R.L., A.C., C.P., A.O'K., G.R.. Manuscript writing: all authors. Final approval of manuscript: all authors.

Funding

The small study costs were funded by the research departments at Cornwall Partnership NHS Foundation Trust and the Unit for Social and Community Psychiatry, WHO Collaborating Centre for Mental Health Service Development, Queen Mary University of London.

Declaration of interest

None.
ICMJE forms are in the supplementary material, available online at https://doi.org/10.1192/bjb.2020.115.

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Perfect Depression Care Spread: The Traction of Zero Suicides

M. Justin Coffey, MD

ABSTRACT

- *Objective:* To summarize the Perfect Depression Care initiative and describe recent work to spread this quality improvement initiative.
- *Methods:* We summarize the background and methodology of the Perfect Depression Care initiative within the specialty behavioral health care setting and then describe the application of this methodology to 2 examples of spreading Perfect Depression Care to general medical settings: primary care and general hospitals.
- *Results:* In the primary care setting, Perfect Depression Care spread successfully in association with the development and implementation of a practice guideline for managing the potentially suicidal patient. In the general hospital setting, Perfect Depression Care is spreading successfully in association with the development and implementation of a simple and efficient tool to screen not for suicide risk specifically, but for common psychiatric conditions associated with increased risk of suicide.
- *Conclusion:* Both examples of spreading Perfect Depression Care to general medical settings illustrate the social traction of "zero suicides," the audacious and transformative goal of the Perfect Depression Care Initiative.

Each year depression affects roughly 10% of adults in the United States [1]. The leading cause of disability in developed countries, depression results in substantial medical care expenditures, lost productivity, and absenteeism [1]. It is a chronic condition, and one that is associated with tremendous comorbidity from multiple chronic general medical conditions, including congestive heart failure, coronary artery disease, and diabetes [2]. Moreover, the presence of depression has deleterious effects on the outcomes of those comorbid conditions [2]. Untreated or poorly treated, depression can be deadly—each year as many as 10% of patients with major depression die from suicide [1].

In 1999 the Behavioral Health Services (BHS) division of Henry Ford Health System in Detroit, Michigan, set out to eliminate suicide among all patients with depression in our HMO network. This audacious goal was a key lever in a broader aim, which was to build a system of perfect depression care. We aimed to achieve breakthrough improvement in quality and safety by completely redesigning the delivery of depression care using the 6 aims and 10 new rules set forth in the Institute of Medicine's (IOM) report *Crossing the Quality Chasm* [3]. To communicate our bold vision, we called the initiative Perfect Depression Care. Today, we can report a dramatic and sustained reduction in suicide that is unprecedented in the clinical and quality improvement literature [4].

In the *Chasm* report, the IOM cast a spotlight on behavioral health care, placing depression and anxiety disorders on the short list of priority conditions for immediate national attention and improvement. Importantly, the IOM called for a focus on not only behavioral health care benefits and coverage, but access and quality of care for all persons with depression. Finding inspiration from our success in the specialty behavioral health care setting, we decided to answer the IOM's call. We set out to build a system of depression care that is not confined to the specialty behavioral health care setting, a system that delivers perfect care to every patient with depression, regardless of general medical comorbidity or care setting. We called this work Perfect Depression Care Spread.

In this article, we first summarize the background and methodology of the Perfect Depression Care initiative. We then describe the application of this methodology to spreading Perfect Depression Care into 2 nonspecialty care settings—primary care and general hospitals. Finally, we review some of the challenges and lessons learned from our efforts to sustain this important work.

From The Menninger Clinic, Houston, TX.

Table. Key Goals and Indicators in the Perfect Depression Care Initiative

IOM Aim	Goal	Measure	Data Source
Safety	Eliminate inpatient falls	Inpatient falls/1000 days of care	Incident Reporting System
	Eliminate inpatient medication errors	Inpatient medication errors/ 1000 days of care	
Effectiveness	Eliminate suicides	Number of suicides/ 100,000 network members	Incident Reporting System
Patient-centeredness	100% of patients *completely satisfied* with their care	Overall patient satisfaction	PressGaney survey Assessment of Care survey
Timeliness	100% complete satisfaction	Patient satisfaction with timeliness	Assessment of Care survey
Efficiency	100% complete satisfaction	Patient satisfaction with efficiency	Assessment of Care survey
Equity	100% complete satisfaction	Patient satisfaction with equity	Assessment of Care survey

Building a System of Perfect Depression Care

The bedrock of Perfect Depression Care was a cultural intervention. The first step in the intervention was to commit to the goal of "zero defects." Such a commitment is not just to the goal of improving, but to the ideal that perfect care is—indeed, must be—attainable. It is designed to take devoted yet average performers through complete organizational transformation. We began our transformation within BHS by establishing a "zero defects" goal for each of the IOM's 6 aims (**Table**). We then used "pursuing perfection" methodology to work continually towards each goal [5].

One example of the transformative power of a "zero defects" approach is the case of the *Effectiveness* aim. Our team engaged in vigorous debate about the goal for this aim. While some team members eagerly embraced the "zero defects" ambition and argued that truly perfect care could only mean "no suicides," others challenged it, viewing it as lofty but unrealistic. After all, we had been taught that for some number of individuals with depression, suicide was the tragic yet inevitable outcome of their illness. How could it be possible to eliminate every single suicide? The debate was ultimately resolved when one team member asked, "If zero isn't the right number of suicides, then what is? Two? Four? Forty?" The answer was obvious and undeniable. It was at that moment that setting "zero suicides" as the goal became a galvanizing force within BHS for the Perfect Depression Care initiative.

The pursuit of zero defects must take place within a "just culture," an organizational environment in which frontline staff feel comfortable disclosing errors, especially their own, while still maintaining professional accountability [6]. Without a just culture, good but imperfect performance can breed disengagement and resentment. By contrast, within a just culture, it becomes possible to implement specific strategies and tactics to pursue perfection. Along the way, each step towards "zero defects" is celebrated because each defect that does occur is identified as an opportunity for learning.

One core strategy for Perfect Depression Care was organizing care according to the *planned care model*, a locally tailored version of the chronic care model [7]. We developed a clear vision for how each patient's care would change in a system of Perfect Depression Care. We partnered with patients to ensure their voice in the redesign of our depression care services. We then conceptualized, designed, and tested strategies for improvement in 4 high-leverage domains (patient partnership, clinical practice, access to care, and information systems), which were identified through mapping our current care processes. Once this new model of care was in place, we implemented relevant measures of care quality and began continually assessing progress and then adjusting the plan as needed (ie, following the Model for Improvement).

The multiple changes we implemented during each layer of transformation (**Figure 1**) have been described elsewhere in detail [8,9]. The challenge of spreading Perfect Depression Care was to apply all that we learned to new and different social systems where suicide is not seen as key measure of quality of the daily work that is done.

Spread to Primary Care

The spread to primary care began in 2005, about 5 years after the initial launch of Perfect Depression Care in BHS. (There had been some previous work done aimed at integrating depression screening into a small number

of specialty chronic disease management initiatives, although that work was not sustained.) We based the overall clinical structure on the IMPACT model of integrated behavioral health care [10]. Primary care providers collaborated with depression care managers, typically nurses, who had been trained to provide education to primary care providers and problem solving therapy to patients. The care managers were supervised by a project leader (a full-time clinical psychologist) and supported by 2 full-time psychiatric nurse practitioners who were embedded in each clinic during the early phases of implementation. An electronic medical record (EMR) was comfortably in place and facilitated the delivery of evidence-based depression care, as well as the collection of relevant process and outcome measures, which were fed back to the care teams on a regular basis. And, importantly, the primary care leadership team formally sanctioned depression care to be spread to all 27 primary care clinics.

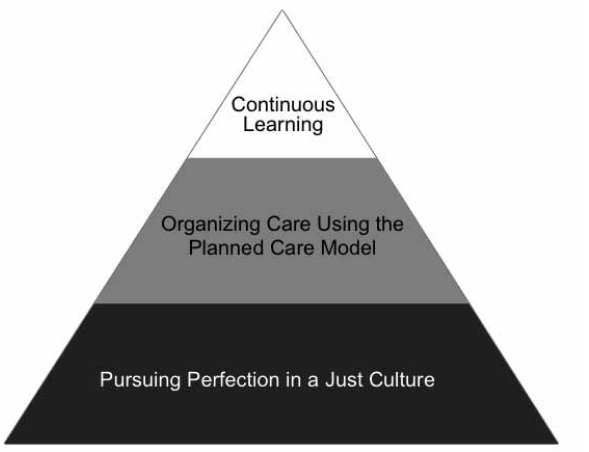

Figure 1. The pyramid of perfection: core features of perfect depression care.

Overcoming the Challenges of the Primary Care Visits

From 2005 to 2010, the model was spread tenuously to 5 primary care clinics. At that rate (1 clinic per year), it would have taken over 20 years to spread depression care through all 27 primary care clinics. Not satisfied with this progress, we stepped back to consider why adoption was happening so slowly. First, we spoke with leaders. Although the project was on a shoestring budget, our leaders understood the business case for integrating some version of depression care into the primary care setting [11]. They advised limiting the scope of the project to focus only on adults with 1 of 6 chronic diseases: diabetes mellitus, congestive heart failure, coronary artery disease, chronic obstructive pulmonary disease (COPD), asthma, and chronic kidney disease. This narrower focus was aimed at using the project's limited resources more effectively on behalf of patients who were more frequent utilizers of care and statistically more likely to have a comorbid depressive illness. Through the use of time studies, however, we learned that the time consumed discerning which patients each day were eligible for depression screening created delays in clinic workflow that were untenable. It turned out that the process of screening all patients was far more efficient that the process of identifying which patients "should" be screened and then screening only those who were identified. This pragmatic approach to daily workflow in the clinics was a key driver of successful spread.

Next, we spoke to patients. In an effort to assess patient engagement, we reviewed the records of 830 patients who had been seen in one of the clinics where depression care was up and running. Among this group, less than 1% had declined to receive depression screening. In fact, during informal discussions with patients and clinic staff, patients were thanking their primary care providers for talking with them about depression. When it came to spreading depression care, patient engagement was not the problem.

Finally, we spoke with primary care providers, physicians who were viewed as leaders in their clinics. They described trepidation among their teams about adopting an innovation that would lead to patients being identified as at risk for suicide. Their concern was not that integrating depression care was not the right thing to do in the primary care setting; indeed, they had a strong and genuine desire to provide better depression care for their patients. Their concern was that the primary care clinic was not equipped to manage a suicidal patient safely and effectively. This concern was real, and it was pervasive. After all, the typical primary care office visit was already replete with problem lists too long to be managed effectively in the diminishing amount of time allotted to each visit. Screening for depression would only make matters worse [12]. Furthermore, identifying a patient at risk for suicide was not uncommon in our primary care setting. Between 2006 and 2012, an average of 16% of primary care patients screened each year had reported some degree of suicidal ideation (as measures by a positive response on question 9 of the PHQ-9). These discussions

showed us that the model of depression care we were trying to spread into primary care was not designed with an explicit and confident approach to suicide—it was *not* Perfect Depression Care.

Leveraging Suicide As a Driver of Spread

When we realized that the anxiety surrounding the management of a suicidal patient was the biggest obstacle to Perfect Depression Care spread to primary care, we decided to turn this obstacle into an opportunity. First, an interdisciplinary team developed a practice guideline for managing the suicidal patient in general medical settings. The guideline was based on the World Health Organization's evidence-based guidelines for addressing mental health disorders in nonspecialized health settings [13] and modified into a single page to make it easy to adopt. Following the guideline was not at all a requirement, but doing so made it very easy to identify patients at potential risk for suicide and to refer them safely and seamlessly to the next most appropriate level of care.

Second, and most importantly, BHS made a formal commitment to provide immediate access for any patient referred by a primary care provider following the practice guideline. BHS pledged to perform the evaluation on the same day as the referral was made and without any questions asked. Delivering on this promise required BHS to develop and implement reliable processes for its ambulatory centers to receive same-day referrals from any one of 27 primary care clinics. Success meant delighting our customers in primary care while obviating the expense and trauma associated with sending patients to local emergency departments. This work was hard. And it was made possible by the culture within BHS of pursuing perfection.

The practice guideline was adopted readily and rapidly, and its implementation was followed by much success. During the 5 years of Perfect Depression Care spread when there was no practice guideline for managing the suicidal patient in general medical settings, we achieved a spread rate of 1 clinic per year. From 2010 to 2012, after the practice guideline was implemented, the model was spread to 22 primary care clinics, a rate of 7.3 clinics per year. This operational improvement brought with it powerful clinical improvement as well. After the implementation of the practice guideline, the average number of primary care patients receiving Perfect Depression Care increased from 835 per month to 9186 per month (**Figure 2**).

During this time of successful spread, project resources remained similar, no new or additional financial support was provided, and no new leadership directives had been communicated. The only new features of Perfect Depression Care spread were a 1-page practice guideline and a promise. Making suicide an explicit target of the intervention, and doing so in a ruthlessly practical way, created the conditions for the intervention to diffuse and be adopted more readily.

Spread to General Hospitals

In 2006, the Joint Commission established National Patient Safety Goal (NPSG) 15.01.01 for hospitals and health care facilities "to identify patients at risk for suicide" [14]. NPSG 15.01.01 applies not just to patients in psychiatric hospitals, but to all patients "being treated for emotional or behavioral disorders in general hospitals," including emergency departments. As a measure of safety, suicide is the second most common sentinel event among hospitalized patients—only wrong-site surgery occurs more often. And when a suicide does take place in a hospital, the impact on patients, families, health care workers, and administrators is profound.

Still, completed suicide among hospitalized patients is statistically a very rare event. As a result, general hospitals find it challenging to meet the expectations set forth in NPSG 15.01.01, which seemingly asks hospitals to search for a needle in a haystack. Is it really valuable to ask a patient about suicide when that patient is a 16-year-old teenager who presented to the emergency department for minor scrapes and bruises sustained while skateboarding? Should all patients with "do not resuscitate" orders receive a mandatory, comprehensive suicide risk assessment? In 2010, general hospitals in our organization enlisted our Perfect Depression Care team to help them develop a meaningful approach to NPSG 15.01.01, and so Perfect Depression Care spread to general hospitals began.

The goal of NPSG 15.01.01 is "to identify patients at risk for suicide." To accomplish this goal, hospital care teams need simple, efficient, evidence-based tools for identifying such patients *and* responding appropriately to the identified risk. In a general hospital setting, implementing targeted suicide risk assessments is simply not feasible. Assessing every single hospitalized patient for suicide risk seems clinically unnecessary, if not wasteful, and yet the processes needed to identify reliably which patients ought to be assessed end up taking far longer than simply screening everybody. With these considerations in mind, our Perfect Depression Care team took a different approach.

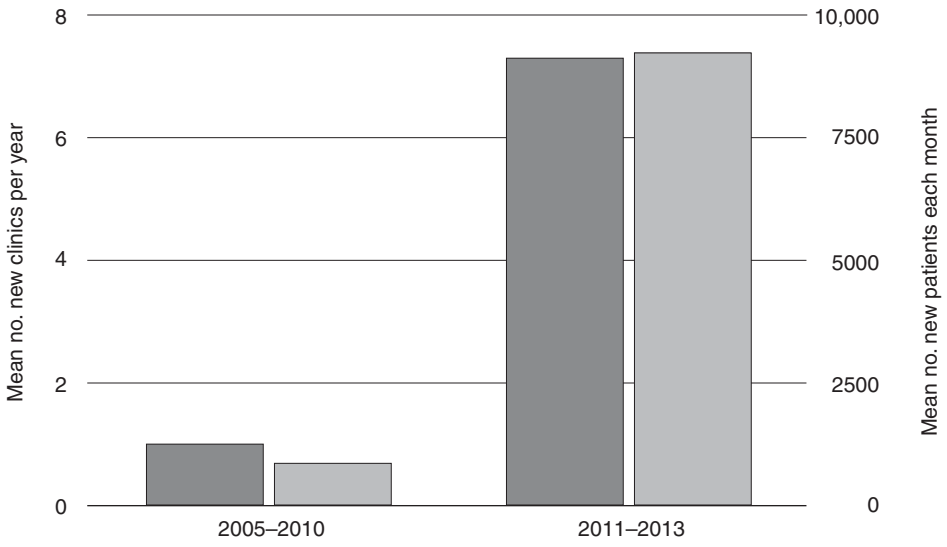

Figure 2. Perfect Depression Care spread to primary care before and after suicide practice guideline implementation.

The DAPS Tool

We developed a simple and easy tool to screen, not for suicide risk specifically, but for common psychiatric conditions associated with increased risk of suicide. The Depression, Anxiety, Polysubstance Use, and Suicide screen (DAPS) [15] consists of 7 questions coming from 5 individual evidence-based screening measures: the PHQ-2 for depression, the GAD-2 for anxiety, question 9 from the PHQ-9 for suicidal ideation, the SASQ for problem alcohol use, and a single drug use question for substance use. Each of these questionnaires has been validated as a sensitive screening measure for the psychiatric condition of interest (eg, major depression, generalized anxiety, current problem drinking). Some of them have been validated specifically in general medical settings or among general medical patient populations. Moreover, each questionnaire is valid whether clinician-administered or self-completed. Some have also been validated in languages other than English.

The DAPS tool bundles together these separate screening measures into one easy to use and efficient tool. As a bundle, the DAPS tool offers 3 major advantages over traditional screening tools. First, the tool takes a broader approach to suicide risk with the aim of increasing utility. Suicide is a statistically rare event, especially in general medical settings. On the other hand, psychiatric conditions that themselves increase people's risk of suicide are quite common, particularly in hospital settings. Rather than screening exclusively for suicidal thoughts and behavior, the DAPS tool screens for psychiatric conditions associated with an increased risk of suicide that are common in general medical settings. This approach to suicide screening is novel. It allows for the recognition of higher number of patients who may benefit from behavioral health interventions, whether or not they are "actively suicidal" at that moment. By not including extensive assessments of numerous suicide risk factors, the DAPS tool offers practical utility without losing much specificity. After all, persons in general hospital settings who at acutely increased risk of suicide (eg, a person admitted to the hospital following a suicide attempt via overdose) are already being identified.

The second advantage of the DAPS tool is that the information it obtains is actionable. Suicide screening tools, whether brief or comprehensive, are not immediately predictive and arrive at essentially the same conclusion—the person screened is deemed to fall into some risk stratification (eg, high, medium, low risk; acute vs non-acute risk). In general hospital settings, the responses to these stratifications are limited (eg, order a sitter, call a psychiatry consultation) and not specific to the level of risk. Furthermore, persons with psychiatric disorders may be at increased risk of suicide even if they deny having suicidal thoughts. The DAPS tool allows for the recognition of

these persons, thus identifying opportunities for intervention. For example, a person who screens positive on the PHQ-2 portion of the DAPS but who denies having recent suicidal thoughts or behavior may not benefit from an immediate safety measure (eg, ordering a sitter) but may benefit from an evaluation and, if indicated, treatment for depression. Treating that person's depression would decrease the longitudinal risk of suicide. If another person screens negative on the PHQ-2 but positive on the SASQ, then that person may benefit most from interventions targeting problem alcohol use, such as the initiation of a CIWA protocol in order to prevent the emergence of alcohol withdrawal during the hospitalization, but not necessarily from depression treatment.

The third main advantage of the DAPS tool is its ease of use. There are a limited number of psychiatrists and other mental health care workers in general hospitals, and that number is not adequate to have all psychiatric screens and assessments in performed by a specialist. The DAPS tool consists of scripted questions that any health care provider can read and follow. This type of instruction may be especially beneficial to health care providers who are unsure or uncomfortable about how to screen patients for suicide or psychiatric disorders. The DAPS tool provides these clinicians with language they can use comfortably when talking with patients. Alternatively, patients themselves can complete the DAPS questions, which frees up valuable time for providers to deliver other types of care. During a pilot project at one of our general hospitals, 20 general floor nurses were asked to implement the DAPS with their patients after receiving only a very brief set of instructions. On average, it took a nurse less than 4 minutes to complete the DAPS. Ninety percent of the nurses stated the DAPS tool would take "less time" or "no additional time" compared with the behavioral health questions in the current nursing admission assessment they were required to complete on every patient. Eighty-five percent found the tool "easy" or "very easy" to use.

At the time of publication of this article, one of our general hospitals is set to roll out DAPS screening hospital wide with the goal of prospectively identifying patients who might benefit from some form of behavioral health intervention and thus reducing length of stay. Another of our general hospitals is already using the DAPS to reduce hospital readmissions [15]. What started out as an initiative simply to meet a regulatory requirement turned into a novel and efficient means to bring mental health care services to hospitalized patients.

Lessons Learned

Our goal in the Perfect Depression Care initiative was to eliminate suicide, and we have come remarkably close to achieving that goal. Our determination to strive for perfection rather than incremental goals had a powerful effect on our results. To move to a different order of performance required us to challenge our most basic assumptions and required new learning and new behavior.

This social aspect of our improvement work was fundamental to every effort made to spread Perfect Depression Care outside of the specialty behavioral health care setting. Indeed, the diffusion of all innovation occurs within a social context [16]. Ideas do not spread by themselves—they are spread from one person (the messenger) to another (the adopter). Successful spread, therefore, depends in large part on the communication between messenger and adopter.

Implementing Perfect Depression Care within BHS involved like-minded messengers and adopters from the same department, whereas spreading the initiative to the general medical setting involved messengers from one specialty and adopters from another. The nature of such a social system demands that the goals of the messenger be aligned with the incentives of the adopter. In health service organizations, such alignment requires effective leadership, not just local champions [17]. For example, spreading the initiative to the primary care setting really only became possible when our departmental leaders made a public promise to the leaders of primary care that BHS would see any patient referred from primary care on the same day of referral with no questions asked. And while it is true that operationalizing that promise was a more arduous task than articulating it, the promise itself is what created a social space within which the innovation could diffuse.

Even if leaders are successful at aligning the messenger's goals and the adopter's incentives, spread still must actually occur locally between 2 people. This social context means that a "good" idea in the mind of the messenger must be a "better" idea in the mind of the adopter. In other words, an idea or innovation is more likely to be adopted if it is better than the status quo [18]. And it is the adopter's definition of "better" that matters. For example, our organization's primary care clinics agreed that improving their depression care was a good idea. However, specific interventions were not adopted (or adoptable) until they became a way to make daily life easier for the front-line clinic staff (eg, by facilitating more efficient referrals to BHS). Furthermore, because

daily life in each clinic was a little bit different, the specific interventions adopted were allowed to vary. Similarly, in the general hospital setting, DAPS screening was nothing more than a good idea until the nurses learned that it took less time and yielded more actionable results than the long list of behavioral health screening questions they were currently required to complete on every patient being admitted. When replacing those questions with the DAPS screen saved time and added value, the DAPS became better than the status quo, a tipping point was reached, and spread took place.

Future Spread

The 2 examples of Perfect Depression Care Spread described herein are testaments to the social traction of "zero suicides." Importantly, the success of each effort has hinged on its creative, practical approach to suicide, even though there is scant scientific evidence to support suicide prevention initiatives in general medical settings [19].

As it turns out, there is also little scientific knowledge about how innovations in health service organizations are successfully sustained [16]. It is our hope that the 15 years of Perfect Depression Care shed some light on this question, and that the initiative can continue to be sustained in today's turbulent and increasingly austere health care environment. We are confident that we will keep improving as long as we keep learning.

In addition, we find tremendous inspiration in the many others who are learning and improving with us. In 2012, for instance, the US Surgeon General promoted the adoption "zero suicides" as a national strategic objective [1]. And in 2015, the Deputy Prime Minister of the United Kingdom called for the adoption of "zero suicides" across the entire National Health Service [20]. As the Perfect Depression Care team continues to grow, the pursuit of perfection becomes even more stirring.

Acknowledgment: The author acknowledges Brian K. Ahmedani, PhD, Charles E. Coffey, MD, MS, C. Edward Coffey, MD, Terri Robertson, PhD, and the entire Perfect Depression Care team.

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Financial disclosures: None.

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Acad Psychiatry (2016) 40:623–629
DOI 10.1007/s40596-015-0434-6

COLUMN: EDUCATIONAL RESOURCE

Reformulating Suicide Risk Formulation: From Prediction to Prevention

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Received: 21 April 2015 / Accepted: 18 September 2015 / Published online: 14 December 2015

Abstract Psychiatrists-in-training typically learn that assessments of suicide risk should culminate in a probability judgment expressed as "low," "moderate," or "high." This way of formulating risk has predominated in psychiatric education and practice, despite little evidence for its validity, reliability, or utility. We present a model for teaching and communicating suicide risk assessments without categorical predictions. Instead, we propose risk formulations which synthesize data into four distinct judgments to directly inform intervention plans: (1) risk status (the patient's risk relative to a specified subpopulation), (2) risk state (the patient's risk compared to baseline or other specified time points), (3) available resources from which the patient can draw in crisis, and (4) foreseeable changes that may exacerbate risk. An example case illustrates the conceptual shift from a predictive to a preventive formulation, and we outline steps taken to implement the model in an academic psychiatry setting. Our goal is to inform educational leaders, as well as individual educators, who can together cast a prevention-oriented vision in their academic programs.

Keywords Suicide prevention · Suicide risk · Education · Assessment psychiatric services · Risk management · Educational leadership

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Suicidal symptoms and suicidal behavior are common among patients in psychiatric service settings, and many individuals who die by suicide have had recent contact with a mental health professional or crisis responder [1]. Educating the mental health workforce to assess and respond to suicide risk is essential to the National Strategy for Suicide Prevention [2, 3], and to efforts such as the Zero Suicide initiative for providing "suicide safer" care systems [4]. To prepare the next generation of psychiatrists for suicide prevention in behavioral health settings, training-program leadership must have a clear vision for conceptualizing and teaching suicide risk which reflects recent advances and supports prevention.

Psychiatrists-in-training typically learn that assessments of suicide risk should culminate in a probability judgment expressed as "low," "moderate," or "high." This way of formulating risk has predominated in psychiatric education and practice, despite little evidence for its validity, reliability, or utility. We present a model for teaching and communicating suicide risk assessments without categorical predictions. Instead, we propose risk formulations which synthesize data into four distinct judgments to directly inform intervention plans: (1) *risk status* (the patient's risk relative to a specified subpopulation), (2) *risk state* (the patient's risk compared to baseline or other specified time points), (3) *available resources* from which the patient can draw in crisis, and (4) *foreseeable changes* that may exacerbate risk. An example case illustrates the conceptual shift from a predictive to a preventive formulation, and we outline steps taken to implement the model in an academic psychiatry setting. Our goal is to inform educational leaders, as well as individual educators, who can together cast a prevention-oriented vision in their academic programs. Consider the following case:

Case Illustration: Teaching Prevention-Oriented Risk Formulation

Dr. Lang, a first-year resident, interviewed Mr. Colban and his wife in the psychiatric emergency department (ED). Mr. Colban, 54, was referred by his primary care physician, and arrived reluctantly, after endorsing "Nearly every day" on the routine depression-screening item, "Thoughts that you would be better off dead." When his doctor asked about it, he quipped, "You never know what can happen when a guy is cleaning his gun, Doc."

Dr. Lang determined that Mr. Colban probably had mood instability much of his life, but more erratic behavior began six months ago when he discovered his wife and his best friend in bed together. After confronting them, Mr. Colban sped off in his car and struck a concrete wall, fracturing a hip and femur. These injuries continue to cause pain.

Mrs. Colban stated emphatically that she has ended the extramarital relationship, although her husband remains suspicious, angry, and moody. He drinks with friends after work almost daily. In the heat of a recent argument, Mr. Colban said, "Maybe I should just shoot myself so you can screw Tom without guilt." He owns a gun.

During the interview, Mr. Colban denied suicide ideation. "I say that when I'm mad, but I wouldn't do it." Questioned about troubling statements he made to his physician and wife, he asked, "Don't you people have anything better to do?" Asked if he would keep himself safe he said, "Yes…I already said I would never do it." He agreed to let a family member keep his gun temporarily.

For psychiatrists and other clinicians, arriving at a clear formulation of a patient's level of risk, based on a synthesis of clinical information, is a core competency for assessing and managing suicide risk [5]. But, there is no clear consensus about what "risk formulation" entails [6], despite significant advances in the clinical literature on assessing and managing suicide risk. In our experience, the most common usage of the term *risk formulation* is illustrated by Dr. Lang's assessment of Mr. Colban's risk for suicide, as seen in the continuation of the case illustration:

After discussion with the patient, his wife, and his primary care physician, Dr. Lang reported his findings to his preceptor, Dr. Santis: "We have no grounds to keep this guy. I'm worried he might kill himself *someday*, but I don't feel there is an immediate risk."

Dr. Santis: "What is your risk formulation and plan?"

Dr. Lang: "Risk is low or moderate… low-moderate, I guess. He's not reporting acute distress."

Dr. Santis: "And your prevention plan?"

Dr. Lang: "Discharge to home, outpatient intake this week, and give them the crisis phone numbers."

Dr. Santis: "Good start, but you're worried about future risk. How does your formulation and plan address that?"

Dr. Lang presented his formulation as a categorical probability judgment. Such assignments of risk level are usually expressed on some type of Likert scale from low to moderate to high, often with additional gradations such as "low-moderate."

Educational leadership requires challenging outdated paradigms, and the practice of applying simple labels to risk severity is fraught with problems: These categorical labels have poor predictive validity, inter-rater reliability, and clinical utility [7–9]. Furthermore, categorical labels tends to be ambiguous: Does "high risk" mean a patient is genuinely more-likely-than-not to die by suicide (in which case, intense and urgent intervention is warranted), or only that the patient is at higher risk than the general population (in which urgent intervention may be unnecessary)? Better alternatives involve distinguishing between long-term and short-term risk [10] or increasing specificity between different risk levels [7, 11]. Although these alternatives are clear improvements, none of them presents a comprehensive model suitable for supervision and teaching, communication among professionals and with patients, and documentation. Seeking to build on recent advances, we identified the following criteria that a practical model must meet:

1. Risk formulation should be anchored in the clinical context and patient population in which the assessment occurs [12]. Rates and risk of suicide differ across contexts [13], so clinicians in different practice contexts (e.g., outpatient, inpatient, and emergency services) will have a different experience base with distressed patients and hence different judgments about risk. A patient considered high risk in one context (e.g., a college counseling center) might be considered low risk in another context (e.g., an inpatient psychiatric hospital). These risk appraisals differ, not only because patient populations differ but also because each setting has different resources available for intervention. Likewise, the purpose of an assessment varies by setting. So, clinicians must conceptualize and describe risk in relative terms. Describing a patient as "low risk" or "high risk" in the abstract is far less meaningful than describing the patient as at lower or higher risk *relative to other patients in the same context*.
2. Risk formulation should capture the fluid nature of suicide risk in the life of an individual patient [10, 14, 15] and explicitly state: (a) how the person's current risk compares to risk at previous time points, and (b) how risk might change in response to future events.
3. Risk formulation should lead directly to intervention strategies [16]. Data points included should provide the building blocks needed to produce risk management plans.

In this article, we propose to both broaden and refine the definition, practice, and teaching of suicide risk formulation by presenting a model that meets these criteria. Clinical and educational leaders can use this model to prepare preceptors and improve educational experiences of trainees. While clinical judgment is involved in any assessment, our model is intended to provide structure and transparency, enabling clearer communication and support for clinical decisions. We build upon recent advances in the clinical literature on assessing and teaching suicide risk [5, 7, 10, 11, 16, 17] and inform educational leaders about how to fill a gap in contemporary psychiatric education. We also provide an illustration of implementing this model in one academic psychiatry setting.

Prevention-Oriented Risk Formulation

We define risk formulation as *a concise synthesis of empirically based suicide risk information regarding a patient's immediate distress and resources at a specific time and place*. The goal of this synthesis is not to predict behavior but to promote communication and collaboration among professionals, patients, and families to reduce risk in the short and long term.

In light of this definition, we see that Dr. Lang's view of the scope and purpose of risk formulation is too narrow. His statements indicate that risk formulation is solely a prediction of how likely Mr. Colban is to attempt suicide in the near future. Further, his initial statement to Dr. Santis, "We have no grounds to keep this guy," reveals the common tendency to "back in" to risk formulation. In other words, he decided between one of two intervention options (release or hospitalize) and then assigned a categorical label post hoc to justify his decision. Dr. Lang's statement also illustrates the common misconception that risk formulation is complete once immediate disposition has been determined. We emphasize that risk formulation should not be a categorical label conveying a *prediction*, but rather a synthesis of information that facilitates *prevention*.

To broaden Dr. Lang's view of risk formulation, Dr. Santis introduced him to a prevention-oriented model. Figure 1 diagrams a risk formulation model we use for teaching purposes. The model flows from left to right. The left side of the model shows eight domains of "clinical data" that a clinician gathers and synthesizes in collaboration with the patient and other individuals central to the patient's life and care. These domains are adapted from those proposed and explicated by Bryan and Rudd [17] to inform risk assessment: strengths and protective factors; long-term risk factors; impulsivity/self-control; past suicidal behavior; recent/present suicidal ideation and behavior; stressors/precipitants; symptoms, suffering, and recent changes; and reliability and engagement. To highlight the importance of considering both historical background and immediate clinical presentation, the eight domains are organized into circles of "more enduring" and "more dynamic" factors. Consideration of these domains yields a judgment about risk status, risk state, immediately available resources, and foreseeable changes.

Risk Status and Risk State

Our model for risk formulation draws on contributions from the violence prevention literature. In order to model the fluid nature of violence risk assessment, Douglas and Skeem [18] distinguished between risk status and risk state. As applied to suicide, risk status is a person's risk of suicidal behavior relative to others in a stated population. Risk status is informed by base rates of suicide in particular populations, and well-known, empirically supported risk factors for suicide drawn from epidemiological research. These factors tend to be more enduring (i.e., fixed, historical, and static), such as history of psychiatric illness, family history of suicide, history of abuse, and history of suicidal behavior. For example, a patient with multiple suicide attempts would likely have a higher risk status than a patient with a similar diagnosis, level of current distress, or current severity of suicidal thoughts [19]. Risk state refers to a person's current risk compared with his/her own risk at baseline or at another set point in time. A patient's recent suicidal statements and behavior, current symptoms and stressors, and degree of engagement with helping resources all inform risk state. The factors that inform risk state tend to be more dynamic and malleable and relate more to moment-to-moment clinical status. Together, risk status and risk state yield descriptions of an individual's current vulnerability and volatility, anchored in population, context, and time. Risk status is expressed in relative terms ("higher than," "similar to," or "lower than") in relation to a relevant comparison group, as illustrated in the following dialogue between the faculty preceptor and resident in our illustrative example.

Teaching Risk Status

Dr. Santis: "Could you indicate Mr. Colban's risk compared with the general population?"
Dr. Lang: "I would say higher. He's had a past suicide attempts, and some ongoing depression."
Dr. Santis: "I agree. How about compared with other depressed patients in our outpatient service?"
Dr. Lang: "Probably middle of the road."
Dr. Santis: "Yes, and how about compared with the last ten patients we admitted to the inpatient service?"
Dr. Lang: "A lot lower—there's no psychosis or intoxication, and even though he gave us a hard time, he cooperated with a plan to have his brother-in-law secure his firearm and stated that he doesn't plan to kill himself."
Dr. Santis: "OK. Then we can say that his risk status is higher than the general population, similar to outpatients

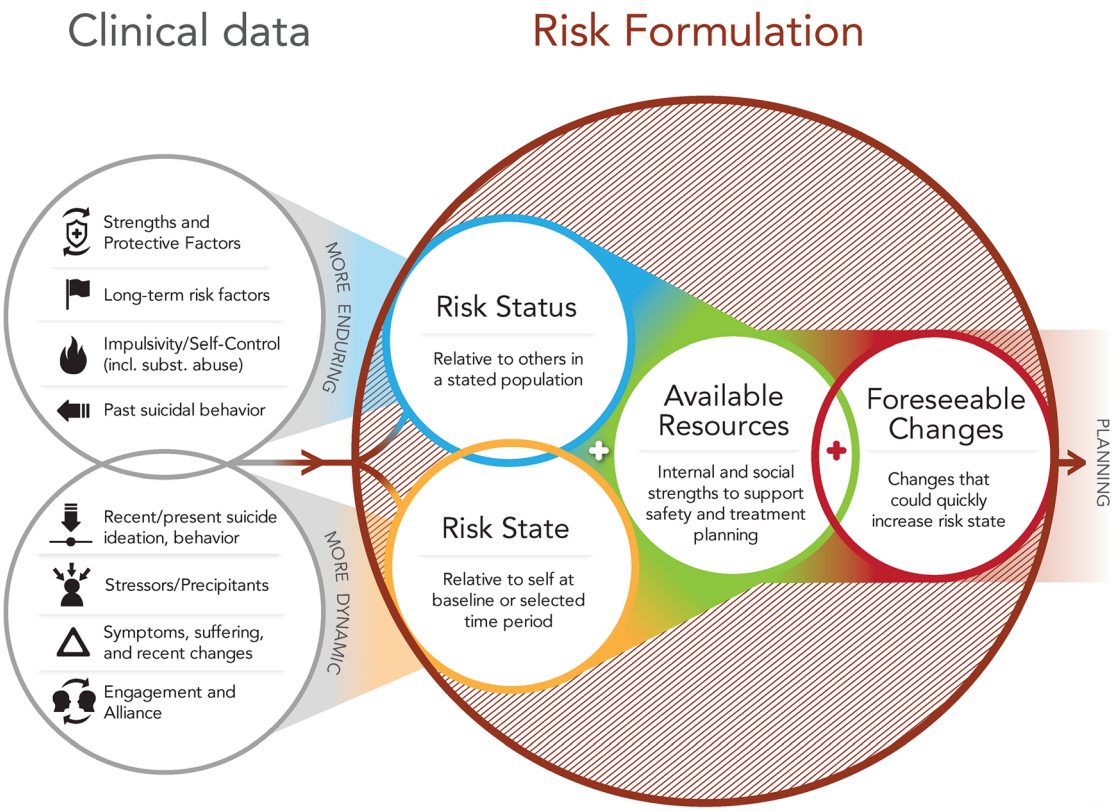

Fig. 1 Prevention-oriented risk formulation

in our behavioral health service, and lower than patients typically admitted to our service."

In prediction-based models, clinicians must integrate complex risk information to estimate the likelihood of a statistically rare event. But, there are no known algorithms for precisely weighing risk factors in individual cases, so clinicians perform poorly at the task [20]. Of course, describing risk status also requires some subjective clinical judgment and therefore remains vulnerable to bias and error. But, this task involves estimating whether an individual's risk is similar, lower, or higher than a comparison group, a task that is simpler (and vulnerable to fewer biases) than a predictive task, or a task that involves estimating risk in the abstract. In our experience, anchoring risk to a specific relevant population enhances and clarifies communication, thereby improving the reliability of judgments across clinicians—but we emphasize that it still needs to be tested empirically. Clinicians may choose to compare risk to various comparison groups (as did Drs. Lang and Santis above), but for clinicians unfamiliar with multiple contexts, even a comparison to the current context is more precise, and therefore meaningful, than trying to describe risk in the abstract.

Risk state is expressed in terms relative to a strategically chosen point or points in the patient's own history. Thus, the risk formulation focuses the clinician on temporal changes and how the immediate distress fits within the events and patterns of the patient's life, as illustrated in the continuation of the case illustration.

Teaching Risk State

Dr. Santis: "What do we know about the patient's risk state today compared with other times in his life?"
Dr. Lang: "Well, it is obviously higher than it was before he found his wife in bed with his best friend, but none of the information we gathered indicates that his risk is higher today than it has been for the past six months. What happened today is that the PCP's routine screen detected his risk."
Dr. Santis: "Precisely! So we can say that his risk state is higher than his pre-morbid baseline but similar to what it has been in recent months."

To be clear, the goal of assessing risk state is not to *predict* whether an individual will take his own life. Indeed, assessing the patient's "worst point" (a static risk factor closely tied to past suicidal ideation and attempts) would probably be a better strategy if the goal were incremental improvement of long-term *predictions* [21]. However, the goal of assessing current risk state is not improving long-term prediction, but gauging the intervention necessary to reduce suicide risk. Comparing current risk state to the patient's "baseline" state and worst-point

state may shed light on effective interventions, and foreseeable changes that could increase or decrease risk.

Available Resources and Foreseeable Changes

A "risk formulation" which includes only a categorical label does little to enhance prevention. This type of labeling tends to encourage little or no individualized intervention for those labeled low risk, and intense, but rarely individualized, intervention for those labeled high risk (e.g., civil commitment). Categorical labels cannot convey the detailed information necessary to tailor a risk management plan. Better risk formulation explicitly addresses the patient's available resources and foreseeable changes crucial to individualized prevention. Available resources are those immediately accessible to the patient and treatment team to support crisis and treatment planning. They are distinguished from protective factors, which generally refer to broad strengths or epidemiologically derived variables known to decrease risk across populations, such as demographic factors, having children in the home, or holding attitudes against suicide. Protective factors are important to note but are not always immediately available to aid in a crisis.

Foreseeable changes are events or stressors, which, if they occurred, could reasonably be expected to increase or decrease risk. Identifying these potential changes as a core element in risk formulation (a) explicitly acknowledges the fluid and inherently unpredictable nature of suicide risk [10, 14, 15], and (b) directly suggests situations around which specific contingency plans can be developed in collaboration with patients and their families. Thus, the goal of anticipating changes that could increase risk is prevention, not prediction.

We suggest that clinicians try to identify at least two significant potential changes. Ideally, changes that could increase risk are ascertained in collaboration with the patient and/or others involved in the patient's life or care. In addition, clinicians can deduce the types of changes or losses that would be particularly devastating or destabilizing based on past history and precipitants (e.g., substance use and school disciplinary action), and well-known challenging transitions (e.g., inpatient discharge), as well as an empathic understanding of the unique strengths, relationships, and activities that give meaning to the patient's life. The clinician's role in identifying resources must increase when a patient's impaired mental status, insight, or cooperation reduces collaboration.

Available resources and foreseeable changes inform immediate decisions: If foreseeable changes are likely and severe, and available resources are few, the patient may require more intensive intervention. The continuation of the faculty-resident dialogue illustrates the application of these concepts.

Identifying Available Resources and Foreseeable Changes

> Dr. Santis: "To summarize Mr. Colban's risk and make systematic prevention plans, we need to consider what events or stressors could rapidly change the situation we see now. We also need to consider what resources he and his support system can call upon if a crisis does occur."
> Dr. Lang: "He has his wife. She's here with him and seems to be supportive, even though she's a stressor too."
> Dr. Santis: "OK, that's one. It's common that an intimate partner might be both a resource or a stressor, depending upon behavior–that's just reality. What else? When we're discharging someone we like to name at least two solid resources. If we can't, that's a sign we might need to reconsider."
> Dr. Lang: "He trusts his regular doctor and goes there pretty often. That's the person he disclosed to initially. We can see if the PCP will act as another set of eyes."
> Dr. Santis: "Great. Now, what changes could happen in Mr. Colban's life that might rapidly escalate his risk state?"
> Dr. Lang: "If he finds out his wife is still cheating…or if she leaves him."
> Dr. Santis: "Exactly! Another crisis with his wife is certainly my biggest concern."
> Dr. Lang: "And if he starts talking about shooting himself at a time when he is intoxicated, I would worry."
> Dr. Santis: "Makes sense. Then he and his wife should leave here with a specific contingency plan that addresses each of those foreseeable changes, and we'll communicate those to the outpatient team as well."

Documentating Risk Formulation

Dr. Lang's documentation reflected the systematic approach to risk formulation that Dr. Santis modeled in their case discussion. Here is an excerpt from the visit summary note entered into the record:

> Formulation of Risk (Summary): Mr. Colban's risk status is higher than the general population, but lower than patients typically admitted to the inpatient service. He is under a great deal of stress, struggles with depressed mood, and drinks regularly, but is not acutely distressed, faces no new stressors today, has had no consequences from his drinking, and has been cooperative with the planning process. Risk status is similar to that of depressed patients in our outpatient service. His current risk state is similar to his risk state throughout the previous eight months, though higher than his historical baseline. A goal for outpatient therapy would be to return to his baseline

risk state. Mr. Colban's wife and PCP, whom he sees regularly for pain management, are important available resources for him. However, should his wife leave him or new suspicions of infidelity arise, risk could increase rapidly. Likewise, Mr. Colban's risk state could increase rapidly if he begins to contemplate suicide while under the influence of alcohol. Our team has made contingency plans for each of these foreseeable changes.

This excerpt was followed by a description of plans made with Mr. Colban, his wife, and his primary care physician with whom the team communicated during the ED visit. These plans flowed logically from the formulation. The team developed contingency plans for the foreseeable changes identified and followed a Safety Planning protocol [22] to assure the patient and support system identified other coping resources and 24-hour crisis response options. Finally, Dr. Lang documented his extensive consultation with the attending physician and the rest of the interdisciplinary team in arriving at his conclusions and recommendations. These included a recommended time frame for when the next routine follow-up assessment should occur, in addition to any that might be triggered by observed changes. Subsequent to discharge from acute services, the outpatient team used Dr. Lang's formulation to anticipate and avert increases in risk state, and to construct long-term treatment plans to address both dynamic and, especially, enduring risk factors which could ultimately reduce risk status.

Prevention-Oriented Risk Formulation in Academic Psychiatry: Leading the Paradigm Shift

Educational leadership often requires casting and executing a vision for new clinical paradigms in our training programs. The model articulated in this article has gained traction nationally through its adoption by existing training programs. The model has been used to train psychiatrists, psychologists, and social workers in a range of facilities, in a government-sponsored national webinar, and it has been recently adopted by two curricula disseminated nationally [23, 24]. We have adopted this model in our academic psychiatry programs at the University of Rochester, integrating it into clinical workflows, case discussions, change-of-shift reports, patient education, and documentation used in the Comprehensive Psychiatric Emergency Department for training psychiatric residents and fellows. Adopting this model required a paradigm shift for many of our faculty and staff, since most were accustomed to prediction-oriented risk categories and labels.

To shift thinking and change practices in our setting, the department chair convened a multidisciplinary leadership team to handle the educational and administrative rollout. The team consisted of a Comprehensive Psychiatric Emergency Department (CPEP) medical director, a nurse manager, a lead social worker, an electronic medical record coordinator, and a suicide prevention expert (ARP). Understanding that broad leadership support is critical for educational innovation [25], this team met with educational and clinical leaders to ensure full support of the executive team, education committee, and quality assurance before disseminating the model to faculty and staff. The educational rollout used 20 min of video-based training and 30 min of in-person training for all CPEP clinical staff. The video portion explicated the risk formulation model (shown in Fig. 1), while the in-person session walked trainees through two practice applications, modeling an adolescent and an adult patient. An introductory video for faculty and staff can be viewed at https://vimeo.com/105130731. Residency faculty and attending psychiatrists participated in an additional 30 min of in-person education, addressing common questions and special considerations for incorporating the model into resident supervision.

A poster campaign was held parallel to the rollout to familiarize staff with the model and terms used. Posters were hung at nurses' station and other staff areas. The risk formulation model, a model for responding to identified risk, and screenshots of relevant sections of the electronic record were displayed. Pens and markers hung next to the posters, with an invitation to faculty and staff to mark screenshots with ideas, problems, and feedback. Thirty days after the initial rollout, the leadership team met again with attending psychiatrists and other interested staff to review feedback and progress and suggest future improvements.

Discussion

National attention has focused on "suicide safer" care in behavioral health. Academic psychiatry is in the best position to lead the way toward clinical paradigms of suicide risk that change the focus from prediction to prevention. In the model we propose, the risk formulation process comprises four components flowing logically from one to the next: risk status, risk state, available resources, and foreseeable changes. This model synthesizes advances made over the past decade in suicide risk assessment [7, 10, 11, 17] with innovations in forensic assessment of violence risk [18]. In this model, assessment and description of risk are explicitly anchored in the clinical context and patient population, in the patient's own history, and in the patient-specific opportunities for prevention. The model is straightforward, easy to remember, and suitable for teaching and supervision, communication among professionals and with patients, and documentation. The visual representation or "map" helps reinforce the relationship between constructs—a strategy consistent with research in health sciences education and best practices for cognitive schema formation and key concept retention [26].

A key strength of this model as a tool for education and practice is that it redirects clinicians' attention away from prediction-oriented, categorical labeling and focuses on contextually anchored, prevention-oriented judgments. These judgments then directly inform person-specific plans and interventions. For

example, identifying foreseeable changes provides an obvious starting point for planning: i.e., specific safety plans for each change that occurs. When teaching risk formulation, clinicians must be cognizant at every step that assessment should lead to actionable responses. Giving trainees a sense that they will develop "assessments that matter" is likely to motivate both initial learning and eventual implementation or adoption. Thus, our model focuses on prevention of future suicidal behavior, rather than prediction, and signals "forward movement" from gathering relevant data, through elements in a risk formulation that directly lead to practical safety and crisis response plans, which are key to suicide prevention in clinical settings [22].

As with all models, ours will require ongoing study and evaluation; this article provides the conceptual background for such work. Examining the impact that prevention-oriented risk formulation has on decisions, plans, and patient outcomes is an important future direction for this model and for the field of suicide prevention education [27]. We have received positive feedback from participants about the ease and utility of the model; however, empirical study of the educational value is still needed. Key questions for future study include assessing the impact of this model on the following: clinician satisfaction and self-efficacy, cross-clinician reliability in risk formulations, documentation quality, efficiency and effectiveness of team communication, patient satisfaction and perceived collaboration, and the specificity and perceived helpfulness of safety plans and dispositions.

Acknowledgments Dr. Pisani received support from the CDC (R49 CE002093, PI: Caine). The authors wish to thank the staff of the Strong Behavioral Health Emergency Department for their feedback and field testing of the model proposed in this article.The authors wish to thank Bill Morrison for his assistance in manuscript preparation, and the staff and leadership of the Strong Behavioral Health Emergency Department for their feedback and fifield testing of the model proposed in this article.

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Title: The effectiveness of the safety planning intervention for adults experiencing suicide-related distress: A systematic review

Abstract: The safety planning intervention (SPI) is gaining momentum in suicide prevention practice and research. This systematic review sought to determine the effectiveness of the SPI for adults experiencing suicide-related distress. Systematic searches of international, peer-reviewed literature were conducted in six databases (Cochrane Trials, Embase, Emcare, Medline, PsycINFO and Web of Science), including terms for safety planning, suicide, and suicide-related outcomes. A total of 565 results were included for screening. Result screening (title/abstract and full-text), data extraction and critical appraisal were conducted in duplicate. Twenty-six studies met the inclusion criteria. Studies were primarily quantitative (n=20), largely with general adult or veteran samples; a small number of studies explored the perspectives of staff and significant others. Half of the studies included the SPI as a standalone intervention, while the other half examined the SPI in combination with other interventions. Most interventions were delivered in-person, with a hard-copy safety plan created, while a smaller number explored internet-based interventions. Primary measures included: suicidality (ideation, behavior, deaths; 10 studies), suicide-related outcomes (depression, hopelessness; 5 studies) and treatment outcomes (hospitalizations, treatment engagement; 7 studies). The evidence supports improvements in each of these domains, with complementary findings from the remaining quantitative and qualitative studies suggesting that the SPI is a feasible and acceptable intervention. While positive, these findings are limited by the heterogeneity of interventions and study designs, making the specific impact of the SPI difficult to both determine and generalize. Conversely, this also points to the flexibility of the SPI.

Keywords: Safety planning, suicide, suicide prevention, systematic review

Highlights

- Safety Planning Interventions (SPI) are a valuable indicated intervention for general adult and veteran populations experiencing suicide-related distress, primarily in face-to-face, clinical settings.
- Quantitative findings indicate associations between the SPI and improvements in suicidal ideation and behavior, decreases in depression and hopelessness, along with reductions in hospitalizations and improvements in treatment attendance.
- Qualitative studies suggest the SPI is acceptable and feasible, with areas for development.
- SPIs have been shown to be adaptable to the clinical area in its modality (digital or paper-based), delivery (face-to-face or online), facilitation (clinician or self-administered) and multiplicity (as stand-alone or combined intervention).

Introduction

Suicide is a global public health issue (WHO, 2020). People in suicide-related distress have multiple developmental histories, life trajectories, risk factors and/or current situational stressors, and therefore require various levels of prevention responses (Mann et al., 2005). Numerous effective interventions exist (Zalsman, 2016), yet there are few flexible enough to apply across the spectrum of suicide-related experiences and at all levels of prevention – universal, selective and indicated.

One potential exception is the Safety Planning Intervention (SPI). Developed by Stanley and Brown (2012), this intervention involves the co-creation of a personalised list of coping strategies for people to support themselves during the onset or worsening of suicide-related distress (Stanley & Brown, 2012). Drawing on principles from established, but more time-intensive interventions, such as cognitive therapy, cognitive-behavioral therapy, and dialectical behavior therapy, the SPI differs significantly from the widely considered ineffective 'no-suicide contract'. A typical safety plan includes six components: 1) recognising individual warning signs; 2) identifying and employing internal coping strategies; 3) using social supports as distractions; 4) contacting trusted family or friends to help ; 5) contacting specific mental health services; 6) reducing access to/use of lethal means (Stanley & Brown, 2012). A key feature of safety planning is co-creation. People can experience formal risk assessment and management processes as disempowering, as life context and personal decision making is mediated by clinical appraisal (Mead & Hilton, 2003). The SPI seeks to keep the person in the centre of decisions about their plan, and in designing meaningful strategies which they are willing to try (Australian Health Ministers' Advisory Council 2013).

Although widely used as a brief, indicated intervention for veterans in the US experiencing suicide-related distress, the SPI appears to be gaining momentum across a range of lifespan population groups (e.g., older adults; Barr & Brown, 2012), and groups with known vulnerabilities to suicide (e.g. refugees and asylum seekers; Vijayakumar et al., 2017). The SPI is often integrated with structured follow up and monitoring (Stanley et al., 2015). It has further been integrated with various other intervention approaches (e.g., text messaging; Czyz et al., 2020; Larsen et al., 2017), group treatment contexts (Rings, et al., 2012), and wider service models (Krishnaiah, 2019), and has been translated to digital modalities, such as Beyondblue's *Beyond Now* application in Australia (2020), for wide-spread use among the general public who may not seek or access traditional clinical support. These advances illustrate the diversity and flexibility of the SPI, and the potential for applicability beyond those who have access to traditional treatment.

The evolving use and applications of the SPI, and its potential wide reach, highlight the need for collated evidence regarding its effectiveness. This is particularly pertinent in the current COVID-19 climate when, given projections for global negative impacts on mental health, emotional distress and suicide (Gunnell et al., 2020; Holmes et al., 2020), along with services that are likely to be increasingly stretched, there is an urgent need to maximize our understanding of low cost, flexible and widely applicable interventions for application at the universal, selective and indicated levels. The SPI has been identified as an intervention that may be applicable and adaptable in this current environment (Pruitt et al., 2020).

The purpose of this review is to examine the international, peer-reviewed evidence for the effectiveness of the SPI for adults experiencing suicide-related distress. We have taken a holistic view of effectiveness, to include both suicide-specific outcomes (e.g., suicide rates), and

experiences with the SPI from users, clinicians and significant others, in order to understand the acceptability and feasibility of the intervention.

Materials and Methods

This systematic review followed the PRISMA guidelines (Moher et al., 2009).

Search strategy and information sources

The search (developed by XX and an academic librarian), was conducted on 15 May 2020 in six databases: Cochrane Trials, Embase, Emcare, Medline, PsycINFO and Web of Science. Based on previous reviews and SPI literature, the search strategy included terms related to safety planning, suicide, and suicide-related outcomes. Results were limited to studies published since 2000; no other limits were applied. An example of the search strategy can be found in Appendix A. Reference lists of included articles were hand-searched to locate further potential results.

Study selection

Screening was conducted in duplicate (XX and XX) using Covidence (Veritas Health Innovation 2018) and followed two stages: 1) title and abstract screening; 2) full-text screening. Any discrepancies were resolved through discussion to achieve 100% agreement.

Eligibility criteria

At both screening stages, studies of any design were considered eligible for inclusion if the SPI was based on the Stanley and Brown intervention. We acknowledge that various forms of safety planning exist (e.g., crisis planning); however, to ensure consistency when comparing results, we only included studies that specifically used the words safety planning/ SPI to refer to their intervention, and/or referenced Stanley and Brown. Studies were excluded where it was unclear what type of safety planning a study was examined. Studies were included: if they explored the

SPI either in isolation or in combination with other intervention/s, in any care setting (e.g. inpatient or outpatient unit, community, etc.); the impact of the intervention was evaluated using qualitative and/or quantitative methods to investigate rates of suicidal ideation/thoughts, intent, behavior and deaths, suicide-related distress, hospitalization, treatment adherence, feasibility and/or acceptability; participants were either adults at risk of or experiencing suicide-related distress, or clinicians/service providers or significant others; they were peer-reviewed, primary research articles published in English language.

Data collection process

A purpose-designed Excel spreadsheet was used to extract the following information from included studies: aim, study design, study location and setting (e.g., emergency department, in-patient, community), participants (sample size, population description, age, sex), SPI intervention description (including any other intervention aspects, the intervention delivery modality, safety plan format, and who the intervention was delivered by), control details (where relevant), outcome measures and results. For accuracy, this process was completed in duplicate (XX & XX), with the studies consulted again to resolve discrepancies.

Risk of bias assessment

Owing to the diversity of included study designs, four Joanna Briggs Institute critical appraisal tools were used to assess risk of bias at the study level, based on the best fit of the primary design of each study: randomized controlled trials (13 items; Tufanaru et al., 2020), quasi-experimental studies (9 items; Tufanaru et al., 2017), cross-sectional studies (8 items; Moola et al., 2020), and qualitative studies (10 items; Lockwood, Munn & Porritt 2015). The items in each are rated as yes, no, unclear, or not applicable; an overall "quality" score is not given for each paper. Again, this process was conducted in duplicate (XX & XX), with discrepancies discussed

to reach consensus. We did not exclude any papers based on quality; instead, trends across papers of each study design are discussed to assess risk of bias across the data set.

Synthesis of results

Given the heterogeneity of study designs, interventions, participants and outcome measures, a meta-analysis was not justified. Instead, we present a narrative synthesis of findings.

Results

Initial database searching yielded 1213 results. Following the removal of duplicates, 561 results were screened at the title/abstract level. Of these, 41 articles were eligible for full-text screening, along with four articles later identified through pearling the reference lists of included articles. Figure 1 details the screening process and reasons for exclusion. Twenty-six articles were articles eligible for inclusion.

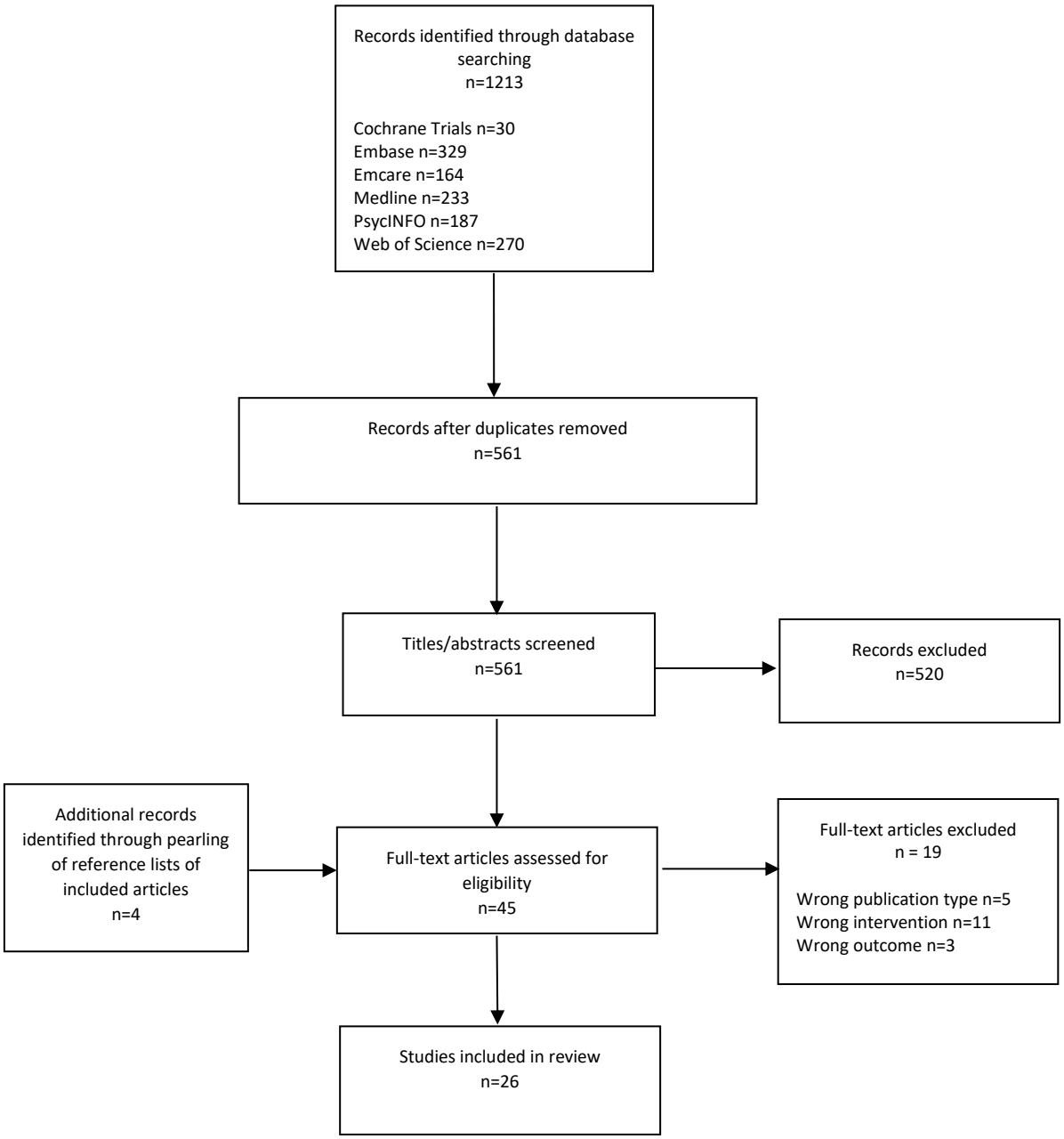

Figure 1: Flow chart of screening process and reasons for exclusion

Study characteristics

The included studies (published 2015-2020), were primarily conducted in the USA (n=20), with three studies from Europe, one each from India and Australia, and one multi-country study.

The majority of studies included either general adults as participants (n=10 studies) or veterans (n= 9 studies) with historical and/or current experiences of suicidality and were

primarily conducted within hospital/medical center settings. Those remaining included clinicians and/or service providers (n=4), both veterans and concerned significant others (n=1 study), college students (n=1 study) and refugees (n= 1 study). Sample sizes ranged from n=10 to n =1640 in quantitative studies, and n=8 to n=100 in qualitative studies. Where reported, there was an approximately even number of male-majority (n=11 studies; range 55%-89%) and female-majority (n=12 studies; range 54%-83%) samples. Mean participant age ranged from 20-51 years, where reported.

There was notable heterogeneity in intervention details across studies. In 12 studies, the SPI was the sole focus, whereas the remaining 14 studies incorporated it with adjunct interventions, including mindfulness-based cognitive therapy (n=2), psychotherapy (n=2), therapy and follow-up letters (n=1), and additional contact and/or follow-up support, either by telephone (n=4), face-to-face (n=1), or both (n=2). In the case of two of the mobile/web-based applications, this also included other suicide prevention tools, and treatment as usual.

Where reported, studies also varied in whether the safety plan was completed by the participants alone (i.e., self-administered; n=4), or with a clinician/other person (n=21). Most interventions were experienced in-person (n=20), and a small number of studies examined the SPI in group delivery (n=3).

Study designs were primarily quantitative (n = 20), with outcome measures largely focused on suicidality (ideation, behavior and deaths), suicide-related outcomes (depression and hopelessness), and treatment outcomes (hospitalizations and treatment adherence). Other outcomes, across both quantitative and qualitative studies, included acceptability, feasibility, usability and perceived benefits/limitations of the SPI.

Key characteristics of the included studies are summarized in Table 1.

Table 1: Summary details of included studies (n = 26)

Study	**Design**	**Setting (Country)**	**Participants**	**SPI details**	**Relevant outcome measures^**
Boudreaux et al. (2017)	Quasi-experimental (one group, pre/post-test)	Urban, tertiary care hospital (USA)	**N=**30 adult suicidal patients **Gender=**47% male **M(SD) Age=**39(14) yr	**SPI only:** yes **Format:** web-based application (option to print plan) **Delivered by:** self-administered **Delivery modality:** online	- ideation intensity and perceived ability to cope with ideation - number of ED visits
Buus et al. (2020)	Qualitative (focus groups)	Suicide prevention outpatient clinics (Denmark)	**N=**8 adult patients at risk of suicide **Gender=**63% male **M(SD) Age=**23(NR) yr	**SPI only:** yes **Format:** MYPLAN mobile phone application **Delivered by:** clinician **Delivery modality:** in person	- benefits/limitations of making and using a safety plan
Chesin et al. (2015)	Quasi-experimental (one group, pre/post-test)	Outpatient clinic (USA)	**N=**18 high risk adult psychiatric outpatients **Gender=**83% female **M(SD) Age=**42(14) yr	**SPI only:** no **Other intervention details:** 9week Mindfulness-based cognitive therapy and safety planning (MBCT-S) **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person group therapy (with first session being individual)	- ideation (SSI) - depression (BDI-II) - hopelessness (BHS) – enrolment/drop out/treatment completion - satisfaction with intervention - average number of days reviewing safety plan
Chesin et al. (2016)	Quasi-experimental (one group, pre/post-test)	Outpatient mood and personality disorders research clinic, and community (USA)	**N=**10 adults with historical and current suicidality **Gender=**80% female **M(SD) Age=**42(16) yr	**SPI only:** no **Other intervention details:** 9week Mindfulness-based cognitive therapy and safety planning (MBCT-S) **Format:** hard copy **Delivered by:** clinician	- attempt history (C-SSRS) - cognitive reactivity to sadness (LEIDS-R)

				Delivery modality: in person group therapy (with first session being individual)	
Chesin et al. (2017)	Qualitative (interviews)	5 VA medical center EDs (USA)	**N=**50 staff (administrators and clinicians) **Gender=**NR **M(SD) Age=**NR	**SPI only:** no **Other intervention details:** SPI-SFU – Safety planning and structured post-discharge follow-up telephone contact **Format:** NR (assume hard copy) **Delivered by:** clinician **Delivery modality:** in person + telephone calls	- acceptability, perceived helpfulness and implementation of intervention
DeBeer et al. (2019)	Qualitative (interviews)	VA medical center (USA)	**N=**39 veterans with suicidality **Gender=**79% male **M(SD) Age=**48(11) yr **N=**4 concerned significant others **Gender=**75%female **M(SD) Age=**33(3) yr	**SPI only:** yes **Format:** NR (assume hard copy) **Delivered by:** NR (assume clinician) **Delivery modality:** NR (assume in person)	- perceptions of including concerned significant other in safety planning
Gamarra et al. (2015)	Cross-sectional	Regional VHA hospital (inpatient and outpatient) (USA)	**N=**180 high risk veterans **Gender=**87% male **M(SD) Age=**51(15) yr	**SPI only:** yes **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person	- attempts - hospitalizations - outpatient attendance - safety plan completeness and quality
Goodman et al. (2020)	Quasi-experimental (one group, pre/post-test)	VA medical center (USA)	**N=**31 recently discharged inpatient veterans with suicidality **Gender=**78% male **M(SD) Age=**46(12) yr	**SPI only:** no **Other intervention details:** Project Life Force – 10x weekly psychotherapeutic group treatment (including homework) to implement SPI	- ideation (C-SSRS) -depression (BDI-II) - hopelessness (BHS) - feasibility/acceptability

				steps, and enhance meaningfulness/personalization **Format:** hard copy **Delivered by:** clinician (with input from peers) **Delivery modality:** in person, group format	
Green et al. (2018)	Cross-sectional	Various Department of VA facilities (USA)	**N=**68 veterans with suicidality **Gender=**54% female **M(SD) Age=**36(9) yr	**SPI only:** yes **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person	- suicide risk (MINI) - suicide-related outcomes (attempt, death, behavior) - outpatient psychiatric hospitalizations - safety plan quality and completeness
Gysin-Maillart et al. (2016)	RCT (two groups, 5 time points over 2 year period)	Emergency unit of University General Hospital (Switzerland)	**N=**120 adults with recent suicide attempt (n=60 intervention/60 control) **Gender=**60% female intervention/50% female control **M(SD) Age=**37(14) yr intervention/39(15) yr control	**SPI only:** no **Other intervention details:** treatment as usual plus ASSIP: Attempted Suicide Short Service Intervention Program; 3x therapy sessions (1 included SPI), regular contact through personalized letters for 24months **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person **Control:** therapy and follow-up letters	- suicide attempts/behavior - ideation (BSS) - depression (BDI) - health care utilization - Penn Helping Alliance
Kayman et al. (2015)	Qualitative (interviews)	Two VA hospitals (inpatient and outpatient) (USA)	**N=**20 suicidal veterans **Gender=**55% male **M(SD) Age=**38(NR) yr	**SPI only:** yes **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person	- benefits/limitations of making plan, and barriers/facilitators to using the SPI

Labouliere et al. (2020)	Quasi-experimental (one group, pre/post-test)	5 centers in the National Suicide Prevention Lifeline Network (USA)	**N=**271 staff (crisis counsellors) **Gender=**NR **M(SD) Age=**NR	**SPI only:** yes (staff training in use of SPI) **Format:** assume recorded electronically **Delivered by:** clinician **Delivery modality:** telephone	- feasibility, helpfulness, value of training, self-efficacy - use of SPI on crisis calls and follow-up calls - barriers to SPI
Levandowski et al. (2017)	Qualitative (interviews)	VHA health-care facility (inpatient and outpatient) (USA)	**N=**29 staff (treatment providers) **Gender=**NR **M(SD) Age=**NR	**SPI only:** yes **Format:** hard copy and electronic **Delivered by:** clinician **Delivery modality:** in person	- value of safety planning, utility of safety planning template, perceived impact on veterans
Matarazzo et al. (2017)	Quasi-experimental (two groups, baseline, pre/post-test, follow-up)	VA medical center (USA)	**N=**68 recently discharged inpatient psychiatric treatment veterans (n=34 intervention/n=24 control) **Gender=**88% male intervention/NR control **M(SD) Age=**49(12) yr intervention/NR control	**SPI only:** no **Other intervention details:** HOME program: phone and home-based contacts including risk assessment, SPI and problem-solving around barriers to care **Format:** NR (assume hard copy) **Delivered by:** clinician **Delivery modality:** in person/telephone **Control:** archival age/gender matched controls from same inpatient unit prior to implementation of HOME program	- number and type of mental health and substance use treatment appointments in the 90 days post-discharge - satisfaction with intervention (intervention group only)
Matarazzo et al. (2019)	Quasi-experimental (two groups, pre/post-test)	2 HOME program and 2 E-CARE VA	**N=**302 inpatient veterans (n=166 intervention/136 control)	**SPI only:** no **Other intervention details:** HOME program: phone and home-based contacts including	- ideation (SSI) scale for suicidal ideation - Brief Symptom Inventory-19 - C-SSRS (baseline only)

		medical centers (inpatient) (USA)	**Gender=**84% male intervention/80% male control **M(SD) Age=** 49(14) intervention/49(14) control	risk assessment, SPI and problem-solving around barriers to care **Format:** NR (assume hard copy) **Delivered by:** clinician **Delivery modality:** in person/telephone **Control:** E-CARE: Enhanced care as usual	- BHS (baseline only) - Attitudes Towards Seeking Professional Psychological Help Scale (baseline only) - attendance at individual and group outpatient visits
Melvin et al. (2019)	Quasi-experimental (one group, pre/post-test)	Tertiary mental health service (Australia)	**N=36** adults receiving treatment for suicide risk **Gender=**67% female **M(SD) Age=**20(6) yr	**SPI only:** no **Other intervention details:** treatment as usual **Format:** BeyondNow web-based application **Delivered by:** clinician **Delivery modality:** in person using web-based application	- severity/intensity of ideation, behavior and non-suicidal self-injury (C-SSRS) - internal coping (SRCS) - regulation of thoughts, feelings, attitudes (SRI-25) - suicide-related coping strategies (CSUQ) - App usage and feedback
Miller et al. (2017)	Quasi-experimental (3-groups, sequential design with repeated measures)	8 EDs (USA)	**N=**1376 high risk adult patients **Gender=**56% female all groups **M(SD) Age=**36(NR) yr intervention/37(NR) yr treatment as usual/36(NR) yr universal screening	**SPI only:** no **Other intervention details:** follow-up phone calls/psychotherapy **Format:** hard copy **Delivered by:** self-administered **Delivery modality:** in person **Controls:** treatment as usual and universal screening	- attempts (C-SSRS) - deaths, attempts, interrupted/aborted attempts, preparatory acts
Pauwels et al. (2017)	Quasi-experimental	Online community (Belgium)	**N=**21 adults with suicidality **Gender=**76% female	**SPI only:** no **Other intervention details:** several suicide prevention tools	- ideation (BSS) -App usage/usability

	(one group, pre/post-test)		**M(SD) Age=**30(NR) yr	– hope box, coping cards, reach out module **Format:** mobile phone application **Delivered by:** self-administered (can be assisted by care-givers) **Delivery modality:** online	
Spangler et al. (2020)	Quasi-experimental (one group, pre/post-test)	Online community (USA/Canada, Europe, Asia/SE Asia, Other)	**N=**150 adults who reported suicidality online **Gender=**57% female **M(SD) Age=**29(14) yr	**SPI only:** yes **Format:** web-based (option to print plan) **Delivered by:** self-administered **Delivery modality:** online	- perceived ability to cope with distress, availability of resources, and level of safety (pre-test) - ratings of coping with suicidal thoughts, staying safe, remembering/using safety plan, and perceived usefulness (post-test)
Stanley et al. (2015)	Quasi-experimental (one group, pre/post-test)	5 VA EDs (USA)	**N=**95 discharged veterans presenting with suicide-related concerns **Gender=**86% male **M(SD) Age=**NR (75% >35yr)	**SPI only:** no **Other intervention details:** SPI-SFU: Safety Planning Intervention plus telephone follow-up contact **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person	- ED visits and hospitalizations - outpatient appointment attendance
Stanley et al. (2016)	Qualitative (interviews)	2 VA EDs (USA)	**N=**100 veterans presenting with suicide-related concerns **Gender=**89% male **M(SD) Age=**45(14) yr	**SPI only:** no **Other intervention details:** SAFE VET SPI-SFU: Suicide Assessment and Follow-up Engagement Safety Planning Intervention plus telephone follow-up contact **Format:** hard copy	- acceptability and perceived usefulness of intervention

				Delivered by: clinician **Delivery modality:** in person	
Stanley et al. (2018)	Quasi-experimental (two-groups, pre/post-test)	9 VHA hospitals (USA)	**N=**1640 veterans with ED and inpatient hospitalization for suicide-related concerns (n=1186 intervention/n=454 control) **Gender=**89% male intervention/88% male control **M(SD) Age=**47(15) yr intervention/49(15) yr control	**SPI only:** no **Other intervention details:** SPI^{+} - Safety plan plus telephone contact after discharge **Format:** hard copy **Delivered by:** clinician **Delivery modality:** in person **Control:** usual care	- attempts, deaths, other suicide behavior (e.g. interrupted attempts) - behavioral health outpatient service use
Stanley et al. (2020)	RCT (4 groups; pre/post/follow-up)	College (USA)	**N=**96 college-enrolled young adults with history of suicidality (n=23 group 1/n=24 group 2/n=23 group 3/n=26 group 4) **Gender=**56% female group 1/54% group 2/39% group 3/69% group 4 **M(SD) Age=**20(4) yr group 1/20(3) yr group 2/19(3) yr group 3/19(1) yr group 4	**SPI only:** yes **Format:** NR (assume hard copy) **Delivered by:** clinician **Delivery modality:** in person **Conditions:** all participants received steps 1-5 of the safety plan, and then randomly assigned to one of four different psychoeducation-based lethal means safety interventions for step 6 (variations of high/low fear appeals and temporariness)	- Client Satisfaction Questionnaire-8 - intention to adhere to clinician recommendations - depression (PHQ-9) - engagement in firearm safety thoughts/behaviors - lifetime ideation, plans and attempts (SITBI-Short Form) - suicidal behavior
Stewart et al. (2020)	Quasi-experimental (one group,	Private university	**N=**12 staff (counseling center clinicians)	**SPI only:** yes (staff training workshop in use of SPI)	- acceptability and utility - frequency of use of SPI - confidence in assessment

	pre/post-test/follow-up)	counseling center (USA)	**Gender=**NR **M(SD) Age=**NR	**Format:** NR (assume hard copy) **Delivered by:** clinician **Delivery modality:** NR (assume in person)	
Vijayakumar et al. (2017)	Quasi-experimental (two-groups, pre/post-test)	Refugee camps (India)	**N=**1283 Sri Lankan refugees in camps (n=639 intervention/n=644 control) **Gender=**61% female intervention/56% female control **M(SD) Age=**42(15) yr intervention/31(15) yr control	**SPI only:** no **Other intervention details:** CASP – regular contact and safety planning cards **Format:** hard copy cards **Delivered by:** trained community volunteers **Delivery modality:** in person **Control:** posters containing support service contact details	- suicide deaths, attempted suicide, suicide ideation - depression
Zonana et al. (2018)	Quasi-experimental (one group, pre/post-test)	Urban, private academic hospital (outpatient) (USA)	**N=**48 adult outpatients **Gender=**71% female **M(SD) Age=**42(15) yr	**SPI only:** yes **Format:** assume hard copy **Delivered by:** assume clinician **Delivery modality:** assume in person	- suicide attempts - completed suicides - self-injurious behavior - health care utilization and treatment engagement

Note: M = mean; SD = standard deviation; VA = Veterans Affairs; VHA = Veterans Health Administration; ED = emergency department; SPI-SFU = safety planning and structured follow-up contact intervention; NR = not reported in article; yr = years; suicidality = suicidal thoughts, ideation, behavior, attempts; HOME = Home-Based Mental Health Evaluation; E-CARE = enhanced care as usual; SSI = Scale for Suicidal Ideation; BDI-II = Beck Depression Inventory-II; BHS = Beck Hopelessness Scale; C-SSRS = Columbia University Suicide History Form; LEIDS-R = Leiden Index of Depression Sensitivity-Revised; MINI = Mini-International Neuropsychiatric Interview; BSS = Beck Scale for Suicidal Ideation; SRCS = suicide related coping scale; SRI-25 = Suicide Resilience Inventory-25; CSUQ = Coping Strategy Usage Questionnaire; PHQ-9 = Patient Health Questionnaire-9; SITBI-Short Form = Self-Injurious Thoughts and Behaviors Interview-Short Form; SBQ-R = Suicidal Behaviors Questionnaire-Revised; ^ = some studies, which explore SPI among other interventions, report outcome measures not relevant to this review (e.g. mindfulness)

Risk of bias within and across studies

The two studies (Gysin-Maillart et al., 2016; Stanley et al., 2020) assessed with the RCT tool received a "yes" response for most items, but each lacked sufficient detail to assess treatment concealment and treatment blinding for participants and those delivering/assessing the interventions. This is problematic and poses risks to study outcomes.

Across the 16 studies (Bourdreaux et al., 2017; Chesin et al., 2015, 2016; Goodman et al., 2020; Labouliere et al., 2020; Matarazzo et al., 2017, 2019; Melvin et al., 2019; Pauwels et al., 2017; Spangler et al., 2020; Stanley et al., 2015, 2018; Stewart et al., 2020; Vijayakumar et al., 2017; Zonana et al., 2018) assessed with the quasi-experimental tool, the key risk is threats to internal validity, given the single-group designs and lack of control groups, but this is minimized in those studies with immediate pre/post-intervention measurements. While most studies measured outcomes once pre- and post-intervention, most lack repeated measures of these outcomes and follow-up, limiting the ability to determine cause and effect.

The two studies (Gamarra et al., 2015; Green et al., 2018) assessed with the cross-sectional tool received a "yes" response to all items, except two related to confounding factors, which were not applicable given the single-group designs.

Majority of the six studies (Buus et al., 2020; Chesin et al., 2017; DeBeer et al., 2019; Kayman et al., 2015; Levandowski et al., 2017; Stanley et al., 2016) assessed with the qualitative tool received a "yes" response to most items. Key issues are that these studies did not identify any philosophical perspective, making it not possible to determine congruity between these perspectives and the research methodology; further, they did not identify the cultural or theoretical orientation of the researcher/s, nor explore the influence of the researcher on the

research. Given the critical role that researchers play in the interpretation of qualitative results, this information is important to understand.

Complete critical appraisal results at the study level are provided in Appendix B.

Primary and secondary outcomes

Results from the 14 included quantitative studies examining primary, suicide-specific outcomes are summarized in Table 2, and described here according to the following primary variables: suicidality; suicide-related outcomes; and treatment. Presentation of results prioritizes studies exploring the SPI in isolation ("SPI-only" studies), followed by those where it was combined with other interventions ("SPI-plus" studies). Secondary outcomes are then discussed: additional changes, acceptability and feasibility, and qualitative experiences.

Table 2: Summary of changes in primary outcome measures in included quantitative studies (n = 14)

Sample	Type of SPI intervention	Study	Suicidality (n=10 studies)			Suicide-related outcomes (n=5 studies)		Treatment outcomes (n=7 studies)	
			Ideation (n=7)	Behavior (n=5)	Deaths (n=1)	Depression (n=4)	Hopelessness (n=3)	Hospitalizations (n=3)	Treatme engagem (n=6)
General adults	SPI-only	Boudreaux et al. (2017)	↓* intensity ↑ perceived coping	.	.	.	.	↓* ED visits	.
		Zonana et al. (2018)	.	↓ attempts ≠ self-injurious behavior	.	.	.	↓* ↓ ED visits & inpatient days	↑ outpati encounter appointm
	SPI-plus	Chesin et al. (2015)	↓*	.	.	↓*	↓	.	.
		Chesin et al. (2016)	.	.	.	.	↓*	.	.
		Gysin-Maillart et al. (2016)	↓* over time	↓* attempts		↓* over time		↓*	≠ total outpatie session
		Melvin et al. (2019)	↓*	.	.	.	.	.	.
		Miller et al. (2017)	.	↓* attempts	.	.	.	.	.
		Pauwels et al. (2017)	↓	.	.	.	.	.	.
Veterans	SPI-plus	Goodman et al. (2020)	↓*	.	.	↓*	↓*	.	.
		Matarazzo et al. (2017)	.	.	.	.	.	.	↑* appointm
		Matarazzo et al. (2019)	.	.	.	.	.	.	↑* appointm

		Stanley et al. (2015)	.	.	.	.	.	↓ ≠ ED visits	↑* outpat appointm
		Stanley et al. (2018)	.	↓*	.	.	.	.	↑* outpat appointm
Refugees	SPI-plus	Vijayakumar et al. (2017)	↓	↓* attempts	↓	↓	.	.	.

Note: ↓ = decrease in outcome measure; ↑ = increase in outcome measure; * = significant difference ($p<.05$); ≠ = no change in outcome measure; SPI = safety planning intervention; SPI-only = studies exploring the SPI in isolation; SPI-plus = studies exploring the SPI combined with other interventions.

Suicidality

Ten quantitative studies explored the impact of the SPI on suicide-specific outcomes: ideation, behavior, and deaths.

Suicidal ideation

Seven studies investigated the impact of the SPI on suicidal ideation. In one SPI-only general adult app study, there was a significant decrease in ideation intensity and severity pre/post app use (p=.05) (Bourdreaux et al., 2017).

Similar significant decreases in ideation were found in SPI-plus general adult and veteran studies (Chesin et al., 2015; Goodman et al., 2020; Melvin et al., 2019). Further, while there were no group differences in participants' ideation in Gysin-Maillart et al.'s (2016) RCT with general adults, there was a significant reduction in ideation over time.

Suicide behavior

Five studies explored the impact of the SPI on suicide behavior. The SPI-plus studies revealed significant decreases in suicide attempts among intervention participants compared to controls (general adults - Gysin-Maillart et al., 2016, Miller et al., 2017; refugees - Vijayakumar et al., 2017), and in suicidal behavior among intervention group participants (veterans) during the post-intervention period (Stanley et al., 2018).

Suicide deaths

Vijayakumar et al.'s (2017) study exploring the SPI with follow-up for refugees is the only included study to analyze data on suicide deaths, revealing a non-significant decrease among the intervention group.

Suicide-related Outcomes

Five quantitative studies explored the impact of the SPI on suicide-related outcomes: depression and hopelessness.

Depression

Four SPI-plus studies found significant decreases in participant depression/depressive symptoms pre/post interventions for general adults (Chesin et al. 2015) and veterans (Goodman et al., 2020), between groups over time for refugees (Vijayakumar et al., 2017), and over time but not between groups for general adults (Gysin-Maillart et al., 2016).

Hopelessness

Two SPI-plus studies revealed significant decreases in hopelessness among general adults (Chesin et al., 2016) and veterans (Goodman et al., 2020).

Treatment outcomes

Seven quantitative studies explored treatment-related outcomes associated with the SPI: participant hospitalizations and treatment engagement.

Hospitalizations

Changes in hospitalization rates varied across studies. While significant decreases in general adult ED visits were found in Bourdreaux et al.'s (2017) app study, there was no change in ED visits in either condition in Stanley et al.'s (2015) veteran study.

Similarly, in Gysin-Maillart et al.'s (2016) general adult study, significantly fewer days in hospital were observed among participants in the intervention group at 12-month follow-up. There were also significant decreases in hospitalizations in Zonana et al.'s (2018) general adult study.

Treatment engagement

Treatment engagement was explored in six studies. While there were significant increases in participant's attendance at outpatient appointments in four veteran studies (Matarazzo et al., 2017, 2019; Stanley et al., 2015; 2018), there were no group differences in total outpatient sessions at both 12 and 24 months in Gysin-Maillart et al.'s (2016) general adult study.

Additional changes

Further to improvements in primary outcomes, studies also documented additional participant changes. For example, three studies explored changes in coping with suicide related distress. In Melvin et al.'s (2019) app study, there were significant increases in general adults' coping pre/post app use, and significant increase in frequency of suicide-related coping strategies. Similarly, in two qualitative studies of staff perceptions of safety planning, participants indicated that the SPI increases veteran self-efficacy (Chesin et al., 2017) and helps the person to identify self-soothing behaviors (Levandowski et al., 2017). In a study of general adults, higher scores of patient-rated therapeutic alliance were associated with a lower rate of repeat suicide attempts (Gysin-Maillart et al., 2016). Further, Stanley et al.'s (2020) pilot RCT of alterations to the lethal means aspect of the SPI, found that college students who received a firearm-specific lethal means intervention that de-emphasized fear and emphasized temporariness reported significantly greater intentions to adhere to clinician recommendations to limit their access to firearms for safety purposes, compared to participants in any of the other groups.

Two studies explored associations between SPI quality/completeness and veteran outcomes. Gammara et al. (2015) found higher safety plan quality to be associated with fewer subsequent hospitalizations, while completeness was not associated with attempts, hospitalizations or outpatient attendance. In contrast, Green et al. (2018) found that higher

quality plans predicated a decreased likelihood of future suicidal behavior, but that completion, quality and total score did not predict hospitalizations or participant suicide attempts.

Acceptability and feasibility

Various studies explored perceptions of the SPI, providing indications of acceptability and feasibility. Numerous studies indicated that various participant groups view safety planning as a helpful/useful intervention, with high satisfaction, including general adults (Pauwels et al., 2017; Spangler et al., 2020), veterans (Goodman et al., 2020; Matarazzo et al., 2017; Stanley et al., 2016), and staff, including those working with veterans (Chesin et al., 2017), as well as those working in call centres (Labouliere et al., 2020) and a counseling centre (Stewart et al., 2020), Further, studies of staff trained in the SPI indicate that this can improve their confidence and self-efficacy to manage suicide risk (Labouliere et al., 2020; Stewart et al., 2020).

Various general adult studies also document high proposed or actual use of the SPI (Bourdreaux et al., 2017; Chesin et al., 2015; Melvin et al., 2019; Pauwels et al., 2017), indicating high feasibility. There is less information on actual use. Melvin et al. (2019) found that participants accessed an SPI app for an average session time of 4.81minutes, with variation in the number of entries added to each step, and with only two participants sharing their plan with others. In terms of traditional, pen-and-paper safety plans, participants in Chesin et al.'s (2015) study reported spending 9 minutes/day, 2 days/week reviewing their plan.

Qualitative experiences

Complementary information about experiences with the SPI can be gained from the qualitative studies (n=6). Five focused on SPI for veterans, from veteran (DeBeer et al., 2019; Kayman et al., 2015; Stanley et al., 2016), staff (Chesin et al., 2017; Levandowski et al., 2017), or concerned significant other perspectives (De Beer et al., 2019). These studies provide some indication of

safety plan use. In Kayman et al.'s (2015) study, use varied, with some using their plan daily, while others either did not use it or had lost it. The majority (61%) of veterans in Stanley et al.'s (2016) interviews reported using their plan to reduce suicide risk, primarily to identify professional support; however, few participants (20%) reported updating their plan. Further, significant others in DeBeer et al.'s (2019) study were not aware of whether their loved one had a safety plan.

For veterans, qualitative findings reveal facilitators of safety planning, such as experiencing a clinician who would work in partnership with them to explore their concerns and generate solutions, discussing the plan during follow-up visits, and sharing the plan with supportive others (Kayman et al., 2015). Participants in Stanley et al.'s (2016) study highlighted specific aspects of the plan that are helpful – particularly identifying supports (including social supports, professional supports and social contacts/places for distraction). Barriers are identified, including internal factors (such as depressive symptoms impacting motivation for safety planning) and external factors (lack of social network to draw on, inaccessible services, issues with hard copy such as accessing it and privacy) (Kayman et al., 2015). Veterans have suggested that the SPI could be improved through being more individualized, and through being accessed in compact and/or mobile formats, along with specific improvements for each step of the plan (Kayman et al., 2015).

Two studies exploring staff perspectives of the SPI with veterans similarly indicate various benefits, such as the SPI template and recording the plan in the electronic medical record system for revisiting (Levandowski et al., 2017), as well as providing support and advocacy for veterans and being helpful for staff (Chesin et al., 2017). Staff in Levandowski et al.'s (2017) study suggested that the SPI could be personalized through working with the veteran to complete

it and asking open-ended questions. Barriers include time constraints impacting meaningful engagement, current status of the veteran (e.g., detoxification; Levandowski et al., 2017), and initial perceptions that the SPI may be burdensome for veterans and staff, and unnecessary/ineffective (Chesin et al., 2017). In Chesin et al.'s (2017) study, initial staff apprehension was replaced with the view that the SPI is integral to suicide prevention services.

Further, DeBeer at al. (2019) found the majority of veterans (79%) indicated it would be helpful to have a concerned significant other (particularly a friend) involved in their safety plan, and that the person's qualities were important, e.g., reliable and encouraging. Concerned significant others indicated that it would be helpful and they would be willing to assist.

One qualitative study explored general adults' (n=8) experiences with using an SPI app (Buus et al., 2018). Benefits were identified, including helping to remember strategies for coping in a crisis, to reach out to others, and avoid unnecessary involvement of others. Limitations included difficulties using the app when very distressed and without professional assistance.

DISCUSSION

This systematic review sought to synthesize the international, peer-reviewed evidence regarding the SPI for adults experiencing suicide-related distress. We located 26 studies, exploring the SPI as either a standalone intervention or integrated with other interventions, primarily for general adult and veteran samples. Quantitative findings indicate associations between the SPI and improvements in suicidal ideation and behavior, decreases in depression and hopelessness, along with reductions in hospitalizations and improvements in treatment attendance. While promising, much less is understood about the impact of the SPI on suicide deaths. Qualitative studies suggest the SPI is acceptable and feasible, with areas for development.

Implications for clinical practice

Clinical settings look to gold standards in research to inform tertiary instruction and practice, which then translate to best practice in mental healthcare (Brodsky et al., 2018). The SPI is a best-practice brief intervention and comprises one aspect of suicide prevention best practices overall (Labouliere et al., 2018). It has been shown adaptable to the clinical area in its modality (digital or paper-based), delivery (face-to-face or online), facilitation (clinician or self-administered) and multiplicity (as stand-alone or combined intervention). Since people may present to different services in crisis, this intervention has shown to be adaptable also for use in a variety of settings (e.g., emergency department, outpatient, and community). The COVID-19 pandemic has seen a greater reliance on tele-health and the SPI with its adaptability is well-suited to being delivered via this digital modality.

Self-administered online or phone application SPIs (i.e., Bourdreaux et al., 2017; Pauwels et al., 2017; Spangler et al., 2020) show promise for people who do not attend general/mental healthcare settings, or who may be reluctant to seek professional help (Han et al., 2018). People with high self-reliance and autonomy, or who have had previous negative service experience (Han et al., 2018), can access a tool they can use personally. For those who do meet with a professional, the findings indicate that the quality of personalization of SPI, including the quality of partnering, is an important consideration for how a plan is meaningful and relevant for the person (Kayman et al., 2015; Levandowski et al., 2017). The other aspect is how the level of care, support and hope offered during the collaboration can have positive effects for the person and is reflected in how they value the plan. More research on user experience in these areas would assist the evaluation of SPI across areas of application.

The general improvement in all three primary outcome categories in this review is encouraging and suggests the SPI be utilized by mental health clinicians of all disciplines – as

well as frontline general healthcare clinicians (e.g., emergency department RNs). This review supports the SPI as an intervention that is versatile, safe and as one that should be promoted and used more widely for consistent best practice that translates to clinical mental health education and care.

It is pertinent to remind that in this review we have focused specifically on studies which, to the best of our knowledge, implemented and/or evaluated the Stanley and Brown SPI. While there is a very clear and readily accessible SPI protocol and template, we acknowledge that many services are likely to implement their own version of what they perceive safety planning to be. In light of the positive results of this review, it is important to consider the aspects of the SPI that are likely to contribute to its effectiveness, and to remind those who are using it, or who seek to use it, of the importance of these core principles. For example, the SPI is designed to be used to address suicidal crises specifically (as opposed to other crises in general), the process of developing a safety plan must be a collaborative one (rather than something that is done by the clinician to the person), the SPI is specifically designed to be brief in order to be readily accessible in a crisis, and to support the development of both suicide-related coping skills as well as help-seeking behavior.

While the positive results of this review provide useful information about the value of the SPI in traditional, indicated treatment contexts, suicide is a whole of community concern, not limited to those who have a mental illness diagnosis and with prevention not limited to healthcare settings. Therefore, we must further our understanding of this intervention for those experiencing distress associated with life circumstances (e.g., job loss and uncertainty) (Wesley Mission & Suicide Prevention Australia, 2020), and who may not access support from traditional health services. An important future direction would be to explore whether the positive effects of

the SPI found in this review translate to use among trained lay persons, particularly those who act as gatekeepers, such as community leaders, school personnel, and peer support workers. This is particularly critical in the COVID-19 world, when we are in need of low-resource intensive and flexible, evidence-based interventions that are applicable across the spectrum of society and can be accessed in ways that suit individual preferences.

Strengths and limitations

This first systematic review of the SPI is particularly critical at a time when the need for evidence-based suicide prevention interventions are likely to increase in the wake of the global COVID-19 pandemic. The strengths of this review include a rigorous search strategy following PRISMA guidelines and developed in consultation with an academic librarian. Trustworthiness and rigor have been ensured through conducting each data collection stage in duplicate.

A key limitation to understanding the value of the SPI from this review is the inability to conduct a meta-analysis, due to heterogeneity of study designs and subsequent results. This impacts the strength and interpretation of results for additional reasons. For example, the fact that the SPI was incorporated with other intervention approaches in half of the studies makes it difficult to determine the specific impact of the SPI itself, particularly given that only two of the 14 studies exploring the primary suicide-specific outcome measures were SPI-only interventions. Further, while there is some evidence for the effectiveness of specific aspects of the SPI (e.g., personalization and completeness; Gamarra et al., 2015; Green et al., 2018), there are still gaps regarding which SPI modalities are most effective (e.g., in-person/online, clinician-/self-guided). Conversely, this indicates that the SPI can be successfully integrated with a diversity of interventions, and can be delivered via a range of modalities, demonstrating the flexibility of this approach and its potential for wide reach. Finally, given that the majority of the studies included

in this review were conducted with either veterans or adults with relatively high levels of suicide-related distress, it is difficult to determine the generalizability to other, more specific populations who also experience elevated rates of suicidality (e.g., people of culturally and linguistically diverse backgrounds and LGBTIQ+ people). Further, studies of these two broad groups differed in their primary outcomes of interest, with studies of general adults focusing on a wider range of outcomes, particularly suicidality outcomes (i.e. ideation and attempts), treatment outcomes and to a lesser extent depression and hopelessness, whereas studies of veterans focused more on hospitalizations and treatment engagement. Additional research is needed to fully understand the impacts of the SPI across outcomes for all groups.

There are also some methodological limitations of this literature. While we holistically included all study designs, the majority relied on single-group, quasi-experimental designs, limiting the strength of causal inferences drawn from this data. The lack of more rigorous quantitative designs (e.g., RCTs) is a common limitation in suicide prevention research (Zalsman et al., 2016). However, this is justified, given that many studies were conducted in "real world" settings where it is unethical to withhold a potentially beneficial intervention, and the practicalities of RCTs is likely limited (e.g., difficulties matching groups). We note that our search identified a number of clinical trials of the SPI currently in progress (e.g., Johnson et al., 2020), and it is expected that further evidence addressing some of these methodological limitations will soon emerge.

Conclusion

Results from this review suggest that the SPI is a valuable indicated intervention for general adult and veteran populations experiencing suicide-related distress, primarily in face-to-face, clinical settings. To understand the wider effectiveness of this intervention, future research

should continue to investigate the impact of the SPI at the universal and selective intervention levels, using contemporary delivery modalities, such as web-based applications. Given the flexible and personalized nature of the SPI, there may also be benefits to adapting this intervention to groups with specific needs and vulnerabilities.

Acknowledgements

The authors wish to thank Julie Hansen, Academic Librarian, University of South Australia, for guidance with developing the search strategy for this review.

Declaration of Interest

Monika Ferguson's current position is funded by a Postdoctoral Fellowship grant from Suicide Prevention Australia Limited.

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Appendix A

Example search strategy conducted in Medline

1. “safety plan*”.mp

2. exp Suicide/

3. suicide*.mp

4. hospital*.mp

5. adhere*.mp

6. feasib*.mp

7. accept*.mp

8. 4 or 5 or 6 or 7

9. 2 or 3 or 8

10. 1 and 9

11. limit 10 to yr=“2000-Current”

Appendix B

Critical appraisal results

Randomized Control Trials (assessed using Tufanaru et al., 2020)

Author / Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Overall
Gysin-Maillart et al. (2016)	Y	U	Y	U	U	U	Y	U	Y	y	Y	Y	Y	Include
Stanley et al. (2020)	U	U	Y	U	U	U	Y	Y	Y	Y	Y	Y	Y	Include

Notes: Y=Yes, N=No, N/A=Not applicable, U=Unclear

Quasi-experimental studies (assessed using Tufanaru et al. 2017)

Author / Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Overall
Boudreaux et al. (2017)	Y	Y	N/A	N	N	N/A	Y	U	Y	Include
Chesin et al. (2015)	Y	Y	N/A	N	N	N/A	Y	Y	Y	Include
Chesin et al. (2016)	Y	Y	N/A	N	N	N/A	Y	Y	Y	Include
Goodman et al. (2020)	Y	Y	N/A	N	N	N/A	Y	Y	Y	Include
Labouliere et al. (2020)	Y	Y	N/A	N	N	N	Y	Y	Y	Include
Matarazzo et al. (2017)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Include
Matarazzo et al. (2019)	Y	N	Y	Y	Y	U	Y	Y	Y	Include
Melvin et al. (2019)	Y	Y	N/A	N	N	N/A	Y	Y	Y	Include
Miller et al. (2017)	Y	Y	Y	Y	N	Y	Y	Y	Y	Include

Pauwels et al. (2017)	Y	Y	N/A	N	N	N/A	Y	Y	U	Include
Spangler et al. (2019)	Y	Y	N/A	N	N	N/A	N	U	Y	Include
Stanley et al. (2015)	Y	Y	N/A	N	N	N/A	Y	U	Y	Include
Stanley et al. (2018)	Y	N	Y	N	N	N/A	Y	U	Y	Include
Stewart et al. (2018)	Y	Y	N/A	N	N	Y	Y	U	Y	Include
Vijayakumar et al. (2017)	Y	N	U	Y	N	U	Y	Y	U	Include
Zonana et al. (2018)	Y	Y	N/A	N	N	N/A	Y	U	Y	Include

Notes: Y=Yes, N=No, N/A=Not applicable, U=Unclear

Cross-sectional studies (assessed using Moola et al., 2020)

Author / Year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Overall**
Gamarra et al. (2015)	Y	Y	Y	Y	N/A	N/A	Y	Y	Include
Green et al. (2018)	Y	Y	Y	Y	N/A	N/A	Y	Y	Include

Notes: Y=Yes, N=No, N/A=Not applicable, U=Unclear

Qualitative studies (assessed using Lockwood, Munn & Porritt 2015)

Author / Year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Overall**
Buus et al. (2020)	N	Y	Y	Y	Y	N	U	Y	Y	Y	Include
Chesin et al. (2017)	N	Y	Y	Y	Y	N	N	Y	Y	Y	Include
DeBeer et al. (2019)	N	Y	Y	U	U	N	N	Y	Y	Y	Include
Kayman et al. (2015)	N	Y	Y	Y	Y	N	N	Y	Y	Y	Include

Levandowski et al. (2017)	N	Y	Y	Y	Y	N	N	U	Y	Y	Include
Stanley et al. (2016)	N	Y	Y	Y	N	N	N	N	Y	Y	Include

Notes: Y=Yes, N=No, N/A=Not applicable, U=Unclear

ANZJP

Australian & New Zealand Journal of Psychiatry
2021, Vol. 55(10) 935–936
DOI: 10.1177/00048674211025720

Zero Suicide requires a radical reimagining of inpatient care

Hannah Myles[1,2], Shih Yang Tan[1] and Matthew Large[3]

Introduction

The Zero Suicide movement champions the goal of eliminating suicide in mental healthcare. In addition to being a target, Zero Suicide is a framework for system-wide, organisational commitment to safer care centred on systematic approaches to quality improvement in the areas of leadership, training, engagement and treatment. In the March 2021 issue of the Australian and New Zealand Journal of Psychiatry (ANZJP), Turner et al. (2021) describe a local implementation of the Zero Suicide Framework.

Preparing for change

Last year in ANZJP, Malhi et al. (2020) introduced a conceptual shift in thinking by distilling evidence that suicidal behaviour results in reorganisation of the brain circuitry of the self and its relations. This reconceptualization of the drivers of repeated suicide behaviour proposes that suicides occur after a breakdown of connections with vital elements within one's life (relationships, self-worth, current situation) and that these are mirrored in breaks in neural connections. The Turner and Malhi papers, respectively, describe novel ideas about clinical teams and the brains they care for. As the southern hemisphere's premiere psychiatric journal, the *Australian and New Zealand Journal of Psychiatry* (ANZJP) hosts debates that can drive conceptual shifts and improvements in patient care. Here, we propose a complementary change to the structure of the built environments of mental healthcare that we believe might provide both a tipping point for improved team performance and a better starting point for the many different patient journeys to recovery.

Radical change is needed for inpatient care

The enormity of the task of eliminating suicide among psychiatric inpatients is illustrated by the current rates of suicide in care. A recent study found rates of 3000 per 100,000 person years in the first week of admission (Madsen et al., 2020), which is about 300 times higher than typical global suicide rates. Suicide rates remain very elevated over the course of an inpatient stay but then return in the week post-discharge to the same astonishing figure of 3000 per 100,000 person years – among people who are considered well enough to go home (Chung et al., 2019). We believe the reduction from these extraordinary numbers to anything like zero will require both the service improvements suggested by the Zero Suicide Framework *and* more radical reimagining of inpatient services.

In developed countries, mentally ill people who meet a threshold are temporarily segregated from the community in psychiatric facilities. This threshold is determined by clinicians who are guided by local mental health laws and practices, and is usually justified with a need for protection from serious harm. Despite this need for protection, inpatient and post-discharge suicide rates suggest little protection from suicide is achieved. Nor do psychiatric hospitals prevent harm to others. A recent meta-analysis of prevalence and risk factors for violence by psychiatric acute inpatients found that about one in five admitted people are violent during their admission (Iozzino et al., 2015), mostly to other patients and often repeatedly. Sometimes, and at greater rates than in the community, inpatient violence results in serious injuries or even a patient death. Currently, inpatient violence either seems to be semi-acceptable (particularly if the victims are other patients) or, if more severe, results in various actions including further segregation, sometimes to the point of temporary seclusion. The use of seclusion has rightly come under increasing scrutiny. However, no attention has been paid to the basic premise that we should admit people to common treatment, recreation, eating, and even bathroom spaces.

Rethinking assumptions and reimagining facilities

We would like to cast some doubt on the belief in intrinsic harms associated with people being treated away from other patients. We believe the harms associated with seclusion are mostly because our seclusion facilities are

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almost medieval and that it is the aggregation and collectivisation of mentally ill people in psychiatric facilities that is the underlying problem. Many people who are admitted to an acute mental health facility will either witness or become a victim of violence or aggression within 24 hours. Some will then become violent themselves perpetuating a vicious circle of contagious violence. This violence inures staff and patients to further violence and separates people from their friends and families. Psychiatric hospitalisation in its current form is traumatic, socially isolating and fosters stigma and self-stigma. We are at a loss to explain how current inpatient psychiatric care is acceptable to anyone, let alone to people with the vulnerabilities of pre-existing trauma, suicidality, and paranoia. The downsides to the aggregation of mentally ill people are self-evident. But where is the evidence that treating mentally ill people together advantages them? Elsewhere in medicine there is no expectation that people with similar illness should benefit from being cared for together. In fact the evidence suggests a steep decline in suicide rates in somatic hospitals to a contemporary rate of just under one suicide per million admissions as medicine has become more personalised and Florence Nightingale wards have been abandoned. From a scientific perspective, psychiatric hospitalisation is an accident of history, without any data supporting its safety or effectiveness.

While we believe that we should stop aggregating and traumatising mentally ill people in conventional psychiatric facilities, we also acknowledge that many mentally ill people do need the tertiary care of a hospital and cannot be managed in the community. The solution is a radical rethinking and redesign of inpatient care. We suggest that instead of an admission to a common space, people should be admitted to single-person facilities with acceptable floor space, amenity, comfort and privacy. These spaces should be hopeful, open and welcoming to family and friends. They should foster optimism, recovery and ultimately even neural plasticity while minimising stigma and trauma. There is no need for non-consensual contact between patients, including the contagion of interpersonal violence or, for that matter infectious contact such as COVID 19. There is no need for psychiatric care to be noisy and foreboding. While such an arrangement would require imagination and money, it would allow genuinely individualised treatment, would lessen stigma, would provide better protection and, if done properly, would foster social connectedness.

Next steps

Malhi et al. highlighted changes to the neuronal structure of the brain following a suicide attempt after a person has broken their connection with life itself, a step taken only after '*appraisal of many critical factors, including the evaluation of one's self worth, one's relationships with others, and one's current situation in life*'. Treating patients within collectivised psychiatric settings seems uniquely designed to do just that. Every breach of privacy, episode of aggression and unwanted physical or sexual contact pushes people away from their vital connections. What improvement science can do is foster the accurate recording and publication of the adversities of patient experiences in all units within Australasia. Confronted with these results, policymakers might just provide the investment needed to radically reimagine inpatient care.

Conclusion

Iatrogenic harm within inpatient facilities is the neglected side effect of a deeply flawed assumption about the need for collective psychiatric care. The shared spaces in psychiatric wards deny any modicum of the safety and privacy that is needed for recovery. A successful leap towards zero suicides can only happen after we abandon outdated notions of collective psychiatric treatment.

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.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

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