Suicide Attempts and Suicide Deaths Subsequent to Discharge from an Emergency Department or an Inpatient Psychiatry Unit

Continuity of Care for Suicide Prevention and Research

2011

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Foreword

The American Association of Suicidology and the Suicide Prevention Resource Center have provided a valuable service to the nation in preparing this comprehensive report on suicide attempts and suicide deaths subsequent to discharge from Emergency Departments or Inpatient Psychiatric Units. The report, entitled, "Continuity of Care for Suicide Prevention and Research" is grounded in an extensive review and analysis of the current literature, conducted by David Knesper, M.D. Dr. Knesper's scholarly work on the Report was aided through generous support provided by the University of Michigan while he prepared the monograph. It highlights a critical area for suicide prevention efforts, one that holds promise for reducing the number of suicides in America. The accumulating research in suicide had made it increasingly clear that for those who experience suicidal crises and receive acute care interventions in hospitals and Emergency Rooms, suicide risk does not end at the moment of discharge. Rather, their elevated risk continues or is easily rekindled in the days and weeks that follow, leading to heightened rates of suicide during this post acute care period.

However, as is noted in the National Strategy for Suicide Prevention, "All too often the assumption is that individuals are no longer at risk for suicide once they are discharged from inpatient hospital or institutional settings." (DHHS, 2001) Yet, despite the fact that those who attempt suicide and others experiencing a suicidal crisis who are seen in the health care system are a high risk population going through a clear high risk period, there have been few systematic suicide prevention efforts in the United States that have focused on this population during this time period. Elevated post discharge rates of death by suicide, suicide attempts, and readmissions to acute care services have been repeatedly documented, but this has not been matched by proportionate prevention efforts. Moreover, as this report makes clear, not only has the need been shown to be unmistakable, but there are also promising interventions that can be utilized. In fact, the only two randomized controlled trials in the suicide prevention literature that have shown a reduction in the number of deaths by suicide have both involved following up with high risk populations after discharge from acute care services (Motto and Bostrom, 2001; Fleischmann et al., 2008).

The report makes a large number of recommendations for both practice and research. While not everyone may agree with every recommendation, there are core recommendations that are key for behavioral health systems if they are to be designed in a way to optimize their suicide prevention potential and maximize the number of lives that can be saved. These include the establishment of standards for the provision of prompt outpatient care for those who attempt suicide and others at high risk who are discharged from acute care settings. Here the Veterans Administration is providing national leadership. A second is the need for active outreach and/or case management following discharge. Here the report highlights a number of promising practices ranging from the use of Apache community workers to reach out to those at high risk after discharge, to the use of community crisis centers through the National Suicide Prevention Lifeline to provide phone and text-based outreach, to the VA's use of "caring letters" and the utilization of facility based suicide prevention coordinators. We have known for many years that Assertive Community Treatment was an evidence-based practice that could improve outcomes and prevent readmissions through

assertive post discharge outreach. The adaptation of similar principles to high suicide risk populations could also be of great benefit.

Other nations have also begun to focus efforts in their national strategies for suicide prevention on exactly these high risk populations. Norway's Chain of Care model is highlighted in this report. In Denmark, they have identified four areas where reductions in the number of deaths by suicide could have the greatest impact on their suicide rates. Two of those populations, suicide attempters and those discharged from inpatient units, are very much the subject of this paper, and a third, substance abusers, could also benefit from an extension of these continuity of care principles given the high frequency with which those who are both substance abusers and suicidal are seen in emergency departments and inpatient units for detoxification and other needs. In England, the British National Clinical Study was able to calibrate, by day, week, and month, the degree of post discharge suicide risk, with the greatest risk occurring during the time closest to discharge, leading to recommended standards for prompt follow up within seven days of those discharged from inpatient units (Crawford, 2004).

In the United States, this period of high risk and the need for intervention during this time were recognized in the National Strategy for Suicide Prevention. Objective 7.1 focuses on the need for follow up after emergency room discharge while Objective 7.4 focuses on the need for aftercare following inpatient discharge. The American Association for Suicidology, the Suicide Prevention Resource Center, and Dr. David Knesper have provided an extremely valuable service through this comprehensive review and set of recommendations that have the promise, if acted upon, for constructing a critical safety net during these periods of heightened risk.

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Executive Summary

Abstract

For patients at risk for suicide, discharge from an emergency room or psychiatric inpatient facility is all too often the beginning of a difficult and unpleasant journey across the landscape of a disarrayed mental health care system seeking fundamental transformation. The present mental health care system is pluralistic with competing, disconnected, and autonomous subsystems and with various types of singularly focused mental health professionals. Large numbers of these professionals are in independent practice. America's emergency departments and psychiatric inpatient facilities generally have limited specific assessments, programming, and treatments for people at risk for suicide. Moreover, both can be faulted for doing too little to prevent suicide. Once patients are discharged, the complexity of coordinating and continuing mental health care presents an enormous challenge, confounded by existing fragmentations and gaps in services among service providers.

The emergency management of suicide risk is, at present, substandard because so frequently it is removed from evidence-based, clinical practices. Persons at high risk for suicide are seen commonly in America's emergency departments, but they, time and again, go unrecognized. When recognized, the treatment for suicidality is out-referral; however, as many as half of those referred do not attend the first follow-up care appointment that can be weeks away from the initial visit. Disappointment awaits many that do attend because clinical information just recently provided may not accompany the first visit and subsequent care may be marginal or downright inadequate. These standard-of-care practices provide a standard of care associated with an unacceptably high rate of suicide attempts and suicide deaths in the days and weeks subsequent to discharge.

There is a better way forward. For individual patients, designing, testing, and implementing integrated networks of care that ensure comprehensive assessments, rapid follow-up, continuity of care, and evidence-based treatments for those at high risk for suicide may prove to reduce suicide rates and, thereby, should complement universal interventions aimed at the general public. Relevant to follow-up and continuity of care subsequent to discharge from an emergency department or psychiatric inpatient unit, this report systematically examines the published literature, summarizes the evidence base, and makes recommendations for practice and for new directions in public policy based on current research. Moreover, this report seeks to identify the most crucial gaps in knowledge and to suggest directions for new research to fill those gaps.

About the report: All sections have an ending synopsis called "*Section-at-a-Glance*." Similarly, "*Section Commentary*" is used in this report's Part Eight that reviews specific suicide prevention programs in the United States and other countries. *"Section-related Recommendations"* are found at the end of each section as well. These recommendations tend to pertain most to the subject matter of that section. All recommendations are mentioned in the Summary found at the beginning of the report. Many of these recommendations are deliberately broad and intended to lead an agenda for discussions regarding bringing about meaningful changes and improvements. Necessarily, these discussions will identify and implement the best means for realizing outcomes.

Parts One through Eight

Targeting high-risk individuals that attempt suicide and a transformed system for providing mental health care in America: The lethal and powerful relationships between suicide, suicide attempts, and suicide ideation prescribe one essential means for effective suicide prevention. Targeting high-risk individuals that attempt suicide and getting them to evidence-based treatments has great potential for saving large numbers of lives. The benefits from this strategy crucially depend on motivating patients discharged from emergency departments and psychiatry inpatient units to follow up with the recommended treatment plan. At the heart of this strategy is continuity of care that links one care provider to another in a timely manner and, in the process, provides all the necessary clinical information required to make the transition smooth and uninterrupted. This sequence is a chain of survival, and it offers a foundation for anchoring a transformed system for providing mental health care in America.

Staggering suicide statistics: In 2007, more than 34,000 suicide deaths occurred in the United States and nearly one million worldwide. In the United States, this is equivalent to one suicide every 16 minutes. Suicide is the 11th leading cause of death for all ages and the second leading cause of death among 25–34 year olds. Suicide deaths are most associated with a history of one or more suicide attempts and, current, persistent suicidal ideation. The vast majority of suicides are found in association with mental illness, particularly major depression, and other mood disorders and substance abuse.

The National Strategy for Suicide Prevention and the emergency department: Suicide attempts and self-injury make up an ever increasing proportion of emergency department visits and hospitalizations for self-harm. As many as one in ten suicides are by people seen in the emergency department within two months of dying. Many were never assessed for suicide risk. Consequently, the emergency department has become so fundamental to suicide prevention that one goal of *The National Strategy for Suicide Prevention* is to "increase the proportion of patients treated for self-destructive behavior in hospital emergency departments that pursue the proposed mental health follow-up plan." Since discharge from a psychiatry inpatient unit is so strongly associated with subsequent suicide death, this report concerns suicide attempts and suicide deaths subsequent to discharge from an emergency department or from a psychiatry inpatient unit.

Detection of concealed suicide risk in the emergency department: An examination by emergency department professional personnel will not necessarily detect suicide intent or prevent suicide. Unless patients admit to suicide risk or enter an emergency department after an obvious suicide attempt, it is unlikely that emergency department personnel without specialized training will detect acute suicide risk. For this reason, emergency departments will need clinical specialists trained in suicide risk assessment, management and care. Screening instruments may be effective for detecting many patients' concealed suicide risk. The proprietary nature of most suicide screening and assessment tools limits their general availability, however. Therefore, more experimentation with this method of case finding is essential.

Education and training for suicide risk assessment: Reports published by the Institute of Medicine have documented numerous problems in the training of all categories of mental health professionals and have found remarkable variations and inadequacies of curricula, course design, and continuing education. Recommended remedies have been largely ignored. America will be well served by a nationally recognized set of minimum essential skills and core competencies necessary for suicide risk assessment, management and care, and by a system to certify that health professionals have achieved mastery of the key components. Comprehensive suicide assessments are difficult and challenging and may not be accomplished quickly. Particularly challenging is the patient that denies intent or being at imminent risk, but at the same time, has several suicide warning signs and numerous risk factors. For general medicine, high uncertainty of a potentially deadly physical problem is entry criteria for short stay observation units or even hospitalization. However, for mental health professionals, these standard-of-care procedures used by general medicine are problematic when the potentially lethal patient flatly denies intent or being at imminent risk. The solution to this familiar clinical dilemma in suicide assessment and intervention is left largely to individual clinicians. Professional associations involved with setting standards for suicide assessment and intervention need to provide clinicians with explicit guidance about procedures relevant to potentially lethal patients that deny intent or risk. The outcomes of these considerations may have the added benefit of teaching the general public what to do under these same circumstances and of providing the general public with information about the applicable standard of care for clinical practice.

Anti-suicide therapeutics: Education and training can go only so far. Suicide risk is acute and may remain high, but the available anti-suicide therapeutic tools all take time to work. Advances in anti-suicide therapeutics provide clinicians with a small, but growing, tool kit. When used long-term by medication adherent patients, lithium, the mood stabilizer with anti-depressant properties, and the unique antipsychotic, clozapine, are associated with reduced, recurrent suicidal acts. There is no convincing information that antidepressants share this property, however, there is considerable evidence that dialectal behavioral therapy (DBT) and other, closely related cognitive behavioral therapies are likely to reduce suicide attempts in outpatient populations. Most recently, two randomized controlled trials found that a version of cognitive behavioral therapy (CBT) is effective in preventing suicide reattempts among emergency department patients. These versions of cognitive behavioral therapy are designed specifically for suicide attempters discharged from the emergency department. For the most part, neither psychopharmacology nor psychotherapy is rapidly acting for enduring effects. There is considerable urgency to identify more rapidly-acting and enduring psychopharmacologic strategies and therapeutic components of cognitive therapies applicable to the emergency department and inpatient psychiatry.

High rates of non-adherence to the recommended treatment plan: Some pretty grim statistics are found along the path from the emergency department or psychiatry inpatient unit to follow-up care. As many as 70 percent of suicide attempters of all ages will never make it to their first outpatient appointment. Across all studies, the rate for non-attendance is about 50 percent. Patients with severe and persistent mental illness and few skills, minimal resources, and socioeconomic distress are hard to engage in outpatient treatment. All too often, patient attributes such as these are unchangeable in the near- or even in the long-term; however, organizational attributes can be

altered. Professional staff with skill deficiencies and organizational discontinuities of care and unplanned discharges, for example, need not undermine hard-won clinical gains and impede the route to follow-up and treatment. Efforts to improve suicide assessments, follow-up and continuity of care and to forestall readmission should target higher-risk patients prone to disengagement and non-adherence.

Beginning treatment as soon as possible after discharge and saving lives: Delayed follow-up, without any attempt to improve adherence to the recommended treatment plan, is a form of discontinuity that appears to have severe consequences. The first days and months after discharge is a time of significantly heightened risk. A series of randomized controlled trials make a persuasive case for the correctness of this assertion. In three studies, the anti-suicide intervention started a month after discharge. During that time interval many patients reattempted suicide and a few died from suicide. In contrast, five randomized controlled trials began the intervention at or as soon as possible after emergency department or inpatient discharge. Compared to usual care, significant reductions in repeat suicide attempts were achieved by all five studies.

Clinical trials have consistently shown that suicide-prone patients are more likely to adhere to the recommended treatment plan if treatment-engagement interventions are applied near or at the time of discharge. Scheduling the first outpatient appointment within 48 to 72 hours of discharge and making reminder phone calls are among the successful strategies identified. Time spent in the emergency department discussing reasonable treatment expectations and various forms of motivational interviewing achieve higher adherence rates. Intensive outreach interventions such as home visits and frequent home-based therapy sessions appear to achieve the same sort of favorable outcomes.

Straightforward and effective suicide-prevention and continuity-of-care strategies: The world's scientific literature contains merely two randomized controlled trials that find an effective means to prevent suicide. The interventions used are quite similar: An initial encounter with someone having clinical knowledge and skills in suicidology followed by regular brief follow-up contacts over 18 to 24 months when the interventions were found to be effective. Both studies involve follow-up subsequent to an acute episode of suicidal behaviors. Neither study was designed to partition the relative contribution of the initial encounter from the subsequent contacts. Two conclusions cut across both studies: First, the prevention of suicide appears to require an initial, meaningful clinical discussion about suicide, and, thereafter, a series of short, non-demanding follow-up contacts that demonstrate continued human interest in the individual. Second, suicide prevention interventions that are provided by individual clinicians to individual patients should complement universal strategies that are aimed at large populations.

Such straightforward, often simple, and relatively inexpensive suicide prevention strategies may work by giving patients a sense of connectedness to caregivers and by providing concrete evidence of empathic concern from a compassionate human being. Employing this sort of strategy, another randomized controlled study found that sending non-demanding postcards resulted in approximately half the total number of repeat suicide attempts compared to patients in the control condition. Giving patients "crisis cards" that describe how to get help at any time predicted a significant reduction in self-harm behaviors according to another randomized controlled trial. There

needs to be many more randomized controlled trials that sample patients at high risk for suicide behaviors. By so doing, relatively small sample sizes can be associated with results finding statistically valuable evidence about the efficacy of alternative interventions and with expenses that are a fraction of what it would cost to do research on general populations.

An infrastructure for continuity of care: Continuity of care and coordination of care require the support of a cohesive health services infrastructure rather than numerous, disconnected facilities and care provision arrangements. Since mental health and general physical health are intertwined, collaboration among mental health and general medical health providers is vital. Rather than the prohibitions against information sharing which characterize disconnected systems, there must be effective sharing of physical and mental health information in high-risk situations. Systems' performance improvements require community capacity to track patients across community facilities. When a suicide or serious suicide attempt occurs, ideally all the care facilities involved would come together to do a root-cause analysis to understand how to improve the entire system of care so as to prevent systems' failures from contributing to the next suicide death.

Examples of integrated care systems that save lives: This review identifies several health care systems that illustrate the actual or potential suicide prevention outcome successes derived from professionals and facilities working together as a single, dedicated unit to prevent suicide. The suicide prevention results presented are often not the product of carefully done research and are derived more from naturalistic, descriptive studies. Nevertheless, the results of all these initiatives are impressive. All of the systems reviewed are, in many ways, "demonstration projects" that have served as laboratories for various innovations in health care systems. The U.S. Air Force; municipality of Bærum, Norway; Swedish Island of Gotland; "Perfect Depression Program" in Detroit, Michigan; Veterans Integrated Services Networks; Georgia State Crisis and Access Line; and White Mountain Apache Tribe are all reviewed. They all demonstrate the benefits of a more integrated approach to suicide prevention.

Guidelines, expected best practices, and standards for discharge planning: These many findings support a strong evidence base for continuity of care and for starting outpatient, anti-suicide treatments and motivating treatment plan adherence at the time of the emergency department visit or concurrent with hospital discharge and for continuing these interventions for some time thereafter. Of course, each patient discharged from an emergency department or psychiatric inpatient unit receives a discharge plan. The differences between a just-adequate discharge plan and a high-quality plan are the elements that may permit rather than prohibit suicide. Delayed follow-up may have tragic consequences, while immediate follow-up after discharge and adherence to the recommended discharge plan are important opportunities for suicide prevention. Nevertheless, in the United States, general practice guidelines are the basis for accepted practice. There are no widely-accepted, explicit and directive best practices or standards for discharge planning. In the absence of such information about expected best practices, what is easy to do may be mistaken for what is best to do. The general-guidelines approach has the advantage of preserving the clinician's capacity to develop a unique discharge plan and has the disadvantage of preserving and, perhaps, perpetuating minimally acceptable standards of care.

A nationwide change may be in the making. The U.S. Department of Veterans Affairs (VA) has established standards of access that go beyond what is typically found in non-VA health care systems. These standards require, for example, that all patients requesting or being referred for mental health services receive an initial evaluation within 24 hours and receive a more comprehensive diagnostic and treatment planning evaluation within 14 days.

Preventing suicide with continuity-of-care strategies for individual patients versus universal interventions aimed at the general public: The essence of continuity of care for emergency departments and inpatient psychiatry units is motivating patients at high risk for suicide to attend their first outpatient follow-up appointment and getting them and their medical information to that appointment with all due haste. This means the first appointment is the next day, if possible, and within a week if unavoidable. This means rapid, meaningful communications between providers and care centers. The absence of national standards for timeliness and discontinuities between hospital and community care are current obstacles to these achievements. Some clinicians have a tough time making up for these system adversities due to certain skill deficits. The agenda for change recommended on these many pages will help to identify interventions for reducing patient suicide risk and, thereby, preventing suicide. Designing, testing, and implementing integrated networks of care that ensure community populations follow-up and evidence-based treatments for high suicide risk may prove to reduce suicide rates and, thereby, should complement universal interventions aimed at the general public.

Part Nine

Part Nine of this report considers a set of 10 Continuity-of-Care Principles that may serve to guide public policy about suicide prevention. The 10 Continuity-of-Care Principles are listed hereafter and under each appear accompanying recommendations. Each recommendation is followed by a brief explanation of its importance. These recommendations come verbatim from Parts One through Eight of this report. At the end of each section of this report appear *Section-related Recommendations* that have their roots in the material covered in that particular section. In the Summary that follows, all of the recommendations found in this report are reorganized so that each falls under one of related the continuity-of-care principles.

1. ***Suicide is a public health problem for which continuity of care is one essential means for effective suicide prevention.***

    - **Make continuity-of-care principles a major component of the foundation anchoring a transformed system for providing mental health care in America.** *The President's New Freedom Commission on Mental Health recommends "fundamentally transforming how mental health care is delivered in America." Continuity of care should be a critical component of the foundation for any transformed system. Continuity of care is an underutilized suicide prevention strategy. Continuity-of-care strategies need to target individuals that are at high risk both for suicide and for non-adherence to the recommended treatment plan.*

2. ***Epidemiologic studies need to focus on the associations between the severity and the chronicity of mental illness and suicide ideation, attempts, and deaths.***

   - **Hasten the development, adoption, and dissemination of a common categorical, criteria-based, classification system for suicide behaviors.** *A common language will permit meaningful comparisons across clinical, community, and research studies.*
   - **Develop severity measures that are linked to more precisely defined subcategories of suicide behaviors.** *Suicide attempts vary in severity and measures of severity will enhance a common language of suicide.*
   - **Institute, at the national level, the surveillance and investigation of inpatient suicides.** *Using non-punitive, non-threatening methods, each inpatient suicide needs to be investigated meticulously to identify systemic improvements designed to reduce the incidence of these tragic deaths. When this work is done at the national level, all health systems may benefit from the recommendations for systems' changes and improvements. Even though national organizations like The Joint Commission monitor inpatient suicides, reporting is primarily voluntary.*
   - **Fund the development of suicide screening and assessment tools that will be non-proprietary and widely available.** *Few suicide screening instruments are in the public domain. The near absence of screening instruments that may be freely used discourages routine use, experimentation, and innovation.*
   - **Fund epidemiologic studies about suicide ideation and suicide attempts; and investigations about what prognostic factors change suicide attempts to suicide deaths, and the complexities of these relationships.** *Suicide is often associated with a chronic and recurrent psychiatric illness. Over the course of any psychiatric illness there are times of increased vulnerability to suicide and decreased protection. These relationships are poorly understood. There is little information about the prevalence of suicide ideation and the predictive attributes of seriousness and severity.*

3. ***Anti-suicide therapeutics and interventions have been developed and/or may be developed grounded in existing research or the consensus of experts in suicidology. Some of these therapeutics can be implemented now and be evaluated further by both clinical-research and randomized-controlled methods.***

   - **Make patient education about limiting access to lethal means, especially firearms, the expected best practice in emergency departments and psychiatry inpatient units.** *Firearms are by far the most frequently used lethal means to take a life, and this recommendation pertains to patients at risk for suicide. Screening for access to firearms is feasible in emergency departments.*
   - **Fund research to discover effective, brief anti-suicide interventions appropriate for emergency department patients at high risk for suicide.** *Brief alcohol interventions and motivational interviewing may be interventional models that could be adapted for this purpose.*

- **Prioritize the development, evaluation, dissemination of alternative models of inpatient programming and/or clinical tracks that are effective for reducing suicide attempts.** *Without more specific, specialized, and routine anti-suicide inpatient programming, inpatient suicide will remain a national tragedy.*
- **Fund demonstration research that creates quickly accessible, welcoming, and exemplary systems of mental health care, employing expert professional personnel that provide empirically-supported treatments for suicide prevention.** *This recommendation requires surveillance systems for tracking patients and outcomes.*
- **Investigate the use of various types of electronic contacts (e.g., text messaging) as part of an overall follow-up plan for suicide-prone patients discharged from an emergency department or inpatient unit.** *Randomized controlled trials find short letters, brief contacts, and even postcards reduce suicide attempts and suicide. New technology makes this form of stay-in-contact suicide prevention extremely doable without great expense.*

4. ***There is considerable urgency to identify anti-suicide therapeutics that are more rapidly effective than presently available cognitive-psychological and psychopharmacological therapies.***

- **Use randomized methods to compare two groups of patient-subjects that differentially receive either the psychopharmacologic agent with possible anti-suicide properties plus treatment as usual or receive only treatment as usual.** *Investigations of this sort best apply to a relatively short period of heightened suicide risk and increased suicide reattempt rates. Required sample sizes necessitate multi-site trials.*
- **Fund studies of the outcomes of therapy discontinuation and non-adherence for the purpose of better understanding therapeutic efficacy.** *This research may provide a strong basis for recommendations to continue antidepressants and other psychiatric medications, and to continue cognitive-psychological therapy.*
- **Identify the component parts of cognitive-psychological therapies that best explain their efficacy and of onset action.** *These component parts will lead to the development of more rapidly acting anti-suicide psychological therapeutics.*

5. ***Providing patients with continuity of care is a potentially powerful suicide prevention strategy for individuals at acute, short-term, or long-term risk for suicide.***

- **Manage and treat each patient making a suicide attempt and or having suicidal ideation as if the next suicide attempt will result in suicide death.** *Having this recommendation as a goal will motivate improved continuity-of-care policies and procedures in health care systems.*
- **Fund clinical trials to evaluate if immediately available forms of intensive outpatient care can substitute for psychiatric hospitalization of suicide-prone individuals.** *Since there is no evidence that psychiatric hospitalization prevents suicide, this recommendation is entirely reasonable. Study results will provide a better understanding of the population*

of patients that require hospitalization and of the characteristics of patients that can be managed safely outside the hospital setting.

- **Place in emergency departments increased numbers of clinical specialists trained in suicide risk assessment and management.** *The techniques and skills that are used during a comprehensive suicide risk assessment are both time consuming and exacting. Special training is required.*
- **Streamline the gathering of corroborating information for bona fide emergencies.** *Contacting knowledgeable others are one means clinicians have of getting help for characterizing a patient's suicide risk profile. Clinicians seeking to gather corroborating information regarding potentially suicidal individuals confront an assortment of federal, state, and regulatory issues about privacy. Recipient rights concerns add additional complications.*
- **Provide clinicians with explicit guidance about procedures relevant to potentially lethal patients that deny suicide intent or risk.** *Professional associations involved with setting standards for suicide assessment and intervention need to provide clinicians with explicit guidance about procedures relevant to potentially lethal patients that deny intent or risk. The outcomes of these considerations may have the added benefit of teaching the general public what to do under these circumstances and of providing information to the general public about the applicable standard of care for clinical practice.*
- **Fund investigations about the relationships between non-attendance to follow up treatment services and suicide attempts and deaths.** *Further understanding about these relationships will go a long way toward improving continuity of care.*
- **Fund studies that pertain to "contracting for safety" and "safety planning."** *Despite their extensive use, these clinical tools have been understudied and have not been subjected to randomized research methods. At some point, clinicians have to accept the word of the patient, but little is known about the procedures that make this acceptance reasonable or unreasonable.*

6. ***The continuity-of-care goals of The National Strategy for Suicide Prevention require the adoption, at the national level, of expected best practices for discharge planning.***

- **Issue a request for proposal (RFP) or similar funding mechanism for the development of evidence-based psychiatric inpatient unit best practices and for recommended discharge planning and continuity-of-care algorithms.** *The Centers for Medicare and Medicaid Services and The Joint Commission are in a position to lead this effort. There is little to no research data describing the characteristics of a "suicide proof" psychiatric inpatient unit. Recommended algorithms about timeliness of assessments, post-discharge follow-up and appointment dates may be sufficient for them to be widely adopted. In the absence of such recommendations what is easy to do may be mistaken for what is best to do.*
- **Adopt nationally recognized policies and procedures that best match patients at risk for suicide to follow-up services that begin at or near the time of discharge from an emergency department or an inpatient psychiatry unit.** *The difference between a just-*

adequate discharge plan and a high-quality plan are the elements that may permit rather than prohibit suicide.

- **Consider setting the standard for the first follow-up appointment subsequent to high-risk patients being discharged from emergency department (ED) of psychiatric inpatient units at "within one week or less."** *Suicide risk is highest during the time period immediately after discharge from an emergency department or psychiatric inpatient unit.*
- **Identify and adopt outreach interventions and bridging strategies that motivate adherence to the recommended treatment plan.** *For example, calling the patient and the outpatient facility to confirm attendance is an obvious strategy that can improve adherence. Various forms of pre-discharge treatment adherence counseling and/or post-discharge telephone and/or mail reminders predict arrival for all ages.*
- **Require health care systems to provide timely follow-up care in the event that the most appropriate continuity-of-care plan cannot be achieved in a timely manner.** *Often, emergency departments evaluate a patient at risk for suicide, but the patient has health insurance from an unrelated health system. Out-referral is necessary. For a high-risk patient in this situation, if a near-term outpatient appointment is unavailable in the health system to which the patient is most closely affiliated, the referring facility takes responsibility for providing interim outpatient care.*
- **Promote outcomes research that evaluates the Department of Veterans Affairs' (VA) rigorous standards for clinical care of the veteran identified as either surviving a suicide attempt or as being at high-risk.** *Do alternative standards of care (e.g., explicit personalized safety plan, close monitoring) have significantly different effects on suicide re-attempts? The VA is embarking on a naturalistic experiment that is supported by the small evidence base that closer monitoring improves suicide-related outcomes. The outcomes from the standards for suicide care implemented by the VA can be compared to alternative "usual care" practiced in non-VA mental health systems of care.*
- **Make accessible to the every-day, practicing clinician the essentials of clinical performance standards expected by the Centers for Medicare and Medicaid Services and The Joint Commission.** *If there is any expectation that care provided by individual clinicians is improved by the performance standards set by these two organizations, then it should be relatively easy for clinicians to access the essential materials.*

7. ***Randomized controlled trials that use suicide attempts as outcome variables are practical and doable and much less expensive than trials involving the general public.***

- **Fund substantially more research that uses randomized methods and that uses suicide attempts as outcome variables.** *Suicide attempts are the strongest, easily recognized predictors of suicide deaths. Suicide attempts are a more viable outcome measure than suicide deaths. Because of their high frequency of occurrence, suicide attempts have advantageous sampling characteristics and provide a close approximate measure of actual suicide deaths, especially in individuals at high risk for making additional attempts. (Please see Appendix Two: "Sampling and Design Characteristics of Clinical Trials Measuring Changes in Suicide Behaviors".)*

- **Fund additional research targeting patients that refuse the recommended treatment plan.** *Better understanding of these outcomes of non-adherence may provide strategies and motivational tools for working with this understudied population.*

8. ***Patients should be seen by certified professionals that have mastered suicide assessment and prevention skill sets.***

   - **Define a nationally recognized set of the minimum essential skills and core competencies necessary for suicide risk assessment and management.** *Physician education in depression recognition and treatment reduces suicide rates. Consequently, there is every reason to believe that improved education and training pertaining to the management of suicide attempts and suicide ideation will have similar results. "Assessing and Managing Suicide Risk: Core Competencies for Mental Health Professionals" (AMSR), developed by the American Association of Suicidology (AAS) for the Suicide Prevention Resource Center (SPRC) and AAS' "Recognizing and Responding to Suicide Risk: Essential Skills for Clinicians" (RRSR) each contain modules that teach core competencies and related skill sets.*
   - **Develop a nationally recognized system to certify that health professionals have mastered the minimum essential skills and competencies.** *Certification is one means to improve overall quality of care provided to individuals at risk for suicide.*
   - **Find the best means for most efficiently and effectively teaching and disseminating the nationally recognized set of minimum essential skills and competencies.** *Not everyone will attend sit-down courses. A variety of means for teaching and dissemination needs to be considered.*
   - **Support fellowship training in emergency psychiatry.** *Emergency psychiatry requires a specialized blend of psychiatric and general medical knowledge and skills.*
   - **Promote pilot studies of interventions designed to reduce discrimination found in emergency departments in association with suicide risk and mental illness.** *There are numerous good hypotheses (e.g., skill deficits, unrealistic fears, inadequate collaboration with mental health professionals) that could be tested immediately.*

9. ***High priority needs to be given to building community capacity to accurately and capably track suicide deaths and attempts. Without such systems, community initiatives to prevent suicide behaviors cannot be evaluated.***

   - **Improve surveillance of suicide attempts, suicide deaths and other to-be-defined suicide behaviors in relationship to adherence or non-adherence with the recommended treatment plan.**
   - **Use the improved surveillance measures to benchmark the achievements of health care services systems and of the *National Strategy for Suicide Prevention*.**
   - **Build community capacity to quantify and capably track suicide attempts and suicide deaths.** *Without this epidemiological data, community efforts to reduce suicide attempts and deaths cannot be evaluated.*

10. ***Designing, testing, and implementing integrated networks of care for community populations that ensure follow-up and evidence-based treatments for high suicide risk may prove to reduce suicide rates and, thereby, should complement universal interventions aimed at the general public.***

    - **Institute programs of root-cause analyses and responsive action plans whenever there is a suicide death.** *In the month before a suicide death, the patient may have received services from providers in any number of different health care organizations. Nevertheless, the participants in any root-cause analysis of the death should be representatives from all the health systems that recently participated in the care of the deceased. The Joint Commission's and the United States Department of Veterans Affairs' root-cause analysis frameworks are models that have been effective for improving the performance of individual systems of care. A comprehensive root-cause analysis will need to combine several systems of care for patients receiving care in multiple systems.*
    - **Create and financially support a network of model health care systems devoted to best-practices research.** *These mini-systems can serve as laboratories to test features that might be part of future health care systems. The Agency for Healthcare Research and Quality initiated the Integrated Delivery Systems Research Network in 2000. The inclusion of suicide prevention activities would enhance greatly this field-based research initiative.*
    - **Quantify more precisely the magnitude of the relationships between numbers of psychiatric beds, lengths of inpatient stay, and suicide behaviors.** *The many assertions that too few beds and short lengths of stay are associated with suicide attempts and deaths demand investigation. The results from such investigations will help define the expected standard of care for inpatient management and care of suicide risk.*
    - **Include screening for suicide risk with a more general approach to health screening in the emergency department and other settings.** *This recommendation is consistent with The Joint Commission's National Patient Safety Goals. Have the goal of making screening for suicide risk as routine as monitoring blood pressure and temperature.*
    - **Create a network of community-based recipient rights officers that have the authority to investigate assertions of inadequate mental health treatment.** *This recommendation requires the availability of adequately financed and supported clinicians that quickly take referrals of patients at considerable risk for suicide.*
    - **Educate the consumer of mental health services about reasonable expectations and provide them and their families with a means for registering complaints.** *Knowing what is realistically possible will help the consumer better define shoddy treatment.*

Because the frequency of suicide in the general public is extremely low, very large samples are required to detect effects of preventative interventions. Furthermore, large-sample-size research is very expensive. In recognition of the limitations in research funding, this report recommends a different approach. First, there is no need to wait for new research findings. Continuity of care is simply good medicine and health systems can and must do a better job in getting every patient prompt and sustained high-quality general health and mental health services. Accomplishing this

will require various changes and transformations in the way health and mental health care are provided in America. Second, suicide research needs to focus on populations at high risk for suicide. A more practical and much less costly approach to the study of suicide is to increase the frequency of the observed outcomes by focusing on high-risk individuals and by using suicide attempts as a close approximation for suicide deaths. This is an entirely reasonable assumption since suicide attempts are a powerful predictor of suicide. Finally, the combination of health systems that provide continuity of care and the results from randomized-controlled suicide research aimed at individuals at high suicide risk may prove to be a very effective weapon for reducing suicide rates.

Part One

Suicide Attempts and Risk for Suicide Deaths

Evidence for the strong association between suicide deaths and suicide attempts is compelling. Indeed, for all age groups, suicide death in the immediate future is most associated with a history of one or more suicide attempt and current, persistent suicidal ideation. [1-9] Among patients at high risk for suicide, the risk for suicide attempts and death is highest immediately after being discharged from an emergency department or an inpatient psychiatric unit. [9-22] This risk is maintained at least over the next 12 months to five years. For some, this risk is sustained for much longer intervals. [3, 23-28]

A national database for suicide attempts or a standardized definition of "suicide attempt" does not exist. The best data about rates of suicide reattempts come from experimental studies of high-risk patients. Each study defines "suicide attempt" as an act where the intended outcome was death. During the first 6 to 12 months after discharge from an emergency department, a 17 percent reattempt rate has been reported. [29, 30] Over 18 to 24 month intervals, suicide-reattempt rates of 35 percent and 38 percent were found. [31, 32]

More data about both suicide attempts and suicide deaths come from studies that follow a cohort of patients over longer periods of time. In each of these studies, the definition of "suicide attempt" is less standardized, and, as expected, somewhat different rates are found. Within the first five years of making an attempt requiring hospitalization, 37 percent made another attempt, and approximately 7 percent died from suicide according to one case-series study. [33, 34] A similar study, but done over 10 years, found 28 percent of patients admitted for a non-fatal attempt were readmitted for the same reason and 4.6 percent died from suicide. [23] An evaluation of 13-year mortality among patients hospitalized after their first suicide attempt found, in comparison to the general population, four times the death rate for any cause, 15 times for "accidental" causes, and 25 times for suicide. [11] At the end of a 14-year follow-up of over 1,000 suicide attempters discharged from an emergency department, 22 percent died from any cause and 7 percent died from suicide. [35] At the end of a 15-year follow-up study of 389 individuals that were at risk for suicide and that accepted regular brief follow-up contacts but refused the recommended treatment plan, 6.43 percent died by suicide. [26, 36] A number of studies have found that people making suicide attempts have higher rates of homicide, accidents, and disease in general. [1, 33, 37-41] Co-mingled substance use disorders tend to increase the suicide risk. [9, 42-49]

The tragedy of suicide and suicide attempts among all age groups is compounded by associated mental illness. [2, 8, 50-57] About 90 percent of individuals making a medically serious attempt have a symptomatic mental illness at the time of the attempt and nearly 57 percent have more than one

mental illness. [58] As the burden of mental illness increases, so does the risk of suicide. Similar relationships between mental illness and suicide and suicide attempts have been found in many other studies and across age groups. [50, 53, 56, 57] From a retrospective survey of over 4,800 suicides in England and Wales, 19 percent of the deceased had made contact with mental health services in the 24 hours prior to death and almost half within seven days. All of the deceased had contact with mental health services during the preceding 12 months. [59] Depending on the psychiatric disorder, suicide attempt rates range from 15 percent to 50 percent. [60-64] By far, mood disorders have the strongest associations. [39, 63, 65-72]

Suicide and suicide attempts adversely affect the health and welfare of all citizens. [73-75] The large health and economic burden stems from premature deaths, high medical costs, lost productivity, lost earnings and disability and frailty from co-occurring medical causes. For the United States, the best available estimates apply to the year 2000. In that year, there were approximately 324,000 medically treated self-inflicted injuries of which over 29,000 (9 percent) were suicide deaths.[76] These deaths came at a total lifetime cost of $30.4 billion, or 91 percent of the total cost of all self-inflicted injuries. The vast majority of these costs are attributed to lost productivity. In this same year, the economic burden of depression was estimated at $83.1 billion of which $5.4 billion were suicide-related mortality costs. [74] Hospital readmissions for suicide attempts and repetition in general are quite common. [23, 24, 77] Fewer than 15 percent of individuals making suicide attempts account for over 50 percent of the medical expenses ascribed to all suicide attempts, according to one study. [78]

Some important conclusions come from these many investigations: First, individuals making suicide attempts are at considerable risk for repeat attempts and eventual suicide death. Second, this risk may last many, many years. Third, suicide attempts produce significant morbidity and multiply associated costs. Fourth, being discharged from an emergency department or a psychiatry inpatient unit after being treated for suicidal behaviors should link patients with certain and effective treatments.

Another conclusion has paramount implications for public policy: The lethal and powerful relationships between suicide and suicide attempts prescribe one essential means for effective suicide prevention. Targeting high risk individuals that attempt suicide and providing them with anti-suicide therapeutics is a suicide prevention strategy that has great potential for saving large numbers of lives. Access to care and clinical interventions are critical elements for the prevention of suicide. [79] The effectiveness of this strategy crucially depends on motivating patients discharged from emergency departments and psychiatry inpatient units to follow up with the recommended treatment plan. In turn, this motivation depends on fundamentally sound continuity of care, coordination of care and high-quality clinical practices and procedures. This report explores the underpinnings and benefits of this overall approach to suicide prevention. In so doing, this report will summarize the relevant evidence base, make recommendations for clinical practice and for new directions in public policy based on the extant research, identify the most critical gaps in knowledge, and suggest direction for new research to fill those gaps. The intended primary audience for this report is policymakers who govern systems of care and research programs.

About the subsequent text: All sections have an ending synopsis called "*Section-at-a-Glance*." Similarly, "*Section Commentary*" is used in this report's Part Eight that reviews specific suicide prevention programs in the United States and other countries. *"Section-related Recommendations"* are found at the end of each section as well. These recommendations tend to pertain most to the subject matter of that section. All recommendations are mentioned in the Summary found at the beginning of this report. Many of these recommendations are deliberately broad and intended to lead an agenda for discussions regarding bringing about meaningful changes and improvements. Necessarily, these discussions will identify and implement the best means for realizing outcomes.

Definitions: The Language of Suicide

Serious communication and scientific inquiry about suicide and suicide prevention is hindered by the absence of universally accepted definitions of the associated behaviors. The terminology is highly variable and often imprecise. Comparisons across suicide research studies are compromised because separate studies use different definitions for the key variables. [80-82] For instance, the World Health Organization (WHO) examined country-by-country suicide rates to determine if revisions over time in the International Classification of Diseases (ICD) altered reported suicide rates. The WHO study demonstrated enough variation to propose that changes in ICD definitions should be taken into account in research based on the WHO-issued mortality statistics. [83] In the United States, differing classification systems affect the quality and comparability of statistics made available by the National Violent Death Reporting System and the Toxic Exposure Surveillance System, for example. [84, 85] To provide a foundation for the reader to proceed armed with knowledge about what is meant by the descriptive terminology used in this report, two sets of alternative definitions are offered.

The non-italic definitions below come verbatim from the Institute of Medicine's (IOM) 2002 report *Reducing Suicide: A National Imperative*. [86] The IOM experts arrived at these definitions after carefully considering published reviews of the nomenclature of suicide. The Centers for Disease Control and Prevention is in the process of developing *Suicide Surveillance: Uniform Definitions and Recommended Data Elements* that is expected to be available soon. [87] The *italic definitions* are preliminary. [88] Severity measures attached to uniform suicide behavioral terminology would better permit cross-comparison research. [89]

- Suicide: Fatal, self-inflicted destructive act with explicit or inferred intent to die.
- *Suicide: Death caused by self-inflicted injurious behavior with any intent to die as a result of that behavior.* [a]
- Suicide attempt: A non-fatal, self-inflicted destructive act with explicit or inferred intent to die.
- *Suicide attempt: A nonfatal, self-inflicted, potentially injurious behavior with any intent to die as a result of that behavior. A suicide attempt may or may not result in injury.* [a]
- *Suicidal act: A self-inflicted, potentially injurious behavior with any intent to die as a result of the behavior. A suicidal act may or may not result in death (suicide).*

[a] *Note: The term "suicide" may be used interchangeably with the terms "completed suicide" or "death by suicide."*

- Suicidal ideation: Thoughts of harming or killing oneself.
- *Suicidal ideation: Any thoughts, images, beliefs, voices or other cognitions reported by the individual about intentionally ending his or her own life.*
- High-risk groups: Those that are known to have a higher than average suicide rate.

"Anti-suicide therapeutic" is a term introduced in this report. An anti-suicide therapeutic is any intervention that may be effective in reducing the frequency of significant suicide behaviors such as suicide ideations, suicide attempts, suicide acts, and suicide deaths. *"Anti-suicide" has implications similar to "anti-depressant"; there are no assurances of efficacy for individual patients and harmful effects are possible.* Anti-suicide therapeutics falls under the umbrella of "suicide prevention" most certainly, but the term "anti-suicide therapeutics" is designed to describe a subset of tools and skills that are used by individual clinicians in such clinical settings as emergency departments and psychiatry inpatient facilities.

Section-at-a-Glance:

Suicide prevention, clinical care, and related research will be enhanced greatly once a common language is adopted uniformly. Such adoption will permit meaningful comparisons across community and research studies of all kinds. Severity measures attached to key behaviors will enrich research studies. A common language that describes suicide will permit clarity of communication and understanding among caregivers and researchers.

Section-related Recommendations:

- **Hasten the development, adoption, and dissemination of a common categorical, criteria-based, classification system for suicide behaviors.**
- **Develop severity measures that are linked to more precisely defined subcategories of suicide behaviors.**

Suicide Epidemiology

In 2007, more than 34,000 suicide deaths occurred in the United States and nearly one million suicide deaths occurred worldwide. [90, 91] In the United States, this is equivalent to 89 suicides per day or 1 suicide every 16 minutes. Of all individuals that die by suicide, approximately one-third will test positive for alcohol. [92] There are approximately 3.8 male deaths by suicide for each female death by suicide. [91] In the United States, suicide is the 11th leading cause of death for all ages and the 2nd leading cause of death among 25–34 year olds. [91]

In America in 2006, an estimated 832,500 suicide attempts occurred. [93] Among young adults, ages 15 to 24 years old, there is 1 suicide for every 100–200 attempts. [86] Among adults ages 65 years and older, there is 1 suicide for every 4 attempts. [86] Approximately 3 females attempt suicide for every male that attempts suicide. [86] The relationship between suicide attempts and suicide deaths

is not well understood, and it appears to be heavily influenced by the immediate availability of lethal methods. [94, 95] Most commonly, patients attempting and/or contemplating suicide are treated in emergency departments and psychiatric inpatient units. As many as 1 in 10 suicides are by people seen in the ED within two months of dying. [10, 96, 97] Many were never assessed for suicide risk. In 2005 in the United States, 372,722 people were treated in the emergency rooms for self-inflicted injuries; about 48 percent were treated and released. [91, 98] Also, in 2005, 154,598 were hospitalized for self-inflicted injuries.

There is considerable debate about the differential attributes of the population that dies from suicide and the population that attempts suicide. The resolution of this controversy is hampered because studies have used descriptive methods and dissimilar definitions for suicide attempts. [94, 95] When the suicide attempts are medically serious (e.g., admission to an intensive care unit, requiring surgery under general anesthesia, needing extensive, specialized medical care, and so forth) these two populations overlap considerably. In other words, a very similar pattern of risk factors is associated with medically serious suicide attempts and suicide deaths. [34] Because a history of one or more medically serious suicide attempts is an essential attribute of both groups, reducing such suicide attempts is an essential means of suicide prevention.

Such terms as "suicide attempt" and "suicidal ideation" offer an umbrella under which reside various subgroups. Subcategorization by psychiatric diagnosis is used at present. Epidemiological and intervention research will benefit from exploring other subclassification schemes. A first step is to develop severity measures that apply to suicide attempts. [89] In addition to suicide-attempt severity and psychiatric diagnosis, other variables such as aggression or treatment sensitivity should be considered.

Section-at-a-Glance:

These suicide statistics are staggering, and there is a clear relationship between suicide attempts, especially medically serious suicide attempts, and suicide deaths. People making suicide attempts are at high risk for suicide, and large numbers of attempters are treated in emergency rooms and psychiatry inpatient units. A major portion of suicide prevention activities need to be focused on these two clinical settings where follow-up care and continuity of care are key suicide prevention strategies. Subcategorizing suicide attempt behaviors may help better predict suicide death.

Section-related Recommendation:

- **Fund epidemiologic studies about suicide ideation and suicide attempts and investigations about what prognostic factors change suicide attempts to suicide deaths and that explore the complexities of these relationships.**

Part Two

The Principles of Continuity of Care and Transforming How Mental Health Care Is Delivered in America

When the principles of continuity of care are properly applied, a high proportion of successful outcomes are expected. A useful definition of care coordination is "the deliberate integration of patient care activities between two or more participants involved in a patient's care to facilitate the delivery of health care services." [99] Whenever care is fragmented, care coordination is essential. Continuity of care is maintained when one care provider links to another care provider and, in the process, provides all the essential clinical information required to make the transition smooth and uninterrupted. [100] When continuity of care is flawless, coordination of care is almost unnecessary.

The value of a continuity-of-care infrastructure for achieving improved outcomes has been demonstrated persuasively by regional trauma systems [101] and by cardiac arrest-defibrillation programs aimed at community populations. [102-104] Community-based, systematized response capabilities to acute cardiac events serve as a model for suicide-attempt management and suicide prevention. There are many significant parallels between models for community cardiac care and control and suicide prevention and control. [105]

Saving lives depends on how well "the chain of survival" functions. This "chain" has a sequence, beginning with prompt access to care and ending with the provision of definitive care, referral, prompt follow-up, and rehabilitation. [105-107] Weak or missing links in the sequence result in suboptimal outcomes.

Contrast this chain of survival with the present mental health care provision system that is pluralistic, with competing, disconnected, and autonomous subsystems and various types of singularly focused mental health professionals. Large numbers of these professionals are in small, independent practices. Despite the high rate of co-occurrence, health care services for mental health and substance use are separated from each other, and both are also separated from general medicine. [108] Moreover, patients at risk for suicide are often caught at the interface between mental and general health care systems. [86] The complexity of coordinating and continuing mental health care is an enormous challenge confounded by existing fragmentations and gaps in services and among service providers.

The obvious advantages of a more integrated system for suicide prevention have been well considered, [105] but the fragmentation and gaps in care have proved insurmountable so far. For this reason,

The President's New Freedom Commission on Mental Health recommends "fundamentally transforming how mental health care is delivered in America." A transformed system will be seamless and convenient and built around consumers' needs. Moreover, "the burden of coordinating care will rest on the system, not on families or consumers who are already struggling because of serious [mental] illness." [109]

Care coordination and care continuity are especially critical the moment that "the chain of survival" links to the emergency department (ED). Regardless of where in medicine the health problem occurs, the ED is the only clinic that accepts all patients, making it central to the organizational structure of mental health and general medical care. Since it is, albeit, a therapeutic way station, the ED must specialize in out-referrals and care maintenance. Out-referrals with high-quality outcomes are achievable more if care is coordinated and continuity is maintained.

Section-at-a-Glance:

The President's New Freedom Commission on Mental Health recommends "fundamentally transforming how mental health care is delivered in America." The principles of continuity of care offer a solid foundation for any transformed system. When the principles of continuity of care are applied properly, a high proportion of successful outcomes are expected.

Section-related Recommendation:

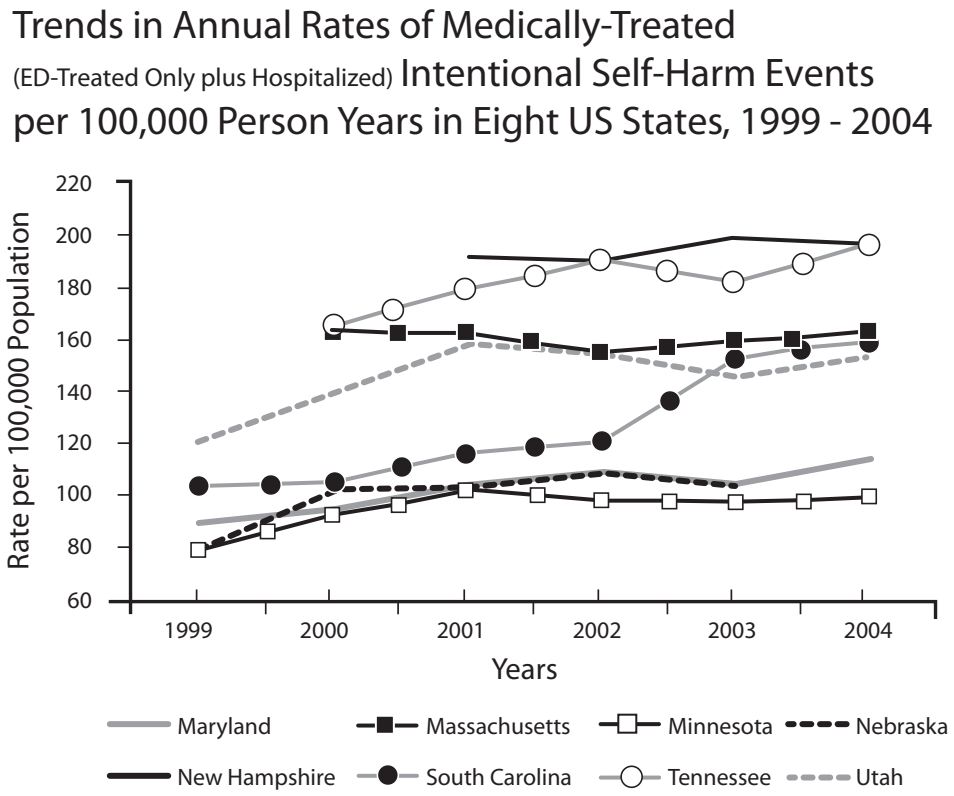
- **Make continuity of care principles a major part of the foundation anchoring a transformed system for providing mental health care in America.**

The National Strategy for Suicide Prevention and Continuity of Care

Ever increasing numbers of individuals with mental health and/or substance use disorders visit America's emergency departments. In 2005 there were an estimated 115.5 million visits to hospital EDs. Approximately one-fifth of the U.S. population made one or more ED visits within the prior 12 months. [98] Mental-health-related visits are estimated at over 5.3 million per year, on average, between 1992 and 2001. [110] During the period from 1992–2001, mental-health-related visits saw a 27.5 percent increase. In 2001, there were 23.6 visits per 1,000 ED patients compared to 17.1 in 1992. [111] The actual number of mental-health-related visits may be considerably higher than any current estimate, since 19.3 million visits per year are classified as "symptoms, signs and ill-defined conditions," [98] and unexplained physical and general medical symptoms are commingled more often than not with anxiety and depressive disorders. [70, 112] Since the vast majority of suicide victims suffer from a mental disorder, [1, 51, 113] a key suicide prevention strategy is improved detection of suicide risk in the ED.

Suicide attempts and self-injury make up an increasing portion of total ED visits. Over the 10 years between 1992 and 2001, there was a 47 percent increase in visits for self-harm behaviors; the incidence is 0.8 visits per 1,000 U.S. population at the start, and 1.5 per 1,000 at the end of this period. [111] A 19.1 percent average increase in intentional self-harm episodes was found by examining trend data between 1999 and 2004 for eight states (Figure 1). [114] For this same time period, hospital discharge records from these states indicated a 23.5 percent increase in hospitalizations for self-harm. [114] Geographic variation exists across states (Figure 1).

Figure 1:



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As many as 1 in 10 suicides are by people seen in an ED within two months of dying. [10, 96, 97] As many as 39 percent of people who later die by suicide will have attended an emergency department in the year before their death, 15 percent because of non-fatal, self-harm behaviors. [10] During the first year after ED discharge, the risk of suicide for at-risk patients can be as high as 66 times that of the general population. [3] When much longer intervals are studied, the suicide rate is more than three times national rates. [19, 28, 77, 115, 116]

The ED, for all these many reasons, is so fundamental to suicide prevention that a goal of *The National Strategy for Suicide Prevention* is to "increase the proportion of patients treated for self-destructive behavior in hospital emergency departments that pursue the proposed mental health follow-up plan." [117] Essential support for this goal comes from the National Association of State Mental Health Program Directors. Quite understandably, this organization expands the target

population by including in it patients discharged from psychiatric inpatient units. [118] For children, adolescents and adults, admission to a psychiatry inpatient unit is one of the strongest predictors of subsequent suicide death. [11, 68, 119-122] Thus, it is crucial that discharged patients receive prompt follow-up care. Since persons at high risk for suicide are hospitalized often and this risk cannot be eliminated altogether prior to discharge, the suicide risk at the time of discharge may be considerable. [123] Indeed, the immediate period after discharge is when suicide death is most likely to occur, [12, 13, 124] and discharged patients remain at high risk for at least the next year. [27, 125, 126] Therefore, in order to accomplish this goal of *The National Strategy for Suicide Prevention*, coordination and continuity features must be part of discharge and follow-up services plans.

Once the individual still at risk for suicide arrives at the after-care treatment program, it is essential that these programs be grounded by guidelines for the appropriate assessment, management, and treatment of individuals exhibiting suicidal behaviors. As elaborated elsewhere in this text, suicide reattempts and suicide deaths are a common risk in the immediate period subsequent to discharge from emergency and inpatient facilities. In recognition of this critical problem, an objective of *The National Strategy for Suicide Prevention* is to "develop guidelines for the aftercare treatment programs for individuals exhibiting suicidal behavior." Part Seven of this report will consider guidelines in more depth.

Section-at-a-Glance:

A goal of *The National Strategy for Suicide Prevention* is to "increase the proportion of patients treated for self-destructive behavior in hospital emergency departments that pursue the proposed mental health follow-up plan." The National Association of State Mental Health Program Directors expands the target population by including in it patients discharged from psychiatric inpatient units. Over the 10 years between 1992 and 2001, there was an estimated 47 percent increase in emergency department visits for self-harm behaviors in America. Between 1999 and 2004, emergency departments experienced an estimated 19.1 percent average increase in intentional self-harm episodes in eight states. For this same time period, hospital discharge records from these states indicated a 23.5 percent increase in hospitalizations for self-harm. Following the recommended discharge plan depends on its coordination and continuity.

Section-related Recommendations:

- **Improve surveillance of suicide attempts, suicide deaths, and other to-be-defined suicide behaviors in relationship to adherence or non-adherence with the recommended treatment plan.**
- **Use the improved surveillance measures to benchmark the achievements of health care services systems and of the *National Strategy for Suicide Prevention*.**

Part Three

The Emergency Department and Impediments to Suicide Prevention

Attitudes, Discrimination, Frequent Visits and Suicide

There is no question that individuals with mental disorders experience various forms of discrimination, and discrimination has far-reaching consequences. [127] Clinical judgments and professional behaviors are to a large extent shaped by attitudes. [128] Emergency department (ED) clinicians carry no special immunity to disparagement of persons with mental illness. The combination of mental illness and drug use disorders aggravates these attitudes and values.

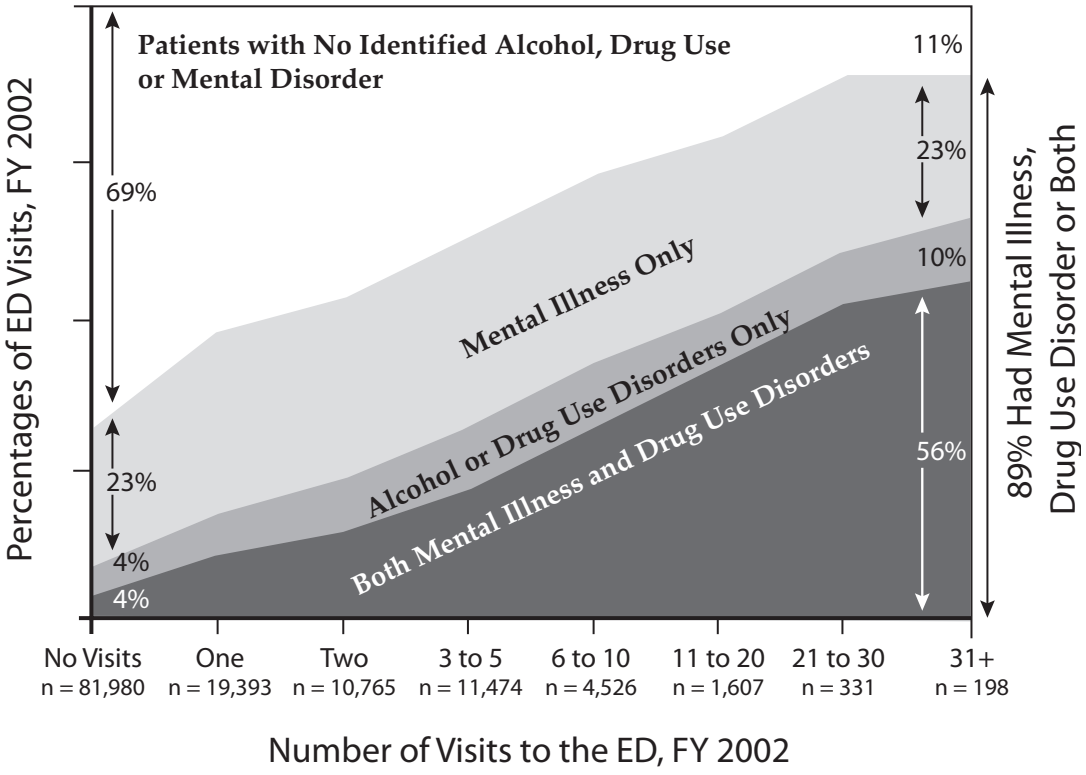
One motivation for these attitudes may be frequency of return visits. [129] Patients with mental illness, psychological distress and/or alcohol and substance use disorders account for a high proportion of frequent ED attendees. In this regard, Washington State investigated the frequency of ED visits for persons with Medicaid. For EDs across the country, one-quarter of all ED visits are attributed to patients with Medicaid or State Children's Health Insurance Program. [130] This 25 percent figure is second only to 40 percent for patients with private insurance; however, patients with Medicaid or State Children's Health Insurance Program as their source of payment have substantially higher rates of return visits. [98]

The Washington study found that ED visit frequency co-varied with mental illness and substance use disorders (Figure 2). For example, in the population of Medicaid patients that visited the ED 31 or more times within the span of 12 months, 56 percent had co-occurring mental illness and substance use disorder; 23 percent had only mental illness; and 10 percent had only substance use disorder. In this population, 9 out of 10 patients that visited the ED 31 or more times had mental illness, substance use disorder or both. [131] For the most part, individuals with high revisit rates have both mental illness and drug use disorders. Both together and apart, all of these patients tend to be seen as a nuisance and tend to worsen already compromised professional attitudes.

Danger of physical harm is associated with EDs. Some portion of discrimination may be rooted in the genuine fears of the ED doctors and other clinicians. Police bring in violent patients routinely, and many big-city EDs have metal detectors to detect firearms and knives and other weapons carried by walk-in patients. Blurred lines and boundaries separate medical care, criminal responsibility and violent patients with mental health problems. [132, 133] Psychiatry patients tend to be lumped into this basket of fears. Due to increasing patient volumes that never seem to let up, there is a constant sense of impending danger. In many ways these dangerous working conditions are among the forces that are bringing hospital-based EDs to the "breaking point." [134]

Figure 2:

More Frequent Users of the ED Tend to Have Mental Illness, Alcohol and/or Drug Use Diagnoses



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Mancuso D, Nordland D, Felver B. Washington State Dept. of Social Services and Health Services. 2004.

More specifically, patients with most forms of suicidal behaviors are discriminated against as well. In many countries there is a very high prevalence among ED clinicians with negative attitudes toward suicide and attempted suicide. [135-138] Compared to professional personnel in other hospital departments, ED staff may be the most negative, and many of them may disassociate mental illness from "real" medicine. [139, 140] These unfortunate features of emergency care have been associated with non-assessment, elopement, and negative outcomes that include serious suicide attempts and suicide deaths. [137, 141-144] The often lethal combination of alcohol and some form of deliberate self-harm predicts self-discharge and non-assessment for all too many patients. Patients with deliberate self-injury are a particularly vulnerable group. Compared to patients that poison themselves, the self-injured are less likely to get follow-up care. [143] One common attitudinal theme mentioned is: "Suicide is a choice." Another frequent mention is: "Suicide attempts are willful, deliberate, selfish and attention seeking." It is no surprise, then, that following a suicide attempt, patients very often feel invalidated, isolated and ignored by health professionals without special training in mental health. [144, 145]

Section-at-a-Glance:

Before patients with mental illness, suicide ideation or attempts, and/or substance use disorders ever set foot in an ED, all too often some clinical staff may be less than enthused about their eventual arrival; some are most likely hostile. This environment does not lend itself to the identification and treatment of these problems or to the prevention of suicide. Surely, improvements in any of these conditions are fertile territory for the growth of suicide prevention activities.

Section-related Recommendation:

- **Promote pilot studies of interventions designed to reduce discrimination found in EDs in association with suicide risk and mental illness.** *There are numerous good hypotheses (e.g., skill deficits, unrealistic fears, inadequate collaboration with mental health professionals) that could be tested immediately.*

Detection of Concealed Suicide Risk in the Emergency Department

Over the past many years there have been minimal, if any, improvements in clinical capabilities to assess suicide risk. [146] Detection is complicated because it is clinically difficult to sort at-risk patient groups. Some patients will only attempt suicide. Other patients will make many attempts and will eventually die from suicide. Many patients minimize risk and deny intent in the immediate period prior to death. [1, 42, 113, 135, 147-150] Therefore, the mere denial of suicide ideation, intent, or plans in patients at risk for suicide cannot be accepted without doubt. The combination of high risk and denial of that risk has to be evaluated with a skilled, comprehensive suicide risk assessment. [68, 147, 148, 151, 152] *These realities give one conclusion prominence: Every patient making a suicide attempt and/or having suicidal ideation needs to be managed and treated as if a next suicide attempt will result in death.*

In this context, suicide assessment now takes into account early or acute warning signs and symptoms that bring a closer reality to each patient's overall suicide risk profile. Information about acute warning signs is only now being disseminated. [153-156] Since serious suicide attempts and suicide deaths are attributed frequently to patients that have contracted for safety, a patient's contract for safety is best used as a tool to assess motivation and to begin a discussion of suicide risk. [157-159] The "contract for safety" is best replaced by safety planning for high-at-risk patients regardless of their denial of ideation or imminent intent. [160] For all these reasons, a comprehensive suicide assessment that uses a variety of techniques to detect concealed suicide intent is recommended. [157]

Often, the patient that denies imminent risk has mentioned suicide ideation to family or friends. However, the embrace of suicide is often ambivalent and, once in the ED, these patients may deny risk. Denial of intent or past attempts may be an effort to avoid involuntary hospitalization or the loss of personal autonomy or the desire to die without interference. [140, 161-168] A nearly lethal past attempt is a red flag. [169] For all these reasons, gathering corroborating information from others is

a necessary ingredient for making wise clinical decisions. Historical information is vital as well. Simply asking about the presence or absence of suicidal ideation and intent is inadequate. [170]

Patients' capacity to minimize risk and suicide intent motivates clinicians to contact knowledgeable others in an effort to better characterize the patients' overall suicide-risk profile. Clinicians seeking to gather corroborating information confront a maze of federal, state, and regulatory issues about privacy. [171] Recipient rights concerns add additional complications. [172] Generally, health care institutions cooperate, but there may be delays waiting for authorization from institutional leadership. Individual practitioners make their own decisions.

In the face of these impediments and challenges, ED patients known to be at risk for suicide may get no assessment at all. Baraff, Janowicz, and Asarnow surveyed 346 ED directors and obtained a 64.5 percent response rate. [173] Although the respondents mentioned that usual practice was to have a mental health professional evaluate patients with suicidal ideation, 23 percent responded that they occasionally send patients with suicidal ideation home without such an evaluation, and 8.5 percent responded that this practice occurred more than 10 percent of the time.

Unmistakably, suicide assessment involves a complex and multifaceted clinical skills set. This complexity and all of the difficulties and clinical challenges associated with these, often lengthy, assessments have promoted the creation of psychiatry emergency facilities that are adjacent to or within general medical emergency departments. Emergency psychiatry is a subspecialty that is coming of age. Both emergency medicine and emergency psychiatry are growing fast, and the best means of collaboration are being developed only now. [174] The sheer and ever increasing volumes of ED patients with mental health problems demands partnering with and the expanded presence of mental health professionals in EDs. [140, 164, 171, 174-176]

Section-at-a-Glance:

From this short review, it would be reasonable to conclude that unless patients admit to suicide risk easily or enter the ED after an obvious suicide attempt, it is unlikely that ED personnel without specialized tools or specialized training will detect acute suicide risk. Regardless of the level of training and skill, the techniques and strategies that go into a comprehensive suicide risk assessment are both time consuming and exacting. It is unknown if general ED physicians have either the time or the inclination for this type of work. Psychiatry emergency programs and the increasing presence of mental health professionals in EDs are responses to these growing realities. Once more, continuity of care is critical because any patient making a suicide attempt and/or having suicidal ideation needs to be treated and managed as if the next suicide attempt will be lethal.

Section-related Recommendations:

- **Manage and treat each patient making a suicide attempt and/or having suicidal ideation as if the next suicide attempt will result in suicide death.** *Having this recommendation as a goal will motivate improved continuity-of-care policies and procedures in health care systems.*

- **Place in emergency departments, increased numbers of clinical specialists trained in suicide risk assessment and management.** *The techniques and skills that are used during a comprehensive suicide risk assessment are both time consuming and exacting. Special training is required.*
- **Streamline the gathering of corroborating information for bona fide emergencies.** *Contacting knowledgeable others are one means clinicians have of getting help for characterizing a patient's suicide risk profile. Clinicians seeking to gather corroborating information regarding potentially suicidal individuals confront an assortment of federal, state, and regulatory issues about privacy. Recipient rights concerns add additional complications.*
- **Support fellowship training in emergency psychiatry.** *Emergency psychiatry requires a specialized blend of psychiatric and general medical knowledge and skills.*
- **Fund studies that pertain to "contracting for safety" and "safety planning."** *Despite their extensive use, these clinical tools have been understudied and have not been subjected to randomized methods. At some point, clinicians have to accept the word of the patient, but little is known about the procedures that make this acceptance reasonable or unreasonable.*
- **Reimburse extended suicide assessment procedures.** *If a comprehensive suicide risk assessment cannot be completed in the emergency department, permit and encourage reimbursement for a 24 to 48-hour hospitalization during which time such assessments can be accomplished.*

Should Emergency Departments Screen for Suicide Risk Routinely?

ED screening for suicide risk is non-standard and is the subject of feasibility studies. Since as many as 69 percent of individuals that kill themselves visit the ED for reasons unrelated to suicide, the ED offers a definite opportunity for suicide prevention. [10]

Out of a cross-sectional sample of ED patients waiting for general medical care unrelated to suicide behaviors, how many of them would be at risk for suicide? Claassen and Larkin investigated this question in a study at Parkland Memorial Hospital in Dallas, Texas, where this hospital averages 12,000 ED visits each month. [177] These investigators administered questionnaires with provocative statements such as "Sometimes I think I would be better off dead" or "I am planning to kill myself." Their questionnaire-instrument (that included items for making psychiatric diagnoses) was administered to 1,590 patients who volunteered to be screened using a computerized format. "Passive suicidal ideation (e.g., "I would be better off dead.") was present in 12 percent of the sample, 8 percent had thoughts of killing themselves, and 2 percent reported plans to do exactly that. Almost 100 percent of the sample admitting suicidal behaviors acknowledged symptoms of mood, anxiety, and/or substance use disorders as well. Four patients made a suicide attempt within 45 days of the visit; all survived. For the vast bulk of patients screened, suicide behaviors went undetected by the ED physicians. Only 12 of 31 patients that reported they were planning on

killing themselves were identified as having a mental health problem of any type. Considering this is a vulnerable sample, it is not unexpected that these percentages are somewhat higher than found in general population samples. [178, 179]

Undiscovered suicide ideation is present in children and adolescents entering the ED for reasons that have nothing to do with mental health. Cheryl King leads a group studying this population, and preliminary results were recently presented. About 15 percent of all adolescents (ages 13–17 years) that presented to the University of Michigan Hospital's ED and agreed to screening had some form of suicide-relevant behaviors; of these 18 percent presented for a general medical problem.[180] Youth screening need not be cumbersome. Wintersteen, Diamond, and Fien propose a two-question algorithm for use in pediatric emergency and acute care settings. Their proposed algorithm quarries imminent risk for a suicide attempt in youth and the results need to be followed up by hospital or community-based support systems for further assessment and treatment. [156] Multiple suicide attempts in youth is likely a marker of severe psychopathology and psychosocial problems making it mandatory that repeat attempters are not discharged without adequate evaluation, discharge planning and follow-up. [181]

In this time-limited setting, would it be reasonable to screen every ED patient for suicide risk? There is no question that undiscovered and undetected suicide behaviors are present in general emergency department populations without specific mental health complaints. This approach has been strongly recommended for child and adolescent patients. [156, 182] For this purpose, short assessment instruments applicable to either children or adults have been used, developed and/or piloted in ED settings. [183-185]

Some insight regarding more generalized implementation may come from successful screening efforts for other conditions. Screening feasibility studies have been done in EDs for firearms, intimate partner violence, depression, and mental illness. [182, 186-191] Alcohol screening is the most developed. Computer-based screening has been used to identify patients that have or are at risk for having alcohol problems, and acceptability among ED personnel is high. [192-195] When done well and simply implemented, the screening activity is not burdensome, and the subsequent results reduce nursing staffs' negative attitudes about alcoholism. [196] Patient acceptance is high as well.[197-199] Of course, these findings were obtained during the research period, and they may not apply, even to the ED studied, once the research is over and all research personnel are gone.

Unfortunately and in contrast to these positive results, there is considerable pessimism about screening for either mental health problems or suicide risk. To begin with, the U.S. Preventive Services Task Force found limited evidence favoring screening for suicide risk in primary care settings. [194, 200-202] The attribution for this conclusion rests on the inherent complexity of a suicide risk assessment, minimal evidence that screening results would be linked to follow-up, and the paucity of well-designed research studies. Surely these conclusions apply to settings, such as the ED, that have higher patient volumes and sicker patients. What is more, it is unclear if "swamped" ED physicians will even use screening results. A comprehensive review of 16 studies concerning screening and case-finding instruments for depression concluded that these instruments have little or no impact on the detection or management of depression by primary care clinicians. [186] When

screening results pertain to concealed psychiatric conditions, a review of medical records done subsequent to the patient's discharge found that ED physicians infrequently used the diagnostic information. [199] Moreover, there is no evidence so far that any specific ED screening procedures lessen suicide risk or forestall suicide.

Some encouragement comes from a study done by Gold and Baraff. Their investigation occurred in the Emergency Medicine Center, which is part of the UCLA Health System. ED physicians in this health system were provided results from a self-administered, psychiatric screening instrument. This led to twice as many psychiatric diagnoses than were made prior to this sort of information being available and to a six-fold increase in out-referrals for psychosocial and/or psychiatric problems. However, there were no measurable changes in medical management. [203] Again, the level of commitment to screening may change dramatically when research personnel leave.

Another complication is the many barriers to access. The considerable difficulties obtaining follow-up care for the mentally ill may be a major disincentive inhibiting ED physicians and other clinical personnel from screening patients for psychiatric illness in general. This may be one reason that emergency physicians are reluctant to make non-emergency psychiatric diagnoses even when handed screening results indicating a psychiatric condition is present. [199] There is a well-known and challenging landscape of access barriers to follow-up care for ED patients with serious psychiatric conditions. In comparison to outpatient referrals for serious general medical conditions, similar attempts for making mental health referrals are far more likely to reach an answering machine, to receive no information about preferred call-back times, to speak with reception personnel without clinical training, to be given no options for weekend or evening appointments, to obtain an appointment over two weeks away, and/or to be referred elsewhere for insurance reasons. [204, 205] If the decision is made to hospitalize, long wait times for transfer are common. For example, a mean wait time to patient transfer for inpatient psychiatric care was approximately seven hours according to a survey of California EDs done in 2004. [173]

Confronted with these systemic and often overwhelming impediments, ED clinical personnel may avoid putting extra effort into making a psychiatric diagnosis because timely follow-up care is unavailable so routinely and predictably. [205, 206] Barriers to mental health referrals are by no means unique to the emergency department. In a survey of 6,600 non-federal primary care physicians, about 66 percent reported that they could not get outpatient mental health services for patients—a rate that was at least twice as high as that for other services. [207]

Barriers to the practical use of screening instruments impede progress as well. Suicide risk screening questionnaires and instruments are many, but nearly all of them are proprietary [208] and there is most often an expense with each administration. While the expense for each administration may be in the range of only two dollars, this is enough money to discourage routine use, experimentation, and innovation for high-volume services. Nevertheless, given the prevalence of suicide behaviors, ED screening for suicide risk must have a high priority. The ED is the one clinic that is available to all and is accessed by so many. [134] Primary care facilities are another location for such screening to take place. [209-213] Eventually, what is needed is a generalized approach to health screening in the ED. Suicide behaviors may be detected along with problems related to alcohol,

intimate partner abuse and so forth. Such screening needs to be as routine as monitoring blood pressure and temperature. In sum, there needs to be a readily available system of care to accept patients screening positive for suicide risk.

Section-at-a-Glance:

There is little question that there is a long way to go before screening ED patients for suicide risk is routine practice. The practice is highly acceptable to patients and detects otherwise hidden suicide risk, but, so far, the research has been confined to demonstration and feasibility projects that uncover marked inconsistencies in the ways physicians use the information made available. More suicide screening instruments need to be in the public domain. Eventually, an overall approach to risk screening is needed so that screening for suicide risk and other health problems is as routine as monitoring blood pressure and temperature.

Section-related Recommendations:

- **Include screening for suicide risk with a more general approach to health screening in the emergency department and other settings.** *Have the goal of making such screening as routine as monitoring blood pressure and temperature. Screening measures that track severity may be used to monitor the clinical course of suicide behaviors.*
- **Fund the development of suicide screening and assessment tools that will be non-proprietary and widely available.**

Education and Training for Emergency Department Clinicians

On the topic of suicide prevention, nowhere is high-quality education and training more important. Physician education in depression recognition and treatment reduces suicide rates. [214, 215] Consequently, there is every reason to believe that improved education and training pertaining to the management of suicide attempts and suicide ideation will have similar results. Efforts need to be redoubled to teach all categories of health professionals about suicide assessment, management and treatment techniques and related interventions and therapeutics. [117] Stunningly, ED physicians, including psychiatrists, and health and mental health professionals in general, are under-trained in suicide prevention work. Inadequate education and training is one of the formidable obstacles to suicide prevention. Past recommendations made at the national level calling for substantially bettering the education and training of the mental health workforce have been largely ignored. [108] The mental health workforce is composed of practitioners from several disciplines all of whom do assessments, make diagnoses, and provide management and treatment services. Because there are no shared curriculums or mechanisms to ensure quality, there continue to be sizable disparities between known best practices, what is taught, and the actual mental health services provided. [108]

Given that there are no uniform standards and no outcome measures, it is unknown if education programs for psychiatrists or psychologists are adequate for the challenges of working with suicidal patients. Published in 1998, two studies that investigated this area by questionnaires to psychiatry residency and clinical psychology training program directors yielded a 56 percent response rate. [216, 217] Regarding psychiatry, the greatest number of programs offered suicide-related training within the contexts of therapy supervision, seminars on more general topics, and case conferences, all of which are not specifically devoted to the topic of suicide. [216] Considering that psychiatrists are expected to be experts in suicide care, this core topic appears to remain a relatively neglected area for psychiatric residency education, according to a literature review published in 2007. [218] There is no requirement by the Residency Review Committee that suicide education be a core component of psychiatric residency education. [218]

The 1998 survey of psychology internship programs produced similar results: considerable variability across programs and too few educational activities specific to suicide. [217] An earlier study by Bongar and Harmatz got an 80 percent response rate to their questionnaire directed to clinical psychology training programs. They found that only 40 percent of graduate training programs in clinical psychology offered formal training in the study of suicide. [219] Social workers view their training as inadequate for the realities they confront with potentially suicidal patients. [220]

A recent Institute of Medicine (IOM) report, *Improving the Quality of Health Care for Mental and Substance Use Conditions,* documents the wide variations and problems in training all categories of mental health professionals. This IOM report describes the remarkable inadequacies of curricula, course design, and continuing education. [108]

Although "suicide risk" is identified by the American Board of Emergency Medicine as one of the fundamental or core patient conditions associated with emergency medicine, suicide risk assessment is not listed as one of the core procedures or skills integral to the practice of emergency medicine. [221] ED physicians rarely partake in the available suicide education and skill building opportunities, and there are few teaching programs pertaining to suicide risk designed specifically for them. ED physicians may not participate in lengthy workshops. Educating ED physicians about essential suicide assessment and care skills in tightly-run courses featuring practical case examples may best reach the intended audience.

Fortunately, there is an emerging national consensus about the suicide-relevant core competencies required for clinical work with suicide-prone patients. "Assessing and Managing Suicide Risk: Core Competencies for Mental Health Professionals" (AMSR), developed by the American Association of Suicidology (AAS) for the Suicide Prevention Resource Center (SPRC), with input from a task force of clinician researchers, is built around 24 defined, clinical core competencies. [222, 223] This one-day, face-to-face clinical training program is designed to increase knowledge of these competencies, to improve skills, and to change attitudes about and approaches to working with the patient at risk for suicide. "Recognizing and Responding to Suicide Risk: Essential Skills for Clinicians" (RRSR), was designed also by a task force of clinical researchers for the AAS. RRSR teaches the 24 competencies during a two-day, face-to-face workshop that offers opportunities for behavioral rehearsal, extensive case application and exercises of skills and strategies for working with the patient at risk for suicide. [222, 223]

There is no evidence that psychiatrists and other mental health professionals are best equipped to work with suicidal individuals. There may, then, be an opportunity for other professional groups to demonstrate their capabilities and to meet otherwise unfilled needs. New categories of health personnel may be needed. For example, a nurse whose training includes suicide assessment is a possible option, especially for rural America and other underserved regions. [224]

Section-at-a-Glance:

There are numerous shortcomings in the training of mental health and medical professionals for working with the many forms and disguises of suicide. The American Association of Suicidology and the Suicide Prevention Resource Center offer education and training regarding suicide risk assessment and management. For emergency department physicians, any suicide-relevant education is in competition with such other topics as disaster medicine, trauma, wound care, and resuscitation. For the foreseeable future, emergency room physicians, when confronted by patients at risk for suicide, will be best served by collaborations with mental health professionals and emergency psychiatry.

Section-related Recommendations:

- **Define a nationally recognized set of the minimum essential skills and core competencies necessary for suicide risk assessment and management.** *Assessing and Managing Suicide Risk: Core Competencies for Mental Health Professionals" (AMSR), developed by the American Association of Suicidology (AAS) for the Suicide Prevention Resource Center (SPRC) and AAS' "Recognizing and Responding to Suicide Risk: Essential Skills for Clinicians" (RRSR) each contain modules that teach these skill sets.*
- **Find the best means for most efficiently and effectively teaching and disseminating the nationally recognized set of minimum essential skills and competencies.**
- **Develop a nationally recognized system to certify that health professionals have mastered the minimum essential skills and competencies.** *One skill set to be mastered involves the initial approach to each suicidal patient and related best practices. The AMSR and the RRSR both teach and emphasize these required skills in conjunction with their overall education and training program.*

Suicide Risk-Reduction Therapies Provided in the Emergency Department

Suppose that an ED patient at risk for suicide is identified. What next? Obviously, there are the standard dispositions—either refer to outpatient and hope the patient follows up, or admit to a general medical or psychiatric bed. Prior to the high-risk patient's leaving the ED can any therapeutic work be done to lessen the suicide risk? Due to poor adherence and engagement with recommended outpatient follow-up and the natural fluctuations in self-perceived risk, the ED visit may be the only opportunity to intervene. For the many patients referred out, this short ED stay may, therefore, have to provide the only intervention the patient receives. Educating patients about their general medical condition is possible to do even with limited time and may improve out-

comes. [225] For some at-risk patients, an ED intervention strategy involving the patient and family may be the best hope for suicide prevention.

One model may be ED-based interventions for alcoholism. Brief screening for alcohol abuse and associated interventions done in primary care settings have met with considerable success. A recent editorial in *Alcohol and Alcoholism* declared: "In primary care, the data are in and the case is closed: screening and brief intervention reduces alcohol consumption." [226] Patients with problematic attributes associated with alcohol, substance abuse, and/or smoking often benefit from brief interventions done on an emergency basis. [227-230] This considerable enthusiasm aside, ED interventions to reduce alcohol consumption worked in some well-designed studies but not in others.[226, 231, 232] Differences are thought to be explained by variable intensity of alcohol consumption, bias from self-reports of alcohol use, age factors, length of the alcohol message, eagerness of the research personnel, and many related issues. [231, 232]

Taking the alcohol-intervention model one step further, Washington State decided to reduce the high number of return ED visits attributed to patients with substance abuse. (Please see Figure 2 on page 30.) Improved screening methods, strengthening linkages with drug rehabilitation programs, and getting patients into addiction treatment programs got spectacular results. Chemical dependency treatment significantly reduced emergency room costs by 35 percent and visits by 20 percent for patients covered under Medicaid. [131, 233]

In terms of working with patients leaving the ED, involving the patient's family and/or close friends is one simple means to help ensure follow-up appointments are kept. Patients in crisis are quite often inattentive to matters outwardly unrelated to the crisis and important treatment decisions and follow-up arrangements may be enhanced with the participation of understanding family and friends. Hand-outs and brochures can be tailored to families. Certainly for youth, family participation is key to continuity of care. [17, 210, 234-239] Parts Six and Seven provide a more comprehensive coverage of this topic.

Closer to suicide prevention, firearms are by far the most common lethal means used to take a life, and education about this risk and recommendations to remove firearms can be lifesaving. [187, 188, 240, 241] For example, Kruesi and others examined outcomes after providing parents with injury prevention education. Exposure to injury prevention education during the ED visit predicted a significant number of parents taking action to limit access to firearms. Overall, the most common action was to lock up rather than dispose of lethal means. [240]

A stand-alone psychiatric emergency program with close affiliations with a general medical emergency department may be appropriate for EDs that annually treat at least 3,000 or more patients that are registered with psychiatric chief complaints. [140, 161, 174] Because it might take considerable time to perform a comprehensive suicide risk assessment, psychiatric emergency department advocates recommend that 24 to 72-hour, short-stay "holding beds" or "observation units" be made a necessary part of psychiatric emergency space. [171]

Crisis management and related psychotherapy may be helpful if the ED is fortunate enough to have personnel trained to provide these services. However, these interventions are imprecise, and

there is no scientific evidence that any form of brief therapy does much if anything to prevent suicide or lower risk. [214] Forster's and King's 1994 review appropriately titled "Definitive Treatment of Patients with Serious Mental Disorders in an Emergency Service" identified nothing in the way of brief therapy that is relevant to suicide. [242] More recently, an American Psychiatric Association task force chaired by Michael Allen examined this problem and cautioned that "in most emergency services thorough assessment and treatment planning are deferred until the patient is seen by an outpatient attending [psychiatrist] or an outpatient provider, often days or weeks later." Alas, this task force that finished its work in 2002 identified no specific anti-suicide therapeutics that could be administered in the ED or in a specialized psychiatric emergency room. [140]

The National Suicide Prevention Lifeline, 1-800-273-TALK (8255), is one suicide prevention strategy that is tailored for emergency departments. The Lifeline is a 24-hour, toll-free suicide prevention service available to anyone in suicidal crisis. Callers are routed to the closest possible crisis center in the caller's area. With more than 140 crisis centers and related resources across the country, the Lifeline's mission is to provide immediate assistance to anyone seeking mental health services. Anyone with an interest in the welfare of another human being can call. The call is free and confidential. Simply giving out this number is a meaningful suicide prevention strategy that should be widely adopted.

Note: The subject of emergency psychopharmacology for suicide prevention is considered in Part Four, "Psychiatry Inpatient Units: Should More Be Expected?"

Section-at-a-Glance:

The ED is a mere beginning—a place of transitions—for patients with suicidal risks. As many as 1 in 10 suicides are by people seen in an ED within two months of dying. Many were never assessed for suicide risk. For certain, education regarding suicide, recommendations about firearms, crisis stabilization and management, and starting medications when appropriate are mandatory interventions that may be lifesaving. Consumer-patients want professionalism, partnership, and a patient-centered humanistic approach. [234, 243, 244] Personal attentiveness and engagement have to be preserved regardless of the hectic pace. Once these common necessities are accomplished, securing follow-up and adherence to the follow-up plan will be easier and will continue to be the mainstays of discharge planning in the ED. Due to frequent non-adherence with follow-up, the ED stay may be the only opportunity for suicide prevention. Unfortunately, there is nothing in the way of brief therapy that that has been found to affect suicide risk, but the National Suicide Prevention Lifeline, 1-800-273-TALK (8255), is a meaningful start.

Section-related Recommendations:

- **Fund research to discover effective, brief anti-suicide interventions appropriate for emergency department patients at high risk for suicide.** *Brief alcohol interventions may be one interventional model that could be adapted for this purpose*.
- **Make patient education about limiting access to lethal means, especially firearms, the expected best practice in emergency departments.**

Part Four

Psychiatry Inpatient Units: Should More Be Expected?

Rather than having a supporting role, psychiatric hospitalization plays a decidedly central role in America's mental health care provision system. Despite the centrality of hospitalizing seriously ill psychiatric patients, the research base for inpatient hospitalization for suicide risk is surprisingly weak. This review could not identify a single randomized trial about the effectiveness of hospitalization in reducing suicide acts after discharge. To be sure, this research is methodologically difficult, and, traditionally, suicide risk is an exclusion for research studies. In a randomized trial that is more extensively reviewed in Part Six, Huey and his research team found an intensive outpatient intervention superior to emergency inpatient treatment and, perhaps, more rapidly effective. [245] Two other randomized trials, one led by van der Sande and the other by Waterhouse and Platt, compared inpatient admission to alternative treatment controls; neither demonstrated a reduction in suicide acts. [246, 247] Consequently, beyond usual care, there are no evidence-based, psychiatric inpatient treatments that have been found to reduce the frequency of suicidal acts or suicide attempts subsequent to discharge.

Part Four's discussion on the possible shortages of inpatient beds is in the context of the relative absence of rapidly available out-patient resources. [173, 204-207, 248] After all, the substitution of outpatient for inpatient care is possible only when either placement is available within the same timeframe. Until continuity of mental health care in America is more evenly continuous, psychiatric hospitalization will be the default disposition and the relative shortage of bed space will remain a concern.

The borders separating emergency department (ED) and inpatient care are blurred. As inpatient stays become shorter and holding beds make ED stays longer, the treatment and discharge planning functions of each confront the same set of issues. Despite these commonalities, patients are admitted to psychiatric inpatient units because more extended evaluations and more intensive treatments are recommended. When patients are at acute risk for suicide, some have to be admitted involuntarily. Even in this protected environment, suicide and suicide attempts are all too common. What is more, there is no evidence that psychiatric hospitalization prevents suicide during the inpatient stay or in the immediate period after discharge. Hereafter, these issues will be examined in more detail. In the final analysis, inpatient units appear to be safe places for the vast bulk of patients. [249] However, not everyone can be protected fully, even in the very best inpatient units. Should more be expected?

The Collapse of the State Mental Hospital System and the Consequences of Reduced Overall Bed Capacity for the Mentally Ill

By historical standards, 50 years is a short time; yet, between 1955 and 2005 there has been a precipitous drop in the number of state mental hospital beds. [250] In 1955, there were 559,000 patients hospitalized in America's state mental hospitals. By 2005, there were only 47,000 state mental hospital beds in the country. [250, 251] Since 2000, there has been a decline, albeit slower, of inpatient capacity in nearly all mental health organizations (Figure 3). [252]

However, data from 2002 and 2005 indicate a reversal in these long-term trends. During the 2002 to 2005 interval there was a 21 percent increase in admissions to state psychiatric hospitals, but the number of residents increased by a meager 1 percent. [251] In response to these data, state mental health department personnel attributed these increases to one factor—an increase in the number of forensic admissions and residents and a corresponding increase in state hospitals constructed solely for residents needing both forensic evaluations and mental health care. [251]

All of these changes have had profound societal implications; one of these appears to be increased homelessness. [253-257] Often having no place else to go, EDs have become the default option for individuals with all forms of suicide behaviors and with severe and persistent mental illness. [134, 253] In turn, many of these individuals are admitted to what few psychiatric beds there are.

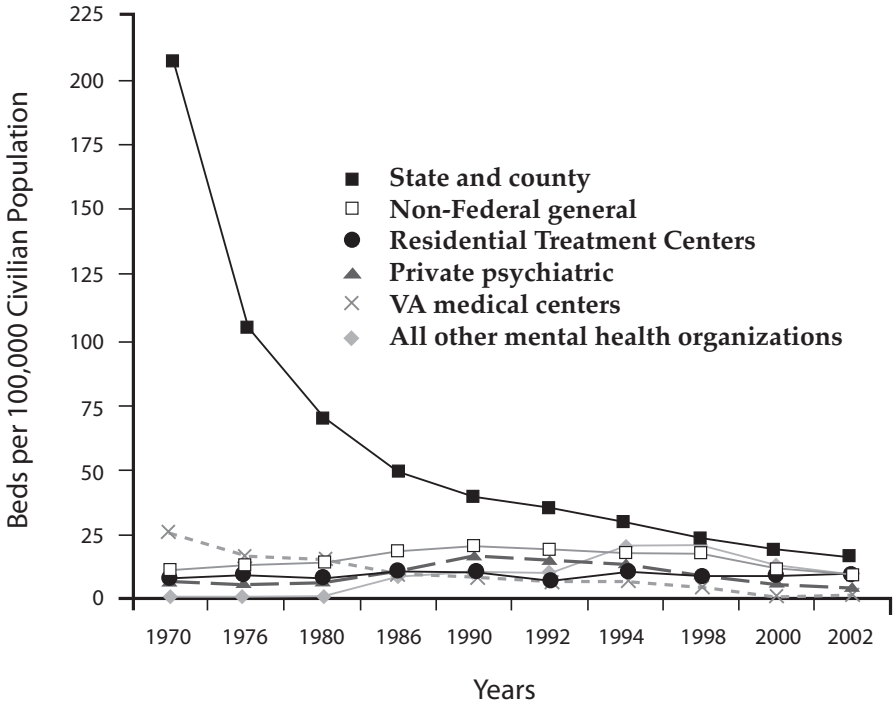
It is worrisome that patients at significant risk for suicide may be denied inpatient beds because there are fewer and fewer of them. To be sure, with the relative absence of state psychiatric beds, general hospitals have admitted ever increasing numbers of severely mentally ill, publicly-financed patients. [253, 258] Nevertheless, due to the overall changes taking place in all of health care, the numbers of psychiatric beds have continued to fall. The number of general hospitals providing psychiatric services declined from 1,707 in 1988 to 1,285 in 2002. [252] Found in respected journals, brief commentaries with supporting data provide the likely explanations for the continued decline in psychiatric beds. Shortages of medical surgical beds, dangerously overcrowded EDs, and reimbursement rates below costs are cited as reasons that tertiary care hospitals have closed down inpatient psychiatry beds. [252] This assertion appears to apply to other countries. In the United States, in Europe, and in many regions of the world the number of psychiatric beds has declined in parallel with budgetary pressures and the substitution of more profitable bed space. [259]

Suicide and bed availability may be linked in some important ways. Although no cause-effect relationship has been demonstrated, there is a reverse correlation between the number of intentional self-harm ED patients and the number of patients discharged from EDs. [114, 260] In a study of the United States and six other countries, Currier demonstrated a relationship between psychiatric bed reductions and increased mortality among individuals with mental and substance use disorders. [259] However, a relationship between suicide and limitations in state mental hospital beds has not been found in the United States consistently. [261, 262] In 2002, the National Association of State Mental Health Program Directors' Research Institute found that the suicide rate was lower in states where

the percentage of funds allocated to state hospitals and to community-based services were close to the optimum theoretical proportions. [263] What is certain is that reduced lengths of stay, high demand to admit patients at high risk for suicide, and constant patient and professional staff turnover make for a psychiatric care environment that is prone to make errors that contribute to poor continuity of care and related suicide deaths. [264-267]

Figure 3:

Precipitous Drop in the Number of State Mental Hospital Beds



Reprinted with permission; Publicly available through SAMHSA. In: Mandescheid RW, Berry JT. Mental Health, United States, 2004.

Section-at-a-Glance:

Over the past 50 years, there has been a precipitous decline in the number of state hospital psychiatric beds and a more gradual decline in the number of psychiatric beds in general. Having no place else to go, EDs have become the default option for individuals with all forms of suicide behaviors and with severe and persistent mental illness. This dynamic, among others, has motivated changes in the provision of psychiatric inpatient care. Reduced lengths of stay and high-severity patients of all types and an unfavorable reimbursement climate make for psychiatric inpatient units that are forced to develop discharge plans rapidly resulting in follow-up plans that may all too often be faulty.

Section-related Recommendations:

- **Quantify more precisely the magnitude of the relationships between numbers of psychiatric beds, lengths of inpatient stay, and suicide behaviors.**

- **Fund clinical trials to evaluate if immediately-available forms of intensive outpatient care can substitute for psychiatric hospitalization of suicide-prone individuals.** *Since there is no evidence that psychiatric hospitalization prevents suicide, this recommendation is entirely reasonable. Study results will provide a better understanding of the population of patients that require hospitalization and of the characteristics of patients that can be managed safely outside the hospital setting.*

Psychiatric Hospitalization and the Prevention of Suicide

Suicide behaviors and dangerousness are among the most common reasons for being admitted to a psychiatry inpatient unit. Expectedly, these psychiatric inpatients are at extremely high risk for suicide. Continual cycles of discharges and new admissions serve to maintain high overall levels of risk. Psychiatry inpatient units are designed to keep patients safe. Nevertheless, suicide deaths occur on inpatient units. The exact number of deaths is unknown. A sizeable number of suicidologists assert that the number is between 2.5 percent and 5 percent of all suicides in the United States; [123, 148, 170] however, this review cannot find any specific, scientific studies that support this claim. A comprehensive literature review that found 12 articles detailing 335 inpatient suicides concluded that the absolute number of hospital-based suicides that occur in any given years is small. [268] In England and Wales, about 200 psychiatric inpatients die by suicide each year. [269] In Finland, approximately 1.9 percent of all suicide deaths occur in a general hospital setting. [270] In contrast, a study done in Montreal, Canada, found 0.97 percent to be the suicide rate in general hospitals. [271] The overall conclusions are obvious, however. Systematic, methodologically sound research about the epidemiology and clinical characteristics of inpatients who kill themselves is long overdue. [268, 272]

The periods just after admissions, just before discharge and in the first weeks subsequent to discharge are the times of highest risk across all age groups. [13, 20, 42, 59, 122, 273] In addition, suicide attempts and inpatient suicide deaths are more likely to occur during times when the staff is changing shifts or is otherwise distracted. [274] The lethality of the first-ever suicide attempt coupled with a psychiatric admission are factors that have been found to pose higher risk for inpatient or immediate post-discharge suicide. [11] Every psychiatric inpatient is at some increased risk for suicide, and most are at very high risk. [14, 45, 262, 275-277] Sadly, there is no evidence whatsoever that psychiatric hospitalization prevents suicide. [27, 278-280]

In order to protect suicidal patients from self-harm, inpatient units have facilities designed to thwart suicide and policies and procedures for observation, monitoring, and close watch. At the same time, there are no consistent operational definitions or attempts to systematize levels of watch. An inpatient mental health professional or technician may be assigned to be at arm's length from inpatients at extremely high and acute risk for suicide. Such one-to-one monitoring disallows toileting privacy. Nonetheless, inpatient suicide happens even with one-to-one staffing. [148, 280, 281] The Joint Commission has redoubled its efforts to reduce inpatient suicide, and it has issued risk reduction guidelines in such example areas as improving assessment procedures, environmental safety, staffing levels, and communication. [282] Similarly, the United Kingdom's Report of the Na-

tional Confidential Inquiry into Suicide and Homicide by People with Mental Illness offers many suggestions for safety planning applicable to inpatient units. [42, 59] These many recommendations notwithstanding, practices and policies vary considerably and best practices for inpatient suicide prevention are poorly characterized and under-studied. [276, 278, 283] Systematic studies of risk factors for inpatient suicide have failed consistently to identify any that might drive new inpatient policies and procedures. [43, 45, 68, 119, 124] Busch, Fawcett, and Jacobs reach a markedly different conclusion. From a case series of inpatient suicides, these investigators assert that symptoms such as "psychic anxiety," profound sleep disturbance, and inability to experience happiness of any sort are part of a profile of attributes that predict inpatient suicide. [146, 148, 280] These findings need support from replication studies that have yet to be done.

Lengths of an inpatient stay were at one time measured in weeks; now the average stay is about seven days for adults, adolescents, and children. [284] Inpatient status and severe psychiatric illness promise the administration of psychotropic medications for acute psychiatric conditions. Psychopharmacology may be almost immediately effective for acute symptoms like profound sleeplessness and high anxiety, but there is no evidence so far that medication management of these states reduces inpatient or post-discharge suicide. [148, 279] If true, the administration of anti-anxiety and/or sedative medications that work immediately may be life saving. However, the majority of psychotropic drugs take time to be effective, meaning both side- and therapeutic-effects will be experienced outside the average six to seven day hospitalization. [43, 119, 258, 284]

At least conceptually, recession of suicidal ideation, intent, and attempts occurs as acute symptoms of the psychiatric disorder recede. Given this formulation, Gary Jacobson warns that "There is a danger that suicidality will be treated as a mere symptom to be added to a checklist and to be reduced and in that sense treated similar to other symptoms such as hallucinations, depression or anxiety." [123] Indeed, suicide attempts or suicidal ideation are not considered psychiatric disorders, per se. Rather, these and related suicide behaviors are more considered untoward outcomes of any one of a number of psychiatric disorders. Inpatient psychiatry pairs suicide behaviors with one or more psychiatric illnesses, where the bulk of therapeutic attention goes to the diagnosed illnesses. [45, 62, 119, 277, 285-287] Suicide attempts and ideation are treated like symptoms of some other condition. Historically, alcoholism was once considered to be a choice, a vice, a moral failure, an acquired habit, and/or a symptom of another condition. Only recently has alcoholism acquired the status of an authentic disease. [288] Perhaps suicide-risk should be given the same status.

What should constitute a specific anti-suicide, psychotherapeutic intervention that begins the moment the patient is admitted and continues for the duration of the psychiatric hospitalization and, prominently, is continued beyond the hospital stay? Unfortunately, discontinuities of care are common since there are no explicit, directive standards for continuity. Specific psychotherapeutic management of suicide risk is not what inpatient psychiatry has been traditionally all about. [123, 277, 285, 289] Most attention has been given to behavioral monitoring, denying access to means and the safety features of the physical space. [123, 275, 277, 278, 285, 289, 290] A variety of inpatient suicide-prevention psychotherapies have been tried, but these efforts are highly variable and have not moved far outside the demonstration hospitals. [246, 291, 292] Change is slow and hampered by the near absence of textbooks or professional organizations devoted to psychiatric inpatient care.

Since dialectal behavioral therapy (DBT) was originally conceived as a means to counter patients' often ambivalent progress toward suicide, this form of cognitive therapy might well be one of the mainstays of inpatient care. Supporting this assertion are randomized trials of DBT on small samples of inpatients; however, there is scant evidence that the results from these trials have motivated further research aimed at placing DBT in community short-stay hospitals. [293] There are notable efforts aimed at adapting cognitive therapies for psychiatric inpatients. For example, cognitive behavioral therapies for major depression and borderline personality disorder have been modified for use with inpatients and for treating the associated suicide risk profile. [293-295] Aside from these noteworthy efforts, this review could not identify a single how-to manual that describes models of inpatient programming or clinical tracks designed for suicide risk. There may be psychiatric hospitals that offer specialized, cohesive programming or a clinical track for inpatients at risk for suicide, but such programming is unusual for a community hospital's psychiatric unit. [123] Medications can be started at once, but psychological therapies are started with much less urgency and continued on an inpatient basis where length of stay is short and inpatient therapists may not be available after discharge.

Section-at-a-Glance:

The accepted standard of care requires psychiatric hospitalization for individuals at high risk for suicide. [274, 296] Suicide deaths occur on inpatient units and in the days and weeks subsequent to discharge. Without more specific and specialized and widely available anti-suicide inpatient programming, inpatient suicide will remain a national tragedy. Every psychiatric inpatient unit has patients at above-average risk for suicide, and many are at extremely high risk for suicide. There is no evidence that at discharge these risks will change substantially given short lengths of stay. Therefore, adherence to the recommended discharge treatment plan and continuity of care thereafter are vital to continued survival.

Section-related Recommendations:

- **Prioritize the development, evaluation, dissemination of alternative models of inpatient programming and/or clinical tracks that are effective for reducing suicide behaviors.**
- **Centralize and mandate, at the national level, the surveillance and investigation of inpatient suicides.** *Using non-punitive, non-threatening methods, each inpatient suicide needs to be investigated meticulously to identify potential systemic improvements designed to reduce the incidence of these tragic deaths.*

Emergency Psychopharmacology for Suicide Prevention

Of course, there is no such thing as emergency psychopharmacology for suicide prevention—at least not yet. Research opportunities and related hypotheses are available to advance this new clinical endeavor. The clinical need for emergency psychopharmacology for suicide prevention has never been greater. Since, as described on prior pages, suicide risk is highest in the immedi-

ate period after discharge from an emergency department or an inpatient psychiatry unit, this time interval is one window of opportunity to use psychopharmacology to aid in the prevention of suicide. Hereafter, these ideas will be fleshed out and related research suggested.

The known psychopharmacology of suicide is limited to two medications—clozapine and lithium. By statistically combining the results of several related clinical studies (i.e., meta-analysis), there is considerable support favoring the long-term use of lithium as an anti-suicide pharmaceutical. [37, 38, 61, 297-303] The use of lithium to prevent suicide has not been tested by prospective, randomized-control research. Moreover, lithium may produce deleterious and lasting effects on organ systems, mostly when lithium is taken for several years, and lithium is potentially lethal in overdose situations. [304, 305]

The antipsychotic, clozapine, has been shown in a single large, multi-site, randomized controlled trial (RCT) to reduce recurrent suicide behaviors generally and only in patients with schizophrenia. [306, 307] This trial compared clozapine to an alternative antipsychotic, olanzapine. The anti-suicide properties of these two antipsychotics have not been compared to the anti-suicide properties of placebo. What is more, it is possible that olanzapine is worse as much as clozapine is better. Another possibility is that clozapine success was more due to its exacting administration than to any intrinsic pharmacological properties.

Although the RCT attempted to control for differences in administration, clozapine, in comparison to olanzapine, requires a very slow up taper dosing schedule of administration and considerable clinical vigilance to detect agranulocytosis, a potentially life-threatening blood disorder. Because of significant risk of agranulocytosis, clozapine is most often used as the antipsychotic of last resort, and the possible appearance of clozapine's adverse effects requires close clinical monitoring. [308, 309] Thus, the added, necessary psychosocial relationship with clinicians administering clozapine may be contributing to the overall outcome in this RCT. Clearly, clozapine's effectiveness in reducing suicide behaviors and suicide deaths specifically requires support from additional research. Evidence favoring other pharmaceuticals is nearly absent.

Persuasive evidence that antidepressants have anti-suicide properties has yet to be found. There have been no randomized controlled trials to test the hypothesis that antidepressants are effective in reducing suicide attempts, suicide acts, or suicide deaths. Mann and others did a comprehensive review of suicide prevention strategies and concluded that physician education in depression recognition and treatment reduces suicide rates in adult patients if they adhere to long-term treatment. [214] However, during the start-up phase of administration, suicide ideation, particularly in children and adolescents, may increase. [50, 154, 310-314] Antidepressants have not been associated with suicide deaths. [50, 154, 310-314]

The efficacy of antidepressants may be assessed by their discontinuation. For adults, there is strong evidence that stopping antidepressants increases suicide risk. [38, 39, 310, 315-317] Likewise, antidepressant non-adherence is associated with suicide attempts. [37, 38, 214, 315, 316, 318-320]

Busch and Fawcett make an important point based on case studies of patients that have died by suicide while hospitalized. Similar outpatient investigations led them to the same conclusion.

Fawcett finds that there is a profile of patient attributes that characterizes inpatients that are at high risk for suicide. High "psychic anxiety," profound sleep disturbance, rapidly fluctuating clinical course, and inability to experience pleasure are all on the list. [146, 148, 151, 280, 281] Busch and Fawcett may well have identified a subset of patients that are at high risk for suicide for which there may be an indication for using emergency psychopharmacology to prevent suicide attempts and suicide. These hypotheses are important because medications are rapidly effective for anxiety and sleep as well as the agitation associated with a fluctuating clinical course. [176] These hypotheses have not been tested. If they prove to be true, the results have many implications for the way potentially suicidal inpatients and outpatients are treated and managed.

Before describing a path forward, one more piece of background information needs to be restated. Without question, suicide attempts and suicide acts are life and death situations potentially. This realization is critical to accepting the proposal for using emergency psychopharmacology for suicide prevention because any pharmaceutical used may have most serious adverse effects including death by intentional overdose or from infrequent or rare physiologic actions inherent to a particular pharmaceutical. Accordingly, the use of pharmaceuticals for suicide prevention must weigh the consequences of doing nothing pharmacologically and relying solely on all other means for suicide prevention. Surely, suicide prevention requires as many effective tools as can be mobilized.

Where to start? Inpatient units are among the safest places to begin research of the sort to be suggested. The various hypotheses suggested by Busch and Fawcett mentioned above can be evaluated by randomized methods. For many, suicide risk is associated with a discrete time interval during which psychopharmacology may augment other anti-suicide interventions. One obvious experiment is similar to the trial comparing clozapine to olanzapine. In the proposed similarly designed trial, patient participants could be randomized to one group that receives short-term lithium plus treatment as usual or to the control condition that receives only treatment as usual. Suicide behaviors could be assessed as 3, 6, and 12 months. This sort of model, randomized controlled trial can be applied with other pharmaceuticals thought to have significant anti-suicide properties. Lithium is used as an example.

Section-at-a-Glance:

The mood stabilizer, lithium, the antipsychotic, clozapine, and any one of several rapidly acting, anti-anxiety agents (e.g., clonazepam, a benzodiazepine) are candidate pharmaceuticals for use in emergency psychopharmacology for suicide prevention. The use of any pharmaceutical for this purpose must consider the risk of death from suicide versus the risk of serious adverse effects from psychopharmacology versus the utility of various psychosocial interventions versus doing nothing. Suicide prevention requires as many tools as can be mobilized, particularly during the intervals of greatest suicide risk—after discharge from an emergency department or psychiatric inpatient unit. To determine if, during this critical period, psychopharmacology is a suicide prevention tool that augments the effectiveness of other tools, new research is required. Suggested hypotheses and research designs are mentioned in the text above.

Section-related Recommendations:

- **Use randomized methods to compare two groups of patient-subjects that differentially receive either the psychopharmacologic agent with possible anti-suicide properties plus treatment as usual or receive only treatment as usual.** *Investigations of this sort best apply to a relatively short period of heightened suicide risk and increased suicide reattempt rates. Required sample sizes necessitate multi-site trials.*
- **Investigate therapeutic efficacy with studies of the outcomes of therapy discontinuation and non-adherence.**

Inpatient Discharge Planning and the Transition from Hospital to Community

Psychiatry inpatients are discharged in precarious states. With brief hospitalizations the norm and minimal evidence of effective inpatient anti-suicide treatments, the risk of suicide around the time of discharge is significant. It is possible that these risks can be somewhat attenuated, but they in no way can be eliminated. [273, 321] It is not at all surprising then that the highest number of post-discharge suicides occurs within the first one to two weeks of discharge. [12, 27, 42, 59, 280] Immediate follow-up after discharge and adherence to the discharge plan are opportunities for suicide prevention.

Every inpatient receives a discharge plan. The difference between a loose plan and tight plan are the elements that permit rather than discourage suicide. For this reason, considerable attention has been given to discharge interventions prior to patients' transitioning to the community. These interventions provide information about the importance of aftercare, give realistic expectations for outpatient treatment, motivate the patient's alliance with the aftercare plan, and suggest means to overcome impediments to getting outpatient services. Such interventions may take hours and may be distributed across the course of hospitalization; some forms of pre-discharge "compliance therapy" run several sessions. [322-324] A referral coordinator or discharge planner may take many hours making the necessary phone calls, securing the necessary appointments, finding transportation, and sending reminders and, thereby, improving compliance for the most difficult, chronically disturbed older patient. [325]

Dealing with patients that have been non-adherent with prior discharge plans requires creative thinking and an alternative plan so as to avoid repeating the past failures. Patients with a pre-existing relationship with an outpatient mental health professional are most likely to follow-up.[326] Homelessness, substance use, and serious general medical problems make the process of discharge planning challenging. [49, 255] Predictably, adolescents from the most dysfunctional, least involved families are most unlikely to follow-up. [327] Patient-perceived absence of symptom improvement and a dismissive staff attitude naturally predict dissatisfaction with inpatient treatment and non-adherence with the recommended discharge plan. [328] Overcoming these impediments is difficult. The application of specific and creative discharge procedures to these circumstances has

had mixed results. Methods and procedures that improve adherence to the recommended treatment plan will be reviewed on later pages. Suffice it to say that new initiatives for getting patients to the first appointment have an average success rate of about 43 percent over baseline rates. Discharge planning procedures have limited effects on retention after the first appointment. [322, 323]

As suggested by these findings, there is wide variation in what constitutes best practices for discharge planning. Best practices tend to be established by guidelines susceptible to varied interpretation and application. Since firearms and other means restriction prevent suicide, making means restriction a standard of care across settings is an improvement that will save lives. [214] Family involvement may be and often is critical to the success of discharge planning. Perhaps the most complete set of family-centered discharge planning recommendations have been issued by the American Association of Suicidology. [329] Among these are a family session and family education about suicide, warning signs, adherence to the recommended treatment plan, removal of means, and various outpatient observation, monitoring, and emergency procedures. For youth, such family sessions are critical to the success of discharge planning in general. [181, 236]

The most comprehensive discharge planning guidance for high-risk inpatients comes from the United States Department of Veterans Affairs (VA). Examples include weekly evaluations during the first 30 days after discharge and specific follow-up for missed appointments. [330] Barbara Stanley and Gregory Brown have developed a "Safety Plan Treatment Manual to Reduce Suicide Risk;" there is a version of this made specifically for the VA. [160] More information about the VA's overall efforts is presented in Parts Seven and Eight.

Due to the absence of nationally recognized, explicit and directive standards and requirements for high-quality discharge planning, minimally acceptable practices may become the default standard of care. [266, 267, 331, 332] In the absence of directive expectations for high quality work, more easily and quickly accomplished practices may seduce hospital staff into making minimally acceptable but largely ineffective discharge plans. Indeed, more should be expected from psychiatry inpatient units. New initiatives are needed to improve the process and outcomes of discharge planning. Part Seven of this report (see page 91) examines guidelines and standards in much more detail.

Section-at-a-Glance:

The difference between a just adequate discharge plan and tight plan are the elements that permit rather than discourage suicide. Immediate follow-up after discharge and adherence to the recommended discharge plan are opportunities for suicide prevention. Without explicit and directive best practices and standards, more easily and quickly accomplished practices may seduce hospital staff into making minimally acceptable but ineffective discharge plans.

Section-related Recommendation:

- **Define expected best practices for discharge planning and eliminate unacceptable practices.** *In the absence of such information what is easy to do may be mistaken for what is best to do. (Please see Part Seven of this report, page 91, for more information.)*

Part Five

Survival on the Way to Follow-Up Care: Disappointment and Suicide Prevention

Some pretty grim statistics are found along the path to follow-up care. Many patients never make it to their first follow-up appointment, and many that do, do not remain in treatment long enough for continuing care to be successful. For both EDs and inpatient discharges, the risk for suicide attempts and death among all age groups is highest immediately after discharge and over the next 12 months to four years. [10-18] Longer timeframes predict death from suicide or other (possibly related) causes. Clearly, the risk continues in the years subsequent to ED or inpatient discharge. [3, 119] Being discharged from an ED or psychiatry inpatient program should, therefore, provide patients linkage to certain and effective treatment. This logic is not always followed.

Just because patients are at high risk for suicide and come to an ED or inpatient psychiatry unit for help does not necessarily mean they will get it once discharged. Regrettably, patients with the highest risk for suicide have some of the lowest rates of adherence after an ED visit. [333] As many as 70 percent of suicide attempters of all ages never make it to their first appointment or fail to attend more than a few treatment sessions after discharge from an ED or from inpatient psychiatry. [27, 210, 239, 327, 334-338] Across studies the failure rate is about 50 percent. Since access to care and clinical intervention are crucial to suicide prevention, non-attendance and non-adherence increase suicide rates. [79]

In the year prior to their suicide death about one-quarter of the deceased will have had contact with mental health services. Of these, 24 percent will have been discharged from inpatient care in the previous three months. People who die by suicide are more likely to have had their care reduced and less likely to have had their care increased at the final appointment before death.[27, 339] Improving access, aftercare, and engagement are means to prevent suicide. [79, 339]

In a study of 78 teens that attempted suicide and were later discharged from a psychiatric or general hospital in Rhode Island, 18 percent had received no therapy 30 days out and about half had attended fewer than four sessions. [340] Similarly disappointing results were found in a later study of 62 adolescent suicide attempters. [239] At the three-month follow-up, 16 percent never followed through with outpatient psychiatric appointments, 15 percent made it to one session, and 21 percent to only two; 7 percent made repeat suicide attempts.

Section-at-a-Glance:

A history of suicide attempts and current, persistent suicidal ideation are the strongest predictors of suicide attempts and suicide in the immediate future. Being discharged from an ED or psychiatry inpatient unit should, therefore, provide patients linkage to certain and effective treatment. Regrettably, as many as 70 percent of suicide attempters of all ages never make it to their first appointment or fail to attend more than a few treatment sessions after discharge from an ED or from inpatient psychiatry. Across all studies the follow-up failure rate is about 50 percent. Improving access to and engagement of care are means to prevent suicide.

Section-related Recommendations:

- **Adopt nationally recognized policies and procedures that best match patients at risk for suicide to follow-up services that begin at or near the time of discharge from an emergency department or an inpatient psychiatry unit.**
- **Fund investigations about the relationships between non-attendance to follow-up treatment services and suicide attempts and deaths.**

Patients at Greatest Risk for Non-Attendance or for Untimely, Discontinuous Follow-Up Care: Too Many Answering Machines and Too Little Reliable Follow-up

"The Wessex [England] In-Patient Suicide Study" identified patients at high risk for non-attendance using retrospective case-control methods. [15] Their sample consisted of almost 300 suicides within 12 months of inpatient discharge; 32 percent died within the first month of discharge and 83 percent within six months. Each index suicide was suitably matched to case controls. The absence or departure of key outpatient clinicians, becoming unemployed, new onset relationship difficulties (e.g., forced to live alone), involuntary hospitalization, unplanned discharge, and racial minority status were the most important death-related discontinuity factors. Every experienced clinician knows that patients with these attributes are hard to engage. The authors conclude their report with: "Discontinuity of care from a significant professional is associated with increased risk of suicide." Indeed, suicide and reductions in care are correlated. [42, 59, 79, 339] Organizational policies and procedures may facilitate patient engagement with follow-up plans. If, for example, the patient will have a new outpatient clinician, a patient-new-clinician phone call prior to inpatient discharge may provide the necessary motivation to get to the first appointment. If discharge is to a large clinic, a representative from that clinic could meet with the patient prior to inpatient discharge. Efforts to improve follow-up and continuity of care and forestall readmission should target higher-risk patients prone to disengagement. [341]

The absence of these possible solutions and the associated hurdles pursuing follow-up care are demonstrated by a recent study of pretend patients with serious depression. Many of these "pa-

tients" were lost to follow-up after leaving the ED. For this study, Karin Rhodes and her research colleagues employed a strategy used often to identify discrimination in housing and employment. Graduate students were trained to be fake patients just diagnosed in the ED with serious depression. Since major depression and suicide risk are frequent partners, it would be important to have near-term follow-up. The students' mission was to obtain an appointment with a mental health professional within 14 days of leaving the ED. These mock patients called a sample of 322 clinics in nine major American cities in nine different states. Regardless of insurance status, approximately 1 in 10 callers got community-based appointments within the 14 day limit. Answering machines were common; 45 percent of callers had to leave a message. Calling for help a second time got an answering machine 80 percent of the time. These disappointing findings are contrasted with far greater success in getting appointments for serious general medical conditions like pneumonia or hypertension. For example, only 8 percent of general medical "patients" calling for the first time had to leave a message. [205]

Persistent, motivated, highly educated, non-depressed, mock-patients had considerable trouble getting a follow-up mental health appointment regardless of insurance. The more typical patient may have misgivings about having a psychiatric diagnosis in the first place and may minimize the importance of follow-up and medication adherence. Failure to follow through with an ED referral is surely more complex than lack of motivation or ability. [342, 343] The point is that this panoply of access-to-care obstacles places the psychiatric patient at a real disadvantage compared to a general medical patient. [173, 206, 207] As a result, non-price barriers to obtaining follow-up care may prove insurmountable for the seriously depressed patient. [207, 343, 344] Efforts to enhance patient engagement with the recommended discharge plan are wasted if the plan fails because the outpatient clinic doesn't answer the phone! (Rhodes and colleagues draw attention to these problems and difficulties by titling their article: "Referral Without Access: For Psychiatric Services, Wait for the Beep"). When attempts to obtain help fail, the depressed patient's feelings of rejection and inadequacy are reinforced. In turn, depression may worsen and suicide risk increase. [19, 206, 345] The consequences for ED clinicians of unreliable follow-up care for the mentally ill were not studied by the Rhodes-led research team. It seems fair to say that the very best attitudes toward the mentally ill and a set of exemplary complementary skills goes for naught if the ED physician cannot access easily follow-up care for psychiatric patients. [127, 136, 137, 342]

Other studies of adult populations find disengagement predicted by persistent and severe mental illness, longer lengths of stay (likely more severely ill and therefore harder to place), high overall use of health care, and Medicaid participation. [204, 207, 210, 346, 347] The initiation of medication in the ED or during inpatient hospitalization fails to predict follow-up. [348] A mismatch between patients' expectations and perceived needs and the realities of the outpatient care result in "no shows" to the first outpatient appointment. [32, 343]

These profiles differ somewhat for children and adolescents. Overwhelmed and under-skilled families and under-involved parents may be indifferent to follow-up recommendations. In these situations, recommendations for parent guidance and family therapy tend to be ignored. [181, 236-238, 327, 349]

The necessary inclusion in the ED of the family of adolescents is illustrated by a study done in the ED of Columbia Presbyterian Medical Center in New York. Using a quasi-experimental design and a study population of 140 female adolescent suicide attempters presenting to an ED, the Rotheram-Borus research team provided a three-part intervention for enhancing adherence to the follow-up plan: One crisis session; a video depicting the emergency room experience of two adolescents who have attempted suicide; and related discussions were furnished to both mothers and daughters by specially trained staff. Follow-up out-patient family sessions were recommended. The suicide attempters' attendance at therapy sessions following the ED visit was significantly associated with only one outcome—family adaptability (e.g., receptiveness to new skills taught). [236]

Section-at-a-Glance:

Adult and child-adolescent patients with severe and persistent mental illness and few skills, minimal resources and socioeconomic distress are hard to engage in outpatient treatment. All too often these patient attributes resist change, but organizational attributes can be altered more easily. An array of access-to-care obstacles places the psychiatric patient at a real disadvantage compared to a general medical patient. As a result, non-price barriers to obtaining follow-up care may prove insurmountable for many seriously mentally ill patients. Professional staff and organizational discontinuities and unplanned discharges, for example, need not undermine hard-won clinical gains and impede the route to follow-up. Efforts to improve follow-up and continuity of care and to and forestall readmission should target higher-risk patients prone to disengagement and non-adherence.

Section-related Recommendations:

Please see the next and final sections.

Outreach and Bridging Strategies and Targeting Higher-Risk Groups

"Outreach" and "bridging" strategies are interventions designed to effectively transition the patient to outpatient treatment. "Outreach" generally refers to various methods of contacting the patient. A bridge provides continuity between two locations, convenient bidirectional access, and avoids various impediments and obstacles that exist in the gap crossed. The studies reviewed below involve patient populations that are discharged from EDs or inpatient psychiatry units; and patient, provider, health system and community characteristics vary as does the populations' suicide risk. None of these studies used randomized methods but each employed one or more outreach or bridging strategy. Randomized controlled trials will be reviewed in Part Six of this report (see page 58).

Predictably, next-day appointments, intensive follow-up treatment, telephone contacts, reminders, and/or home visits achieve a higher adherence rate with discharge plans. [350-352] Linkage strategies that reduce the break between inpatient and outpatient facilities and involve interpersonal com-

munication work well. [210] Beginning the outpatient program before discharge avoids unnecessary service gaps and insures continuity of care. [210] Family involvement to help motivate participation and outpatient provider contacts while the patient remains an ED patient or inpatient, reduces the sharp dichotomy between in- and outpatient care. [210] Calling the patient and the outpatient facility to confirm attendance is an obvious strategy that can improve adherence. [353] Better is direct communication between the inpatient and the new outpatient provider. [354] Likewise, motivational interviewing shows promise for gaining treatment-plan adherence from inpatients with both mental illness and substance abuse. [355]

A lot may be achieved with minimal effort. At the time of ED discharge, demonstrating human concern and interest in successful follow-up and stressing its importance motivates getting to the first treatment appointment. [244] First-appointment attendance rates are increased if emergency staff calls the treatment facility to make an appointment and then follows up to see if the patient arrived. [353] Actually teaching patients about their discharge arrangements is superior to handing out a written document. [356] Various forms of pre-discharge treatment adherence counseling and/or post-discharge telephone and/or mail reminders predict arrival for all ages. [323, 324]

Not surprisingly, patients with a previously established therapeutic relationship with a mental health professional are most likely to follow up. Likewise, success rates for attending the first appointment improve when patients exercise the option of speaking with the new provider in the days prior to the appointment. [354] In general, continuity of care appears to reduce the risk of suicide. [15] Likewise, continuity predicts lower psychiatric hospital readmission rates, especially for men. [79, 326]

Each of the above mentioned studies achieved success but improvements over baseline rates vary considerably as does the studied populations' type and severity of illness, health system characteristics, transportation, community size and so forth. As mentioned previously, across all studies, the baseline follow-up success rate (i.e., showing up for the first appointment) is about 50 percent. Across all the outreach and bridging strategies just reviewed, improvement over the baseline rate runs from 10 percent to 90 percent with 43 percent being the average improvement over baseline.

Regardless of age, the farther out the first follow-up visit, the higher the risk of suicide attempts and suicide. Partial hospitalization most often provides the patient with next-day care. Typically, lengths of stay are longer compared to hospital stays, so more time is available for discharge planning. Somewhat similar is "crisis residential" placement, which is available from many community mental health organizations. [357] "Transition clinics" are yet another solution. Coupled with and sometimes part of psychiatry inpatient units, these clinics offer follow-up appointments no later than seven days after discharge. The goal is to maintain continuity of care and to create a temporary therapeutic home for discharged patients. A professional from the clinic will meet the patient prior to discharge and explain next steps and shape expectations. Patients stay with the transition clinic until a more long-term outpatient arrangement is cemented in place and a comprehensive information hand-off to the receiving professionals is accomplished. There is no information about how many of these clinics exist or about how successful they are. For psychiatric patients, examples of these clinics exist at the Mayo Clinic and at the University of Michigan Health System. [358, 359]

The continuum of mental health care is often discontinuous. Outpatient systems have to provide ongoing rapid availability of treatment options designed to reduce suicide risk. Intensive case management following discharge from emergency department and inpatient units may be needed. In general, systems of care need to plan for rapid access and coordination across the continuum of care.

Section-at-a-Glance:

A "bridging strategy" fills the gap between an ED or inpatient discharge and the first outpatient appointment. Two examples of "bridging clinics" are described. When a high-quality outpatient disposition is unavailable, these clinics "bridge" patients by offering follow-up appointments no later than seven days after discharge and provide continuity of care until better continuity-of-care arrangements can be made. Various forms of motivational counseling prior to discharge, next-day appointments, intensive follow-up treatment, telephone contacts, reminders, and/or home visits improve on previously low adherence rates for following the recommended treatment plan. Attendance is improved if, prior to the first appointment, the patient has had personal or telephone contact with a new clinician. On average, these strategies improve first-appointment attendance by about 43 percent over baseline rates.

Section-related Recommendation:

- **Obligate health care systems to provide timely follow-up care in the event that the most appropriate continuity of care plan cannot be achieved in a timely manner.** *For example, if a near-term outpatient appointment is unavailable for a high-risk patient, the referring facility takes responsibility for providing interim outpatient care until a timely appointment is secured.*

Disappointment with Outpatient Follow-Up Care and Dropping Out of Treatment

Patients need to be prepared for disappointment. Patients that do follow up may receive marginal care and, as a result, drop out of treatment soon after the first appointment. Many that do make it to their first appointment may get "intake and follow-up." All too often, the new receiving clinician has no knowledge of what happened in the ED or over the course of psychiatric hospitalization. Not even a brief discharge summary may precede the patient. Records that do arrive are often marginally useful. The already traumatized patient has to retell his or her painful story to yet another clinician. At the end of the storytelling, the new clinician may find that the patient is better matched to another clinician working in the same agency and an additional referral takes place. [360]

Generally, every new care provider must do an independent evaluation. However, there is a big difference between an intake evaluation that begins from scratch and one that begins with an acknowledgement and summary of clinical information received. This latter sort of continuity is

patient-centered, welcoming, and invites a return visit. Discontinuity may make vulnerable patients feel unimportant and unwanted. Reductions in care and disconnected care invite continued clinical problems and suicide risk. [42, 59, 339] Patients with more privileged backgrounds and better financial means may be able to more easily access patient-centered facilities and providers. Regrettably, this counter-therapeutic disorganization is acceptable standard practice. [86, 108, 109, 117, 266]

Assuming the patient is tolerant and makes it past "intake," the sought-after treatment is all too often either marginal or downright inadequate. Of those patients receiving treatment for serious mental illness, fewer than one in six (totaling over 8.5 million individuals in the United States) received treatment considered minimally adequate based on an analysis of data from the National Comorbidity Survey, which was administered face-to-face between 1990 and 1992. [361] Young adults were less likely to receive any treatment, perhaps, because they need help with getting to and from appointments. [361] "Most people with mental disorders in the United States remain either untreated or poorly treated," is the main conclusion from a similar interview-survey carried out between 2001 and 2003. [362] Major depression is a factor in suicide behaviors about 60 percent of the time. Even so, primary care physicians in the United States and other countries have great difficulty recognizing and managing either. [214, 215, 320, 363–69] Of equal concern is the slow pace at which research on best clinical practices for suicide prevention are adopted by community health and mental health professionals.[100]

Section-at-a-Glance:

Getting to a treatment destination is often the start of a series of counter-therapeutic referral failures. Patients that do follow-up may receive low-quality care and, as a result, drop out of treatment quickly. Marginal or inadequate mental health care is quite common. Inadequate treatment of mental illness is a public health problem of enormous proportions.

Section-related Recommendations:

- **Create a network of community-based recipient rights officers that have the authority to investigate assertions of inadequate mental health treatment.** *This recommendation requires the availability of adequately financed and supported clinicians that quickly take referrals of patients at considerable risk for suicide.*
- **Educate the consumer of mental health services about reasonable expectations and provide them and their families with a means for registering complaints.**
- **Fund demonstration research that creates quickly accessible, welcoming, exemplary systems of mental health care employing expert professional personnel that provide empirically-supported treatments for suicide prevention.** *This recommendation requires surveillance systems for tracking patients and outcomes.*

Part Six

Evidence-based Psychotherapeutic and Psychosocial Interventions for Suicide Prevention: More Randomized Clinical Trials Are Needed

A most fitting introduction for Part Six is: " . . . the most glaring gap in the present system of treating suicide attempters seems to be the lack of follow-up and continuity of treatment." Thomas Welu writes this statement in the introduction to his 1977 report, *A follow-up program for suicide attempters: Evaluation of effectiveness*. [366] Now, over 32 years later, many would still agree. (Welu's research is reviewed later in this section.)

Unless otherwise designated, the research reviewed previously could very well be called "pragmatic clinical outcome trials." Convenience, non-randomized samples were used and the results may be influenced by bias favoring one group over the other. In the sections that follow, more rigorous research designs are used.

The clinical trials reviewed hereafter are partitioned into four groups. The first group contains the only two effectiveness studies that demonstrate interventions that actually prevent suicide. All members of the second group of studies were done primarily to evaluate interventions expected to improve continuity of care received by patients at risk for suicide. The third group of studies was done primarily to evaluate interventions expected to reduce repeat suicide attempts. The methods and/or questions posed in these studies are judged to be highly relevant to follow-up, continuity of care, treatment engagement, and/or treatment adherence. Part Six ends with a short review of dialectal behavioral therapy; this research comprises the fourth group of studies.

No claim is made that all the reviewed clinical trials are somehow better or more important than other studies that could have been selected. The selections and separations were based entirely on subjective judgments of each study's specific aims and extent of participation in discharge planning done in the emergency department (ED) and/or a psychiatry inpatient unit. To be included, the trial had to have been published in a peer-reviewed journal and had to have involved participants that engaged in a suicidal act or had made a suicide attempt prior to entering the study. The division into four groups is not perfect; consequently, they may overlap in some ways. Although "efficacy" studies methodologically differ from "effectiveness" studies, these two terms are used somewhat interchangeably. No attempt here is made to consider or to review all psychotherapeutic and psychosocial therapies for suicide prevention. Interested readers may wish to refer to more recent comprehensive reviews. [295, 312, 367-372]

One source of yet more information is the Suicide Prevention Resource Center (SPRC) which houses a Best Practices Registry (BPR). [373] The purpose of the Registry is to identify, review, and disseminate information about best practices that address specific objectives of the *National Strategy for Suicide Prevention*. The BPR has three sections: Section I: Evidence-based Programs; Section II: Expert and Consensus Statements; and Section III: Adherence to Standards. BPR listings include only materials voluntarily submitted and reviewed according to the designated criteria. They do not represent a comprehensive inventory of all suicide prevention initiatives.

The "gold standard" for clinical research is the randomized, controlled clinical trial (RCT). Of the clinical trials reviewed specifically on the next pages, almost all of them used this research design that compares the outcome of a treatment or intervention to the outcome of usual care. Patient-subjects are randomized to either the treatment group or the usual-care, control group. The RCT design is supposed to make each group equivalent except that the treatment group receives the intervention and the control group does not. Randomization minimizes bias favoring either condition. The treatment is judged effective if the statistical odds that the comparative outcomes are the same are less than or equal to .5 percent. Multiple replication trials done by different investigators that use larger sample sizes and that produce the same results serve to increase confidence that the intervention or treatment is indeed effective. Appendix Two contains more methodological information about the design characteristics of RCTs.

A cohort design was used in four of the studies reviewed. This epidemiologic, research design is implemented without randomized methods. Rather, two or more designated groups are followed or traced over time and the outcomes compared at various time intervals.

Tables 1, 2, and 3 contain the key statistics and short-hand descriptions of the trials identified for careful review. Brief summaries of each are found in the table. Below and on the following pages, each trial is reviewed in more detail and in the context of a continuity of care strategy used to improve adherence to the recommended treatment plan.

Evidence-based Treatments for the Prevention of Suicide

Suicide deaths may be prevented by an initial detailed psychosocial evaluation and sustained outreach services thereafter: Motto and Bostrom published in 2001 the results of their randomized controlled trial of post-crisis, suicide prevention. [26] Preliminary results were published by Motto in 1976. [36] Motto and Bostrom conducted the first of only two effectiveness studies demonstrating an intervention that prevents suicide. This review could find only one other study having this desirable outcome.

This effectiveness study is noteworthy in several important ways. Each patient-subject was interviewed at length for a detailed psychosocial evaluation done by a project assistant with special training and experience in suicide prevention. This evaluation is characterized as "thorough" and lasted two to four hours. Regardless, many of the patient-subjects declined the recommended treatment plan. Follow-up began one month after discharge. Patient surveillance continued for 15 years after the index hospitalization. With reference to patients that declined the recommended treatment plan, this investigation describes the possible consequences of discontinuity of care

compared to refusing care. The Motto and Bostrom investigation has unique features and impressive results. Hence, the methods and results from this research will be considered in detail.

Patients were hospitalized in one of nine San Francisco hospitals because of a "depressive and suicidal state." Starting in 1969 and ending in 1994, 3,005 patients were contacted 30 days after they were discharged in order to determine if they had accepted their recommended, post-hospital treatment plan and had continued the plan for 30 days. *This research design samples patients that are already at high risk for suicide*. This sample is not representative of the general population.

Those patients who either refused or discontinued therapy by the one-month follow-up (*n*=843) were randomized to an experimental intervention or a control condition. The intervention consisted of a brief letter that was sent to patients by the research staff member who had interviewed them while they were hospitalized. The intent of the letter was simply to let patients know that the research staff was aware of their existence and maintained a positive, empathic attitude toward them. The letter made no demands for patients to take any action, and the short letter/note did not request any specific information from them.

An example of this type of letter/note is: "Dear ____: It has been some time since you were here at the hospital, and we hope things are going well for you. If you wish to drop us a note we would be glad to hear from you." [26, 36] Each mailing also included a self-addressed, unstamped envelope so that patients could respond if they desired to do so, and patients who indeed responded received additional letters. Patients in the intervention condition received these letters monthly for 4 months, then every 2 months for 8 months, and then every 3 months for 4 years. In contrast, patients in the control condition did not receive any letters.

Four patient groups were identified: (1) a "treatment group" that accepted treatment (*n*=1,939), (2) a "contact group" selected at random that declined the recommended treatment but accepted the intervention (*n*=389), (3) a "no contact" group selected at random that declined treatment. Thereafter, members of the no contact group did not participate in the intervention (*n*=454), and (4) an "undetermined group" (*n*=223). This undetermined group is of considerable interest because these patients either died within 30 days of discharge and/or could not be located by a mailing address and/or did not respond to three mailed inquiries about involvement in follow-up care. Members of the undetermined group may be at the highest risk for suicide. Figure 4 exhibits the 5- and 15-year surveillance data. For all four groups, suicide was determined by state records, clinical sources, and reports from family members.

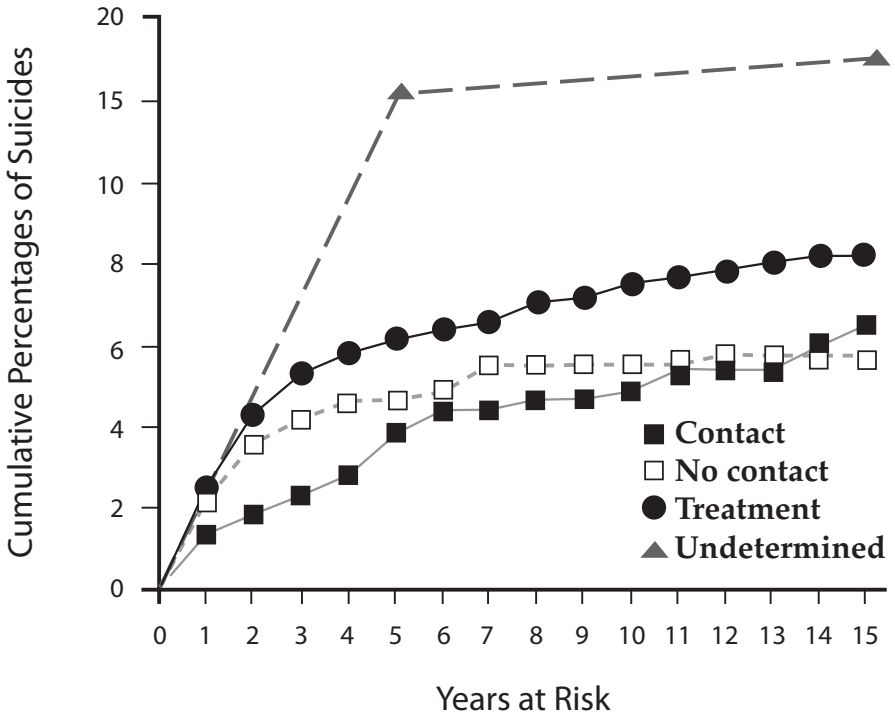
At five years after entering the study, 3.9 percent of the contact-intervention group had died from suicide compared to 4.6 percent for the no-contact-no-intervention group (Table 1). The difference between these two groups is statistically significant (p=0.04) only for the first two years. This study has never been replicated; consequentially, it is unknown if the intervention, which appears to prevent suicide only in the first two years after hospital discharge, would be successful more generally. Of great importance is another finding: *There were 25 total suicide deaths in the month before the intervention started compared to 63 suicide deaths over the next 11 months*. [36] While this relationship provides data, no cause-effect relationship is present since there is no group getting the intervention at the outset of discharge.

The form of outreach, an empathic letter, appears to be an effective strategy for suicide prevention. Clinicians that "reach out" to patients using letters that express concern and support and convey a sense of connectedness may help to reduce the risk of suicide over the first two years following discharge. These letters appear to be of special value to those patients that are not engaged in any treatment. Moreover, patients that refuse or are unable to access treatment and are, thereafter, uninvolved in care appear to be at significant risk for suicide death. Public policy has yet to grapple with these patients.

Refusal of or inability to access care may have lethal consequences. In this vein and of particular importance to continuity of care is the finding of 25 total suicide deaths in the month before the intervention started compared to 63 suicide deaths over the next 11 months. [36] These deaths could have happened regardless since there was no group that got the intervention at the time of discharge. These deaths occurred in the patient group refusing the recommended treatment plan. More timely interventions such as used in many of the studies reviewed on these pages will likely save lives.

Figure 4:

Cumulative Percentages of Suicidal Deaths During 15 Years After Hospital Discharge



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Modified with permission of Dr. Jerome Motto. Motto JA, Bostrom AG. *Psych Serv* 2001; 52: 828-833.

The refusal of treatment is a thorny problem. With Dr. Motto's permission the published version of Figure 4 was altered to include the "undetermined group." Unfortunately, this group is represented by only two data points. Nevertheless, the connecting line conforms to expectations based on more complete data for the other three groups. High risk for suicide defines the undetermined group that is made up of patients that died within 30 days of discharge and/or could not be located by a mailing address and/or did not respond to three mailed inquiries about involvement in follow-up care. By year five, 15.7 percent of this group died from suicide; by the 15th year, 17.5 percent died in the same way.

These findings are both startling and provocative. If suicide-prone patients that refuse the recommended treatment (or cannot access treatment) really die at these rates, it is a public health tragedy of enormous proportions. What is needed is epidemiologic research to better and more convincingly characterize the problem of suicide deaths among persons that refuse and/or cannot access treatment.

While the bulk of attention has been given to the likely effectiveness of the brief follow-up letters, less attention has been given to the other part of the intervention—the initial psychosocial assessment. Here, the patient-participant was interviewed by a technician with a background in suicide prevention. After two to four hours, it is likely that much more than an assessment occurred. Education about suicide had to be provided and a relationship with a caring human being begun. At least the first subsequent contacts "came from the research staff member who interviewed them in the hospital." The importance of this relationship may be understated by Motto and Bostrom.

Worth careful thought is a much more global conclusion. Across the entire 15-year surveillance period suicide deaths appear unrelenting. Indeed, for the contact group suicides were recorded for year 15; for the no contact group the last recorded suicide happened in year 12. One public policy implication of this observation is that persons found to be at high risk for suicide when first examined remain at risk for many years to come. A suicide attempt cannot be considered an isolated event. This observation has been made many times, and it has been described more completely on past pages of this report. Accordingly, prevention of suicide requires a linkage between the attempt and the follow-up care, and these linkages may have to continue in some fashion for decades and, for some people, perhaps a lifetime.

Suicide deaths may be prevented by a one-hour information session and sustained brief, follow-up contacts thereafter: Led by Alexandra Fleischman and 11 other investigators, the Multi-site Intervention Study on Suicidal Behaviors (SUPRE-MISS) is the second of only two effectiveness studies to find a package of interventions that prevents suicide. [374] In this randomized controlled trial, done between 2002 and 2005, suicide attempters (n=1867) were recruited from the emergency units of eight collaborating hospitals in five culturally different sites in low- and middle-income countries (Campinas, Brazil; Chennai, India; Colombo, Sri Lanka; Laraj, Islamic Republic of Iran; and Yuncheng, China). Each site is within a population area of at least 250,000 people. All enrolled participants were randomly assigned to either (1) treatment as usual (n=945) or (2) treatment as usual plus brief intervention and contact (n=922).

A package of interventions was provided according to a written protocol to which all sites adhered. The brief intervention and contact (BIC) treatment modality included a one-hour individual information session as close as possible to the time of discharge, and, after discharge, nine follow-up contacts. These contacts were made by telephone or face-to-face visits and done by a doctor or nurse or psychologist with clinical experience working with potentially suicidal individuals. At the information session, suicidal behavior was described as a sign of psychological-social distress; suicide risk and protective factors, relevant epidemiology, repeat suicide attempts, alternatives to suicide behaviors, and referral options were considered as well. Subsequent brief contacts lasted about five minutes each and consisted mostly of practical advice; these were provided at 1, 2, 4, 7, and 11 weeks and 4, 6, 12, and 18 months. The primary outcome measure was suicide death at the 18th month follow-up (Table 1). Compared to the treatment as usual group, the BIC group had significantly ($p < 0.001$) fewer suicide deaths (2.2 percent versus 0.2 percent).

These striking results notwithstanding, the Fleischman study has some limitations. Although 91 percent of the participants completed the study, the research report fails to mention the percentages that participated in each of the nine brief follow-up contacts. The authors mention that "the follow-up of subjects proved to be a major challenge in the participating sites, which struggled with the infrastructure to keep track of enrolled subjects. Due to the complex settings and high mobility encountered in low- and middle-income countries, the subjects had to be tracked and their whereabouts identified in a time-consuming manner and in many instances they could not be located at all during follow-up." If high percentages of patient-subjects participated only in a few brief, follow-up contacts, the impressive results may be best explained in large part by the one-hour information session, a type of intervention that could be made available in health care facilities around the world. Another limitation is the confirmation of suicide deaths. Official mortality statistics were not available in all sites making it necessary to obtain reports from informants, usually relatives of the deceased. Since tracking down participants proved difficult, tracking down their relatives might prove even harder.

Like the interventions used by Motto and Bostrom, those used by the Fleischman-led investigators may be done by specially trained technicians. Highly-skilled clinicians and sophisticated psychotherapeutic interventions may be reserved for individuals that are in a position to receive and to benefit from this form of treatment. BIC treatment costs are modest, making it attractive for translation and implementation in a more universal way.

See Table 1, Evidence-based Treatments for the Prevention of Suicide, page 78.

Section-at-a-Glance:

The world's scientific literature contains merely two randomized controlled trials that find an effective means to prevent suicide. The interventions used are quite similar: An initial encounter with someone having clinical knowledge and skills in suicidology followed by regular brief follow-up contacts over 18 to 24 months when the interventions were found to be effective. Both studies involve follow-up subsequent to an acute episode of suicidal behaviors. Neither study was designed to partition the relative contribution of the initial encounter from the subsequent contacts. Two conclusions cut across both studies: First, the

prevention of suicide appears to require an initial, meaningful clinical discussion about suicide, and, thereafter, a series of short, non-demanding follow-up contacts that demonstrate continued human interest in the individual. Second, suicide prevention interventions that are provided by individual clinicians to individual patients should complement universal strategies that are aimed at large populations.

Section-related Recommendations:

Please see the last set of Recommendations in Part Six.

Evidence-based Treatments that Enhance Follow-up and Continuity of Care for Patients at Risk for Suicide

Benefit of outreach services started at or near the time of discharge and sustained thereafter: Immediately after discharge, a member from Welu's research group "reached out" to every patient-subject to instill greater adherence to the recommended treatment plan. [366] All of these patients were hospitalized after a suicide attempt. As soon as possible after discharge, follow-up contacts started. Most often, these contacts included an initial home visit. Thereafter, weekly or biweekly face-to-face meetings or telephone contacts occurred over a four-month period. These contacts were much more than a mere reminder. At each and every session "motivational therapy" occurred with the objective of improving the patient's condition using the therapeutic techniques recommended by the discharge plan.

Compared to routine follow-up instructions (requiring self-motivation) and scheduled, office-based treatment, the intervention group had significantly fewer drop-outs and repeat suicide attempts (Table 2). The results from Welu's study offer solid evidence of the success of an outreach program that administered mental health treatment and emphasized the immediate need for follow-up after hospital discharge. [366] Compared to usual care, this set of specific interventions engaged more patients that made positive changes in their suicide behaviors.

Benefit of an ED-based suicide intervention counselor: "Immediate" care following discharge is the method used also in this next investigation. This Australian cohort study, done by Aoun, used an ED-based, "suicide intervention counselor" to provide therapy and to coordinate care and long-term follow-up for all patients regardless of age. [375] Hospital readmission was the outcome variable. The readmission counts excluded the number of readmissions to non-participating hospitals, and this possible inaccuracy is a serious limitation. This limitation aside, the continuity of care intervention, in comparison to usual care, significantly reduced re-admissions for repeat attempts by 9 percent. The study ended when the counselor resigned the position. "Burn out" of the suicide intervention counselor is mentioned specifically. Like Welu's investigation, this study achieves quite favorable results by providing an intervention that begins at the time of discharge. Likewise, the same service provider continues across all patient contacts.

Benefit of an on-demand rapid response team: A reduced rehospitalization rate for adolescents was one goal achieved by a Canadian study done by Greenfield and others with patients discharged from an ED or a psychiatric inpatient unit. [376] An on-demand, rapid-response team was made available to these young discharged patients, and first contact with the team was made during their ED visit. Team members included a psychiatrist and a psychiatric nurse. This initial contact was soon followed by therapy sessions about crisis management and skill building. The number of sessions was matched to patient needs. Across six months only 18 percent of the patients assigned to the rapid response team were hospitalized compared to 43 percent for those patients receiving usual care.

Benefit of early home-based treatment: Rehospitalization was the outcome variable for a study on adolescents led by Schoenwald. [352] Here, intervention started when the adolescent was approved for emergency hospitalization. Instead of an initial hospital stay, an intensive outpatient, home-based treatment program was initiated. Each patient received Multisystemic Therapy (MST) over four months. MST is a highly individualized family- and home-based behavioral therapy originally designed for juvenile offenders. MST may include psychiatric hospitalization and placement in foster care, detention centers and so forth. MST treatment time averaged 97.1 hours per youth. Emergency hospitalization and rehospitalization rates and length of stay were significantly reduced for the treatment condition.

Benefit of encouraging treatment adherence in the ED: Two studies outlined in Table 2 focus on adherence and engaging young people and their parents in treatment. Like the four prior studies just reviewed, the studied interventions are applied at or near the point of discharge. Adolescents with suicide behaviors presenting to the ED was the population of interest for the study lead by Rotheram-Borus. [236] An investigator-clinician provided crisis therapy and a motivational video during the patient's ED experience, and the follow-up included a minimum of six standardized outpatient treatment sessions. In response to these efforts and over an 18-month period, those patients participating in the experimental conditions attended, on average, at least 3 more sessions than did the usual-care, control group.

See Table 2, Evidence-based Treatments that Enhance Follow-up and Continuity of Care for Patients at Risk for Suicide, page 80.

A fairly similar study was initiated as well during the time adolescents and their parents were in the ED. [377] A professional from Anthony Spirito's research team supplied a standardized, 50-minute session talking about realistic treatment expectations and barriers to the treatment recommended. Reminders were sent over the three-month outpatient follow-up period, during which time four structured continuation sessions were made available. This "compliance enhancement intervention" produced significant results in that, compared to the control group, the intervention group attended close to three more sessions. Spirito, like Rotheram-Borus, comments about the significant barriers to accessing care faced by disadvantaged populations. Many of these impediments are described on prior pages.

Negative consequences of discontinuity of care: Sustained or increased suicidal behaviors or even suicide deaths may result when the intervention is delayed. The deadly consequences that may be attributed to delayed follow-up are highlighted by Cedereke's study from Sweden. [378] The investigators end their publication with: "The results of our study indicate that there is a need to offer help and support very soon after a suicide attempt."

Patient contact commenced late in the following study of suicide attempters. ED patients were contacted *for the first time* one month after ED out-referral. Prior to any contact regarding the need for follow-up care, two of the 246 patients had died by suicide, 7 percent had attempted suicide, over 17 percent had dropped out, and 11 percent could not be contacted. [378] This amount of delay is clearly dangerous and cannot be supported. The one-month delay that characterized this inquiry from Sweden appears to be associated with increased numbers of suicide attempts and suicide deaths (Table 2). It is impossible to know for sure if these events could have been prevented since the study was not designed for this purpose. By comparison, however, the six studies reviewed just prior had very positive results and a more immediate follow-up plan was employed.

Benefit of motivating adherence during the ED visit: The best timing of "immediate first contact" is likely dependent on the nature of the prescribed treatment, the characteristics of the population at risk, and features of the discharge plan and related system of care. A study described hereafter, done in Belgium, illustrates this point (Table 2, van Heeringen, 1995). [30] For all patients, self-poisoning (i.e., overdose) was the means used for attempting suicide. Continuity of care specified an appointment one week after discharge from either an ED or psychiatric inpatient unit. If patients did not attend their first appointment within two weeks of their discharge date, a member of the research team went to the patient's home. A repeat "no-show" received one or two more home visits. Compared to the control condition and at one year follow-up, the intervention group attended significantly more outpatient sessions and had significantly fewer suicide attempts. This study did not make any attempt to control for lethality of suicide attempts, which is a serious limitation. Discounting this drawback, the study results suggest that getting the patient to the first appointment may be crucial for engagement. However, any intervention to enhance adherence and engagement that occurs two weeks post-discharge cannot be given much support because this time period is associated with very high risk for suicide. [13, 14, 19, 121, 124, 125, 379]

Benefit of making the first appointment within 72 hours of discharge: The last study reviewed in this section found no between-group differences. This study was done by a managed-care organization that required a high-quality discharge plan for all patients. Investigators from United Behavioral Health compared usual, enhanced, and intensive continuity-of-care procedures and found no differences across these three conditions (Cuffel, 2002). [380] This outcome is entirely expected because usual care included a follow-up appointment within 72 hours of inpatient discharge. Within the first 24 hours, a phone call was made to verify an appointment and to encourage attendance. This type of research begins to describe the attributes of expected best practices. A telephone call made 24 hours after discharge reminded the patient of an appointment 24 to 48 hours later. About half the patients in each group were provided outpatient care by the same psychiatrist that provided inpatient care. Attendance was high; 69 percent of patients were involved in aftercare by one month, and 80 percent participation over another month and one-half.

Section-at-a-Glance:

Suicide-prone patients are more likely to adhere to the recommended treatment plan if treatment-engagement interventions are applied near or at the point of ED or psychiatric inpatient discharge. Among the successful strategies reviewed here are scheduling the first outpatient appointment 48 to 72 hours after discharge and making a reminder phone call. Time spent in the ED with patients and family discussing reasonable treatment expectations and/or seeing and discussing a motivational video appears to increase participation in outpatient treatment, especially for adolescents. The added involvement in the ED of a suicide counselor who continues after the ED visit to furnish follow-up care and case management is likely to decrease the frequency of repeat suicide attempts as well as the frequency of hospital readmissions. Intensive outreach interventions such as home visits and frequent home-based therapy sessions appear to achieve the same sort of favorable outcomes. Interventions encouraging adherence that are delayed by a month or more are likely to have such unfavorable outcomes as suicide attempts and suicide deaths. *These findings all support a strong basis for starting outpatient, anti-suicide treatments and motivating treatment plan adherence at the time of the ED visit or concurrent with hospital discharge and for continuing these interventions for some time thereafter.*

Section-related Recommendations:

Please see the end of the next section.

Evidence-based Treatments for the Prevention of Suicide Attempts and the Enhancement of Continuity of Care

Multiple suicide attempts by the same patient may be reduced by sustained outreach services and/or intensive case management: Patients that make multiple attempts present enormous challenges to every ED and inpatient unit. Repeat attempts are the subject of an important Australian investigation led by Carter. [381] Carter's research is modeled after the study by Motto and Bostrom, which is described immediately above. [26, 36] The population of interest differed, however. In Carter's study, repeat suicide attempts is the outcome variable; all patients were hospitalized after self-poisoning (i.e., overdose). Beginning 30 days after discharge, the intervention involved sending eight, non-demanding postcards to patients (in sealed envelopes) over the 12-month, post-discharge period. This study found no significant differences between groups in the proportion of participants that made a repeat overdose during the one-year follow-up period. However, it did have an impact on the number of attempts. When multiple attempts made by the same patient in the follow-up period were considered, *the patients, mostly female, who were sent the postcards made approximately half the total number of repeat attempts than individuals in the control condition*.

Even seemingly inconsequential contacts may be of some benefit in some suicide-risk groups. Connectedness may be an important reason why this postcard intervention succeeded, but this is

sheer speculation. The reasons simple letters or postcards obtained favorable outcomes is unknown, and research is needed to identify the ingredients for success. Reasons aside, these appear to be low-budget methods to thwart some repeat suicide attempts and, possibly, prevent suicide deaths. If so, research is needed to better characterize the precise means for this accomplishment.

The limitations of intensive case management are illustrated by a randomized control trial (RCT) done by De Leo and Heller. [382] (The De Leo and Heller study is not represented in any of the tables.) The aim of the research was to evaluate the impact of intensive case management for males with a history of suicide attempts. In addition, the study participants had psychiatric illness and were recruited at the time of discharge from an inpatient psychiatry unit. Sixty patient-subjects were randomly assigned to either intensive case management or the control group, treatment as usual. For one year, the intervention featured weekly face-to-face contact with a community case manager and outreach telephone calls from an experienced telephone counselor. People in the treatment condition had significant improvements in depression scores, suicide ideation, and quality of life; they had more contacts and more satisfying contacts with mental and allied health professionals. No differences were found across conditions in the key variable—self-harming behaviors. This study is mentioned, however, for its limitations. In both groups there was a high attrition rate—73 percent (only 8 people remaining) for treatment as usual and 53 percent (only 14 people remaining) for the intervention condition.

An RCT led by Dixon has somewhat parallel results. The Dixon study examined the effectiveness of a three-month critical time intervention model in improving continuity of care for consenting veterans (n=135) with mental illness who were discharged from inpatient psychiatry facilities. [383] These two forms of intensive case management (i.e., De Leo and Heller; Dixon and colleagues) significantly improved continuity of care, but failed to produce significant changes in mental health outcomes. *One possible conclusion is that intensive case management alone may be a necessary but insufficient condition to keep suicide-prone people engaged*. Some form of actual treatment pertaining more directly to suicidality is necessary, and the following studies provide treatment and are far more successful.

Suicide attempts may be prevented by a specific anti-suicide therapy beginning at or soon after the ED visit: The efficacy of cognitive behavioral therapy in reducing suicide attempts is illustrated by two studies. The study led by Gregory Brown is the first to be reviewed.

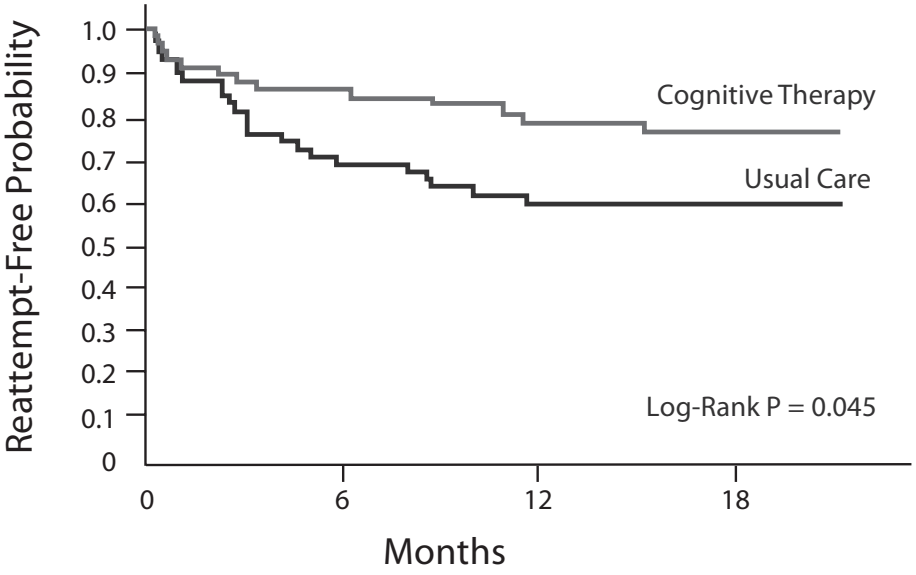
Published in 2005, the randomized control trial lead by Brown deserves special mention as it sets the present standard against which other trials will be compared. [32] Unlike most studies previously mentioned, Brown used *a sample of patients that were at high risk for suicide behaviors and a therapy specifically designed to treat suicide-attempt behaviors*. This special form of cognitive behavioral therapy (CBT) is standardized and manual-based. [32, 384]

Post-suicide-attempt patients in both the experimental and control condition were contacted while they were still in the ED or shortly after being discharged. Once randomized, each of two study groups received active case management services (e.g., coordination of appointments, help with transportation, identifying alcohol and drug rehabilitation agencies and so forth). Each patient in

the experimental population agreed to attend a minimum of 10 CBT sessions. So as to be treated equally, patients in both treatment conditions were encouraged to attend the usual forms of treatment provided in the community. At the 18-month follow-up, the experimental sample made significantly fewer suicide attempts, and patients in this group were 50 percent less likely to reattempt (Figure 5. Kaplan-Meier survival curves; 0.51 hazard ratio.) Depression and hopelessness scores were significantly reduced during follow-up compared to the control conditions.

Figure 5:

Survival Curves of Time to Repeat Suicide Attempt



Number at Risk				
Cognitive Therapy	60	45	37	16
Usual care	60	36	28	11

Published in 2008 and done in The Netherlands, the second study's main outcomes are several: reduction in self-harm as well as suicidal cognitions and symptoms of depression and anxiety, and improvement in self-esteem and problem-solving ability. [385] This RCT, led by Slee and others, provides patient-participants, ages 15 to 35 years, a maximum of 12 sessions of cognitive-behavioral therapy (CBT) after an episode of acute suicide behaviors largely without suicidal intent. Of the 100 eligible patients, 90 were randomized to either cognitive behavioral therapy plus treatment as usual (*n*=48) or to the control condition, treatment as usual (*n*=42). Excluded were patients with a severe psychiatric disorder requiring intensive inpatient treatment. The initial assessment took place two weeks after the initial episode, and CBT started three weeks after; outcome measures were obtained at 3, 6, and 9 months (Table 3). Despite eligibility for the study, 45 percent declined

to participate. An intervention that begins three weeks after an episode of self-harm is likely three weeks too late for many in crisis.

At the nine month follow-up, patient-participants in the CBT-intervention arm of the study had a mean of 1.18 repeat self-harm episodes in the past three months versus 4.58 repeat episodes for the control arm ($p < 0.05$). The differences at three and six months were not significant. Since treatment was delayed by three weeks, it is possible that intervening earlier may have reduced reattempt rates sooner. Since 21 percent received CBT and traditional psychotherapy concurrently during the first three months of the study, the study was unable to separate the effectiveness of CBT from that offered by a more complex treatment program. All of the secondary outcome measures (suicidal cognitions, depression, anxiety, and so forth) were significantly different from the control condition.

A large RCT reported in 2003 by Tyrer and others needs to be mentioned because it failed to find CBT effective in reducing repeat attempts. [386, 387] In this particular study, 38 percent of participants failed to attend a single CBT session. Nevertheless, each person received a 70-page booklet describing the seven, manual-assisted CBT (MACT) sessions offered. In contrast, 78 percent of participants in the Slee et al. study completed all 12 sessions. Although there was a cumulative 25 percent drop-out rate in the Brown et al. study, a mere 3.5 percent of patients received no treatment by the three-month follow-up. While Tyrer's results should not be dismissed, their importance needs to be tempered by the high rate of non-participation. In their journal article, Tyrer and colleagues mention other serious limitations as well. For example, "in many cases the amount of therapeutic time given in the [treatment as usual] group exceeded that of MACT *considerably* [italic added]." For these reasons the study is not represented in Table 3.

As this review has argued on prior pages, there is a desperate need for more therapies that are designed specifically to treat and manage suicide risk. Brown's research group employed a cognitive therapy that was administered over 10 sessions. Slee's group provided 12 sessions. Developing even briefer anti-suicide treatments must be a high priority and both studies make a strong case for this priority. It is reasonable to envision effective, brief treatment designed for application during psychiatric hospitalization or for initiation during the ED visit. Additionally, this research is another example of the benefit of starting treatment at the time of or very soon after the ED visit.

Benefit of starting intensive treatment at or soon after the ED visit: One study reported by Guthrie's research group and another by Huey's group also support starting treatment near the time of the ED visit. [29, 245] Guthrie's research-clinician furnished four 50-minute, in-home, psychodynamic-interpersonal therapy sessions to suicide attempters during the first four weeks after ED discharge. [29] When compared to the usual-care patient group at six months, Guthrie's patient-subjects had significantly fewer suicide attempts. There were no one-month differences. It is possible that brief, intensive therapy's efficacy requires time, six months in this study, before the benefits of therapy are observable. Assuredly, explanations that have more to do with research design and small sample size (n=119) have to be considered as well.

Troubled, disadvantaged youth at risk for self-harm is the patient population for Huey's inquiry. At the point of first contact, either in the ED or the hospital admissions office, these youths were randomized to a psychiatric inpatient unit or to Multisystemic Therapy (MST) administered on an outpatient basis, usually in the youth's home. This is an intensive, highly individualized therapy originally designed for juvenile offenders. [245, 352] On average, intensity equaled about 97 hours per youth within a four-month timeframe. Indices of suicidal ideation, attempted suicide, depressive affect, and parental control were assessed before treatment, at four months after recruitment, and at the one-year, post-treatment follow-up. Analysis of data obtained at 4 months and at 12 months support the efficacy of MST relative to inpatient psychiatric hospitalization in reducing youth- and caregiver-rated suicide attempts. Similar comparative dissipations in suicidal ideation were reported as well. [245]

Starting an intervention as soon as possible (i.e., at or near the time of the ED visit) was found to be effective in reducing suicide attempt behavior. In a less psychosocially-challenged patient group, the Guthrie team produced success with four, in-home therapy sessions over four weeks. The Huey team contended with a more challenged population and used an immediately available intensive intervention to achieve significant reductions over time in suicide ideation and attempt behavior. The two interventions used were designed specifically for the target populations, suggesting strongly that more specialized, anti-suicide psychological therapies may be more effective compared to more generic, usual-care therapies. These studies suggest that intensive treatment starting immediately after the initial request for help may be substituted for hospitalization.

Possible added benefits from getting to know the therapist during the ED visit: There is every reason to believe that continuity of providers improves outcomes. This feature coupled with intensity of therapy characterized an inquiry from Canada commenced by Termansen and Bywater in 1975. [388]

Termansen and Bywater's study recruited ED patients making a suicide attempt of any severity. Intervention began at or close to the time of the patient's ED experience. Experienced mental health workers gave the intensive treatment. Sessions were daily for the first week and every two days for two weeks; frequency was down-tapered slowly over the research's 12-week duration. At three months the reattempt rate associated with the highest intensity of treatment was 2 percent, which is significantly different from 6 percent associated with the next level of intensity. One limitation was the highly variable severity of the index suicide attempt. These investigators remark that only 45 percent of ED discharges were given any sort of follow-up.

Similar continuity of care procedures and intensity of treatment characterized the Huey-lead investigation reviewed just above. [245] Please refer to that description for the favorable results associated with that investigation.

An inquiry by van der Sande found that an intensive intervention beginning right after the initial examination failed to decrease suicide reattempts, but it did increase participation in outpatient treatment significantly. [246] Suicide attempters, 15 years and older, presenting to a hospital for treatment were randomly assigned to either a four-bed specialty unit with a maximum four-day length

of stay or assigned to treatment as usual. Short-stay patients were able to follow-up with a nurse that worked in the short-stay unit; presumably, patients got to know their assigned nurses. Descriptions of the treatment seem somewhat generic. "Patients were encouraged to talk about their problems" is mentioned as one example of the therapy's content. While there were no group differences in suicide-reattempt behaviors, 89 percent of the experimental group (versus 55 percent for usual care) from the short-stay unit attended one or more outpatient sessions. The experimental group attended, on average, three more sessions—a significant result.

The investigators' overall conclusion minimizes their success: "General implementation of an intensive in-patient and community intervention programme for suicide attempters does not seem justified." Rotheram-Borus and Spirito declared triumph when their separate studies with adolescents achieved, on average, an additional three outpatient visits in the experimental groups (Table 2). [230, 236] The van der Sande team's work got 89 percent of patients in the experimental group to their first appointment, which is a significant achievement. From what can be gleaned from the published report, the ineffectiveness of the treatment in reducing suicide attempt behaviors surely may have something to do with the general treatment provided. In contrast, motivating follow-up was a success story.

Suicide attempts may be prevented by referral to an experienced mental health specialist but discontinuity of care has negative consequences: If the successful outcome of a surgical procedure requires superior technical skills, the common wisdom is to find a well-practiced, experienced surgeon who does the procedure many times each week. Does this same advice apply to the treatment of suicide risk? This next study looks at this important question using non-randomized methods. The differential benefits of treatment from an experienced mental health professional defy easy study because the most difficult patients are referred most often to specialist-clinicians. To get at the comparative benefits of alternative referrals the study below attempted to statistically control for variables that may otherwise bias results.

Kapur and five colleagues authored a paper that gets at this question. [389] The 658 patients recruited for their investigation were from the emergency departments of four, inner-city hospitals in Greater Manchester, England. Each patient had overdosed, and the outcome variable was repeat suicide attempts. Patients were assigned, without randomization, to receive either a referral to a specialist (e.g., self-harm treatment services or mental health professionals) or a referral to usual care from a non-specialist such as a primary care physician. In this cohort study, whether or not a "psychosocial assessment" was done in the ED made no difference in outcomes, but being referred to active follow-up with a specialist predicted 50 percent fewer repeat attempts. This multi-center cohort trial supports the conventional wisdom of seeing a specialist over a generalist. Referral decisions are not well studied, and investigations using randomized methods will have to drill closer to the evidence favoring one referral decision over another. It is necessary to consider the level of experience of the professionals. Reviewed directly below, the next clinical trial used randomized methods, and gets at additional evidence.

Vaiva's research findings are of interest regarding repeat suicide attempts and specialist versus non-specialist referrals. [390] After a suicide attempt, patients, ages 16 to 65 years old, were evalu-

ated in one of 13 emergency departments in the north of France and recruited for this study. Randomization was to one of three groups: (1) phone call at one month (*n*=147), (2) phone call at three months (*n*=146), and (3) no telephone contact (*n*=312).

A psychiatrist with at least five years of experience in managing suicidal crises telephoned patients at one month (experimental group one) or at three months after discharge (experimental group two). Inquiring about the success of the recommended treatment or about the need to adjust treatment was the purpose of the call. The psychiatrist's single call at either one month or three months consisted of much more than just social conversation; the call constituted a clinical examination and supportive psychotherapy, albeit over the phone. Based on the examination's findings, the psychiatrist had the authority to alter the patient's treatment program, encourage adherence, and so forth. The information collected and the actions taken by the psychiatrist were communicated to the patients' primary care physicians, thereby coordinating care. The control sample received usual care (i.e., no phone call). Generally, usual care was referral back to their primary care physician. Overall patient-subject participation was 70 percent.

At the end of 13 months, this study found that patients who intentionally overdosed and who received a one-month follow-up telephone call from an experienced psychiatrist were significantly less likely to make a subsequent suicide attempt (23 percent repeaters) compared to patients receiving usual care (30 percent repeaters). The investigators conclude that "contacting people at one month after being discharged from an emergency department for deliberate self-poisoning may help reduce the number of reattempted suicides over one year."

These results begin to address the more general issues about the comparative therapeutic effectiveness of the mental health specialist's skill set versus the generalist's. Participants in the intervention groups talked about their attempted suicide with their general practitioner significantly more often than the controls, so more convincing data about the effect of the discipline or experience of the caller will require more specific studies.

Coordination of care is an implied success since the psychiatrist involved the primary care physician. Questions about intensity of services are raised because there was only a single telephone call contact. This intervention took place one month after a suicide attempt, so the optimal timing of such an intervention has to be considered. Regarding the one month delay in making the first call, Vaiva and colleagues have tragic results to share.

The deadly consequences of delayed follow-up are highlighted by Vaiva's study of ED out-referrals. For the 605 patients enrolled in this randomized clinical trial, 48 attempted suicide before being contacted a month after the initial ED visit. [390] Motto's study (Table 1), Cedereke's study (Table 2), and now Vaiva's study (Table 3) all report suicide attempts and suicide deaths as possible unintended consequences of delayed interventions. [36, 378, 390] While none of these three studies were designed to prevent these deaths, the observational data provides a strong argument favoring continuity of care. *Timing of the first intervention is most assuredly a key issue for continuity of care strategies and responsive public policy.*

See Table 3, Evidence-based Treatments for the Prevention of Suicide Attempts and the Enhancement of Continuity of Care, page 85.

Possible benefit of giving high-risk patients a "crisis card:" "The Green Card Study" is the only randomized controlled trial found that considers the utility of "crisis cards." [391] Each patient-participant in the population examined made his or her very first suicide attempt. The intervention was applied as soon as possible after admission, presumably to a hospital unit. A "green card" ("crisis card") was given to each patient randomized to the experimental group. The "green card" described how to, at any time, contact a psychiatry resident; rehospitalization was also an option. The publication is silent about how well each patient knew his or her assigned resident. Follow-up data obtained after one year showed a significant reduction ($p \leq 0.05$) in the combination of actual or seriously threatened self-harm behaviors in the experimental group. There were seven actual attempts in the experimental group versus 15 in the controls. Statistical significance required inclusion of patients making serious threats of a repeat suicide attempt. A trend was noted (p=0.053) towards lesser use of services in the experimental group. Of 212 patients recruited only 15 took advantage of the help made available by the "green card." No information was obtained about the patients' reactions to the experimental intervention.

Surely, "crisis cards" may be practical, even effective, therapeutic tools. On these cards might appear phone numbers of whom to contact during a worrisome episode of suicidal ideation. Generally, these cards tend to be issued by a mental health professional that has had some prior contact with his or her client-patient. "The Green Card Study" delves into the utility of such cards. This is the only randomized controlled trial that this review identified that directly bears on this form of protection, which appears to have real merits. Here is means of connectedness showing someone cares and providing a way to call for help that is available day or night. The results from this study have stimulated the more wide-spread use of crisis cards in general safety planning. [171]

The use of "crisis cards" and "crisis response plans" and "commitment to treatment statements" is advocated by experts in the field of suicidology. For example, David Rudd's short text, *The Assessment and Management of Suicidality*, explains the advantages of these therapeutic tools and gives practical examples of them. [392]

The need to match the treatment to the population at risk for suicide: Some patient groups may not adhere to traditional forms of treatment. While this issue is not among the goals of research led by Allard in a Canadian study, the results suggest that the treatment needs to be tailored to the population at risk. [31] The 150 patients all made an indisputable suicide attempt; some were admitted from the ED. The key elements of the intervention were one home visit followed by one month of weekly *office visits* and eight monthly *office visits* thereafter. The group that received this "experimental" treatment had a 35 percent reattempt rate which was higher than the control group's rate. The published report mentions that over 55 percent of the patients were unemployed, about 26 percent had fewer than 9 years of education, and 70 percent were unmarried. Other challenging attributes are found listed in the publication. Could it be that patients with these characteristics do not attend traditional office visits? Only 21 out of 63 experimental subjects completed the treatment. The treatment was some uncontrolled combination of "support or psychoanalytically-

oriented psychotherapy, psychosocial, drug, or behavioral therapy." The methods and results described in this study raise more questions than answers. For especially challenging patient populations that are at risk for suicide, what anti-suicide therapeutics are most beneficial? Considerable work needs to be done on treatment matching.

Dialectal Behavioral Therapy for Suicide Prevention

Among all the psychosocial therapies for suicide prevention, dialectal behavior therapy (DBT) has probably been studied the most. Originally, DBT was developed for patients with borderline personality disorder that make frequent suicide attempts. [393, 394] Linehan's theoretical model provides a framework to better understand the motivational dynamics that result in frequent suicidal behaviors. [393-395] In this population, suicide attempts are set off by a wide variety of psychosocial cues, and suicide acts function to make the psychosocially-related intense emotions and moods more tolerable and function to escape the allied psychological pain.

DBT has been evaluated by at least 11 randomized controlled trials (RCT) and by at least an equal number of quasi-experimental studies. [293, 295] This data base supports the assertions that DBT reduces suicidal behavior and time spent in the hospital for patients with histories of chronic suicidal behaviors. A recent RCT demonstrated DBT's effectiveness compared to treatment as usual as well as compared to expert treatment. [396] The developer, Marsha Linehan, published treatment manuals in 1993, and she and her group run a series of workshops, thereby making DBT accessible to community clinicians. DBT has been enthusiastically embraced by numerous practitioners and facilities.

Linehan and others published in 2007 a review that "conservatively" scrutinized the evidence for DBT's effectiveness and applicability. [293] This review concluded that " . . . the current literature quickly reveals that DBT is the only treatment for BPD [Borderline Personality Disorder] considered well established or efficacious and specific." Another recent evidence-based review found in The Cochrane Collection dated 2006 concluded that " . . . problems frequently encountered by people with borderline personality disorder may be amenable to talking/behavioural therapies but all therapies remain experimental." This review from The Cochrane Collection had misgivings due to small sample sizes and too few studies. [295] These optimistic results are further tempered by what is referenced as a "publication bias," which stems from a disproportionately large influence on overall effect size due to studies with small samples and large effect sizes. [369] These are criticisms made frequently for therapeutic treatment trials in general, including trials of psychopharmacologic agents.

DBT has been applied to inpatient settings and other treatment settings and diagnostic groups. [294, 397-399] There have been at least five quasi-experimental investigations in which DBT was adapted for use on an inpatient basis. [293] One published guideline exists for the use of DBT on an inpatient unit. [397] More inpatient-based research is needed that takes into account length of stay and caregiver continuity. The emergency department has had even less attention. DBT skills and techniques have a potential role in emergency and inpatient settings, but further development is necessary. [367, 370, 400-402]

Section-at-a-Glance:

Discontinuity of care may commingle with increasing suicide risk, attempts, and death. Three randomized controlled trials (RCTs) make a persuasive case for the correctness of this assertion. [26, 378, 390] In each of these studies the intervention was delayed until one month after discharge. During that interval, patients attempted suicide and died from suicide. Since there were no comparison groups that received the intervention more immediately, it is unknown if these deaths could have been prevented. In contrast, seven RCTs initiated patient contact as soon as possible after discharge from either an emergency department or inpatient unit. [29, 32, 245, 374, 385, 388, 391] Compared to usual care, significant reductions in suicide reattempts were achieved by each of these studies. Usual care without any attempt to improve adherence to the recommended treatment plan is a form of discontinuity that appears to have severe consequences. These data persuasively illustrate the numerous benefits of beginning suicide prevention work in close proximity to the patient's first contact with organized health systems and reinforce the advantages of prioritizing high-quality, continuity-of-care practices.

Specific anti-suicide psychotherapy is associated with improved outcomes when compared to more generic therapy offerings. Brown's research group administered cognitive behavioral therapy (CBT) designed specifically for treating recent suicide attempters and preventing suicide attempts, and a significant reduction in suicide reattempts is the outcome found by this research. [32, 384] Dialectical Behavioral Therapy (DBT) is a specific anti-suicide cognitive therapy that has been shown in several randomized trials to reduce suicide behaviors. CBT, DBT, and related cognitive therapies require further development for use in emergency department and inpatient settings.

Follow-up interventions that are simple and low-effort show considerable promise for preventing suicide behaviors. Motto's group used short, personalized letters; the study led by Fleischman provide a series of brief (e.g., five-minute) clinical contacts; Morgan and his associates used a "crisis card" as part of safety planning; and Carter's group used postcards. [26, 36, 374, 381, 391] Morgan's research and Carter's research each found significant reductions in suicide attempts. The study lead by Motto is the only study found by this review that used an intervention (sustained series of short, personalized letters) that prevents suicide. It is unknown exactly why these inexpensive interventions are effective. Giving patients a sense of "connectedness" to caregivers and providing concrete evidence of continued "empathic concern" are possible keys to their success.

Too little attention has been give to what components of psychological therapies are most effective and, particularly, what components might be effective in the very short-term. Psychosocial therapies aimed specifically at suicide risk have not been tested on ED populations to any great extent. The use of cognitive psychotherapies on inpatient units is non-standardized and highly variable. There is absolutely no information about what number of psychosocial therapy sessions are required to impact suicide behaviors. Across several studies the contributions to overall effectiveness made by the initial assessment interview remain to be determined.

Finally, Figure 4 tells an important story. The first suicide attempt carries a risk for future attempts and for suicide death. The vulnerability lasts for years thereafter. Many times a suicide attempt is not an isolated event. Rather, it may be a signal of repeat attempts. A suicide attempt is a strong predictor of suicide death. Patients that refuse the recommended treatment plan appear to be at considerable risk. Patients that both refuse to accept the treatment plan and refuse to acknowledge further clinical contacts may be at extreme risk.

Section-related Recommendations:

- **Fund substantially more research that use randomized methods and that use suicide attempts as outcome variables.** *Suicide attempts are the strongest, most easily recognized predictors of suicide deaths. Suicide attempts are a more viable outcome measure than suicide deaths. Because of their high frequency of occurrence, suicide attempts have advantageous sampling characteristics and provide a close approximate measure of actual suicide deaths, especially in individuals at high risk for making additional attempts. (Please see Appendix Two: "Sampling and Design Characteristics of Clinical Trials Measuring Changes in Suicide Behaviors.")*
- **Consider setting the standard for the first follow-up appointment subsequent to high-risk patients being discharged from ED or psychiatric inpatient units at "within one week or less."** *This standard needs to be linked to the identification and adoption of outreach interventions that motivate adherence to the recommended treatment plan. The rapid availability of high-quality outpatient treatment may offset the need for hospitalization. This hypothesis needs investigation; the results may impact both the quality and expenses of mental health care in general.*
- **Fund additional research targeting patients that refuse the recommended treatment plan.** *Better understanding of these outcomes of non-adherence may provide strategies and motivational tools for working with this understudied population.*
- **Identify the component parts of psychosocial therapies that best explain their efficacy and onset of action.** *This identification will likely lead to the development of more rapidly acting and enduring anti-suicide psychological therapies for suicide prevention.*
- **Investigate the use of various types of electronic contacts (e.g., text messaging) as part of an overall follow-up plan for a suicide-prone patient discharged from an emergency department or inpatient unit.** *Randomized controlled trials find short letters, brief contacts, and even postcards reduce suicide attempts and suicide. New technology makes this form of stay-in-contact suicide prevention extremely doable without great expense.*

Table 1: Evidence-based Treatments for the Prevention of Suicide

Sources	**USA. Motto JA, Bostrom AG. Psych Services 2001;52:828–33**. (See also: Motto JA. Suicide Life Threat Behav 1976;6:223–230.)
Design	Multi-center RCT. 3,005 psychiatric inpatients received a 2- to 4-hour, face-to-face psychosocial interview and assessment. Of those interviewed, 2,782 patients were followed over 60 months. *Surveillance continued for 15 years.*
Question	In a population of psychiatric inpatients admitted due to a "depressive and suicidal state," do regular contacts, made over a series of years and expressing unconditional concern, prevent suicide?
Target Population	Patients (*n*=3,005) with "depressive or suicidal states" admitted to one of nine psychiatric hospitals in San Francisco. They refused the recommended treatment program or stopped it within 30 days of discharge. The population "refusing or stopping" were divided randomly into a "contact" (*n*=389) or a "no-contact" (*n*=454) group. An "undetermined group" eluded all attempts at contacting them. Suicide deaths were obtained for all four groups.
Intervention	Each patient in the contact group received a schedule of regular, personalized short letters or brief phone calls from the initial interviewer monthly for four months, then every two months for eight months, and finally every three months for four years (i.e., maximum of 24 contacts over five years). Experimental group compared to group accepting recommended treatment (*n*=1,939) and to the no-contact group refusing treatment.
Selected Outcomes	The contact group had a lower suicide rate in all for all five years. Significant differences (*p*=0.043) in survival distributions were found only for years one and two which were the years with the most frequent contacts. Beginning with year 5, the suicide death rates progressively converged for the contact and no contact group; they were indistinguishable by year 14. Of the three main groups, the treatment group had the highest suicide rate across all 15 years. However, the highest rates were found in those individuals in a fourth group (labeled "undetermined") that died from suicide within 30 days of discharge, or did not respond to three inquiries and/or could not be located. Suicide deaths during first five years: 15.7% undetermined, 6.2% treatment, 4.6% not contacted, and 3.9% contacted. See Figure 4.
Commentary	*This is the only study, of which this review is aware, demonstrating an intervention that prevents suicide. There were* ***25 total suicide deaths in the month before the intervention even started*** *compared to 63 suicide deaths over the next 11 months (Motto, 1976). This study makes the case for long-term suicide prevention programs since suicide is a long-term risk.*

Source	**Multi-country[a]. Fleischmann A et al. Bull World Hlth Organization 2008;86(9):703–709.**
Design	RCT. As close to the time of discharge as possible, 922 ED patients received treatment as usual plus brief intervention and contact. 945 comparison patients received treatment as usual. Followed for 18 months.
Question	To determine if a brief intervention and a series of follow-up contacts are effective in reducing subsequent suicide rates.
Target Population	ED patients who attempted suicide (*n*=1867) from eight collaborating hospitals in one of five culturally different sites located within a population area of 250,000 people. The comprehensive suicide assessment was based on the European Parasuicide Study Interview Schedule.
Intervention	A one-hour individual information session about relevant suicide topics (e.g., suicide risk factors, alternative options) followed by nine brief, face-to-face or telephone, five-minute contacts consisting mostly of practical advice. A doctor or nurse or psychologist with clinical experience working with suicidal patients made the contacts.
Selected Outcomes	At 18 months, significantly fewer suicide deaths occurred in the intervention group than in the treatment-as-usual group (0.2 percent versus 2.2 percent; $p < 0.001$). Overall dropout rate = 9%. The stated limitations are hard to interpret given the small dropout rate: " . . . in many instances they [participants] could not be located at all during follow-up."
Commentary	*The intervention used by Fleischmann et al. is quite similar in nature to that employed by Motto and Bostrom—initial encounter with a clinician informed about suicide issues followed by a series of short contacts. Fleischmann's group employed face-to-face or telephone contacts; Motto sent brief, non-demanding letters. Both studies had significant results for a follow-up period of 18–24 months. Neither study was designed to partition the relative contributions of the initial encounter from the subsequent contacts. Stunningly, the world's scientific literature contains a mere two RCTs that find an intervention that reduces suicide rates.*

[a] *Campinas, Brazil; Chennai, India;Sri Lanka; Karaj, Islamic Republic of Iran; and Yuncheng, China*

Table 2: Evidence-based Treatments that Enhance Follow-up and Continuity of Care for Patients at Risk for Suicide

Source	**USA. Welu TC. Suicide Life Threat Behav 1977;7:17–20.**
Objective	Improve adherence to the follow-up treatment plan and, thereby, prevent suicide behaviors.
Design	RCT. Usual care was routine follow-up instructions; self-motivation. 120 patients with 63 in the experimental group and 57 in the comparison group; each followed four months.
Question	Will intensive outreach, started immediately post-discharge, maintain continuity of care and reduce reattempts?
Target Population	Patients hospitalized after a suicide attempt; 16 years or older; 40% alcohol problems.
Intervention	Immediately after discharge provide phone contact and home visit followed by weekly or biweekly motivational therapy to continue the treatment plan.
Selected Outcomes	After one month, 12.7% drop out in experimental group vs. 47.4% for controls; at four months 9.5% vs. 49.1% ($p \leq 0.05$). Reattempts: 3 vs. 9 (p=0.046).
Commentary	*These are dramatic differences favoring intervention.*
Source	**Belgium. van Herringen C et al. Psychol Med 1995;25:963–70.**
Objective	Improve adherence to the follow-up treatment plan and, thereby, prevent suicide behaviors.
Design	RCT. Both groups given written instructions to make clinic appointment within one week of discharge. 516 patients with 258 in the experimental group and 258 in the control group; each followed for 12 months.
Question	Will home visits motivate discharged patients to follow up and predict fewer reattempts?
Target Population	Patients discharged from ED (40%) or inpatient (60%) after an overdose of variable lethal intent. 15 years or older.
Intervention	If after two weeks patient is a no show, home visit from nurse; another no show gets repeat home visit.
Selected Outcomes	After home visit, compliance was 51.2% vs. 42.5% before (p=0.01). At one year, 10.7% of experimental group repeated attempts vs. 17.4% for controls (p=0.056).
Commentary	*An intervention two weeks post-discharge cannot be supported because this is a time of very high suicide risk.*
Source	**Australia. Aoun S. Aust N Z Ment Health Nurs 1999;8:65–73.**
Objective	Improve coordination of care and adherence to the follow-up plan.
Design	Cohort. Comparison to usual care. 208 patients; each followed for 22 months.

Question	Will a "suicide intervention counselor (SIC)" reduce the rate of hospital admissions for repeat suicide attempt behavior?
Target Population	Patients ages 15–66 years referred to the SIC because of recent suicide attempt (37%) or at high-risk for suicide; 57% referred as part of the psychiatric inpatient discharge plan; the SIC was the only outpatient provider for 22% of patients.
Intervention	The SIC functioned much like a case manager (e.g., crisis management, coordination of in- and outpatient follow-up care, liaison to community agencies and so forth) who also did crisis work.
Selected Outcomes	Re-admissions for repeat suicide attempts were 3.6% for SIC patients and 12.6% for usual care (p=0.015); 11.1% re-admission rate prior to SIC (p=0.026). It is possible some patients admitted to a hospital outside the geographic region studied.
Commentary	*This intervention illustrates a "transition clinic." When there is no other disposition immediately available, the SIC was available to take patients.*
Source	**USA. Schoenwald SK et al. Mental Hlth Serv Res 2000;2:3–12.**
Design	RCT. Each intervention patient paired with a patient receiving hospitalization. 113 youths with 57 in the experimental group and 56 in the control group; each followed for three to four months. *See Table 3 for the related study led by Stanley Huey.*
Question	Is home-based "multisystemic therapy (MST)" an alternative to emergency psychiatric hospitalization for youth with suicidality, homicidality, and/or psychosis?
Target Population	Youths ages 10 to 17 years (and their families) presenting to any point of entry to a psychiatric hospital; 65% male; 64% African American; 62% "disruptive behavioral disorders"; 38% prior psychiatric hospitalization; 38% involved in criminal justice system; 58% single-parent family; 72% receiving some form of public assistance.
Intervention	MST is a highly individualized family- and home-based behavioral therapy originally designed for juvenile offenders. MST may include psychiatric hospitalization and placement in foster care, detention centers and so forth. MST treatment time averaged 97.1 hours per youth.
Selected Outcomes	MST was successful in preventing the hospitalizations of 75% of the youth approved for hospital-based crisis stabilization during the two-week period following referral. Further, MST prevented any hospitalization for 57% of the participants in the MST condition and reduced the overall number of days hospitalized by 72%. MST reduced the days in other out-of-home placements by 49%. (All statistically significant results.) Both groups had almost identical total treatment expenses.
Commentary	*Intensive outpatient treatment appears to be a substitute for emergency inpatient hospitalization. This intensive outpatient treatment intervention could be started immediately after discharge from a psychiatric inpatient unit, thereby, avoiding readmission possibly. This trial needs replication.*

Source	**Sweden. Cedereke M et al. Eur Psychiatry 2002;17:82–89.**
Objective	Improve adherence to the follow-up treatment plan and thereby prevent suicide behaviors.
Design	RCT. All patients contacted one month after ED visit and randomized. One group received usual care thereafter. 172 patients with 83 in the intervention group and 89 in the control group; each followed for 12 months.
Question	Will follow-up phone calls during the year following a suicide attempt and related ED visit, have any effect on treatment attendance or adherence?
Target Population	ED patients with deliberate overdose or self-injury; ≥ 60% admitted; 41 years average age; ≥ 36% mood disorders; ≥ 31% adjustment disorders.
Intervention	Both groups first contacted, on average, 49 days post-ED visit by an experienced mental health professional. Experimental group received a telephone call at four months and eight months after first contact to motivate treatment plan follow-up and adherence.
Selected Outcomes	*Before the first contact* (~ 49 days post-ED visit), two patients committed suicide, and 15 reattempted. Before first call at four months, two more patients (one in each group) died from suicide and 10 patients made suicide attempts. Adherence to follow-up was similar for both groups.
Commentary	*From the article: "The results of our study indicate that there is a need to offer help and support very soon after a suicide attempt."*
Source	**USA. Rotheram-Borus MJ et al. J Clin & Consult Psychol 2000;68:1081–93.**
Objective	Improve adherence to the follow-up treatment plan.
Design	Cohort. Comparison to usual care. 140 patients with 65 in the specialized emergency department care and 75 in standard care; each followed for 18 months.
Question	Will a specialized intervention program improve adherence to outpatient therapy and reduce suicide-related symptoms?
Target Population	ED patients presenting with a suicide attempt. All females 12–18 years old and their mothers; 88% Hispanic.
Intervention	Started in ED. Standardized video, crisis therapy session, and verbal contract for follow-up with minimum of six standardized outpatient sessions fostering problem-solving and family cohesion. Home visit 30 days post-discharge.
Selected Outcomes	Youths receiving the intervention averaged 3.8 more outpatient sessions than controls (p=0.03).
Commentary	*Parents and daughters were disadvantaged; > 37 % single parent; > 35 % of daughters held back in school.*

Source	**USA. Cuffel BJ et al. Psych Serv 2002;7:17-20.**
Objective	Improve adherence to the follow-up treatment plan.
Design	RCT. Comparison to usual care. 199 patients randomized to one of three groups.
Question	For psychiatric inpatients receiving care authorized by a managed behavioral health organization, will intensive discharge planning prevent psychiatric rehospitalizations?
Target Population	Adult inpatients with average ages between 28 and 36 years admitted for psychiatric and/or substance use problems.
Intervention	In addition to usual care (*n*=31), patients randomized to one of two alternatives: (1) If non-attendance at first outpatient appointment, an *unlicensed* intake counselor telephoned reminders over the first weeks post-discharge (*n*=94). The counselor had the option of making alternative referrals. (2) Soon after admission, *licensed* clinicians helped develop an appropriate outpatient plan, coordinated care among all outpatient professionals, and urged the patient to adhere to the recommended treatment (*n*=74). This clinician could authorize more intensive outpatient treatment.
Selected Outcomes	No differences found. Rehospitalization rates (not mentioned in article) best predicted by post-discharge assignment to partial hospitalization and/or failure to attend these programs.
Commentary	*About half the patients in each group were provided outpatient care by the same psychiatrist that provided inpatient care. Usual care required a telephone call 24 hours after discharge to remind the patient of an appointment 24 to 48 hours later. Usual care is fairly intense. At 30 days post-discharge, close to 69% in each group were involved in some form of aftercare; at 80 days—about 80% were in treatment.*
Source	**Canada. Greenfield B et al. Psych Serv 2002;53:1574–79.**
Objective	Prevent rehospitalization.
Design	Cohort. Comparison to usual care. Each group assigned separate team of experienced on-call, child-adolescent psychiatrists. 286 patients with 158 in the experimental group and 128 in the control group; each followed for 6 months.
Question	Will outpatient follow-up from a "rapid-response team" reduce psychiatric hospitalization?
Target Population	Suicide-attempt patients discharged from ED or psychiatry inpatient. 12–17 years old.
Intervention	Rapid-response team contact immediately after ED assessment; thereafter, individualized number of sessions for crisis management and skill building.
Selected Outcomes	At six months, 18% of intervention group hospitalized vs. 43% for controls ($P < 0.001$). No differences in severity of suicidality or number of ED return visits.
Commentary	*This intervention illustrates a "transition clinic" that is available at the time of discharge. Ten-days were the usual wait for an outpatient appointment.*

Source	**USA. Spirito A et al. J Am Acad Child Adol Psychiatry 2002;41:435–442.**
Objective	Improve adherence to the follow-up treatment plan.
Design	RCT. Comparison to standard disposition planning. 63 patients; each followed for three months.
Question	Does a problem-solving therapy increase adherence to outpatient treatment?
Target Population	ED patients or pediatric inpatients with suicide attempt of variable severity. 12–18 years old.
Intervention	One-hour standardized compliance-enhancement therapy about treatment expectations and services barriers. Verbal contact for four sessions; reminders and structured interviews thereafter.
Selected Outcomes	After controlling for services barriers, intervention group averaged 8.4 sessions vs. 5.8 for controls ($p < 0.05$).
Commentary	*The health care provision system is characterized by formidable impediments to gaining access to services.*

Table 3: Evidence-based Treatments for the Prevention of Suicide Attempts and the Enhancement of Continuity of Care

Source	**Canada. Termansen PE & Bywater C. Can Psychiatr Assoc J 1975; 20:29–34.**
Design	RCT. Comparison to usual care. 202 patients randomized to one of three experimental groups; each patient reassessed at three months.
Question	If an intensive intervention begins at or near the time of the ED visit for a suicide attempt, will repeat attempts be reduced and suicide deaths prevented?
Target Population	ED patients with a suicide attempt of any severity; 74% female; 51% unemployed; about 17% psychiatric inpatients after ED visit; ages not given.
Intervention	(1) Experienced "mental health workers" contacted patients (n=57) as soon as possible after the suicide attempt and this same worker maintained contact by phone or in person daily for 1 week, every two days for 2 weeks, twice a week for weeks 3 and 4, once a week for weeks 5 to 8, and every two weeks for weeks 9 to 12. The mental health worker had a liaison role for interpersonal relationships and community resources. This experimental intervention compared three other groups: (2) one group identical except follow-up by a previously unknown crisis center volunteer (n=57); (3) another group no follow-up (n=50); (4) usual care (n=38).
Selected Outcomes	At 3 months, the most intensive group's reattempt rate was 2% (1/44 patients) and drop-out rate was 21% ($p \leq 0.05$). The next most intensive group's reattempt rate was 6% with a 42% drop-out rate (non-significant). Drop-out rates ranged from 21% to 53%.
Commentary	*No follow-up plan was provided to 55% of the ED patients studied. Consequently, the intervention was the follow-up plan for many. Groups ranged from 45 to 18 patients.*
Source	**Canada. Allard B et al. Suicide Life Threat Behav 1992;22:303–14.**
Design	RCT. Both groups given written instructions to make clinic appointment within one week of discharge. 150 patients with 76 experimental subjects and 74 in the comparison group; each followed for 24 months.
Question	Will a follow-up, outpatient treatment program, begun after ED or inpatient discharge, decrease the number of suicide attempts?
Target Population	ED patients with indisputable suicide attempt; 22% admitted; 30 years average age; > 40% personality disorders; ≥ 55% unemployed.
Intervention	Explicit discharge plan followed by one month of weekly visits and eight monthly visits thereafter; one home visit; all others office visits; reminders.
Selected Outcomes	No differences found. Only 21 patients in the experimental group received the complete intervention. Losses to follow-up of 15%–17%. The experimental group had the highest reattempt rate (35%).
Commentary	*Certain groups of challenged patients may not come for office visits.*

Source	**England. Morgan HG et al. Br J Psychiatry 1993;163:111–12.**
Design	RCT. Usual care. 212 patients with 101 in the experimental group and 111 in the control group; each followed for 12 months.
Question	Will the use of a crisis card combined with on-demand access to psychiatry residents reduce the rate of suicide threats and/or attempts?
Target Population	ED patients that made their first suicide attempt; all admitted; about 30 years average age; most had depressive disorder.
Intervention	At discharge given a "green card" (i.e., a "crisis card") describing how to contact resident at any time; written reminder sent to home and to primary care doctor; rehospitalization was an option.
Selected Outcomes	Follow-up data obtained after one year showed a significant reduction (4.95% versus 13.51%, $P \leq 0.05$) in the combination of actual or seriously threatened self-harm behaviors in the experimental group. Only 15 intervention patients contacted resident.
Commentary	*This is the only randomized controlled trial found regarding the safety-planning aspects of "crisis cards." This form of protection appears to have real merits.*
Source	**Netherlands. van der Sande R et al. Br J Psychiatry 1997;171:35–41.**
Design	RCT. Comparison to usual care. 274 patients with 140 in the experimental group and 134 in the usual care group; each followed for 12 months.
Question	Will an approach using (1) inpatient crisis intervention, (2) on-demand readmission, and (3) problem-solving outpatient treatment affect rates of repeat suicide attempts? The investigators labeled this "continuity of care and problem-solving treatment."
Target Population	Suicide attempters, excluding self-mutilation or chronic substance use, ages 15 and older presenting to an ED; about 85% overdosed; about half made one or more prior attempts; about two-thirds female; about half were depressed.
Intervention	Four-bed specialty unit with a one-to-four-day length of stay. After discharge outpatient treatment arranged; therapists included nurses from the brief stay unit. The study's description of the psychotherapy makes it appear quite generic.
Selected Outcomes	Outpatient treatment occurred for 89% of the experimental group and only 55% of the control group. Patients in the experimental group attended, on average, three more outpatient sessions. No differences in repeat suicide attempts.
Commentary	*The intervention seems to predict engagement and treatment attendance.*
Source	**England. Guthrie E et al. Br Med J 2001;323:135–37.**
Design	RCT. Comparison to usual care (standard referrals). 119 patients with 58 in the experimental group and 61 in the control group; each followed for six months.

Question	Will brief, intensive psychotherapy, provided immediately after the index ED visit, reduce severity of suicidal ideation?
Target Population	ED patients with severe overdose. 18–65 years old.
Intervention	Over the four weeks post-discharge, four 50-minute sessions of psychodynamic, interpersonal psychotherapy given in patient's home.
Selected Outcomes	At one month no differences. At six months self-reported reattempts 9% vs. 28% for controls (p=0.009). No suicide deaths.
Commentary	*This is an intensive post-ED discharge intervention with possible delayed onset effects.*
Source	**USA. Huey SJ et al. J Am Acad Child Adolesc Psychiatry 2004;43:183–190.** (*See Table 2 for the related study led by Schoenwald).*
Design	RCT. Each intervention patient paired with a patient receiving hospitalization. 156 youths; each followed for an average of 4 months and then recontacted at 12 months for a follow-up report. Suicidal ideation was self-reported and based on two questions from the Brief Symptom Inventory and one question from the Youth Risk Behavior Survey (YRBS). Measures of suicide attempt behaviors were derived from a single item on the Child Behavior Checklist completed by the caregiver and from a single item on the YRBS completed by the youth.
Question	In a youth population, is "Multisystemic Therapy (MST)" more effective than hospitalization at decreasing attempted suicide and suicidal ideation and improving affective states?
Target Population	Youths ages 10 to 17 years (and their families) presenting to any point of entry to a psychiatric hospital; 65% male; 64% African American; 62% "disruptive behavioral disorders"; 38% prior psychiatric hospitalization; 38% involved in criminal justice system; 58% single-parent family; 72% receiving some form of public assistance.
Intervention	This intervention started at the time the patient first made contact with the health system. MST is a highly individualized family- and home-based behavioral therapy originally designed for juvenile offenders. MST may include psychiatric hospitalization and placement in foster care, detention centers and so forth. MST treatment time averaged 97.1 hours per youth.
Selected Outcomes	At the one-year follow-up, intensive outpatient MST was more effective than emergency psychiatric hospitalization in reducing youth-rated and caregiver-rated suicide attempts (9% versus 17%, $p < 0.001$) and youth-rated suicidal ideation (19% versus 29%, $p < 0.001$).
Commentary	*Multisystemic Therapy (MST), an intensive outpatient treatment intervention, was superior to emergency inpatient treatment and may have been more rapidly effective. This is an example of intensive outpatient treatment as an alternative to emergency hospitalization.*

Source	**England. Kapur N et al. Gen Hosp Psychiatry 2004;26:36–41.**
Design	Multi-center cohort. 658 patients; each followed for 6 months.
Question	What characteristics of ED management affect the rate of repeat overdoses in the six months after the index, overdose episode?
Target Population	EDs in four urban, inner-city hospitals. Ages 16 and above; all overdosed. 23% employed full-time; 36% previously overdosed; 20% alcohol use disorder; 27% discharged against medical advice; 2% admitted psychiatry inpatient unit.
Intervention	Psychosocial assessment done in the ED; referral to a mental health specialist.
Selected Outcomes	A total of 96 patients (14.6%) overdosed within six months. After controlling for demographic, clinical (e.g., risk factors), and hospital attributes, being referred for active follow-up with a specialist was associated with one-half the risk of repetition (p=0.01). The provision of an ED psychosocial assessment made no difference.
Commentary	*This study looks at the advantages of referral to an experienced mental health professional. Randomized methods are difficult to use since the most difficult patients tend to be referred most often to specialists. Kapur et al. used statistical methods to control for variables that might otherwise bias results. ED referrals is the outcome variable. Actual first-appointment attendance was not determined.*
Source	**USA. Brown GK et al. JAMA 2005;294:563–570,**
Design	RCT. Usual care included case managers for both groups. 120 patients with 60 in each group; each followed for 18 months.
Questions	Does cognitive behavior therapy (CBT) (1) delay the time to next suicide attempt? (2) lower the percentage of suicide attempts? and/or (3) predict lower scores on measures of suicidal ideation, depression, and other attributes?
Target Population	ED patients with suicide attempt and intent to die; 61% female; 60% African American.
Intervention	Patients contacted within 48 hours of ED visit to begin a minimum of 10 weekly or biweekly CBT sessions designed to prevent suicide attempts.
Selected Outcomes	At 18 months, 24% intervention group made one or more attempts vs. 42% for controls ($p < 0.05$). Intervention group 50% (p=0.05) less likely to reattempt and had lower score on depression and hopelessness (p=0.05).
Commentary	*This study sets the standard for others to follow.*

Source	**France. Vaiva G et al. Br Med J 2006;332:1241–45.**
Design	Multi-center RCT. Comparisons to usual care. 605 patients; each followed for 12 months.
Question	Will there be a reduction in the percentage of patients repeating suicide attempts if these patients receive a telephone call from a psychiatrist either at one or three months after an ED visit for this same behavior?
Target Population	EDs in 13 hospitals in northern France. ED patients, ages between 18 and 65 years, that had overdosed and were discharged and told to follow-up with their general practitioner (GP).
Intervention	Telephone contact by a psychiatrist with at least five years experience; calls made at either one month (n=147) or three months (n=146) after ED visit to evaluate the success of the recommended treatment or to adjust it. The third group (n=312) got no telephone intervention. Supportive, crisis-oriented psychotherapy done as appropriate. Patient's GP informed of the results.
Selected Outcomes	Patients receiving a one-month follow-up call were less likely to make a subsequent suicide attempt (13% vs. 22% , p=0.03); significant differences were maintained over the next six months. No significant differences among groups receiving a call at one or three months.
Commentary	*There were 48 attempted suicides before the one-month telephone call, and during the study there were three suicide deaths and a fourth suspicious for suicide.*
Source	**Australia. Carter GL et al. Br J Psychiatry 2007;191:548–553.**
Design	RCT. Comparisons to usual care. 772 patients with 378 in the experimental group and 394 in the control group; each followed for 12 months.
Question	Does mailing postcards reduce either the percentage of patients repeating attempts or the number of repeat suicide attempts per patient?
Target Population	Patients discharged after an overdose from psychiatry inpatient. 16 years and older.
Intervention	Eight non-obligatory postcards; each sent in sealed envelope over 12 months.
Selected Outcomes	At 12 months, no differences in repeat attempts per patient. 145 cumulative re-admissions for intervention group vs. 310 for controls (p=0.004).
Commentary	*When multiple attempts made by the same patient in the follow-up period were considered, the patients, mostly female, who were sent the postcards made approximately half the total number of repeat attempts than individuals in the control condition.*

Source	**Netherlands. Slee N et al. Br J Psychiatry 2008;192(3):202–211.**
Design	RCT. Comparisons to usual care. 90 patients with 48 in the experimental group and 42 in the usual care group; each followed for nine months.
Question	Does a time-limited, cognitive-behavioral intervention reduce self-harm behaviors, suicidal cognitions and symptoms of depression and anxiety and improve self-esteem and problem-solving abilities?
Target Population	Patient-participants, ages 15 to 35 years, who visited the Leiden University Medical Centre or the local mental health centre because of self-harm (overdose or self-injury). Excluded were patients with a severe psychiatric disorder, such as schizophrenia, requiring intensive inpatient treatment.
Intervention	Maximum of 10 weekly, individual cognitive-behavioral therapy sessions and two, ending, relapse-prevention, follow-up sessions plus treatment. Experienced therapists. Initial assessment at two weeks; intervention started at three weeks. Patients called to remind them of appointments. Follow-up assessments at three, six and nine months.
Selected Outcomes	At nine months, an average of 1.18 repeat self-harm episodes for the intervention group versus 4.58 episodes for usual care ($p < 0.05$). Differences at three and six months were not significant. All of the secondary outcome measures (e.g., improved self-esteem) were significantly different from the control condition. 21% received CBT and traditional psychotherapy concurrently during the first three months. 17% withdrawal rate from the intervention condition.
Commentary	*In future studies, the intervention should begin as soon as possible after the suicidal acts. Crises may be self-limited, and CBT sessions may have missed the opportunity to address the central issues at the time they were most troublesome. Only 45% of those initially recruited entered this study with an intervention beginning three weeks after the presenting crisis.*

Part Seven

Discharge Planning: Guidelines, Expected Best Practices, and Standards for Continuity of Care

One of the objectives of *The National Strategy for Suicide Prevention* is to " . . . develop guidelines for the assessment of suicidal risk among patients receiving care in primary health care settings, emergency departments, and specialty mental health and substance abuse treatment centers." A very much related objective is to " . . . develop guidelines for aftercare treatment programs for individuals exhibiting suicidal behavior (including those discharged from inpatient facilities)." [117]

Part Seven describes the considerable variation among guidelines, standards, and best practices referenced by *The National Strategy for Suicide Prevention*. Suicide prevention may begin in the emergency department or inpatient facility, but prevention continues for months and even years thereafter since patients sometimes remain at chronic risk. Continued vigilance requires an associated set of rich clinical skills. Best practices for suicide assessment, follow-up, management, and treatment become part of clinical and institutional behavior by means of recognized guidelines and standards. The variation described below may interfere with the adoption of best practices.

Standards and Expected Best Practices for Health Care Organizations

In the United States, there are several agencies that monitor and accredit health care organizations. Medicare, Medicaid, and The Joint Commission standards for monitoring and accreditation are modified and revised frequently enough and are complicated enough that health care organizations have personnel dedicated to keep up with regulatory compliance initiatives and new mandates. There exists no practical guide to or single source for these standards that is in any reasonable way accessible to the practicing clinician. The Joint Commission's hospital accreditation is recognized by the Centers for Medicare and Medicaid Services (CMS) as meeting the hospital conditions of participation. A hospital may also demonstrate compliance with the conditions of participation by undergoing a state survey on behalf of CMS. This is a dynamic process, and keeping up with it requires familiarity with numerous regulatory systems and documents. Consequently, this review is able only to present a *limited overview* of the present standards and requirements for discharge planning and continuity of care promulgated by two standard-setting, national agencies. No information is presented about state-level organizations or non-federal, third-party payers that set standards as well.

Following the standards set by The Joint Commission (TJC) and the Centers for Medicare and Medicaid Services (CMS) is vital to a health care organization's very survival. With a history that begins in 1910, The Joint Commission on Accreditation of Hospitals (JCAH) was created as an independent, not-for-profit organization. "The Joint Commission" is now the official name for this organization. [403] Through the provision of accreditation, TJC's primary purpose is to make available voluntary accreditation and to continuously improve the safety, quality, and performance of organizations that provide health care services to the public.

The CMS is the federal authority for the Medicare and Medicaid programs. CMS' mission is "to ensure effective, up-to-date health care coverage and to promote quality care for beneficiaries and to achieve a transformed and modernized health care system." [404] The Medicare and Medicaid programs were signed into law on July 30, 1965. These are complex programs that are constantly undergoing change. They are reviewed here most broadly.

Medicare is a federal program and Medicaid is a federal-state program; each subsidize and provide health insurance benefits to individuals meeting eligibility criteria. Medicare beneficiaries are the elderly and disabled Americans. Medicaid is the primary source of payment to health care organizations for low-income families and unemployed individuals with disabilities and certain, elderly disabled Medicare beneficiaries. Severe and persistent mental illness is a recognized disability. [405]

In 2007, the Veterans Health Administration (VHA) provided health care services to approximately 5.5 million veterans, easily making it the largest integrated health care system in the United States. [406] The VHA has developed a comprehensive strategy to address suicides and suicidal behavior among veterans.

The New South Wales standards were selected for inclusion because they are so very different from what could be found in the United States up until the release of standards, best practices, and guidelines issued by the VHA. Like Australia, New Zealand is implementing guidelines for the management of people at risk of suicide. New Zealand's efforts are aimed at clinical staff in emergency departments and mental health clinicians, and these too are reviewed below. Similar examples may be available from other countries, but there is no intention here to offer a country-by-country, comprehensive review.

The Joint Commission: In *July 2002*, The Joint Commission (TJC) announced its first-ever annual *National Patient Safety Goals (NPSG)*. These *goals* and their associated requirements focus on safe practices that healthcare organizations must implement and maintain. Compliance with these goals and requirements is reviewed during the on-site survey at accredited healthcare organizations. Compliance means consistent performance of the requirement. "Non-compliance" means the organization is not achieving the requirement consistently. [407, 408] The NPSG establish evidence-based requirements that pertain to critical aspects of care known to involve medical errors and significant risks to patients. The NPSG are based largely, although not exclusively, on TJC's sentinel event database. As part of the development process and before being finalized, candidate goals are distributed to organizations in the field of health care. [408]

For 2009, Goal 15 states: "The organization identifies safety risks inherent in its patient population." Subsidiary to this goal is NPSG 15.01.01: "The organization identifies patients at risk for suicide." The NPSG applies to 24-hour care settings or within 24 hours of discharge from a 24-hour-a-day care setting. [407] The NPSG lists three "Elements of Performance (EP)." These are: (1) "The risk assessment includes identification of specific patient factors and environmental features that may increase or decrease the risk of suicide"; (2) "The hospital addresses the patient's immediate safety needs and most appropriate setting for treatment;" and (3) "The hospital provides information such as crisis hotline to individuals at risk for suicide and their family." For each of these goals a measure of success is developed by the health care organization (Table 4).

Another example of TJC's efforts to improve patient care is found in the "Provision of Care, Treatment, and Services" (PC) chapter of the *Comprehensive Accreditation Manual for Hospitals: The Official Handbook*. [409] Under "Performance of Initial Assessments/History and Physical" is this Element of Performance (EP): "Based on the patient's condition, information gathered in the initial assessment includes the following: . . . physical, psychological and social assessment." This performance expectation strengthens the NPSG regarding patients at risk for suicide.

Most assuredly, inpatient suicide prevention is a vital part of NPSG 15.01.01. In large measure, this goal stems from the fact that inpatient suicide is the second most frequent sentinel event (wrong-site surgery is first) reported to TJC. [410] TJC has made available education and other resource materials to help prevent inpatient suicide. One of the most comprehensive is *Reducing the Risk of Suicide*, published in 2005. This book summarizes much of this material and lists the key TJC standards. [282] Excerpts from these standards that most apply to continuity of care appear at the beginning of Table 4. None of these are directive in the sense that explicit, measurable requirements are incorporated, although organizations are expected to have and use measurement tools. For example, the timing of the first post-discharge outpatient appointment is never specified. *Reducing the Risk of Suicide* discusses the literature and gives experts' opinions about the importance of an appointment soon after discharge, for example, but these opinions do not influence the standards in any noticeable way.

Most recently, TJC has issued performance measures that may be in conflict with the goal of reducing inpatient suicide and, by so doing, TJC may have missed an opportunity to improve best practice expectations for psychiatric inpatient units. In late 2003, The Joint Commission was approached by the National Association of Psychiatric Health Systems (NAPHS), the National Association of State Mental Health Program Directors (NASMHPD) and the NASMHPD Research Institute (NRI) to work together to develop and to implement a set of core performance measures for hospital-based, inpatient psychiatric services. This significant initiative has now reached fruition with the release of the National Hospital Inpatient Quality Measures-Hospital Based Inpatient Psychiatric Services Core Measure Set (HBIPS). [411] As of October, 2008, these core measures applied. These measures are designed to make possible comparisons across health care organizations and to motivate quality improvement initiatives.

The most likely times for inpatient suicide are soon after admission and just before or after discharge. [13, 119, 262, 268, 272, 273, 279, 285, 412] With reference to the timing of admission screening for suicide risk, HBIPS sets the performance measure for such screening to be within the first three days of admission. Within five days is the performance measure for transferring clinical information to the outpatient, receiving clinician. Of course, three- and five-day standards are maximum, outside-limit outcomes. It is unfortunate that there is no language about expected best practices. For example, it might be expected that a suicide risk assessment will be done within the first two hours after admission to a psychiatric inpatient unit; this expectation may be delayed up to three days with justification (e.g., the patient is delirious due to substance withdrawal). The HBIPS core measures, if interpreted broadly, appear to conflict with TJC's National Patient Safety Goals.

The Centers for Medicare and Medicaid Services: In some ways, the CMS standards duplicate the TJC's standards (Table 4). [413-415] Accordingly, CMS and TJC work to coordinate the requirements issued by both organizations. [416] Regarding continuity of care, as a condition of participation, there has to be a discharge plan qualified by such vague terms as "on a timely basis." CMS mentions the absence of any nationally accepted standards pertaining to discharge planning. Other examples of CMS' standards are found in Table 4. In the absence of national standards, individual states have prioritized the goal of timely follow-up for patients with mental illness. [341, 417]

Eliminating serious, preventable, and costly medical errors is a defining goal for CMS and for all health care organizations and for anyone involved in providing or receiving health care. As one step toward realizing this goal, CMS has identified a set of "never events." Surgery on the wrong side of the body and mismatched blood transfusion are two examples. CMS is reviewing its administrative authority to reduce or refuse payments for "never events." CMS insists that paying for these events is inconsistent with its mission to promote quality of care and modernize health care systems. [418] Inpatient suicide or attempted suicide resulting in serious disability is one listed "never event." So far, there has been no debate about this designation. Most assuredly, inpatient suicide is a tragic outcome and every possible effort should be made to prevent it, but is it preventable always? Is inpatient suicide analogous to wrong-sided surgery? A more realistic view is that suicide is an infrequent consequence of the natural course of a mental illness, and, as such, it is just as unpredictable as heart attacks, strokes, and outcomes of chronic diseases, in general. Upon entering a hospital, cardiac patients are not guaranteed survival. Should there be a guarantee that inpatient suicide shall be prevented—always? As previously discussed (please see Part Four, page 41.), there is little to no research data describing the characteristics of a "suicide proof" psychiatric inpatient unit. If inpatient suicide is to be identified as a "never event," it is necessary to fund research about how to best achieve this goal. See Table 4, Representative Examples of Continuity of Care and Follow-up Standards and Guidelines from Organizations in the United States and Australia, page 99.

The United States Department of Veterans Affairs (VA), Veterans Health Administration (VHA): The overall VHA suicide prevention strategy builds on the National Strategy for Suicide Prevention. [406, 419] There are a number of new initiatives and innovations that hold great promise for preventing suicide attempts and suicide deaths. Progress is ongoing and rapid; the evolution of VHA suicide prevention efforts may make this review out of date before it is issued in final

form. Nevertheless, several component parts are so fundamental to the overall success of the VHA suicide prevention strategy that their essential features will be maintained over time. Among them are standards for follow-up care, to be presented hereafter, and the Veterans Integrated Service Network's Center of Excellence that is taken up in Part Eight of this review.

The Department of Veterans Affairs (VA) suicide prevention strategy is to provide ready access to high-quality mental health services, supplemented by programs specifically designed to address suicide. [419] To help accomplish this goal, the VA has established standards of access that go beyond what is typically found in non-VA health care systems. [406] These standards require that all patients requesting or being referred for mental health services receive an initial evaluation with 24 hours and receive a more comprehensive diagnostic and treatment planning evaluation within 14 days. For patients hospitalized as a result of high risk for suicide, they must be evaluated at least weekly during the first 30 days subsequent to discharge (Table 4). The patient care plan includes ongoing monitoring of suicidality and procedures for addressing periods of increased risk. A process for following-up missed appointments must be a part of the care plan. Additionally, there is an individualized discussion about means reduction that should address issues such as medication storage, gun safety, and high-risk behaviors. [330]

There is an associated set of standards that in many ways go beyond standards and represent best practices in suicide prevention. For the veteran identified as surviving a suicide attempt or otherwise identified as being at high-risk, there are the following expectations for the primary care and/or mental health provider. A specific suicide safety plan must be developed that includes "a list of situations, stressors, thoughts, feelings, behaviors and symptoms that suggest periods of increased risk as well as step-by-step descriptions of coping strategies and help-seeking behaviors that can be used in these times." [330] Involving friends and family in treatment is recommended. The VA has a safety plan manual that is a useful resource for all health care systems. [160]

These standards and best practices are in many ways evidence-based, much of which is contained in this report. Part Six of this report reviews evidence-based treatments for the prevention of suicide and suicide attempts. Evidence is provided that discontinuity of care tends to commingle with increasing suicide risk, attempts, and suicide death. Sustained outreach strategies, however, appear to do exactly the opposite. Giving patients a sense of connectedness to caregivers and providing them with concrete demonstration (e.g., personalized mailed letters and postcards, brief clinical contacts) of empathic concern are reasons for continuity of care's success. These data motivated the VA to establish a mail program that supplies veterans with various forms of personal contact. The technical support for the mail program comes from the Veterans Integrated Service Network's Center of Excellence in Canandaigua, New York. [330]

The Blue Ribbon Work Group on Suicide Prevention in the Veterans Population was chartered on May 5, 2008, and completed its report and recommendations in September 2008. [406] While the VA's overall strategy is praised heartily, the Blue Ribbon Work Group stated that: "Implementation of such requirements may help prevent suicides, but evaluation will be critical to determine this. As this ambitious effort is a work in progress, continuous quality improvement efforts are essential." Related research over the coming years may yield an abundance of information about

how best to prevent suicide. Part Eight, page 102, contains descriptions of the Veterans Integrated Service Networks and Center for Excellence.

Department of Health for New South Wales, Australia: Explicitness characterizes the continuity-of-care standards issued by the Department of Health for New South Wales. [420] Table 4 displays excerpts from both the inpatient and emergency department standards. These in fact exceed standards; they constitute national protocols and algorithms for expected best practices.

Care in the United States does not currently meet the high standards set by New South Wales, in that the norm in the U.S. is disconnected care provision and multiple health care providers and organizations. Patients are free to change providers frequently and to go to multiple EDs and health systems, none of which may have easy access to the others' medical records. Superimposed on this complexity is a layer of special legal and organizational prohibitions against sharing clinical information. [108] In contrast, New South Wales has developed linkages with community treatment facilities. Cooperation is expected in a health care system with universal coverage that is in the process of developing a unique health-care identifier for each citizen.

In the U.S., the Health Insurance Portability Accountability Act (HIPAA) of 1996 generally permits health organizations to release, without requiring patient consent, individually identifiable patient information for treatment purposes. However, other federal and state statutory and regulatory mandates may supersede HIPAA. Moreover, separate regulations often apply to mental health and substance abuse records. Confronted with numerous publications about HIPAA, its complexities, its subtleties, and a web of federal, state, and local regulatory concerns, individual clinicians may opt to play it safe and decline to share information unless there is a bona fide emergency. [108]

New Zealand Guidelines Group and New Zealand Ministry of Health: The New Zealand guidelines are very clear, evidence-based, and often directive, as exemplified by the following policy: "Follow-up should occur in the first week of discharge, as this is the highest risk time for a person discharged from a hospital. This should happen even if the person fails to attend the outpatient appointment." Attached to each guideline is a grade indicating the strength of the supporting evidence. "A" is the grade for the item just mentioned, and it connotes "Well designed meta-analysis or randomized controlled trial, or a body of evidence which is consistently applicable." These are merely guidelines, however, as evidenced by the reminder that " . . . they are not intended to replace the health professional's judgment in each individual case," which is found in the introduction.

Guidelines Issued By Professional Associations for Psychiatrists and for Other Mental Health Professionals

The American Psychiatric Association: In 2003, the American Psychiatric Association (APA) issued the *Practice Guideline for the Assessment and Treatment of Patients with Suicidal Behaviors*. [170] Developed by the Workgroup on Suicidal Behaviors, these guidelines were created under the auspices of the APA's Steering Committee on Practice Guidelines. The final product is

a "guideline," and it does not impose standards of care (Table 4); as it states, "This report is not intended to be construed or to serve as a standard of medical care." This explicit statement introduces the main text. As is to be expected with this introduction, phrases like "may be referred" and "may be helpful" are used. "Must" is foreign to these guidelines. The guidelines are contained in continuous text making it difficult for practicing clinicians to find a specific guideline or compare guidelines. The evidence supporting each recommendation is graded, and these grades can be identified within the text.

One year prior to the publication of the APA's guidelines, the APA Task Force on Psychiatric Emergency and Crisis Services issued a very different set of recommendations that advocate a standard of care for emergency psychiatry. [140] Among the many recommendations found in the task force document, *Report and Recommendations Regarding Psychiatric Emergency and Crisis Services: A Review and Model Program Descriptions*, are the following two statements: "The discharge process ensures continuing care for patients with ongoing problems," and, "The [emergency] service has developed a procedure for ensuring the availability of specific appointments (date, time, location) for continued outpatient mental health treatment within one week of discharge." These example statements, like many others, are directive and algorithmic. These statements and other connected statements found in Table 4 contrast sharply with the example of guidelines published by the APA Workgroup on Suicidal Behaviors. These dissimilarities are likely indicative of differences of opinion about the responsibilities of a professional association for setting standards of care. The members of both of these APA groups know the consequences of care discontinuities, yet they each address the issue quite differently. These circumstances may account for the fact that the final report of the psychiatric-emergency-services task force remains unpublished; it is only available on the Web.

The American Association of Suicidology: Going one step farther, the American Association of Suicidology (AAS) convened an expert task force and developed "AAS Recommendations for Inpatient and Residential Patients Known to be at Elevated Risk for Suicide." [329] While these recommendations are consistent with the guidelines issued by the APA, they are more explicit, and focus on inpatients. The AAS recommendations emphasize the central role of family and significant others in discharge planning. Motivating the AAS is Objective 7.8 of *The National Strategy for Suicide Prevention*, to " . . . develop guidelines for providing education to family members and significant other persons receiving care for treatment of mental health and substance use disorders with risk of suicide. Implement the guidelines in facilities (including general and mental health hospitals, mental health clinics, and substance abuse treatment centers)." The recommendations regarding family involvement are incorporated in a more comprehensive manner, with recommendations relevant to the inpatient care of patients at risk for suicide.

The AAS recommendations give meaningful directions describing best practices. For example, AAS instructs that: "Both the patient and the family or significant others should be given instruction regarding suicide and its associated risk, including, but not limited to the following: warning signs of suicide, the increased risk for suicide during pass or following discharge; the need for medication and other treatment adherence; explanation of how psychiatric symptoms may impair

judgment; explanation of the need for the patient to avoid use of intoxicants and how intoxicants increase risk; the need for the removal of the means for suicide, and the particular risk associated with firearms." Other examples are found in Table 4.

Royal Australian and New Zealand College of Psychiatrists: The Royal Australian and New Zealand College of Psychiatrists (RANZCP) is the principal professional organization representing the specialty of psychiatry in Australia and New Zealand. Like its counterpart in the United States, the RANZCP issued clinical practice guidelines for the treatment and management of individuals at risk for suicide. [421] Excerpts from these guidelines are found in Table 4. The RANZCP guidelines do not suggest any particular protocol or standard of care, however. Like the APA guidelines, there is a disclaimer: "Our purpose is to improve clinical care. Professionals should consider the recommendations but not be limited by them." The RANZCP guidelines were chosen for inclusion because of their comparative interest; Australia and New Zealand initiatives appear elsewhere in this section.

Section-at-a-Glance:

Explicit protocols or algorithms for discharge planning and continuity of care are absent in the United States. The Joint Commission, the Centers of Medicare and Medicaid Services, and the American Psychiatric Association make available standards, recommendations, and guidelines that permit considerable leeway for health care organizations and individual practitioners. Examples of continuity-of-care, protocol-like standards were identified. These originate from the United States Department of Veterans Affairs, a report from the American Psychiatric Association's Task Force on Psychiatric Emergency and Crisis Services, and from the Department of Health for New South Wales, Australia. There is an evidence-base that supports these more stringent standards, but additional evidence of benefits will make a stronger case for more universal implementation. The general-guidelines approach has the advantage of preserving the clinician's capacity to develop a unique discharge plan, but the disadvantage of preserving and, in some cases, perpetuating minimally acceptable standards of care. [266, 267, 332]

Section-related Recommendations:

- **Issue a request for proposal (RFP—or use a similar funding mechanism) for the development of evidence-based psychiatry inpatient unit best practices and for recommended discharge planning and continuity-of-care algorithms.** *The Centers for Medicare and Medicaid Services and The Joint Commission are in a position to lead this effort. There is little research data describing the characteristics of a "suicide proof" psychiatric inpatient unit. Recommended algorithms about timeliness of assessments, post-discharge follow-up and appointment dates may be sufficient for them to be widely adopted.*
- **Promote outcomes research that evaluates the Department of Veterans Affairs' (VA) rigorous standards for clinical care of a veteran identified as surviving a suicide attempt or one otherwise identified as being at high-risk.** *Do alternative standards of care (e.g., explicit personalized safety plan, close monitoring) have*

significantly different effects on suicide reattempts? The VA is embarking on a naturalistic experiment that is supported by the small evidence-base that closer monitoring improves suicide-related outcomes. The outcomes from the standards for suicide care implemented by the VA can be compared to alternative "usual care" practiced in non-VA mental health systems.

- **Make accessible to the every-day, practicing clinician the essentials of clinical performance standards expected by the Centers for Medicare and Medicaid Services and The Joint Commission.** *If there is any expectation that care provided by individual clinicians is improved by the performance standards set by these two organizations, then it should be relatively easy for clinicians to access the essential materials.*

Table 4: Representative Examples of Continuity of Care and Follow-up Standards and Guidelines from Organizations in the United States and Australia

(These examples were selected from items found in longer, often large, documents. Italic emphasis added.)

Organization	**The Joint Commission: 2009 National Patient Safety Goal 15.01.01 and Related Elements of Performance**
▪ "The organization identifies patients at risk for suicide." ▪ "The risk assessment includes identification of specific patient factors and environmental features that may increase or decrease the risk of suicide." ▪ "The hospital addresses the patient's immediate safety needs and most appropriate setting for treatment." ▪ "The hospital provides information such as a crisis hotline to individuals at risk for suicide and their family members."	
Organization	**The Joint Commission: Reducing the Risk of Suicide**
▪ "A process addresses the needs of continuing care, treatment, and services after discharge or transfer." ▪ "The transfer or discharge of an individual to another level of care, treatment, and services, different professionals, or different settings is based on the individual's assessed needs and the organization's capabilities." ▪ "When individuals are transferred or discharged, appropriate information related to the care, treatment, and services provided is exchanged with the service providers."	
Organization	**Centers for Medicare and Medicaid Services: Conditions of Participation**
▪ "Condition of Participation: Discharge Planning." ▪ "The hospital must include the discharge planning evaluation in the patient's medical record for use in establishing an appropriate discharge plan and must discuss the results of the evaluation with the patient. . . . " The "Interpretative Guidelines" mention: "At the present time, there is no nationally accepted standard for the evaluation." ▪ "The hospital must complete the evaluation o*n a timely basis* so that appropriate arrangements for post-hospital care are made before discharge, and to avoid unnecessary delays in discharge." ▪ "The hospital must transfer or refer patients, along with the necessary medical information, to appropriate facilities, agencies, or outpatient services, as needed, for follow-up or ancillary care."	

Organization	United States Department of Veterans Affairs (VA), Veterans Health Administration (VHA)

- "It is the responsibility of the Suicide Prevention Coordinator (SPC) in each facility to maintain a list of patients at high risk for suicide."
- "Patients, who are admitted for hospitalization as a result of a high risk for suicide ideation, must be placed on the high-risk list, and kept on the list for a period of at least 3 months after discharge. They must be *evaluated at least weekly during the first 30 days after discharge*."
- "The [suicide prevention] plan…must include *specific processes for follow-up for missed appointments*."
- "There is a written safety plan; the plan and the process of developing it are included in the medical record, and the veteran has a copy of the plan."
- "The [safety] plan should be specific…. It should list situations, stressors, thoughts, feelings, behaviors and symptoms that suggest periods of increased risk…as well as step by step descriptions of coping strategies and help seeking behaviors…."

Organization	Department of Health in New South Wales: Inpatient Standards, Australia

- "Patients assessed to be at long-term high risk of suicide when discharged must have a follow-up appointment with the relevant health provider (for example, community care coordinator or case manager, general practitioner, private psychiatrist) *within 24 hours of discharge*."
- "Patients due to be discharged from a mental health in-patient unit or hospital should, whenever possible, be allocated to a community mental health key worker (e.g., care coordinator, acute care service, emergency service team) prior to discharge."
- "The follow-up service provider is to receive a verbal report on discharge of the patient."
- "If the person at ongoing risk does not attend the initial post-discharge appointment, outreach contact and assessment should occur immediately, preferably by the person with whom the appointment was made."

Organization	Department of Health in New South Wales: Emergency Department Standards, Australia

- "The mental health service has been consulted."
- "A comprehensive suicide risk assessment has been conducted."
- "Prior to leaving the [ED], the person and, where appropriate, their family… *must be provided with written confirmation of the follow-up appointment*."
- "The following *information must be provided to the relevant provider regarding presentation of the person at risk*:
  - a verbal report at discharge or an interim summary within one day of discharge
  - a written report to follow within three days"
- "*Significant support people must be contacted*, including general practitioner, private psychiatrist, case manager, family and friends about the potential suicide risk and the follow-up arrangements that have been made."

Organization	American Association of Suicidology: AAS Recommendations for Inpatients and Residential Patients Known to be at Elevated Risk for Suicide.

- "Treatment providers should reevaluate suicide risk prior to approving a pass or discharge."
- "A family session should routinely be recommended."
- "The patient and family or significant others should be given explicit instructions on how to access the treating physician or therapist regarding questions, observations or concerns, and should be given information regarding how to access treating clinicians after office hours and any limitations on their availability. Emergency phone numbers that are available 24 hours a day, 7 days a week, such as psychiatric emergency services, and crisis lines should also be given."

Organization	American Psychiatric Association: Practice Guidelines for the Assessment and Treatment of Patients With Suicidal Behaviors
▪ "In clinical circumstances in which sharing of information is important to maintain the safety of the patient or others, it is permissible and even critical to share information without the patient's consent." ▪ "Under some circumstances, individuals who are not currently engaged in outpatient treatment may be referred for care after a suicide attempt or emergency department visit in which suicide was an issue. Since adherence is often a problem…it may be helpful to discuss the referral with the patient during the course of the interview and if possible arrange a specific appointment time." ▪ "When the patient does not appear for an appointment or is non-adherent in other ways, outreach, including telephone calls, may be helpful in reengaging the patient in treatment."	
Organization	**American Psychiatric Association: Report and Recommendations Regarding Psychiatric Emergency and Crisis Services: A Review and Model Program Descriptions**
▪ "The discharge process *ensures continuing care* for patients with ongoing problems." ▪ "The [emergency] service has developed a procedure for ensuring the availability of specific *appointments* (date, time, location) for continued outpatient mental health treatment *within one week of discharge.*" ▪ "Subsequent contact for the purpose of ascertaining the patient's status is a routine part of care. The service has a provision for *contacting most patients by phone in or in person after they are discharged.*" ▪ "The service *routinely monitors its successes with making aftercare plans* that are most likely to be effective."	
Organization	**Royal Australian and New Zealand College of Psychiatrists: Australian and New Zealand Guidelines for the Management of Adult Deliberate Self-harm**
▪ "Corroborative information from relatives, the patient's GP or those attending the patient must be collected and crucially, documented." ▪ "Encourage treatment and follow-up attendance." ▪ "Early, pro-active follow-up may enhance engagement and attendance. Home visits improve treatment attendance, and studies have found that…intensive follow-up…do likewise." (Literature citations removed.)	

Part Eight

Exceptional Integrated Systems of Care

Continuity of care and coordination of care require the support of a cohesive health services infrastructure rather than numerous, disconnected facilities and care provision arrangements. Since mental health and general physical health are intertwined, collaboration of mental health and general medical health providers is necessary. Rather than prohibitions against information sharing, which characterizes disconnected systems, there is unobstructed sharing of health information. Systems' performance requires community capacity to track patients across community facilities. When a suicide or suicide attempt occurs, all the care facilities must come together to do a root-cause analysis and, thereby, understand how to improve the system of care so as to prevent systems' failures from contributing to another suicide death. Improvements in continuity of care and in systems of care for patients at high risk for suicide are one means of suicide prevention that has potential for saving large numbers of lives. This section selectively reviews health care systems that illustrate the actual or potential suicide prevention outcome successes derived from professionals and facilities working together as a single unit to prevent suicide. The suicide prevention results presented are often not the product of carefully done research and are derived more from naturalistic, descriptive research. All of the systems reviewed are in many ways "demonstration projects" that have served as laboratories for various innovations in health care systems.

The United States Air Force

As are all the branches of the United States Military, the Air Force is largely a self-contained health system and has a reputation for "taking care of our own." Suicide has been the second leading cause of death among members and has accounted for nearly one-fourth of all deaths. The suicide death rate of 12.2 per 100,000 active duty Air Force members was typical for the period spanning 1985 to 1990. [422, 423]

In 1996, in a determined effort to reduce these numbers, the Air Force started a population-based suicide prevention program mandated unequivocally by senior leadership at the highest levels. The Integrated Delivery System (IDS) is central to the overall program. The IDS aims to establish collaborative, coordinated, and seamless partnerships and linkages among all Air Force prevention agencies and activities. IDS teams are integral to all Air Force installations. The suicide prevention program emphasizes educating the Air Force community about prevention services, targeting high-risk service men and women, promoting early identification, referring at the first signs of emotional troubles, counteracting the perception that getting help is a career-ending move, and eliminating barriers and discrimination associated with needing care. By 1999, over 90 percent of

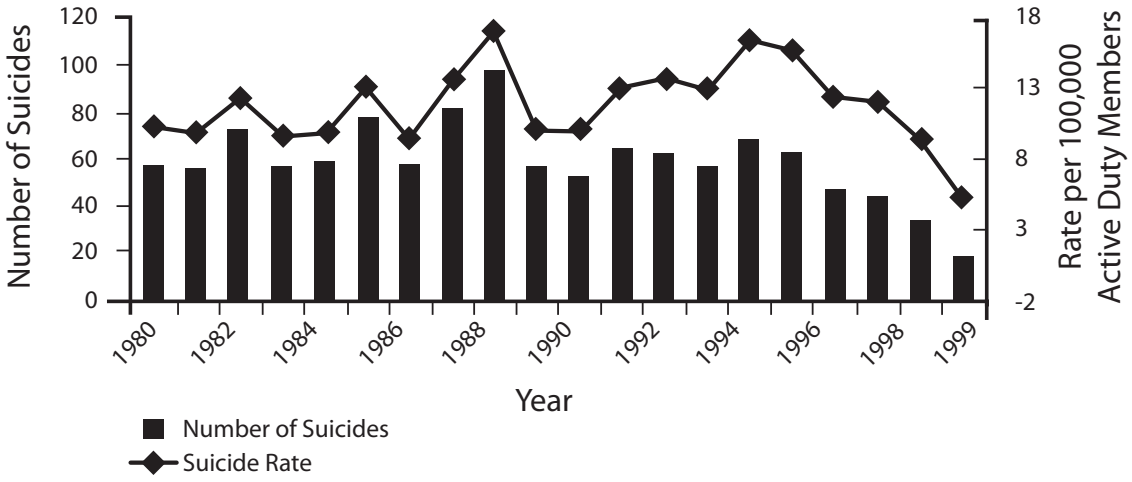
civilian and active duty Air Force personnel had received suicide prevention training and education.[422, 423] Suicide risk was identified by 73 percent of unit commanders as the highest behavioral health concern based on the results of a random survey conducted in 1999. [424]

Another necessary ingredient for program success is a confidentiality policy that permits "handing off" identified patients to unit leadership so as not to let the identified party be exposed to risky situations. Yet another ingredient is an event tracking system. Outcome assessment is made possible by the Suicide Event Surveillance System used to track fatal and non-fatal self-injury and establish an epidemiologic database. With all the pieces functioning as one whole, suicides among Air Force members fell 37 percent. From 1994 to 1999 the suicide rate decreased significantly from 16.6 suicides per 100,000 active duty Air Force members to 5.6 per 100,000 (Figure 6). In 2002, the Air Force sought to sustain these accomplishments, and a new initiative was started—the Managing Suicidal Behavior Project. Although the suicide rate for Air Force members has increased to 9.2 per 100,000, this is less than half of the comparable rate of 22.2 for the 20 to 49-year-old civilian population. [350, 424]

The United States Air Force Suicide Prevention Program remains vital and active. *The Leaders Guide for Managing Personnel in Distress* has been revised. This manual is for commanders and first sergeants and contains detailed response guides for managing a wide range of topics. [425] Suicide behaviors are covered at considerable length with subject headings that range from risk factors to a variety of supportive actions (e.g., limiting access to firearms). There is a check list version, similar to what Air Force aviators use for other routines of importance. Chaired by senior line leaders, the Integrated Delivery System and Community Action Information Board of the Air Force at local base, command, and Air Force service levels is one of several entities for bringing together helping resources to coordinate efforts and to assure smooth referral and transition processes. [426]

Figure 6:

Annual Incidence of Suicide Deaths in the U.S. Air Force



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Section Commentary: The U.S. Air Force Suicide Prevention Program is in many ways a model of singular efficiency and dedication. Perhaps no place else but in the military could there be assembled so quickly a comprehensive, goal-oriented, and integrated system of suicide-prevention care. No cause and effect claim can be made. However, the decline in suicide rates coincides with the onset and continuation of a specific suicide prevention program corresponding to this life-saving goal.

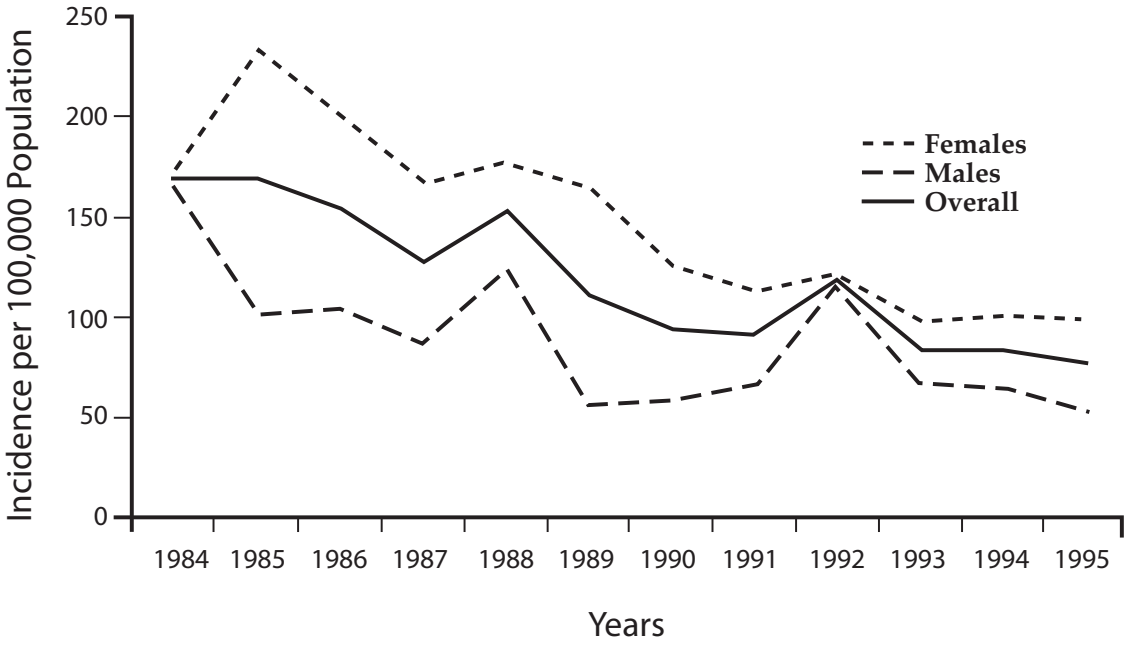
The Municipality of Bærum, Norway

Bærum is a prosperous suburb near Oslo, Norway. The municipality of Bærum has only one general hospital, Asker and Bærum Hospital that defines the surrounding catchment area. Virtually all Bærum citizens attempting suicide come to the attention of this single hospital. In 1983, the hospital formed a multidisciplinary suicide prevention team with the goals of (1) securing for all suicide attempters and their families community aftercare prior to discharge, (2) engaging Bærum's health and mental health professional community in education and supervision pertaining to suicide, and (3) providing prevention services to patients referred to the suicide prevention team (Figure 7). For the sample to be described, the team had an 88 percent success rate for getting patients to the aftercare program to which they were referred. [149]

In 1984, nearly concomitant with the initiation of the suicide prevention team, Asker and Bærum Hospital researchers began a 12-year comprehensive surveillance survey of all Bærum, citizen-patients attempting suicide and of all suicide deaths. The definition for "suicide attempt" was the same one used by World Health Organization/European Multicentre Study on Parasuicide. [427] Over the 12-year union between the suicide prevention team and the epidemiological research there was a 54 percent decline in the incidence of suicide attempts (Figure 7).

Figure 7:

Annual Incidence of Suicide Attempts in the Municipality of Bærum, Norway



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Section Commentary: For the 12 years between 1984 and 1995, Asker and Bærum Hospital's highly successful continuity-of-care strategies coincided with a dramatic drop in suicide attempts (Figure 7). The "ownership" of the referral goal and the 88 percent success rate by the associated suicide prevention team underscores what is possible even with a high-risk population tarnished with a history of poor compliance with follow-up.

The Swedish Island Of Gotland

On the Swedish island of Gotland, one psychiatric facility is available to provide services to all citizens. With a small population of about 60,000 and clearly demarcated borders, Gotland makes a unique epidemiological laboratory. The suicide rate in the early 1980s was among the highest in Sweden; the per capita number of prescriptions for antidepressants was among the lowest. Against this backdrop, a continuing medical education program began in 1983 and ran for two years. The educational program pertained to the diagnosis and management of serious depression and the use of antidepressants and lithium in primary care medicine. [428]

A nearly three-fold drop in suicide rates was associated with this substantial and sustained educational effort. In 1983, the rate of suicide was 20 suicides per 100,000 residents and in 1985 this

rate was 7 per 100,000. There are marked gender differences—the rate reduction is due almost exclusively to females with a diagnosis of major depression and in suicides linked to seasonality. This success coincided with a 30 percent increase in antidepressants and lithium and a nearly similar drop in the number of prescriptions written for non-specific sedative medications. These results are difficult to interpret because various portions of the methodology are presented in very general terms, and data on suicide deaths can be unstable over short periods of time.

By the late 1980's the reduction in the incidence of suicide deaths in Gotland could not be sustained. The investigators attribute this fading success to the departure of 50 percent of the primary care physicians that received the education. Thus, even a two-year educational program loses its effectiveness if it fails to take into account physician turnover. [429] Like other reports in this section, this one about Gotland is included to illustrate that meaningful improvements in outcomes can be achieved with attention to the system of care and, in this example, to the skills of the clinicians.

Section Commentary: This research demonstrates the utility of building even a close approximation of an integrated care system. The linkages between primary care medicine and sustained, mental health education, and suicide prevention and epidemiology permit the relative success of the entire enterprise to be measured and scrutinized. This transparency affords other communities the opportunity to learn evidence-based methods for suicide prevention.

"Perfect Depression Program," Detroit, Michigan

The "Perfect Depression Program" is the name for an innovative model of integrated mental health and general health care designed to "eliminate suicide" among depressed patients of the Department of Psychiatry in the Henry Ford Health System, which serves southeastern Michigan. [430, 431] The Psychiatry Department owns and operates 10 outpatient centers, a 100-bed psychiatric hospital, a 64-bed residential and outpatient substance abuse program, and numerous mental health specialty programs. In 2006, there were 515 employees, 70,000 outpatient visits, and 46,000 inpatient days. Mental health and general health care are integrated by a single electronic medical record for each patient; confidentiality policies permit sharing of information between all sites in this integrated health care system.

According to the two, short published reports, the Department of Psychiatry rebuilt its care system to achieve "optimal care" for the treatment of suicide risk associated with depressive disorders. The guiding principle was that "perfect depression care must be barrier free and consistently provide timely and accurate recognition of suicide risk." Suicide prevention protocols were implemented across outpatient and inpatient areas. Thirty clinicians were trained and certified in cognitive behavioral therapy. Access was improved by drop-in groups, same-day access, and e-mail communication for patients with clinical concerns. According to the published report, these changes resulted in a decrease from 89 suicides per 100,000 patients under care to 22 deaths per 100,000 over the 2002 to 2005 follow-up period.

Section Commentary: What is illustrated here is the capacity of a large heath care system to make suicide prevention a goal and to make systems changes to help reach this goal. In prior sections of this report, rapid access to care and unencumbered information flow appear again and again to be essential elements in a continuity-of-care approach to suicide prevention. The two publications provide very general descriptions of methods and interventions.

Veterans Integrated Service Networks and Center for Excellence at Canandaigua, New York

The Veterans Health Administration (VHA) provides health care services to approximately 5.5 million veterans, easily making it the largest integrated health care system in the United States. [406] Veterans account for 20 percent of the suicides in America. [432] As a response to the recommendations found in the President's New Freedom Commission on Mental Health, the U.S. Department of Veterans Affairs (VA) developed the VA Mental Health Strategic Plan that was finalized in 2004. [419, 432] The recommendations that pertain to suicide prevention include crisis availability and outreach, screening and referral, assessment and tracking veterans at risk, adopting emerging best-practice interventions and research, development of an electronic suicide prevention database, and various mandatory suicide education initiatives. Bidirectional information exchange is established between the VA and the Department of Defense to coordinate the care of veterans with mental illness. Suicide prevention coordinators are at all VA medical centers. In short, an integrated health system, specifically for suicide prevention, has been nested within the VA and its many hospitals and clinics. The VA's standards for follow-up care are summarized in Part Seven (page 91), and the Veterans Integrated Service Network's Center of Excellence is described below.

In July 2007, the VA began operation of a 24-hour national suicide prevention hotline for Veterans (1-800-273-8255). The hotline's hub is in Canandaigua, New York, at the Veterans Integrated Service Network's Center of Excellence. Operationally, the hot-line is a model of follow-up care. Hotline personnel will contact local rescue organizations if the situation demands immediate assistance. Immediately after a veteran calls the hot-line, the suicide prevention coordinator (SPC) where the veteran lives is notified. With a mandate to provide continuity of care, a SPC is embedded in each VA Medical Center across America. At 24 hours, hotline staff check to assure the SPC got the referral and have made contact with the veteran. At 72 hours, hotline staff check to confirm that the veteran was seen and arrangements have been made for an appointment with a mental health professional. At two weeks, there is another check to determine that the veteran is receiving continuing care. The SPCs will function as case managers. In this role, they coordinate veterans' care with various health and mental health specialty clinics, procure housing, track missed appointments, track suicide deaths, and update the suicide prevention database. [432, 433]

When a veteran under the care of the VHA dies from suicide there is an investigation using a root-cause analysis framework originally conceived by The Joint Commission. [434] In 1999 the VA established the National Center for Patient Safety with the goal of nationwide reduction and prevention of inadvertent harm to patients as a result of their care. [435] Regarding suicide prevention,

the VA has established rules of causation, and triggering and triage questions, thereby allowing the analysis to focus on critical causal variables at a VA health systems level. The recent report of the Blue Ribbon Work Group on Suicide Prevention in the Veteran Population mentions "the root cause analyses now being conducted in the VA represent one of the most comprehensive efforts ever undertaken to examine the potential systems issues that may play a role in suicide attempts and suicide deaths." The Work Group, however, recommended one improvement that suicide deaths, suicide attempts, and self-harming behavior without intent to die be better distinguished.[406]

Section Commentary: Many of the recommendations found in the professional literature and in this review for coordinated, continuing care are features of the VA's integrated system for suicide prevention. In combination with the VA's preexisting databases, the suicide prevention database permits epidemiological and suicide prevention studies. The root cause analyses being conducted by the VA is a comprehensive effort the other systems may wish to copy. In coming years, heretofore unavailable outcomes data will become available. Part Seven (page 91) contains information about the VA's standards of care relevant to suicide prevention.

Georgia State Crisis and Access Line

The everyday tragedy of suicide attempts and deaths has motivated Georgia to set up its continuously staffed Georgia Crisis and Access Line, 1-800-715-4225. [436] This one line is a consolidation of 25 crisis access lines across the state and is operated under a contract with Behavioral Health Link (BHL), an independently-owned company. This initiative is advertised as America's first statewide, toll-free crisis access line. Professional staffs are trained to do telephone crisis work. This suicide hotline does not give callers yet another number to call. What it does is to immediately schedule an appointment in one of 200 clinical sites statewide. This triage function attempts to match the caller to the best clinical options available. If at 2 a.m. a patient having made a suicide attempt is being discharged from an emergency department anywhere in Georgia, the Georgia State Crisis and Access Line can be called and the caller can get a rapid appointment virtually anywhere in the state. Hospitalization is one option, but the philosophy is to divert callers to other options whenever possible. Referrals are tracked and followed up until the crisis situation has been adequately resolved. Each site reserves some unfilled appointment slots for this type of crisis work. During 2007, the Georgia Crisis and Access Line received 253,000 calls.

Section Commentary: The Georgia Crisis and Access Line deploys an integrated, coordinated continuity of care system with an aim to swiftly respond, any day, any time, with a rapid appointment anywhere in Georgia. These services are designed to prevent suicide attempts and suicide deaths. By incorporating tracking functions, epidemiologic outcome studies are possible that will describe the success of this statewide effort in the years to come.

The White Mountain Apache Tribe

Many of the approximately 15,500 members of the White Mountain Apache Tribe live on the Fort Apache Reservation in east-central Arizona. Occupying 2,600 square miles, the geographically isolated reservation contains a good portion of the White Mountains. [437] Youth suicide is of major concern since 54 percent of the tribe is less than 25 years old. In the past decade on the reservation, rates of suicide among tribal youth have had 10–12 times the United States rate for any ethnic group, and suicide behavior is a significant problem for many American Indian populations. [438-440] In partnership with Johns Hopkins University, the Tribe has expanded its suicide prevention initiative, "Celebrating Life." The evidence-based Celebrating Life Study is funded by the Native American Research Centers for Health; additional funding comes from the Substance Abuse and Mental Health Services Administration (SAMHSA) through appropriations from the Garrett Lee Smith Memorial Act. [441]

The pervasiveness, in general, of American Indian suicide suggests a social-cultural basis. Supporting this assertion is work of LaFromboise and her colleagues, which concludes that the suicide decisions related to American Indian youth may be attributed to direct learning and modeling influences such as influence of family members' suicide behaviors. [442-444] This social-cultural theory has led to the need to treat suicide in this population as a chronic illness that begins in childhood and develops over years, first as vulnerability, later as ability, and finally a determination. [445] Anti-suicide interventions within this theoretical framework have to address risk and protective factors on an individual, family and community basis, resulting in them being culturally adapted. [438]

Cultural adaptation is motivated, in part, by the Celebrating Life Study's integrated three-tiered approach to suicide prevention. [438, 441] Tier One focuses on community education and awareness regarding suicide behavior and on promoting community-wide protective factors that can broadly reduce youth suicide risk. For this tier, community education occurs in community meetings, schools, churches, and various tribal gatherings. Tier Two involves highly targeted prevention outreach for youth with suicide risk factors but without a suicide-attempt history. "Caretakers" such as school counselors, physicians, and religious leaders are identified as contact persons for youth. Strategies include life-skills workshops for youths and parents. Tier Three targets youth that have made a suicide attempt. Specialized emergency department and psychiatric post-hospital crisis intervention followed by six months of family-based aftercare uses life-skills training that have proved effective among tribes. These interventions are based on the randomized controlled suicide prevention trials led by Rotheram-Borus and Spirito. [230, 236, 238, 377] The emergency department family intervention strategy successfully used in a clinical trial led by Asarnow has been adapted to the circumstances of the White Mountain Apache Tribe.[181] A related component is family education during in-home visits.

The Celebrating Life Study also builds suicide-prevention infrastructure. The existing tribal suicide registry and suicide behavior surveillance procedures will be enhanced. This study component is called "Tribally Mandated Surveillance." Researchers will interview youth that have made a recent attempt to better understand key determinants of suicide. Follow-up studies will be done with youth that have made a recent suicide attempt. The lessons learned from the study will be

used to engage community opinion leaders with an aim to implement and test additional suicide-prevention strategies and improve the existing ones. A foundation will be laid for future evaluation research. Appropriately, these last study components are called "Empowering Our Spirits."

Section Commentary: The White Mountain Apache Tribe benefits from the comprehensive and integrated suicide prevention program that is being currently implemented. The program consists of universal (Tier One), selective (Tier Two), and indicated (Tier Three) suicide prevention strategies within an overall evidence-based, public health approach to suicide prevention. The Apache Tribe's community is somewhat geographically isolated, providing a unique laboratory for a naturalistic demonstration project from which much can be learned about suicide prevention. The Apaches have shown the capacity to be challenged and to overcome adversity and now they are in a position to help lead the nation to a new beginning of suicide prevention research.

Section-at-a-Glance:

Reductions in the annual rate of suicide attempts are reported when suicide prevention programs were instituted by the U.S. Air Force, in the Norwegian metropolitan community of Bærum, and on the Swedish island of Gotland. Although the correlation between the reductions in suicide attempts and the suicide prevention programs may be mere happenstance, the changes are so striking that cause and effect relationships are inferred. There is one common theme: Suicide attempt prevention appears to require at least a semblance of an integrated health and mental health care provision system that has rapid access to care and substantial continuity of care capacity. However, there are many interventional dissimilarities. Gotland decided suicide prevention required improved identification of major depression and an increase in the number of prescriptions written for antidepressants and lithium. Bærum's approach demanded close follow-up and a suicide prevention team. Success for the Air Force required a "mandatory" culture change. It very much appears that localities differ and that suicide prevention programs need to be tailored to local conditions. Located in east-central Arizona, the White Mountain Apache Tribe's multi-tiered suicide prevention program is one example of matching suicide prevention to a specific community. Coordination and continuity of care are integral features across suicide prevention programs.

Development of integrated, coordinated services networks of care are the goals for several major initiatives described. Perhaps the most ambitious of these is the Veterans Administration Center for Excellence at Canandaigua, New York. This program includes a 24-hour national suicide prevention hotline and suicide prevention coordinators in all VA Medical Centers. High standards of care set the VA apart from most other health care systems.

The evaluation of suicide prevention activities requires accurate data about outcome variables. The readily available suicide statistics apply to the United States as a whole and will reflect national rather than local changes. The National Violent Death Reporting System is attempting to remedy this situation. [446, 447] Given that suicide is a relatively rare event, it is hard to believe that this national system will have application to local communities where all the action takes place. Measuring the effectiveness of local suicide prevention efforts

demands responsive local data collection. Understandably, some sort of dedicated tracking system and associated database characterizes every single integrated system mentioned in this review. High priority needs to be given to building community capacity to accurately and capably track suicide deaths and attempts. Without such systems, community efforts to reduce suicide attempts and deaths cannot be evaluated.

Section-related Recommendations:

- **Build community capacity to quantify and capably track suicide attempts and suicide deaths.** *Without this epidemiological data, community efforts to reduce suicide behaviors cannot be evaluated.*
- **Design, test, and implement integrated networks of care that ensure follow-up and evidence-based treatment of high suicide risk.** *Continuity of care in communities is an underutilized suicide prevention strategy. Continuity-of-care strategies need to target individuals that are at high risk both for suicide and for non-adherence to the recommended treatment plan.*
- **Create and financially support a network of model health care systems devoted to best-practices research.** *These mini-systems can serve as laboratories to test features that might be part of future health care systems. The Agency for Healthcare Research and Quality initiated the Integrated Delivery Systems Research Network in 2000.* [108] *The inclusion of suicide prevention activities would enhance greatly this field-based research initiative.*
- **Institute programs of root-cause analyses and responsive action plans whenever there is a suicide death.** *The participants should be representatives from all the health systems that recently participated in the care of the deceased. The Joint Commission's and the United States Department of Veterans Affairs' root cause analysis frameworks are models that have been effective for improving the performance of systems of care.* [434] *A comprehensive root-cause analysis will need to combine several systems of care for patients receiving care in multiple systems.*

Part Nine

Ten Continuity-of-Care Principles for Suicide Prevention, Affiliated Recommendations, and New Directions for Research and Public Policy

Placing suicide prevention within the common model of disease prevention in public health is one means for linking the sections of this review into one whole. In the pages that follow, the public health model is used to weave together many of the prior sections. This fabric is made from a set of 10 Continuity-of-Care Principles that may serve to guide public policy regarding suicide prevention and provide new directions for suicide research.

The Summary found at the beginning of this report contains a list of all recommendations made in the report. At the end of each section appear recommendations that have their roots in the material covered in that section. In the Summary, the recommendations are reorganized to fall under only one of the 10 Continuity of Care Principles. *The 10 Continuity-of-Care Principles are outlined, explained, and justified below. They are intended to complement the recommendations made in this report*. (Only selected references found in the prior text are repeated.)

1. ***Suicide is a public health problem for which continuity of care is one essential means for effective prevention.***

   The principles of suicide prevention and disease prevention share many commonalities. Tertiary prevention is aimed at individuals who already have a health problem and who need treatment and support to prevent complications and further deterioration. Continuity of care is an example of tertiary prevention. Follow-up programs, relapse prevention, monitoring and early treatment of recurrences are all examples of tertiary prevention, [448, 449] and they all apply to suicide ideation and attempts. *Continuity of care makes a solid, patient-centered framework around which to organize health care systems*.

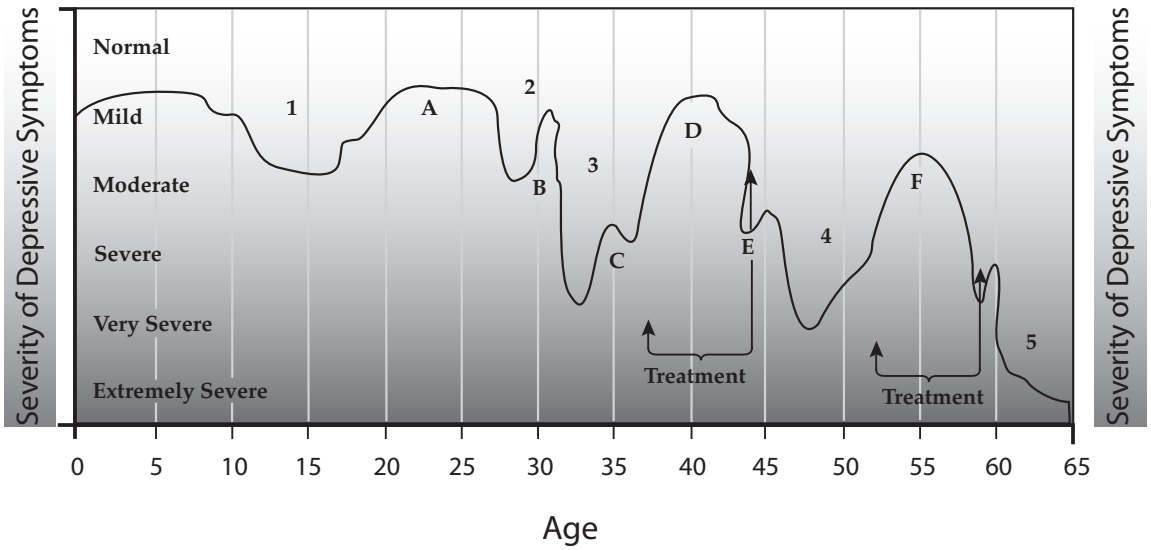
2. ***Epidemiologic studies need to focus on the associations between the severity and chronicity of mental illness and suicide ideation, attempts, and deaths.***

   There is no doubt whatsoever that that there is a significant relationship between non-fatal and fatal suicide behaviors and psychiatric disorders. Different psychiatric disorders have varying degrees of affiliation. [450] Most psychiatric disorders are chronic, recurrent conditions associated with brain and developmental disorders; they are not acute conditions. [451] Similar to other

medical conditions, suicide is influenced by genetic contributions, and suicide has a differential response to therapeutics. [38, 299, 307, 313, 452, 453] Suicide is associated with a course of illness. Predictably and regrettably, suicide death will be the end of the illness course for a sizeable number of patients with such example psychiatric conditions as major depression, bipolar disorder, and schizophrenia. [39, 62, 299] There is considerable information that inadequate treatment increases the severity of major depression, for example (Figure 8). Over the course of psychiatric illness there surely are times of increased vulnerability to suicide and to decreased protection. Suicide may occur at any time. In schizophrenia, for example, suicide tends to occur nearer to the onset of illness. [454] An important subject for epidemiologic studies is identifying the characteristics of the linkages between the severity of various forms of mental illness and the chronic course of mental illness and inadequate treatment and suicide attempts and suicide. Many clinically important instances of suicidal ideation go unrecorded. [455, 456] Therefore, of equal importance are standard epidemiologic studies of suicide ideation and attempt behaviors and investigations of what prognostic factors change attempt behaviors to suicide deaths and what are the complexities of the relationships.

Figure 8:

Prototypical Course of Major Depression with Suboptimal Treatment



Numbers 1–5 are episodes of major depression; letters A – F are periods of improvement. The periods of treatment are too short to offer protection from a declining course of illness. Reprinted with permission from Palmer BA, Pankratz VS, Bostwick JM. The lifetime risk of suicide in schizophrenia: a reexamination. *Arch Gen Psychiatry.* 2005;62:247-253.

One model for investigating patient attributes and mental health prognosticators of suicide is the *National Confidential Inquiry into Suicide and Homicide by People with Mental Illness*. The results from this ongoing investigation are based on a large national sample done in the United Kingdom. Surveyed are all suicides and homicides found in association with psychiatric services. Some of the findings from the first two surveys have been mentioned in this

report. The results are descriptive and based on information from case records and judgments of non-blinded clinicians.[42, 59]

3. ***Anti-suicide therapeutics and interventions have been developed and/or may be developed grounded in existing research or the consensus of experts in suicidology. Some of these therapeutics can be implemented now and be evaluated further by both clinical-research and randomized-controlled methods.***

   Firearms are by far the most lethal means to die by suicide, and education about the dangers and recommendations to remove or make inaccessible firearms can be lifesaving. This sort of education may be easily done in the ED and has to be the standard of care with discharge from a psychiatry inpatient unit. Brief screening and brief intervention reduces alcohol consumption. These same methods can be adapted for use in the various settings. Suicide behaviors and dangerousness are among the most common reasons for being admitted to a psychiatry inpatient unit. However, little work has been done on what constitutes best practices for inpatient monitoring of patients at high risk for suicide.

   This review could not identify a single how-to manual that describes one or more models for inpatient programming or clinical tracks designed specifically for hospitalized patients at risk for suicide. Numerous anti-suicide initiatives are possible. What appears absent is the determination to move forward.

4. ***There is considerable urgency to identify anti-suicide therapeutics that are more rapidly effective than presently available cognitive-psychological and psychopharmacologic therapies.***

   This review has recommended research on the development and application of more rapidly effective interventions aimed squarely at suicide ideation and suicide attempts. For sure, administering antidepressants for an associated depression is good medicine, but this intervention is unlikely to hit the suicide-risk mark in any immediate way. Similarly, cognitive therapies appear to be ineffective quickly. The cognitive therapies show considerable promise in the management and care of suicide ideation and attempts. There may be component parts of these therapies that best explain their efficacy, and these component parts may be the foundation for the development brief, anti-suicide psychotherapies that have high utility in EDs and psychiatric inpatient units.

   The discontinuation of antidepressants and other psychiatric drugs appears to be associated with instances of increased suicide attempts and suicide deaths. If this is true, patients need to have this information to better appreciate the importance of antidepressant medication adherence.

5. ***Providing patients with continuity of care is a potentially powerful suicide prevention strategy for individuals at acute, short-term, or long-term risk for suicide.***

   This review has focused on suicide attempts as a strong risk factor for suicide deaths. In this context, tertiary prevention may be understood as interventions that take place after the first

suicide attempt. The purpose of these interventions is to prevent subsequent attempts and, by so doing, prevent further mental health and general medical complications, deterioration, various morbidities, and mortality—suicide death. One potentially very effective suicide-prevention approach is to aim specific interventions at individuals with acute, short-term, or long-term elevated risk for suicide. Individuals who have suicide ideation and who have made an attempt are targets for selected interventions.

In an overall way, tertiary prevention means identifying the patient at risk, getting the patient effective treatment, and sustaining it. Continuity-of-care strategies need to target individuals that are at high risk for both suicide and non-adherence. There are many continuity-of-care strategies that appear effective and others that appear quite promising. Some strategies are simple, common sense procedures. Giving the patient a sense of connectedness to caregivers and providing concrete evidence of empathic concern can be done with outreach interventions such as telephone reminders of appointments coupled with encouragement to seek treatment. Providing a "crisis card" with emergency phone numbers and safety measures is another. Various forms of motivational counseling and case management achieve improved adherence to recommended treatment. Letters of support after a suicide attempt may provide a measure of motivation for all patients subsequent to a suicide attempt and even for patients that refuse follow-up.

6. ***The continuity-of-care goals of The National Strategy for Suicide Prevention require the adoption, at the national level, of expected best practices for discharge planning.***

The most effective continuity of care strategy does no good if it is not used. Being discharged from an emergency department or from an inpatient unit after a serious suicide attempt is very serious. Many individuals struggle daily with how difficult it is to stay alive and how easy it would be to die from suicide. Regardless of the particular attributes of any one individual, post-attempt discharge is a sufficient reason to justify follow-up within a few days and sometimes within a few hours of discharge. On previous pages, persuasive evidence was presented that reattempts and suicide deaths are common in the period immediately after discharge. Moreover, long waits for a first outpatient appointment can be deadly. Research and practice are disconnected. In America, there is no recognized standard of care that defines timeliness that applies to this critical time period. Neither The Joint Commission, the Centers for Medicare and Medicaid Services nor the American Psychiatric Association recommend or describe an explicit, best-practices protocol. *The general-guidelines approach to discharge planning has the advantage of preserving the clinician's capacity to develop a unique discharge plan and has the disadvantage of preserving and, perhaps, perpetuating minimally acceptable standards of care.*

As mentioned on earlier pages, the difference between a sloppy discharge plan and a tight plan are the elements that may permit rather than discourage suicide. Continuity of care and coordination of care strategies increase the proportion of patients treated for suicide risk in hospital emergency departments and inpatient units that pursue the proposed mental health follow-up plan. This objective of *The National Strategy for Suicide Prevention* will remain

unmet as long as systems of health and mental health care are disconnected and follow-up plans lack meaningful standards. There are no recognized standards for what constitutes even an acceptable plan. *Without expected best practices and standards, more easily and quickly accomplished practices may seduce hospital staffs into making minimally acceptable but largely ineffective discharge plans*. If there were a standard that patients must have a follow-up appointment within, say, a week of discharge, this would likely have some real and positive impact on quality of care. First, failure to attain this goal would constitute a medical error of omission. [457] Second, health care organizations would have to design systems of care to accomplish this goal. Third, research would be done to evaluate best practices and outcomes.

7. ***Randomized controlled trials that use suicide attempts as outcome variables are practical and doable and much less expensive than trials involving the general public.***

   Anti-suicide interventions are many, but scientific evaluations of their effectiveness are quite rare. [214, 215] Randomized controlled trials (RCTs) are required to determine the efficacy of interventions. RCTs can be done much more economically by studying groups at high risk for suicide. Since suicide attempts are a strong predictor of suicide death, trials involving patients that have recently attempted suicide are practical and doable. Suicide attempts, especially medically serious suicide attempts, are an outcome measure that serves as a proxy measure for suicide deaths. Because attempts are much more frequent than deaths, smaller sample sizes are required to detect an intervention effect. *(Please see Appendix Two for more information about sampling and study design characteristics and methods.)*

8. ***Patients should be seen by certified professionals that have mastered suicide assessment and prevention skill sets.***

   There is persuasive evidence that educating medical practitioners to recognize and treat depression and restrict patient access to lethal means reduces suicide rates. [214, 215] This approach needs to be extended to mental health professionals and ED clinicians. There are no uniform, widely recognized standards for curricula or for clinical competencies in suicide assessment, management, and care. Also, the outcomes of care need to be made part of educational goals. Focusing on the process of education can only go so far. Competency-based education (knowledge, skills, and attitudes) needs to re-focus on measuring the actual abilities and certifying the competency of clinicians engaged in suicide prevention work. Once continuity of care is achieved, patients should be seen by professionals that have mastered suicide assessment and prevention skill sets. New educational materials need to be developed as well. For example, too little information is available about the characteristics of patients that soon after their clinical encounter go on to kill themselves.

9. ***High priority needs to be given to building community capacity to accurately and capably track suicide deaths and attempts. Without such systems community initiatives to prevent suicide behaviors cannot be evaluated.***

It is not enough to have highly linked, chain-of-survival, health care systems with explicit and directive practice expectations. How will organized health care systems evaluate best practices and outcomes and, by this means, know if the interventions used actually prevent suicide? The United States does not have a unified system for surveillance of suicides. If and when the National Violent Death Reporting System becomes more fully operational, [447] it needs to help local communities get accurate counts of suicide deaths. All of the relevant prevention studies reviewed in this report established a unique system for tracking suicide deaths and attempts. Without such systems, it is impossible to know if specific suicide prevention activities like emergency crisis cards or brief therapeutic interventions do anything at all. [90] *High priority needs to be given to building community capacity to accurately and capably track suicide deaths and attempts. Without such systems, community initiatives to prevent suicide behaviors cannot be evaluated.*

10. ***Designing, testing, and implementing integrated networks of care for community populations that ensure follow-up and evidence-based treatments for high suicide risk may prove to reduce suicide rates and, thereby, complement universal interventions aimed at the general public.***

    The essence of continuity of care for EDs and inpatient psychiatry units is motivating patients at high risk for suicide to attend their first outpatient, follow-up appointment and getting them and their medical information to that appointment with all due haste. This means the first appointment is the next day, if possible, and within a week if unavoidable. This means rapid, meaningful clinical communications between providers and care centers. Making these achievements elusive is the absence of any national standards for timeliness and discontinuities between hospital and community care. Some clinicians have a tough time making up for these systems problems due to certain skill deficits. Too little attention is given to the process and content of health professional education about suicide risk assessment and treatment. Even less attention is given to assessing and certifying competency and to the outcomes of education. The agenda for change recommended on these many pages will help to identify interventions for reducing patient suicide risk and, thereby, preventing suicide. *Designing, testing, and implementing integrated networks of care for community populations that ensure follow-up and evidence-based treatment for high suicide risk may prove to reduce suicide rates and, thereby, complement universal interventions aimed at the general public.* [215]

Appendix One

Objectives, Data Sources, Consultations, Assistance, and Information about the Author and the Reviewers

Objectives of this Review: Identify literature relevant to follow-up and continuity of care subsequent to discharge from an emergency department or psychiatric inpatient unit, to systematically examine the published literature, summarize the evidence base, make recommendations for practice and for new directions in public policy based on the current research, identify the most critical gaps in knowledge, and suggest directions for new research to fill those gaps.

Audience: Policymakers that govern systems of care and research programs are the intended primary audience. However, considerable effort was made to make the entire report accessible to anyone with a keen interest in reducing suicide in America and other countries.

Publication Sources and Search Strategies: Electronic searches of Google Scholar, MEDLINE, and PsychINFO databases using multiple search terms pertaining to the objectives were used to identify the pertinent published literature that is in English and has abstracts or introductory materials. Search terms and search procedures were done in consultation with Patricia Martin, Senior Librarian, Taubman Medical Library, University of Michigan. Citations were acquired for approximately, 5,000 highly relevant publications. Subsequent searches were limited by year of publication until about 1,500 references were identified. Titles and abstracts were inspected. Selection of publications to be acquired was based on subjective judgments on importance and quality. Similarly, the search engine Google was used to identify germane documents and information made available by government and organizations concerned with suicide prevention. Each search using Google was limited to inspecting the first 200 items identified. Reading these materials helped identify other materials that were then reviewed for relevance.

Additionally, the following publications were reviewed carefully for additional materials: *Achieving the Promise: Transforming Mental Health Care in America;* [109] *Hospital-Based Emergency Care at the Breaking Point;* [134] *Improving the Quality of Health Care for Mental and Substance-Use Conditions;* [108] *National Strategy for Suicide Prevention: Goals and Objectives for Action;* [117] and *Reducing Suicide: A National Imperative*. [80] Careful reading of entire publications or essential portions of publications identified additional materials and publications for inclusion. Excluded were publications with abstracts judged to be peripheral to the objectives.

Quantitative Studies: Randomized clinical trials and cohort studies that are central to suicide and follow-up care and continuity of care were identified from published systematic reviews and meta-analyses found by the above methods. For clinical trials published between 2004 and April, 2008, electronic searches were done of the Cochrane Central Register of Controlled Trials, the Cochrane Database of Systematic Reviews, MEDLINE, and MEDLINE In-Process & Other Non-Indexed Citations. Gregory Brown, Ph.D., University of Pennsylvania, provided consultation and assistance in interpreting study results. Brown was not asked to approve the final text or related tables. Mona Goldman, Ph.D., University of Michigan, provided consultation about sampling, design, and statistical analysis pertaining to clinical trials.

Assessment and Management of Suicide Attempts: Meeting the objectives required an up-to-date understanding of the components of care and each component has a related literature. Much of this literature was either acquired during prior projects or discovered over the course of the searches just described. Updates to existing information and recent scientific works were identified using the PubMED search engine primarily.

Accrediting, Regulatory Compliance, and Institutional Standards of Care: Mary Cesare-Murphy, Ph.D., Executive Director of The Joint Commission's Behavioral Health Program provided information, guidance and consultation about TJC's positions and documents relevant to suicide prevention in healthcare organizations. Cesare-Murphy was not asked to approve of the sections of the final report in which this material is presented. Phyllis Voreis, Director, Accrediting and Regulatory Readiness, and Janis Price, Administrator, Hospital and Community Psychiatry Section, both with the University of Michigan Health System, provided consultation pertaining to the interpretation of materials made available by The Joint Commission and the Centers for Medicare and Medicaid Services as well as related regulatory matters. They too were not asked to approve the final interpretation.

Quality Control: Research relevant to the objectives was presented during a two-day conference of experts held at the headquarters of the Substance Abuse and Mental Health Services Administration (SAMHSA) in Rockville, Maryland. Thereafter, the author, who was one of the conference participants, was commissioned to do this project. David Litts, Director of Science and Policy of the Suicide Prevention Resource Center, provided overall direction, and Alan L. Berman, Executive Director of the American Association of Suicidology (AAS) led the administration of the project; both made specific suggestions to enhance the quality of the project. Andrea Price, AAS Project Manager, provided overall guidance, monitored deadlines, and helped edit the final manuscript. Four drafts of the manuscript were reviewed by members from a panel of six experts. The reviewers kept the author focused on the objectives, suggested additional published materials, guided interpretation of certain acquired published materials, and identified numerous ways to strengthen the manuscript. These reviewers suggested additional publications that led to the identification of approximately 150 publications that were carefully considered prior to the completion of the final report.

Library and Cited Works: The methods and procedures just described resulted in a library of approximately 725 citations and published works. Mary Wilcop, graduate student, University of

Michigan, provided assistance in acquiring published materials and building the project's library. Merle Rosenzweig, Senior Librarian, Taubman Medical Library, University of Michigan, provided assistance with bibliographic management software. In an effort to produce a final manuscript that is of reasonable length yet achieves the project's objectives, the author, in partnership with the reviewers and quality-control experts, selected materials from the library judged to be most relevant to each subject covered.

Exhibits: John Thompson, Senior Graphic Designer, University of Michigan, created the exhibits from reference materials included in this article.

Information about the Author: David Knesper, M.D. is an Associate Professor in the Department of Psychiatry at the University of Michigan. At Michigan, Dr. Knesper is the Director of the Section of Hospital and Community Psychiatry that includes Psychiatry Emergency Services for all ages, Adult Psychiatry Inpatient Services, Psychiatry Consultation Services for inpatients with general medical conditions, and liaison with community mental health programs. Dr. Knesper is a Senior Attending Psychiatrist with extensive experience working with suicidal patients and their families. In the American Association of Suicidology (AAS), Dr. Knesper has been elected Member-At-Large, and he is an AAS-Certified Crisis Worker and a member of the Clinical Expert Task Force for emergency department risk assessment. His research seeks to understand the relationship of suicide deaths to common clinical traps, pattern recognition misjudgments, and cognitive biases associated with misinterpretation and over-confidence in clinical data and subsequent decisions related to suicide risk.

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Appendix Two

Sampling and Design Characteristics of Clinical Trials Measuring Changes in Suicide Behaviors

A recommendation appears in this review that suggests funding substantially more randomized controlled trials (RCTs) that use suicide attempt behaviors as outcome variables. Since the expense of any clinical trial is in proportion to the number of enrolled participants, this next section discusses sample size in the context of alternative outcome variables. To appreciate these conclusions, some information about the design of RCTs and sample size is a necessary introduction.

Although the "gold standard" for medical research is the RCT, only a handful of suicide prevention interventions have been subjected to this type of scientific rigor. In an RCT, participants are randomly assigned to receive either the intervention or the control treatment, creating groups that are similar in terms of known or unknown risk factors. This process assures that any effect that is observed can be attributed to the intervention and is not due to bias (systematic error) in how subjects are assigned to each arm of the study or to confounding. [458] (Confounding is a mixing of the effects of the treatment and another factor—the confounder—which is differentially distributed in the study groups and is also associated with the intervention.)

Suicide prevention trials should also have sufficient power to detect a difference between the intervention and the control groups, if one exists. The sample size required is directly related to the desired power and to the variation of the outcome. It is inversely related to the effect size and to the significance level or alpha (defined as the probability of concluding that there is difference between the groups, when, in fact, there is none). Many clinical studies select a sample size that will provide 80 percent power to detect an effect when one exists, at a significance level of 0.05.

Because the frequency of suicide in the *general population* is extremely low, very large samples are required to detect effects of preventive interventions. [459, 460] A more practical and much less costly approach to such studies is to increase the frequency of the observed outcomes by focusing on high risk individuals or by using suicide attempts as a close approximation for suicide deaths. This is an entirely reasonable assumption since suicide attempts are a powerful predictor of suicide. Please reference the first paragraphs of this report where these relationships are reviewed in some detail.

The merits of this approach are illustrated by two RCTs reviewed on recent pages. In the study by Gregory Brown and others, the objective was to determine the effectiveness of a 10-session

cognitive therapy intervention designed to prevent future suicide attempts in adults who recently attempted suicide. [32] The study required a sample of only 120 participants that were randomized into a 60-participant experimental group and a 60-participant control group. After 18 months, 13 participants in the cognitive therapy group (24.1 percent) and 23 participants in the usual care, control group (41.6 percent) had reattempted suicide at least once. Since the observed p-value was 0.049, less than the alpha of 0.05, the difference between the groups was statistically significant.

When the outcome measure is much less frequent, such as suicide death, a large sample is required even if the study population is at high risk for the outcome compared to the general population. This is illustrated in the study by Motto and Bostrom, [26, 36] described previously. In that study, 843 patients admitted to one of nine inpatient facilities for "a depressive or suicidal state" and who declined treatment after discharge, were randomly assigned to receive a contact letter or no contact over a 15-year period. The cumulative death rate from suicide over the first two years was 1.8 percent for the contact group and 3.52 percent for the no-contact group, which was statistically significant (p=.043). In a recent article about the design of RCTs in testing interventions for the prevention of youth suicide, C. Hendricks Brown showed how even further sample size reductions are possible by taking advantage of design efficiencies. [460]

The point of this discussion is to support the recommendation for funding RCTs that sample patients at high risk for suicide behaviors. By so doing small sample sizes can be associated with results finding statistically valuable evidence about the efficacy of alternative interventions and with expenses that are a fraction of what it would cost to do research on general populations. Other research designs are appropriate. It is beyond the scope of this review to compare alternative research methods.

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