Abstract

An empirically supported program to prevent suicide
among a college population

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In the fall of 1984, the University of Illinois instituted a formal program to reduce the rate of suicide among its enrolled students. At the core of the program was a policy that required any student who threatened or attempted suicide to attend four sessions of professional assessment. The consequences for failing to comply with the program included withdrawal from the university. In the 18 full years that the program has been in effect, reports on 1531 suicide incidents have been submitted to the Suicide Prevention Team. The rate of suicide at locations within Champaign County decreased from a rate of 6.91 per 100,000 enrolled students during the eight years before the program started to a rate of 3.08 during the 18 years of the program. This represents a reduction of 55.4 percent. This reduction occurred against a backdrop of stable rates of suicide both nationally and among 11 peer institutions within the Big Ten. Implications for programs and policies at institutions of higher education are discussed.

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For as long as there have been colleges and universities, there have been students who have used the occasion to kill themselves. College attendance and suicide have always seemed like unlikely companions, given deeply rooted assumptions held about each. College is held to be a time of promise, hope and expanded opportunities, while suicide is seen as the last resort of the hopeless and optionless.

After decades of debate over whether the rate of suicide was higher or lower among college-attending young adults, Schwartz and Reifler (1980), Bessai (1986), Schwartz and Reifler (1988), Schwartz and Whitaker (1990), and Silverman, Meyer, Sloane, Raffel and Pratt (1997), convincingly established the rate to be roughly half the rate for young adults in the general population. While the number of students who kill themselves on any given campus in any given year is thankfully small, extrapolating from the 14.9 million students enrolled in 2001, approximately 1100 young adults kill themselves in the nation's colleges and universities every year.

While institutions of higher education might seem unlikely settings in which to commit suicide, they represent ideal settings in which to prevent it. Whitaker (1986) notes that colleges and universities are self-selected, intentional communities with an abundance of medical resources. They function at the forefront of enlightened attitudes towards community involvement and the use of psychotherapy. Given their tight-knit social structure and the abundance of high-quality therapeutic resources, institutions of higher education would seem ideal settings in which to experiment with systematic efforts to reduce the rate of suicide.

Despite these obvious advantages and despite the death of 1100 students a year, institutions of higher education have been the scene of surprisingly few systematic efforts to lower the rate of suicide. In the sixty-five years since Rapheal, Power and Berridge (1937) published the first study of college suicide at the University of Michigan, the majority of published papers have detailed the demographic and psychological profiles of students who have committed suicide (including Parrish, 1956; Temby, 1961; Braaten & Darling, 1962; Bruyn &

Seiden, 1965; Seiden, 1966; Ross; 1969; Simon, 1978; Heinrichs, 1980; Kraft, 1980; Pepitone-Arreola-Rockwell, Rockwell & Core, 1980; Hamilton, Pepitone-Arreola-Rockwell, Rockwell & Whitlow, 1983; Schwartz & Reifler, 1984; Bessai, 1986; Silverman et al. 1997). While several writers have made specific recommendations, there have been only two formal proposals for systematic efforts to prevent suicide (Webb, 1986; Westefeld & Pattillo, 1986). There have been only six reports of systematic programs (Dashef, 1984; Ottens, 1984; Funderburk & Archer 1989; Whitaker & Slimak, 1990; Meilman, Pattis & Kraus-Zeilmann, 1994; Jed Foundation, 2001). These six programs have either been short-lived or not associated with empirical evidence that would allow an evaluation of their effectiveness. Instead of leading the nation in suicide prevention, colleges and universities are mired in inaction. While renowned for their leadership in other fields, to this day there has not been a single campus-based effort to prevent suicide that has solid empirical evidence to support its practice.

Campus prevention projects, both proposed and undertaken, can be divided into one of four overlapping categories, 1) cultivation of a community of caring, 2) identification and referral of at-risk students, 3) reduction of academic stress, and 4) postvention following a completed suicide. Proponents of a community of caring approach include Knott (1973), Benard and Benard (1980), Webb (1986), Whitaker (1986) and Whitaker and Slimak (1990). Undoubtedly the most comprehensive implementation of the community of caring approach was the University of Florida's Suicide Prevention Project. The project focused on educating the university community around the problems of stress, self-destructive behaviors and suicide. It included a newsletter, public service announcements and advertisements in an effort to reduce stress, encourage psychological balance and challenge the campus community to be more supportive of one another. Also known as "The Campus Cares," the Suicide Prevention Project began in 1986 and continued for 10 years until 1995. Unfortunately, there was no effort to gather empirical evidence on its impact on the university's rate of suicide.

The second type of suicide prevention effort has been to lesson barriers to professional treatment and increase the likelihood that depressed and suicidal students will receive appropriate assistance. After four suicides in 1977-78, Cornell University launched a program to train 50 students, staff and faculty a year in crisis intervention and referral (Ottens, 1984). Dashef (1984) reported on a multi-faceted project at the University of Massachusetts at Amherst. It included educational outreach around warning signs and referral procedures, an expansion of treatment resources, closer collaboration with community hospitals and a hands-on approach to intervention. Dashef reports that six students committed suicide in the year prior to the program

and following its implementation, there was a period of 15 months without a suicide. The College of William and Mary, with an enrollment of 7,500 students, fortified the referral process by requiring students at risk of committing suicide to participate in an immediate professional evaluation (Meilman et al., 1994). Meilman et al. (1994) reported that only two students committed suicide during a 25 year period. The Jed Foundation (2001), a nonprofit public charity committed to reducing the rate of suicide among young adults, has been working with institutions of higher education to take a comprehensive look at their mental health services and suicide prevention efforts to insure they meet essential standards. Simultaneously, the Jed Foundation has developed a web-based screening instrument that allows students to assess themselves and be connected directly with campus professionals. At present, the web service is available to over 400,000 students at 28 colleges and universities.

The third approach to suicide prevention has been to reduce the stressors, particularly academic, that might predispose a student to commit suicide. Knott (1973) called for a lessening of competitive pressures. Perhaps the most comprehensive approach has been proposed by the Jed Foundation. Among its recommendations is a more student-friendly medical leave policy.

The fourth category of prevention effort has been to work with the survivors of completed suicides (Benard & Benard, 1980). Perhaps the most articulate proponent of "postvention" has been Webb (1986). Citing research that has found that the death by suicide of a family member is a risk factor for the surviving members of the family, Webb reasoned that the college friends of a student who committed suicide would also be at greater risk. By providing the campus community with a range of bereavement services, Webb proposed this risk could be reduced.

One might conclude that with the except for Dashef (1984), the Jed Foundation (2001), and in particular Meilman et al. (1994), that proposals and projects to reduce the rate of college suicide have been more well-meaning than meaningfully effective. While few would argue against the importance of a compassionate and caring environment, it becomes difficult to see caring alone as the keystone of any systematic intervention. With the exception of Meilman et al. (1994), efforts to identity and refer suicidal students are based on the assumption that such students would be willing to participate in treatment or at best demonstrate mild resistance. No author has drawn a distinction between the resistance to treatment shown in the general population and the outright rejection of treatment shown by the majority of suicidal individuals. Efforts to reduce academic stress would seem to overlook conflicting evidence regarding its role in college suicide. Benard and Benard (1982) reported that among 75 undergraduate enrolled at

Memphis State who reported making threats or attempts while in college, 52 percent gave social problems as the reason, 21 percent gave family problems and only 7 percent gave academic pressures. Meilman et al. (1994) reported that among 11 students at William and Mary who attempted suicide in 1991, 91% had evidence of work or school failure, while 46 percent had evidence of relationship difficulties or breakups. Among 14 students at William and who threatened suicide, 36 percent had evidence of work or school failure and 64 percent had evidence of relationship difficulties or breakups. And finally, while suicide postvention is a critical service in its own right, there is no evidence to support the contention that peer survivors of college suicide are associated with an increased risk of suicide themselves.

The enterprise of preventing suicide is largely one of identifying risk factors and translating them into effective interventions. Ross (1969) identified 21 separate risk factors associated with an increased risk of suicide among college students, including depression, death of one's father, and lack of close personal relationships. Benard and Benard (1985) identified 37 and Slimak (1990) identified 41. Despite the steadily increasing number of known risk factors, there has not been a corresponding increase in the number or intensity of prevention efforts.

Of all the risk factors that have been identified, none have been more thoroughly researched than the presence of prior suicidal intent. Most often, researchers have set the threshold for prior intent as the presence of a suicide attempt serious enough to result in a stay at an inpatient psychiatric hospital (see Maris, 1992 for a review). Other researchers have set the threshold at a suicide attempt that required medical attention in an emergency room. Dorpat and Riley (1967), in a review of the literature, concluded that between 40 and 65 percent of individuals who committed suicide gave unmistakable evidence of prior intent based on the occurrence of a serious prior suicide attempt. When researchers have used more inclusive measures of prior suicidal intent, this figure becomes considerably higher. Schneidman and Farberow (1957) reported that 75 percent of the subjects they studied who committed suicide had previously made a suicide threat or attempt. Robins, Murphy, Wilkinson, Gasner and Kayes (1959) conducted interviews with family members, friends and acquaintances and found that 69 percent of 134 individuals who committed suicide had expressed clear suicidal intent. In one of the few studies that probed a series of lessor thresholds, Shafii, Carrigan, Whittinghill and Derrick (1985) conducted extensive interviews with the family, friends, relatives, teachers, counselors, ministers and physicians of 20 adolescents, aged 12-19, who died between 1980 and 1983 in the Louisville area. Forty percent had made a prior attempt. Fifty-five percent had made

a suicide threat. And of most significance, 17 or 85 percent had expressed significant ideation, making public their intent to die.

Not only is the presence of demonstrated suicidal intent the single most powerful predictor of eventual suicide, it stands apart from all other risk factors in that it is an "action." As an action it can be subject to a code of conduct and administrative sanction. All other risk factors--depression, social isolation, loss of a parent in adolescence, or a family member who committed suicide--are "statuses." Statuses, whether psychological, social, or historical, cannot be subject to administrative leverage.

A number of researchers have noted that contrary to expectations, only a small percentage of students who commit suicide have had prior contact with campus mental health personnel. Braaten and Darling (1962) reported that the students who recently committed suicide at Cornell University were not patients at the university's mental health services. Schwartz and Whittaker (1990) conducted a meta-analysis of four studies that reported rates of prior professional contact and found that among 99 students who committed suicide, only 36 had such contact. These findings are consistent with studies of suicide among non-student populations. Lecomte and Fornes (1988) studied 392 cases of suicide among Parisians between the ages of 15 and 24 and found that the majority had no record of professional contact before their death. Seager and Flood (1965) investigated 345 suicides in Bristol and found that less than one third had evidence of psychiatric treatment. Moeller (1989) noted that research on the effectiveness of post-attempt aftercare is made difficult by the inherently low rate of treatment compliance. Hoffman (2000) citing these statistics suggested that most suicide prevention centers and the traditional provision of mental health resources will "miss" the majority of individuals most at risk.

Eighteen years of working intensively with suicidal students at the University of Illinois has led to a number of counterintuitive observations. Suicidal intent, the driving force behind suicidal action, does not exist in a vacuum. Instead, it is often accompanied by other deeply held beliefs and entrenched character structures. According to the widely held distress model of suicide, popularized by the interpretation that suicidal behavior is a "cry for help," no individual would want to be suicidal and that any student who had the misfortune of being saddled with suicidal intent, would gladly forfeit it at the first opportunity. It would surprise campus administrators to know that while suicidal students might or might not feel distressed about conditions in their lives, they generally don't feel distressed about being suicidal. Many will openly admit that being suicidal is one of the few, if not the only, bright spots in their lives.

Instead of seeing suicide as a problem, they see it as a solution to their problems. Many are proud, if not proudly defiant, of their power to control their own fate, many are identified with and attached to their capacity for self-destruction, and the majority will resist with considerable tenacity any proposal that they give it up (See Caruso, 1986, for example). As long as campus prevention efforts overlook the darker co-companions of being in college and being suicidal, such students will remain tragically out of reach traditionally configured mental health services.

Suicidal intent is less a natural response to distress and more the expression of a virulent ideology. It is less founded in desperation and more in control. One cannot simply "refer" suicidal students because they will not accept such referrals. In the unlikely event that he "accepts" a referral, it is unlikely he will either make the appointment or keep it. In the unlikely event he keeps the first appointment, he is unlikely to raise the threat or attempt, and instead minimize it or regard it as ancient history. In the highly unlikely event that he keeps a second appointment, it is unlikely that he will tolerate an open discussion of the incident or its implications. The likelihood of a student voluntarily engaging in a meaningful assessment of the incident and its implications across four appointments is estimated at less than five percent. If the elements of a meaningful intervention are to be present in contacts with mental health professionals, they must be imported administratively. Attempts to refer through traditional means the students most at risk--students who have advertised their intent by making threats and attempts--is currently the weak link of campus prevention efforts.

The ineffectiveness of referring students after a suicide threat or attempt is only half the problem. The other half is the response of the mental health professionals to the suicidal students in their midst. Most college campuses lack a standard-of-response following a threat or attempt. Quite often, it is psychiatrists, working out of a medical model, who triage the emergency response to suicidal incidents. A referral for therapy is often only made if the student requests it, which is surprisingly seldom. Mental health professionals often try to sort out students who are truly serious about suicide from those who are not serious, despite research that questions the predictive value of such judgments.

If a suicidal student does meet with a social worker or psychologist, more often than not, that contact is brief. The therapist typically lacks an independent source of information regarding the incident. Instead of having the suicide note, police report or emergency room summary in his or her possession, the therapist is forced to rely on the student's reconstruction, which usually places the best face on the event. The decision of whether to continue meeting with this student is completely at the therapist's discretion. Given enormous demands from

students who want to be seen for counseling and the recently suicidal student who generally does not want such services, the therapist will often agree with the student to end treatment prematurely.

Program

The University of Illinois is a large land-grant institution located 140 miles south of Chicago in the center of a large rural county with a population of 179,699 as reported in the 2000 Census. In the fall of 2001 there were 37,684 enrolled students. Of these, 28,114 were undergraduates enrolled in 150 degree programs and 9,570 were graduate and professional students enrolled in over 100 fields of study. Fifty-three percent were male and forty-seven percent female. The university has a strong international presence with 4,283 students representing 119 different countries. Ninety percent of the undergraduates were Illinois residents, with the vast majority coming from Chicago and its surrounding suburbs. University residence halls provide accommodations for 9,200 students with the remaining living off campus in 52 fraternities, 29 sororities, and a variety of apartments and houses.

In 1983, the Counseling Center contracted with the Champaign County Coroner's Office to examine its records and provide the Center with the names and psychoautopsies of all students who committed suicide within Champaign County between academic years 1976 and 1983.[1] Their names were submitted to the Office of the Registrar which provided transcripts to verify that they had been enrolled at the university at the time of their death or had been enrolled at some point six months prior to their death. Nineteen students met these criteria. Of these nineteen students, 16 were male, 3 female; 16 were undergraduates, 3 were graduate or professional students. The incidence of suicide was determined to be 6.91 students per 100,000 enrolled students. This compared favorably with a rate of 12.5 per 100,000 among 15-24 year-olds in the general population.

In addition to the 19 enrolled students who committed suicide within Champaign County, it was assumed that there were additional students who committed suicide at locations outside of the county, principally at their family-of-origin residence over weekends and breaks. Attempts to retrospectively obtain the names of students who committed suicide outside of Champaign County from deans, mental health professionals and university administrators proved

[1]All references to years refer to academic years.

unsuccessful. The difficulty of determining with sufficient certainty away-from-campus suicides has been cited as a conundrum in accurately establishing the rate of suicide in higher education (Benard & Benard, 1985; Silverman et al. 1997).

Of particular interest in the pre-program coroner study was the pattern of mental health usage among students who eventually committed suicide. A major finding was the disproportionate contact they had with various disciplines of the mental health profession. Thirteen of the students or 68 percent were in treatment with either a university or community psychiatrist. One student or five percent was identified as having had appointments with a clinical psychologist. Of additional interest was the extent to which the Coroner's Office, in their limited investigation, found evidence of previous threats and attempts. Twelve of the 19 students or 63 percent had given tangible indications of their suicidal intent in the form of a public threat or attempt.

Based on the coroner's findings, the Counseling Center established the Suicide Prevention Program, the purpose of which was to undertake activities that might lead to a reduction in the rate of suicide. The initial focus of the program's efforts was to restrict access to lethal means of committing suicide, in particular laboratory cyanide, the means of death in three of the 19 suicides. The second project was to increase the percentage of students meeting with social workers and psychologists following a suicide threat or attempt. The reasons for the low rate of contact was still a mystery and the members of the program started with the assumption that students either were not being referred or were unaware that such services existed free-of-charge. The initial program could be best described as one of "invite and encourage." The Suicide Prevention Team mobilized residence hall staff, friends, mental health professionals, deans, faculty and other administrators to make direct contact with students in the week after a threat or attempt and invite and encourage them to make one or more appointments with a therapist for the purposes of exploring the roots of their suicidal intent.

The project of invite and encourage lasted for three months and the results were wholly unsuccessful in increasing the number of contacts with social workers and psychologists. The project was successful, however, in providing the members of the program with direct contact with students who recently threatened and attempted suicide and a number of curious phenomena were noticed. A surprising number of students emphatically denied that they had ever made a suicide threat or attempt in spite of the existence of suicide notes, eye-witnesses and other evidence to the contrary. A large number of students admitted to having been suicidal at the time of the incident but claimed to have made a complete and lasting recovery, making meeting

with a social worker or psychologist unnecessary. A number of students would acquiesce to the request to make an appointment but not actually make it. Some students would schedule an appointment but not keep it. Several students attended appointments but did not inform the therapist of the recent attempt and instead focused on career issues or a problem with procrastination. A few students lied, telling their residence hall director that they were meeting with a professional when they were not. A few students met with professionals once but failed to keep a second or a third appointment. Another common phenomena was complete disappearance--students would not answer phone calls or respond to visits and literally could not be found for weeks. Despite the combined efforts of a cast of dozens, it was estimated that less than five percent of students contacted, met with a social worker or psychologist for four times.

In October, 1984 the program of invite and encourage was abandoned and in its place an administrative policy was crafted as an extension of the psychiatric withdrawal policy. The new policy mandated any student who made a suicide threat or attempt to receive four sessions of professional assessment. The first appointment was to occur within a week of the incident or release from the hospital and the remaining sessions would ideally occur at weekly intervals. Failure to comply with the mandate could result in a variety of sanctions, including academic encumbrance, disciplinary suspension and/or involuntary psychiatric withdrawal.

The program of mandated assessment addressed a shortcoming that exists with the prevailing standard-of-response that relies exclusively on the presence of imminent risk of harm to self. The leverage afforded the community when the threshold of imminent risk has been reached is well developed at colleges and universities. Unfortunately, only a small percentage of students displaying suicidal intent reach this threshold. Also the leverage afforded by imminent risk persists for only the short period of time immediately surrounding the suicidal crisis and vanishes as soon as it is over.

The Suicide Prevention Program drew a distinction between imminent and proximal risk. Imminent risk refers to risk posed by current suicidal intent associated with ready access to means of self-harm. Proximal risk refers to the increased risk of suicide associated with displays of a wide range of suicidal intent in the year following that display. It was estimated that a student who threatened or attempted suicide was 543 times more likely to commit suicide in the following year than his or her roommates or classmates who had not threatened or attempted. The Suicide Prevention Program addressed proximal risk by providing leverage for intervention in the months that followed a display of suicidal intent.

A Suicide Prevention Team was created to administer the policy. The Team consisted of four members: Two psychologists, a social worker and an administrative specialist. Two of the professionals worked at the Counseling Center, the third worked at the mental health department associated with the university health center. The Team met every other week for 30 to 60 minutes, largely to review compliance. The members of the Team remained in close contact between meetings by phone and e-mail.

Licensed social workers and psychologists constituted eligible assessors. Meetings with psychiatrists were encouraged but did not count towards the requirement if the focus of the session was medication assessment. Students had the option of satisfying the requirement by meeting with private therapists in the community but only at their own expense and only after signing a release authorizing the Team to debrief the therapist on the suicidal incident and to monitor compliance.

The Suicide Prevention Program benefited from a 1977 memo from the Vice Chancellor for Student Affairs that required all Student Affairs staff to submit a Suicide Incident Report Form (SIRF) to the Counseling Center whenever they had credible information that a student had threatened or attempted suicide. Faculty and other staff members were invited to report but not required. The SIRF was not a current assessment of suicidal risk. Instead, it documented retrospectively that a given student crossed the line from passing thoughts of suicide to concrete and observable actions. Qualifying actions included preparation of means (e.g. purchasing pills), practicing of means (e.g. holding a knife over one's wrist), public statements, and attempts. The duration of these actions might be measured in seconds, e.g. putting pills in one's mouth and immediately spitting them out, and still constitute a crossing of the threshold. Reports were to be submitted for incidents that had occurred up to three months previously.

Once this threshold had been crossed, no other distinctions were made. The same report and resulting mandate would apply to a student who took three Tylenol (with the intent of dying), a student who took 100 Tylenol, or the student who bought 100 Tylenol for the purposes of killing herself but did not actually take them. No distinction was made between those who clearly wanted to die and those who appeared to want the attention of others or appeared to want to exercise leverage over another person. The program sidestepped the second-guessing that is common among professionals regarding the meaning and seriousness of self-destructive acts. The program's philosophy was that anyone who had crossed the threshold from passing thoughts to taking action was at increased risk for eventual suicide.

The program was termed "mandated assessment" as opposed to "mandated therapy" because of the perspective that one cannot mandate treatment. In this context of assessment the professional, at a minimum, would assess the student's current ideation, intent and access to means. Second, the professional would work with the student to reconstruct the circumstances, thoughts and feelings that surrounded and precipitated the original incident. Third, the professional would take a lifetime history of the student's suicidal intent and its various meanings and origins. Fourth, the professional would draw attention to the university's standard of self-welfare and the consequences for failing to adhere to it. These four issues would be addressed during each of the four sessions. Once addressed, the professional and student would be free to use the remaining time to explore issues that might have contributed to the threat or attempt and barring these, any issue of the student's choosing. The overwhelming majority of students made full use of the allotted time.

The mandated basis of the program--initially viewed as an undesirable but necessary element--gradually evolved into an essential part of the overall intervention. Given the program's perspective that suicidal behavior is an act of control rather than one desperation, it was assumed that suicidal students would have problems with power and control. The power struggle with students, once dreaded, was seen as an important opportunity. In most cases, the student would assert that his life belonged to him and that the decision whether to live or die was his alone. He would add that the university had no authority to interfere with this basic right. The Team member, while acknowledging the possibility of future self-harm, would not agree that it was his right to kill himself. The Team member would quickly shift the focus of the power struggle to his attendance at the university. The Team member would assert that his attendance was a privilege granted by the university and not an inalienable right. The continuation of that privilege would be based on certain standards of conduct being met. For example, he was required to maintain his college's grade point requirement, required to conduct himself without being violent or without interfering with others and lastly, he was required to adhere to a standard of self-welfare or self-care. His recent threat or attempt was evidence of a breach of that standard of self-welfare. For the student's safety and to assist him in adhering to that standard in the future, the university was mandating him to meet with a social worker or psychologist for four times.

The goal of the Team member has been to shift the nature of the power struggle from a battle of wills over who possesses what, to a mutual give-and-take under difficult circumstances. The student, for reasons that might seem counterintuitive, was invariably invested in protecting

his enrollment. The student would be granted the privilege of continued enrollment if he would be willing to forgo his perceived privilege to engage in life-ending strategies and adhere privately and publicly to a standard of self-welfare.

Every effort was made to have this contest of privilege occur with the Team or its delegates and before the student attended the first assessment appointment. A small number of students would continue to struggle with the therapist during the first session. She might deny the accuracy of the report, continue to claim suicide as her right, or attempt to bargain for a reduced number of sessions. The therapist would not challenge the student directly but point out that the policy was not his creation and was as binding on him as it was on the student. After an appropriate period of commiseration, the therapist would point out that they were both captives to the same policy and look for productive ways to use the time. Rarely would the power struggle persist past the first appointment.

Prior to the program of mandated assessment, members of the university community were reluctant to talk openly and in a matter of fact manner with suicidal students for fear of doing more harm than good. University staff "walked on eggshells" and treated such students with "kid gloves." Because of the assumptions inherent in the distress model of suicide, suicidal students were treated with the same tentativeness as victims of a recent sexual assault. The choice of whether to even call the incident a suicide attempt was left with the student, "I heard you had a rough time of it last week. I hope you are all right." The campus backed away from making meaningful contact with suicidal students and instead granted them considerable privilege to make decisions regarding the regulation of communication and professional contact, "If you need any help, you know I am always here."

Subsequent to the program, every effort was made to have members of both the university community and local area medical community communicate directly with suicidal students regarding their knowledge of the incident and their expectations of future behavior. "I have information that you took an overdose of aspirin three days ago with the intent to kill yourself. Is my information accurate? Assuming it is, I need to inform you that the university has a standard of self-welfare that mandates that any student who makes a suicide attempt must receive four sessions of professional assessment or run the risk of being withdrawn from the university." The tone of these communications have been respectful but forthright.

All submitted reports were considered valid unless de-activated by the Team. Once submitted, only the Team had the authority to de-activate a report. Students have had the right to contest the accuracy of the information detailed in the report. If a student were to contest the

accuracy of a report during his or her first assessment appointment, the therapist would obtain a signed release authorizing the Team to talk to friends and bystanders who witnessed the incident. The Team would conduct an investigation to determine if the threshold had been crossed. A simple majority of the three members of the Team would be required to deactivate a report. Students had the right to appeal the Team's decision to the Dean of Students. The Dean's decision was final.

Over the 18 years of the program has been effect, the Suicide Prevention Team evolved into a quasi-conduct and discipline office. Its authority flowed from the Office of Dean of Students. It adjudicated a single standard of conduct regarding self-welfare and it recommended a limited scope of sanctions to the Dean. The Team adjudicated the threshold of action necessary to trigger a valid report. It adjudicated what constituted suicidal intent. It adjudicated disputes over what types of professional contact counted towards satisfying the four session requirement. Because of the strict demands for confidentiality, the Team was comprised solely of mental health professionals.

The Suicide Prevention Team served as the campus' single site for information regarding suicide incidents. It also served as the university's sole authority in formulating the university's official position towards students who had made recent threats and attempts.

By focusing exclusively on student conduct, by applying the same standard uniformly to all students, and by making no assumptions about psychological disorders that might underlie suicidal conduct, the program functioned in accordance with the Americans with Disabilities Act of 1990.

While the focus of the program was on students, it was as binding on campus professionals as it was on students. University mental health professionals no longer used clinical judgment to decide whether a student posed a future risk. All professionals were required to adhere to the same campus-wide standard of four sessions of assessment.

The policy mandated that the first appointment would occur within a week of the threat or attempt. In many cases, it would take a series of four or five contacts by members of the university community either in person or by phone, e-mail or letter over the course of the week. A high percentage of students would keep their first appointment but not return for their second, third, and fourth. The administrative specialist monitored compliance and prepared a detailed report on each student for the Team's bi-monthly meeting. Over the 18 years of the program, the program has evolved elaborate procedures to insure a high rate of compliance with the program.

While the requirement of four professional sessions was the most obvious feature of the prevention program, the requirement was only the front line of a multi-layered response. At each step of the program, the student was assessed for his or her ability and willingness to adhere to the standard of self-welfare. The student's willingness to meet with a professional within a week of the incident was the first measure of compliance. If a student made another threat or attempt during her enrollment, it was a particular cause for concern. A second round of assessment appointments was mandated, often accompanied by a special contract or an assignment to a more senior therapist. In especially entrenched cases involving alcohol abuse, open defiance, or fast-moving developments, special teams were convened to fashion the best response. The program adapted to the student, meeting an inability or unwillingness to adhere to the standard with increasing firmness.

It is difficult to give a true flavor of the balancing act between patience and the application of force. All communications, including both their content and timing, were crafted with these issues in mind. The goal was to assert the university's position without being overpowering, to be patient but not too patient.

Results

The suicide prevention program accomplished its goal of increasing the percentage of students making meaningful contact with a social worker or psychologist following a suicide threat or attempt. The percentage of students meeting the standard of four sessions went from an estimated five percent before the program, to an estimated 90 to 95 percent subsequent to the program's implementation.

In the 18 years since the Suicide Prevention Program was established, reports on an estimated 1531 separate suicide incidents have been submitted. Table 1 summarizes these submissions across these 18 years. For the first 15 years of the program, from 1984 to 1998, the number of reported incidents remained fairly stable at an average of 77 reports a year. For reasons that are not apparent, the number of reported incidents rose sharply in 1999 to 102 and rose sharply again in 1999 to 140. This increase in the number of reported threats and attempts was not associated with an increase in the number of suicides.

Table 1 also summarizes the number of deaths by suicide that occurred within Champaign County and at locations outside of Champaign County. Over the course of the 18 years of the program, 20 students who were either enrolled at the time of their death or had been enrolled at some point within six months prior to their death, committed suicide at locations within Champaign County. Of these 20 students, 20 were male, none were female. Eight were undergraduates and 12 were graduate or professional students. The number of deaths by suicide ranged from a low of zero a year to a high of five. There were eight years in which there no deaths by suicide.

Because of the existence of a concurrent reporting network, the Team also received reports of eight students who committed suicide at locations outside of Champaign County. All eight students committed suicide at his or her family-of-origin's residence. Six students killed themselves in Chicago or its surrounding suburbs, one in southern Illinois and one in Nebraska. Of these eight students, seven were male, one female; seven were undergraduates, one was a graduate student.

Table 2 compares the rate of death by suicide among enrolled students during two time periods: The eight year pre-program coroner study period and the eighteen year program period. The rate of suicide was calculated by dividing the number of deaths by the cumulative number of students enrolled during each year of the period. In the coroner study period, 19 deaths were divided by 274,942 years of cumulative enrollment to yield an average rate of 6.91 deaths by suicide per 100,000 enrolled students. The rate of 6.91 represents 55.3% of the national rate of suicide of 12.5 for adolescents and young adults 15-24 years of age between 1976 and 1983. This is consistent with the findings of Schwartz and Reifler (1980), Bessai (1986), Schwartz and Reifler (1988), Schwartz and Whitaker (1990), and Silverman, et al. (1997) which have shown the rate of suicide among college-attending young adults to be approximately half the rate of their non-attending peers.

The rate of suicide for all enrolled students during the 18 year mandated assessment program was calculated at 3.08 per 100,000 enrolled students. Compared with the rate of suicide during the coroner study period, this represents a reduction of 55.4 percent. Examining the change in the rate of suicide among male and female students, the reduction was greater among female students, 100.0 percent, than for male students, 44.2 percent. The program of mandated assessment was associated with a 78.5 percent reduction among undergraduate students but with an increase of 62.4 percent among graduate and professional students.

Table 3 compares the rate of suicide between the same two periods but includes students who committed suicide at locations outside of Champaign County. Essentially, the same pattern of overall reductions were observed but to a lessor degree. The overall rate of suicide among all enrolled students declined 37.6 percent.

It should be noted that all of the 20 students who committed suicide at locations within Champaign County did so apparently "out of the blue." In other words, they had not been the subject of a Suicide Incident Report Form. The same was true for the eight students who committed suicide outside of the county. One of the eight, a female student who committed suicide in 1986, was known to be severely depressed and suicidal by her psychiatrist and was withdrawn from school for the purposes of receiving treatment in the Chicago area. She was not the subject of a Suicide Incident Report Form. Conversely, none of the students detailed in the 1531 reports have committed suicide during the course of their enrollment and the Team has no information to suggest that any have committed suicide following graduation.

While the results above suggest a significant decline in the rate of suicide across the two time periods, the possibility exists that the reduction occurred as the result of factors other than the program of mandated assessment. For example, the reduction might have been the result, in part or whole, of a nation-wide decline in the rate of suicide. The average rate of suicide nationally, as reported by the Centers for Disease Control for ages 15-24 was 12.5 for the eight years 1976 through 1983 (U.S. Department of Health and Human Services, 1978-2002). The average rate for ages 15-24 was 12.8 for the 15 years 1984 through 1998, the last year statistics are available. This represents a 2.6 percent increase in the national rate of suicide over the two time periods.

While the decrease in the rate of suicide at the University of Illinois occurred in the context of essentially stable rates nationally, the possibility exists it occurred as the result of a drop in the rate of suicide among college students or college students attending large midwestern universities. The only way to rule out the role of extraneous trends and factors would be to employ a control group. For obvious reasons, it would have been administratively unfeasible to subject half the students on campus to a program of mandated assessment and leave the other half unassessed. Alternatively, a controlled comparison could be achieved by comparing the change in rates at the University of Illinois with the change in rates at one or more similar institutions.

In February of 1985, the members of the Suicide Prevention Program presented the findings of the coroner study at the annual conference of Big Ten Counseling Centers. Other institutions were encouraged to collect and pool similar data. This led to the creation of the Center for Institutional Cooperation's Suicide Study Group, which eventually evolved in the Big Ten Student Suicide Study. Although the original project was not intended to serve as a control

group, it adequately serves that purpose. The 12 participating schools, including the University of Chicago and Penn State, are roughly similar in their midwestern location, size and educational mission. All schools were roughly equivalent in their provision of mental health services. The study period ran a total of 10 years from 1980 to 1990. During the first four years, none of the 12 participating institutions had a systematic program to prevent suicide. During the last 6 years of the study period, the University of Illinois was alone in its program of mandated assessment.

Bessai (1986), the original data analyst for the Program, presented preliminary results of the CIC Suicide Study Group on 77 deaths by suicide for the period 1980 to 1985. After her departure, Silverman et al. of the University of Chicago were given control of the project. In 1997 Silverman et al. presented data on 276 deaths by suicide that occurred over the course of the entire 10 years of the study period.

Table 4 presents a comparison of the rates of suicide at the University of Illinois and the 12 participating institutions of the Big Ten across the two time periods. Owing to the vagaries of grouping, the reduction in the rate of suicide at the University of Illinois was substantially greater across these two time periods, 74.7 percent, than it was across the entire 18 year history of the program, 55.4 percent. Even adding students who committed suicide at locations outside of Champaign County resulted in a 54.4 percent reduction. Extrapolating from data provided by Bessai (1986) and Silverman et al. (1997) and correcting for Silverman et al.'s (1997) more accurate reporting, it was estimated that among the 12 institutions that comprise the Big Ten, there was a 9.1 increase in the rate of suicide. The fact that the 75.7 percent reduction in the rate of suicide was occurring at a time when the rate of suicide among peer institutions was increasing, would seem to rule out the alternative hypothesis that the overall rate of reduction was due to a naturally occurring decline in the rate of suicide.

Another alternative explanation for the reduction in the rate of suicide seen at the University of Illinois, is that suicidal students were withdrawn from campus and committed suicide at home. It should be noted that the Team has never received a report that a student withdrew from school to avoid having to participate in the assessment sessions. Paradoxically, while the prevention program is based on the leverage of withdrawing students if they fail to comply, the program strongly advocated continued enrollment following even a serious suicide attempt. The Team responded to all situations with the assumption that students would continue their studies. Over the course of the 18 years of the program, only one student was withdrawn by recommendation of the Team. The student was the subject of four suicide incident reports in the span of two weeks including two psychiatric hospitalizations. Her attempts were becoming more lethal and her behavior was disruptive to other residents in her hall. Ironically, she was in complete compliance with the mandated assessment, meeting weekly with a psychologist. She was given a behavioral contract that stipulated that in the event of another suicidal incident, the Team would petition to have her withdrawn. Two weeks later, she took another overdose and was hospitalized again. She was withdrawn and given a contract spelling out the terms of her eventual readmission. The Team recommended that she not be allowed to re-enroll until the following August, 10 months later. She moved out of the residence hall and into an apartment in the community. She continued to meet weekly with the psychologist. She successfully petitioned to return in the Spring Semester and returned to school three months after her withdrawal. She graduated two years later with high honors and without having been the subject of an additional suicide incident report.

A suicide incident, particularly a suicide attempt that requires medical hospitalization, is a serious event. It is not uncommon for a student to be confined to intensive care for several days to a week and following this stay, it is not uncommon for him or her to spend another several days to a week on an inpatient psychiatric unit. More often than not, the family is notified and arrives to participate in the student's recovery. It is not uncommon for such students either as the result of the interruption of their studies or a result of the factors that precipitated the attempt, to decide to withdraw from the university. Often the student's parents encourage, if not insist, that the student withdraw.

Blaine and Carmen (1968) in a study of 69 Harvard students who attempted suicide, found that 54 percent had to interrupt their education and 21 percent went home and never returned to college. Benard and Benard (1982) in a survey of 75 students who reported making

suicide threats or attempts while in college, found that 20 percent withdrew from school after the threat or attempt. Meilman et al. (1994) in a study of 25 College of William and Mary students who either threatened or attempted suicide in 1991 found that nine percent of those who attempted and none of those who threatened withdrew from school. The rate of withdrawal at the University of Illinois following a suicide threat or attempt falls at the low end this range. In a study of 65 students who threatened and 62 who attempted suicide in academic year 2001-2002, six of those who threatened and six of the those who attempted choose to withdraw from school. This yields a rate of self-initiated withdrawal of 9.4 percent.

There is anecdotal evidence to suggest that rather than having led to an increase in the number of students withdrawing from school, the program actually led to a reduction. There have been occasions in which the parents of a student have decided to withdraw their son or daughter but after being informed that the university had an intensive aftercare program, reversed their decision and allowed their son or daughter to remain in school.

Discussion

Institutions of higher education, the scene of 1100 deaths by suicide a year, have not been a corresponding setting for systematic efforts to reduce the rate of suicide below its naturally occurring level. With the exception of Whitaker and Slimak (1990) and Meilman et al. (1994), the handful of college-based suicide prevention programs, while well-intentioned, have not been accompanied by empirical evidence that would attest to their effectiveness.

At present, there is a serious disconnection between the practices and philosophies of college counseling centers and the practices and philosophies of suicidal students. Counseling centers still labor under the distress model of suicide despite evidence that suggests that expressions of suicidal intent are not "cries for help" (Kovacs, Beck & Weissman, 1976). For reasons that are obvious, suicidal students are not the best of consumer advocates and are not in a position to correct these and other misconceptions. College mental health resources, as they have been traditionally structured and deployed, fail to make meaningful contact with the vast majority of students most at risk of committing suicide. Only by reconfiguring a portion of their services and adopting a tailored set of philosophies and practices, will college mental health be an effective bulwark against student suicide.

Any effort to prevent college students from killing themselves will have to grapple with six interlocking realities. First, the majority of students who commit suicide have a history of

previously expressed intent. Second, the presence of suicidal intent is not a passive proposition but is typically hardened against the appeals of family, friends and mental health professionals. Third, the majority of individuals who carry out their suicidal careers, from intent to death, do so without ever entering a therapist's office. Fourth, students who harbor suicidal intent are more often than not, vehemently opposed to engaging in meaningful interventions that might challenge that intent. Fifth, not all forms of mental health contact are equally effective in dismantling suicidal intent. Sixth, the intervention of choice, short-term assessment by a licensed social worker or psychologist, will seldom occur naturally but has to be bolstered by administrative controls on both participants.

Institutions of higher education, for reasons that are still a subject of debate, benefit from a rate of suicide that is one half that of their non-college attending peers. These same institutions are in a position to cut that rate in half again if they adopt the practice of challenging all students who show visible signs of suicidal intent. For the last 18 years, the University of Illinois has held its students to a standard of self-welfare and mandated all students who have threatened or attempted suicide to attend four sessions of professional assessment. The most appropriate evidence, which compares the rate of suicide at locations within Champaign County between the eight year pre-program study period with the 18 years of the program, showed a 55.4 percent reduction in the rate of suicide. To rule out the possibility that this decrease was part of a larger decrease in the rate of suicide, either nationally or at midwestern universities, these results were compared with suicide rates both nationally and at 11 peer institutions in the Big Ten. Both comparisons showed that the rate of suicide at the University of Illinois was declining at that same time rates nationally and within the Big Ten were essentially stable.

There has been a recent debate among institutions of higher education about the appropriateness of notifying parents in the event of a suicide threat or attempt. This debate has intensified in the wake of Elizabeth Shin's death by suicide at MIT in 2000 and the subsequent lawsuit filed by her parents (Sontag, 2002). The results of the University of Illinois' program would suggest that the appropriate course of action would be for colleges and universities to adopt their own rigorous internal standard of administrative response. Based on the experiences at the University of Illinois, an appropriate administrative response might be a minimum of four sessions of professional assessment following a suicide threat or attempt. The results of this program have shown that this standard-of-response was wholly effective in deterring any of the students detailed in the 1531 incident reports from committing suicide. The development of an internal standard-of-response to suicide incidents parallels the recent evolution at institutions of

higher education of an internal standard-of-response to underage drinking and incidents of alcohol incapacitation.

A commonly expressed sentiment among the students who have gone through the program has been that dying by their own hand was a personal right. Whatever else one might be said about the act of suicide, it is fair to say that it is an act of considerable privilege. Whatever else a person might feel in their final moments, they conduct themselves with a deeply held license to inflict an act of murderous violence upon themselves and the further privilege of subjecting bystanders and survivors to the diverse consequences of their death. The university's response of mandating these students to meet with its representative for four times, forcefully challenges this privilege head-on. This community-based challenge of privilege, which starts long before the student enters the professional's office, might be as important an ingredient in the intervention, as the assessment sessions themselves.

While the current program was effective in reducing the rate of suicide among women, undergraduates and men, it was not effective in reducing the rate of suicide among graduate students. In fact, the rate of suicide was 62.4 percent higher during the program period. One would expect the rate of suicide to be higher among graduate students on the basis of their older average age. We would also expect them to be more private regarding their intent. During academic year 2000-01, graduate and professional students comprised 25.4 percent of the student enrollment. During the same year, graduate students were the subject of eight out of 140 suicide incident reports or six percent. In March, 2002 the Team collaborated with the Dean of the Graduate College in writing a letter to all graduate and professional students and all graduate faculty, alerting them to the heightened risk of suicide posed by graduate students and encouraging them to submit reports of threats and attempts to the Suicide Prevention Team. It should be noted that the rate of suicide among graduate students during the coroner study period, 4.41 per 100,000, was atypically low. The rate of suicide among graduate students within the Big Ten Student Suicide Study was more than twice that rate, 10.6 per 100,000. Even with the increase during the program period to 7.16 per 100,000, the rate remained substantially less than the average within the Big Ten.

While the current program was effective in deterring students who gave public indication of their intent, it was not effective with students who withheld such expression. Specifically, it was more effective with students who were younger and who were female than it was with students who were older and male. Perhaps other programs might be effective at reaching these

populations and reducing the rate of suicide still further. One promising candidate is the community-oriented approach employed by the Air Force starting in 1996.

Adoption of the University of Illinois' program of mandated assessment by other colleges and universities faces substantial barriers. Perhaps the biggest obstacles are not posed by suicidal students themselves but by campus mental health professionals. Psychiatrists are generally reluctant to relinquish control over the campus' response to emergencies, an area they dominate on many campuses. Therapists are reluctant to give up the privilege of discretionary judgment and to being forced to meet with students in a mandated format. Counseling Centers are generally opposed to mandated treatment, as well as, engaging in the type of power struggle necessary to make contact with suicidal students. The program's focus on administrative controls and its active monitoring of both students and therapists is at odds not only with the internal culture of most college counseling centers but with the reputations most centers strive to cultivate among the student body. The experience of the University of Illinois is the suicide prevention program is largely self-contained and has not led to an erosion of either the center's culture or of its reputation among students.

The monetary costs associated with the program are modest. It is estimated that the annual costs of the program are $10,000.00 a year for training and administration and $40,000.00 a year for treatment. Distributed among 37,000 students this averages out to an expense of $1.35 per student. As a comparison, in 2002 the university spent $2.03 per student on its flu vaccination program and $3.43 per student for Menomume shots against meningitis.

An essential part of the intervention requires a power struggle with the student over essential privileges. The University trades its privilege to grant continued enrollment for the student's perceived license to kill himself or herself. The program benefits from the fact that admission to the University of Illinois is highly competitive. A similar program in an environment that is less competitive, or in a large urban setting where students have the ready option of attending other institutions, might find it difficult to marshal the necessary leverage.

There have been a small number of published reports of programs attempting to reduce the rate of repeated suicide attempts among adults who have recently attempted suicide (see Montgomery, Roy & Montgomery, 1983; Allard, Marshall & Plante, 1992 for a review). Interventions have home visits and therapy after release from the hospital. The results of these interventions have generally been mixed, with the majority showing no reduction either in the rate of suicide or suicide attempts. These programs differ from the University of Illinois' program in several respects. First, none involved college or university students. Second, none

had a comparable source of leverage to insure compliance. Third, none entered into a deliberate power struggle over the perceived privilege to end one's life.

The 1100 students who die each year on the nation's campuses are but a small fraction of the total number of Americans of all ages who die by suicide every year. The U.S. Department of Commerce (2002) reported that in 2001, 30,575 Americans of all ages took their own lives. This is considerably more than the 18,272 Americans who were the victims of homicide in 2001. Oast and Zintrin (1975) have called suicide a problem for which their is no program.

The field of suicidology has spent considerable resources identifying risk factors for eventual suicide. At present, there are hundreds of risk factors for different age groups, occupations, ethnicities and races. There are scores of known risk factors for those who have recently attempted suicide. But the field's ability to translate its knowledge of these risk factors into verifiable programs of prevention, has lagged considerably behind. Of all the myriad risk factors identified to date, none comes close to matching the expression of prior suicidal intent either in predictive power or in potential for leverage. The present program shows that focusing precisely and relentlessly on this single risk factor and creating an elaborate system of reporting and mandated intervention, the rate of suicide can be cut in half.

Universities are an untapped natural laboratory for innovative programs to prevent suicide. Instead of lagging behind, they have the potential to lead the nation, saving not only the lives of their own students but of Americans in general.

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