Low Base Rate, High Impact: Responding to Teen Suicidal Threat in Rural Appalachia

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Approximately 20% of adolescents experience significant mental health problems at any given time, and of those, 14.3% meet clinical criteria for a mood disorder such as major depressive disorder and bipolar disorder (Merikangas et al., 2010). It is important to note that a current episode of major depression is one of the most common risk factors for a suicide attempt (Carlson, 2006) and that suicide is the third leading cause of death for 15- to 24-year-olds nationally and accounts for 12.2% of all deaths in this age group (Centers for Disease Control and Prevention [CDC], 2010). Furthermore, among this age group, 15- to 19-year-olds exhibit higher than average school dropout, depression, and suicide rates (Michael et al., 2009). One county in western North Carolina—Ashe County—exhibited a suicide rate of 30.1 per 100,000 between 2004 and 2008, which was not only the highest rate of any of the 100 counties in the state, but was more than double the rate of a neighboring county (14.3 per 100,000), double the rate statewide (14.0 per 100,000), and nearly triple the national rate (11.3 per 100,000; CDC, 2010; Stevens et al., 2011). It is therefore essential to improve crisis prevention protocols for supporting students’ mental health and preventing suicide.

Individuals living in rural areas are at a greater risk for suicide than urban residents, and the gap between them has continued to widen over the past three decades.

According to data from the 2011 Youth Risk Behavior Survey (YRBS), an instrument commonly administered to high school students nationally, 16.8% of students in western North Carolina indicated that they had “seriously considered committing suicide in the past 12 months” as compared to 15.8% based on broad national norms (U.S. Department of Health and Human Services [DHHS], 2011). The numbers were higher for minority students, with approximately 25% considering suicide (Matthew & West, 2011). Of greater concern are the prevalence rates of suicide attempts that resulted “in an injury, poisoning, or overdose that had to be treated by a doctor or a nurse” among western North Carolina teenagers. The 12-month prevalence rate among North Carolina teens was 3.9% (Matthew & West, 2011), which was considerably higher than the national average (2.4%) among high school students (DHHS, 2011).

Despite the high prevalence of mental health problems among adolescents in rural settings, a variety of barriers prevent many of them from seeking or receiving adequate treatment. The 2009 National Survey of Counseling Center Directors indicated that only 17.5% of completed suicide cases in 2008 had been current or former counseling center clients (Calloway et al., 2012). The lack of treatment-seeking behavior for many individuals in rural environments may be due to transportation difficulties, financial concerns, a lack of qualified professionals and available resources, as well as stigma associated with receiving mental health care (Hirsch, 2006; Owens et al., 2011; Robinson & Rapport, 2002). One way to address some of these barriers is to provide mental health services within the school setting—that is, to bring the appropriate services directly to adolescents (Albright et al., 2013; Owens et al., 2008; Zirkelback & Reece, 2010).

Developing and implementing a school mental health (SMH) program in western rural North Carolina was therefore a clear opportunity to confront the high incidence of adolescent mood disorders and associated risk behaviors, especially in the context of additional treatment-seeking obstacles specific to rural settings.

Increasing Access to Services Through School Mental Health Programs

School mental health centers facilitate increased access to appropriate care and typically provide individual, group, and family therapy, as well as community referrals, assessment, crisis intervention, school attendance intervention, and substance abuse services (Macklem, 2011; Michael et al., 2009; Owens et al., 2008, 2011). Adolescents who have participated in individual psychotherapy alone within an SMH center have shown significant improvement in teacher-reported classroom behavior, achievement, attendance, and discipline referrals, as well as self-reported scholastic confidence (d = 0.45; Baskin et al., 2010b). In addition, school-based individual psychotherapy interventions have been shown to improve mental health outcomes, especially for adolescents (d = 0.59; Baskin et al., 2010a), and specifically for teenagers living in rural Appalachia (Albright et al., 2013).

Integrating mental health services within schools has also been prioritized as a recommendation for preventing suicide by advocacy organizations such as the

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North Carolina Youth Suicide Prevention Task Force (North Carolina Department of Health and Human Services, 2004). This is likely because school personnel are on the front line in decision making and response when students report suicidal thoughts. For example, nearly all school social workers surveyed by a national professional organization reported working with at least one suicidal adolescent; 77% of those reported working with a student who had attempted suicide; 86% reported working with a student who had been hospitalized; and 18% had worked with a student who had died as a result of suicide (Singer & Slovak, 2011). Counselors, nurses, school psychologists, and other mental health professionals embedded within the school are in a unique position to deliver crisis prevention, response, and post-intervention to maximize students' mental health.

School suicide prevention strategies range from suicide awareness curricula aimed at encouraging self-disclosure of suicidal intentions to skills training to enhance protective factors (Underwood & Kalafat, 2009). School policies in place to direct the implementation of student education on suicide prevention may create an impetus for a safer school environment by prioritizing open communication among students, teachers, staff, administration, and parents. Unfortunately, schools in rural settings may be less likely than schools in urban areas to enact such policies, although they are just as likely to provide mental health services in response to a crisis. This may be due to a tendency to take a reactionary stance toward student crises rather than a preventive perspective (Mink et al., 2005).

Other prevention modalities consist of school-wide screening to identify those at risk for suicidal behavior and of training teachers, school counselors, and other personnel, who are often the “gatekeepers,” to identify at-risk youth and make referrals as needed (STIPDA Rural Youth Suicide Prevention Workgroup, 2008). For example, the QPR Gatekeeper Training for Suicide Prevention, listed on the National Registry of Evidence-Based Programs and Practices (NREPP), trains school staff and community members to question the individual regarding suicidal thoughts and intentions, to persuade the individual to accept help, and to make the appropriate referral (NREPP, 2012). Trained gatekeepers exhibit increased suicide and prevention resources knowledge, self-efficacy, and confidence (Doan et al., 2012; NREPP, 2012).

Effective crisis intervention hinges on a timely response to students in critical need, with the goal of reducing morbidity and mortality related to suicide (Gould et al., 2003). The National Association of School Psychologists (NASP) uses the comprehensive Prevent, Reaffirm, Evaluate, Provide and Respond, Examine (PREPaRE) model, which is designed to engender structure in preventing and responding to both school-wide and individual crises, such as suicidal behavior, within schools by detailing appropriate actions that may then be tailored to individual SMH centers or school districts (Brock et al., 2011). These include:

- Maintaining direct supervision of the student;
- Assessing the level of suicidal and/or homicidal risk of the student;
- Contacting a mobile crisis unit and/or the police;
- Contacting and supporting parents;
- Referring to community agencies;
- Constructing safety plans;
- Consulting with an interdisciplinary crisis team;
- Notifying school personnel;
- Documenting the event; and
- Following up within the school context post-crisis (NASP, 2001).

Although school-wide and targeted at-risk suicide prevention programs have been established (see Cooper et al., 2011, and Kalafat, 2003, for reviews of primary prevention), the impact of SMH centers on the response to suicidal ideation, attempts, and completed suicides has yet to be described or evaluated empirically.

Recognizing that youth suicide is both preventable and a major public health concern (Muehlenkamp et al., 2008; Rathus & Miller, 2002; Steele & Doey, 2007), this paper describes the development and implementation of one particular crisis protocol within an already established SMH center in rural Appalachia.

### The Assessment, Support, and Counseling Center: A School Mental Health Program in Rural Appalachia

The Assessment, Support, and Counseling (ASC) Center is a broad-based SMH program created in the context of a university-community partnership. The ASC Center was established in two western North Carolina counties, first in 2006 and again in 2011. The ASC Center sites have been tailored to deliver psychological services through three primary modalities: individual cognitive behavioral therapy (CBT), group therapy, and crisis intervention, all embedded within the normal operation of the school day. The effectiveness of ASC Center services in significantly reducing psychological symptoms in the majority of those who consent to treatment has been documented in the literature (Albright et al., 2013).

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In addition to treating students individually, it was imperative to systematically address the dearth of consistent policies and procedures in responding to crises within one particular site. Therefore, clinicians developed a crisis intervention protocol— the Prevention of Escalating Adolescent Crisis Events (PEACE; see Box 1)—in collaboration with school personnel. The PEACE protocol, developed as a guide to be used at the time of an individual crisis, established a common language for school personnel that increased efficiency. The protocol has provided school personnel and trainees with a systematic procedure to assess and intervene according to the level of suicidal and homicidal risk among the students who present for evaluation.

#### Study Method and Service Delivery

The high school in which the current study took place is located in the western
North Carolina Appalachian mountain region. Serving as the only high school within the district, it enrolls approximately 1,000 students. The student population is 96% Caucasian and 4% “Other” (3% Hispanic, 1% African American), as measured by the Youth Risk Behavior Survey (Mathews & West, 2011).

Clinicians charged with implementation of the protocol were part of the SMH program, the ASC Center. The ASC Center at this particular high school was made up of two licensed psychological associates and one graduate intern, all under the weekly supervision of a licensed clinical psychologist. Students were referred by parents and school personnel for individual psychotherapy through the school counselors.

### Study Procedure and Crisis Protocol

Clinicians at the ASC Center made the decision to construct the PEACE protocol because no alternative or effective standard protocol for individual crises existed within that particular high school. They developed the PEACE protocol according to standard risk assessment procedures and adjusted for feasibility of acceptance within a rural school context.

The PEACE protocol provides an easy-to-understand guide for clinician and school personnel collaboration. The code labels include a color system of green, yellow, orange, and red that mirror the degree of risk severity (Box 1). The protocol is implemented when any individual student or school personnel express any intention or ideation for any kind of violence. Therefore, a variety of situations could initiate use of the protocol. Examples include:

- A teacher who overhears a student’s conversation concerning self-harm;
- An unsure school counselor meeting with a tearful student;
- A principal who notices odd behavior during a disciplinary event; or
- A concerned peer.

One example in the current study of a common initiating experience is when a teacher receives a writing assignment from a student that contains suicidal or homicidal content. Once an ASC Center clinician is notified, more information is collected

### Box 1: The Prevention of Escalating Adolescent Crisis Events (PEACE) Protocol

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
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| Green | • No suicidal or homicidal ideation  
• Some past ideation or intent  
• Fleeting, superficial ideation  
• No intent or plan |
| Yellow| • Current thoughts of hurting others or self, but tend to be mildly to moderately intense  
- Labile with mood or external circumstances  
- Intent labile  
• Self-injurious behavior may be present, but not extensive/inconsistent  
• If in homicidal nature, no specific target (e.g., expresses desire to hurt people in general), nor specific to type of group (e.g., religious affiliation, sexual orientation)  
• No specific plan or one that is unrealistic and largely unreasonable  
(e.g., holding one’s breath)  
• No or unreliable access to means |
| Orange| • Current suicidal or homicidal ideation and intent  
• Specific plan of hurting self or another individual that is realistic  
• Potential but not definite access to means  
• Does not need to have a past attempt  
• Self-injurious behavior heightens risk |
| Red   | • Current suicidal or homicidal ideation and intent  
• Specific and realistic plan for hurting self or others  
• Clear target or clear group of individuals as target  
• Past attempts or episodes hurting self or another individual(s)  
• Self-injurious behavior  
• Risk further heightened if there has been current or past legal allegations/charges of student harming others  
• Access to reliable means |
|       | **Plan of action**  
1. Contact supervisor; if not immediately available → seek advice from colleague, preferably a licensed therapist  
2. Contact parents of student  
3. Contact community provider’s mobile crisis team  
4. Notify school personnel/set up meeting with school personnel to coincide with parent meeting  
   a. School principal involvement is optimal.  
   b. If homicidal situation, Service Resource Officer is optimal.  
   c. Involve individuals who are important in student’s life (e.g., coach) but not those who would be oppressive or may project guilt/shame  
5. Homicidal: assert Duty to Warn → contact parents of individual with whom the threat has been placed  
6. Document all events and those involved |

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immediately from the student. The clinician maps the student’s answers onto the PEACE protocol and decides which code (e.g., “Code Yellow”) the student best matches at the time of inquiry (integrating past experiences and information from school personnel). A recommended plan of action should then be executed immediately.

An important caveat is that clinicians should use professional judgment and seek advice from colleagues in events of a suicidal or homicidal nature. A student may meet criteria for a “Code Yellow” crisis, but because of personality characteristics such as impulsivity and known circumstances at home (e.g., lack of adequate supervision), steps indicated for “Code Orange” may be necessary and more appropriate in a specific situation. In addition, individual cases are not expected to meet each criterion or profile described in the PEACE protocol. It is not necessary for all criteria to be satisfied in order for a plan of action to ensue according to a particular code. For example, if a child is expressing self-harm that is extensive or consistent but denying current suicidal intent, it may be to the child’s benefit to break confidentiality and notify parents. The seriousness of the matter should be explained thoroughly to the student and approached thoughtfully to preserve the relationship and the student’s trust.

**Study Results**

In the high school in rural western North Carolina where the crisis protocol was implemented, a total of 33 separate crisis events occurred that required 59.75 hours of documented clinical time during the 2012–2013 school year. Crisis hours were defined as time spent by an ASC Center clinician in active assessment of crisis severity with a student and school personnel, in decision-making time with colleagues and supervisor, and in family meeting, construction and discussion of a suicide or homicide prevention contract, documentation of event(s) and persons involved, and follow-up with parent and student post-crisis.

Over the course of the academic year, 20 students (base rate = 2%) were involved in these 33 separate crisis events. Each individual expressed some degree of serious suicidal thinking, suicidal intent with plan, or homicidal thinking or intent with plan. The majority of these individuals reported reliable access to means, including prescription medication or firearms. Of these 20 students, 55% were male and 100% were Caucasian. Precisely 50% of the students were in 9th grade at the time of crisis, 20% were in 10th grade, 20% were in 11th grade, and 10% were in 12th grade, as measured by amount of attained academic credits.

Across all 20 students, there were no completed suicides. None of the students that were assessed with the PEACE protocol made an attempt post-assessment that necessitated medical treatment. At the time of crisis, nine students were enrolled in ASC Center services and remained in treatment until the end of the school year (unless drop-out from school occurred; n = 3). Five of those students were expected to return for treatment through the ASC Center during the fall 2013 academic semester, and three were referred to a community provider for care during the summer. Three students were enrolled in ASC Center services immediately after an event. Three students dropped out of school for various reasons following a crisis event. Some students (n = 7) either refused treatment or were deemed appropriate for services and checkups through the school counselors post-crisis.

**Analysis of Results**

In rural areas, response time to adolescent crises is often inefficient or lacking altogether. Especially in a school context, it is important for a crisis to be met with data-based, efficient, and expeditious decision making. The hierarchical PEACE response protocol was designed by ASC Center clinicians to be used as an efficient assessment and decision-making tool. Although it was regrettable that the protocol had to be instituted at all, the results suggest that the most undesirable outcome, death by suicide, was prevented for 20 students across 33 separate events during the 2012–2013 year.

Although preliminary, these data suggest that a standardized protocol that uses common language and consistent procedures for approaching individual crisis situations reduces the uncertainty and inefficiency in responding to adolescents in need. When personnel within a school setting are aware of, and use, a system such as the PEACE protocol, the stress of a crisis situation is reduced and care can be provided in an effective manner. A crisis protocol that involves multiple individuals from the school, as well as the mental health providers, fits in better with the team approach to school-based mental health care than one in which a solitary individual attempts to liaise with the local community mental health clinic.

**Study Limitations**

The PEACE protocol is intended to be used as a template for the clinician to assess quickly the level of distress a youth is experiencing and then proceed with a plan of action without having to take time to administer, score, and interpret a more cumbersome measure. The administration of the PEACE protocol comes with two significant limitations. First, the PEACE protocol is based upon clinician judgment. The responding clinician should be one who has received adequate training in treating mental health issues in youth and also in dealing with crisis situations. In situations where accurate and concrete information is difficult to obtain, the PEACE protocol may be overly sensitive to the emotional state of the youth, and certain details may be unavailable at the time of evaluation. Clinicians must have adequate training and experience in high-stress situations in order to use the PEACE protocol judiciously.

The second potential limitation of the PEACE protocol is related to the first, in that clinicians are asked to undertake a plan of action solely based on the self-report of the adolescent. If the clinician is unfamiliar with the teenager, the circumstances, or is away from the school, key information is likely to be missed. Broader assessment measures typically take into account reports from teachers and parents, yet these are time consuming and may delay care to the student. When using the PEACE protocol, it is reasonable for a clinician to elevate the degree of risk (e.g., orange rather than yellow) in the absence of important information. It is often the case that when addressing a crisis during the school day, obtaining information from parents and/or teachers may be difficult or even impossible; therefore, a more conservative approach is indicated.

**Future Directions**

Plans for the future include revising and updating the PEACE protocol. Revisions include evidence-based adaptations made for minorities living within the rural school context (e.g., migrant worker populations) and for younger children in middle school settings. In addition, we aim to construct a systematic post-crisis protocol on steps that are imperative for relapse prevention. These events could include problem solving on how to make up lost class time, notifying teachers without releasing details that may be discriminatory in nature, and enabling
smoother transitions to therapy enrollment whether through a school mental health program or a community mental health service. Finally, psychoeducation for teachers and school personnel regarding warning signs and dysfunctional mood symptoms could act as a preventive factor for future crises.

In summary, there is a considerable need to respond to adolescents who present with mental health crises at school, especially suicidal or homicidal ideation. Moreover, the response should be systematic, expeditious, data based, and consistently executed by an interdisciplinary cadre of qualified personnel. The data on the newly developed PEACE protocol implemented in rural western North Carolina, although preliminary, indicate PEACE is one potential framework that appears to have promise in preventing a low base rate, but catastrophic, outcome. Even though the number of youth requiring significant crisis intervention was relatively low (2%), the task at hand—attempting to prevent suicide—is daunting and anxiety provoking for clinicians and school personnel alike. Despite the fears mental health professionals may have, to do nothing in the face of these unpleasant realities would be ethically questionable. However, to do nothing that is not systematic or data based would be unconscionable. It is imperative to continue advocating for the delivery of effective SMH services to youth in our schools, especially those who present with violent ideation and the common correlates of this ailment.

References


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