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Cultivating a New Harvest: Rationale and Preliminary Results from a Growing Interdisciplinary Rural School Mental Health Program

Key words: school mental health; interdisciplinary; rural

Introduction

According to several well-designed epidemiological studies, approximately 20% of children and adolescents experience signs and symptoms of mental illness at any given time (Costello *et al*, 1996). In a more recent investigation of a representative sample of 1420 children in the United States aged between nine and thirteen, Costello, Mustillo, Erkanli, Keeler and Angold (2003) followed these young people for several years and reported that almost 37% of them had experienced at least one diagnosable mental illness (according to criteria established by the Diagnostic

and Statistical Manual [DSM] of Mental Disorders, Fourth Edition, Text Revision; American Psychiatric Association [APA], 2000) by the age of 16. When problems are defined more broadly than a DSM diagnosis, the prevalence and scope of young people with significant difficulties is even more substantial. For instance, the percentage of young people in schools with learning, behavioral, or emotional difficulties has been reported to be as high as 50% (Center for Mental Health in the Schools, 2003).

Unfortunately, most young people in need of services do not receive professional assistance (Burns *et al*, 1995). There are myriad reasons for the discrepancy between children and adolescents who need help and those who receive treatment, including accessibility

A B S T R A C T

It is well established that a significant number of young people suffer from mental health concerns at any given time. Yet a substantial proportion of these young people do not receive adequate treatment. Thus, in order to address this gap in health care, schools are now seen as a natural setting in which to provide much-needed services to a significant number of children and adolescents who might otherwise go without intervention. The present study provides a description and formative evaluation of

one such school mental health (SMH) initiative in a small rural school district in Western North Carolina. The initiative was assessed in comparison with what is known about the current landscape of SMH programs. Specific aspects of the initiative were discussed that might represent evolving trends in service provision, such as using graduate trainees as therapists, systemic implementation of regular interdisciplinary meetings and addressing the mental health needs of young people in rural areas.

barriers (for example no transportation or inadequate insurance), the stigma associated with mental health diagnoses (Weist & Albus, 2004) and limited availability of well-trained clinicians (Morris & Hanley, 2001), especially in rural regions (Lambert & Agger, 1995). However, despite the significant number of young people who go without services, many if not most are served in the context of an educational setting (Burns *et al*, 1995; Farmer *et al*, 1999). Schools are now recognized as a natural and appropriate portal of entry for a substantial number of young people with emotional, behavioral, and developmental needs (Foster *et al*, 2005; US Department of Health and Human Services, 2001).

Despite the relatively uniform endorsement of providing services to young people in schools, the exact nature of the services offered varies considerably. A common (mis)perception is that school mental health (SMH) essentially means provision of traditional or individual psychotherapy within the four walls of a consulting room (Center for Mental Health in the Schools, 2008a). However, the menu of supports and services provided by SMH programs is typically diverse, and extends well beyond individual therapy. In a recent survey of a representative sample ($N = 1147$) of US public schools, Teich, Robinson, and Weist (2007) described the kinds of service provided in SMH programs across the country. The authors reported that, while individual therapy was common (approximately 75%), elements above and beyond this modality such as behavioral consultation, crisis intervention, and referrals to specialized programs were the services most consistently provided (all above 80%) (Teich *et al*, 2007).

The extent to which the SMH services are actually integrated into the school culture rather than simply being housed in a school is an important variable to consider. Waxman, Weist, and Benson (1999) described a model of expanded school mental health in which there was a comprehensive menu of prevention, assessment, and treatment options for children in special and regular education. In addition, the services were well-coordinated and provided through the interdisciplinary collaborative efforts of the educators and representatives from outside agencies (such as universities, community mental health). Unfortunately, the interface between traditionally disparate disciplines in some SMH programs is minimal, or even tense at times (Waxman *et al*, 1999). In cases where collaboration is limited, the mental health professionals and the educators simply go about their 'business as usual' in

one location. This example resembles a kiosk approach to SMH rather than a true interdisciplinary partnership.

Similarly, many SMH initiatives involve people from various systems who do not typically work together regularly and have substantial differences in job roles, financial pressures, educational backgrounds, professional jargon, communication tendencies, and expectations about children (Weist & Paternite, 2006). Given these differences, it seems reasonable to expect that there might be tensions that impede collaborative SMH efforts between the various constituents. Effective SMH programs enhance and augment the services that already exist in most schools by fostering functional, consistent, and efficient interdependent relationships between systems of care (Paternite, 2005; Weist & Albus, 2004). However, this type of collaboration has been described as 'an elusive prospect' and often takes several years to develop into a cohesive partnership (Waxman *et al*, 1999).

In summary, the rationale for and history of providing a diverse array of mental health services to a substantial number of young people in a school setting are well-established. Nonetheless, several significant challenges remain, including the development of more consistent and defensible service delivery models, administrative structures, sustainability factors, training paradigms, and program evaluation/empirical protocols. Further, as discussed above, promoting regular interdisciplinary collaboration between typically disparate academic silos and systems of care is often quite difficult in SMH programs. In agriculture, the term 'silo' is used to describe a cylindrical container that often holds a single type of bulk material such as grain. In academics, the word 'silo' is used to characterize the traditional boundaries of a particular discipline. In both examples, the term represents isolation of an important resource; the best cultivations in agriculture (and in academics) represent integration of resources to create an even better harvest.

What follows is a description and formative evaluation of one such SMH harvest (Assessment, Support, and Counseling [ASC] Center) with an emphasis on cross-disciplinary collaboration and dissemination in a small rural school district in Western North Carolina. The ASC Center was assessed in comparison with what is known about the current landscape of SMH programs, especially those in rural settings. Specific aspects of the initiative were discussed that might represent evolving trends in service provision, such as using graduate

trainees as interventionists and systemic implementation of regular interdisciplinary meetings to provide a better continuum of care for the students targeted for intervention.

What seeds need to be sown?

Watauga County is in Western North Carolina and nestled in the Southern Appalachian region, an area of the Eastern United States that stretches from New York to Mississippi. The estimated population in Watauga County is 44,000 (93.9% Caucasian, 2.2% African American, 2% Hispanic, 1% Asian). The per capita income is below the state average and the poverty rate is approximately 144% of the US average (US Census Bureau, 2007). Watauga County Schools serve approximately 4464 students overall, 1415 of whom attend the local high school. The remaining students attend one of eight K-8 schools. Graduation rates in Watauga County are below the North Carolina average, the percentage of children on free or reduced lunch is approximately 32%, and the percentage of children in the special education program is approximately 14% (Watauga County Schools, 2009).

Coupled with these challenges, Watauga County has only a limited number of mental health practitioners who specialize in the treatment of children and adolescents. The broader region has several areas that have been designated as 'underserved' with respect to medical and mental health professionals (US Department of Health and Human Services, 2008). For instance, the community mental health center in Watauga County shares one accredited child psychiatrist with an adjacent county and, at the time of writing, there were no other child psychiatrists in Watauga. In addition to the limited number of child and adolescent providers, there are unsettling indicators of mental illness in the region. The 12-county community mental health catchment area (which includes Watauga County) had the highest suicide rate in North Carolina (16.8 per 100k population) between 2002 and 2006 (North Carolina State Center for Health Statistics, 2009), which was higher than state (11.6) and national averages (11.1) during the same period.

These challenges mirror some of the data on the difficulties of addressing the mental health needs of rural populations around the nation. Geller (1999) reported that most mental health care in rural areas is delivered by primary care physicians, because of the limited number of qualified practitioners. Even when

mental health treatment is available, other barriers impede access, including financial limitations (such as lack of insurance), transportation problems, the stigma of mental illness, and cultural norms that do not view conventional mental health treatment as a viable or acceptable option (Harowski *et al*, 2006; Keefe, in press).

One SMH program in the Appalachian region that has addressed these barriers directly is the Youth Experiencing Success in School (YESS) Program in Athens, Ohio (Owens & Hamel-Lambert, 2007). The YESS Program is an interdisciplinary, multi-system SMH collaboration in which graduate trainees in psychology are embedded in a training model that includes didactic and practical experiences in two rural Appalachian counties. The counties' socioeconomic stressors are similar to those of other rural communities, and the barriers to treatment are substantial. In order to address these challenges, the trainees participate in the full continuum of care of students in need, alongside established school professionals, faculty, and fellow graduate trainees in social work. One particularly strong feature of the YESS Project is the commitment to transporting evidence-based treatments to under-served and/or rural populations.

In a recent study, Owens and colleagues (2008) examined the effectiveness of a year-long protocol designed to treat a range of disruptive behavioral symptoms in a sample of 117 children between kindergarten and sixth grade in five rural Appalachian (Ohio) schools. The protocol included several treatment elements (for example daily report cards, parent training) that have been established in the empirical literature as effective strategies for children with attention-deficit/hyperactivity disorder (AD/HD) and disruptive behavioral symptoms (MTA Cooperative Group, 1999). After having an average of 20 clinician-child contacts, 18 parent training sessions, and 26 teacher consultations, the authors reported significant reductions in symptoms of AD/HD, aggression, and delinquent behavior in those children in active treatment condition compared with those in the waitlist group ($N = 91$). Owens *et al* (2008) reported significant improvements in children's relationships with teachers and parents and evidence of improved functioning across settings (home and school). In sum, the YESS Program is an innovative, effective approach to developing SMH, emphasizing evidence-based practice in a rural setting.

Despite the significant challenges in Watauga County, the region has several excellent assets and resources (Keefe, in press). The county has a tightly

knit and interdependent citizenry, year-round outdoor recreational opportunities, and a reasonably strong tourism-driven economy. In addition, the average college preparatory achievement scores of students in Watauga County are higher than state and national averages, and the percentage of teachers with graduate degrees and national teaching certifications exceeds the North Carolina averages (Watauga County Schools, 2009). Watauga County is also home to Appalachian State University (ASU), a well-established university with several graduate programs that train mental health clinicians in several disciplines (clinical psychology, school psychology, social work, marriage and family therapy and music therapy).

In light of the above-mentioned strengths and weaknesses in Watauga County, faculty from the university approached several administrators from the local school district to begin developing an SMH program. The administrators were aware of the service gaps, and had observed many students who appeared to be struggling with mental health problems that interfered with their daily functioning at school. The problems included low academic performance, concern about drop-outs, the high number of disciplinary referrals, disruptive behavior in the classroom, emotional distress, and frequent requests for risk assessments. The Principal of the high school observed that, even when referrals were made to community services, the gap between referral and receipt of services was substantial, because of difficulties with access to health care, limited providers or clinics, economic or insurance limitations, transportation, lack of time, or the stigma associated with receiving mental health intervention. Despite the presence of highly competent and concerned school professionals, including school counselors, social workers, administrators, and school psychologists, the behavioral and emotional needs of the students were exceeding the capacity of the school staff to address the issues in a timely and efficient manner.

Changing the landscape

Given these variables, it was agreed that licensed faculty and their graduate trainees (practicum students and interns) would serve the high school students with mental health concerns in collaboration with school staff. In order to deal directly with the financial barrier, the ASU Institute for Health and Human Services (IHHS) and specific academic units (Psychology, Social Work, Marriage and Family Therapy) agreed to absorb the

costs of faculty time (reduced teaching load) to oversee and supervise the project and to avoid charging students and families for the services, thus improving access. Additionally, given that the school is often a hub of a community, especially in rural areas, a plan was developed to provide the services at the high school, another means of enhancing access. In further support of school-based service provision, recent empirical findings suggest a link between mental health and the extent to which young people feel connected to their school (Shochet *et al*, 2006). Similarly, findings from an Australian study of rural adolescents' attitudes to help-seeking for mental health problems indicated that the students had 'particularly positive attitudes' to seeking help from school-based providers (Francis *et al*, 2006 p47).

The collaboration was conceptualized as mutually beneficial. That is, students would receive targeted intervention from licensed professionals, on site, to improve student and school-based outcomes, and the families and the school would not have to bear the direct costs of mental health care. Likewise, graduate students would receive excellent training opportunities in rural mental health service delivery to an underserved population in the context of an SMH program, under the supervision of licensed faculty members. Consistent with the recent literature on effective school mental health, the framework of collaboration was designed to create a comprehensive, interdisciplinary endeavor to address mental health issues broadly, in the context of multiple systems of care (Center for Mental Health in Schools, 2008a).

The model of service was based on ecological systems theory and designed to address the practical realities of providing intervention within the confines of a non-traditional mental health setting with a diverse agenda and goals that, at first glance, might not appear related to mental health. For example, if a student was struggling with depression, the focus of clinical attention would be on improving the student's well-being and specifically on addressing how the features of the disorder (such as poor concentration or being distracted by intrusive thoughts) were affecting school performance. With the appropriate consents in place, the school-based clinicians (licensed faculty and graduate trainees) and relevant collaborators (for example school counselor, social worker, teacher, special education case manager) set a course to improve school outcomes by addressing the students' mental health problems and their adverse impact on learning.

In addition to providing informed consent for adolescents to be involved in ASC Center, the parents and/or guardians provided input and were viewed as partners in the problem-solving process, often by monitoring the situation more closely, providing systematic observational data (such as Behavioral Assessment System for Children), or participating in therapy sessions at school. Thus, at the heart of the initiative is a collaborative, interdisciplinary, systemic model which addresses students', teachers', and administrators' daily concerns about academic and behavior problems inside a fast-paced educational setting (Center for Mental Health in Schools, 2008b).

The services provided first were designed to be responsive to the immediate presenting concerns of students, parents, staff, and administrators, through consultation, psycho-education, or crisis intervention. The initial response was followed by a data-based decision (through clinical staffing and/or more formal assessment) to determine whether to intensify or expand services. Expanded services might include provision of additional in-school supports (such as teacher monitoring), referrals to community agencies or physicians, and/or brief therapy (1–12 sessions), provided by one of the school-based clinicians. If it was determined that longer-term therapy was indicated, then a referral to an external provider was made (for example the community mental health center).

Toiling

The first clinician, a licensed psychologist/faculty member of the university, began to serve at the high school approximately seven months after the initial discussions with school administrators began. Staff from the community mental health center joined the discussions to collaborate with the initiative, and offered staff time to contribute to the project. During the following academic year, the ASC Center was expanded to include licensed doctoral-level clinicians from the psychology and social work departments and an advanced graduate intern trainee (third year in the master's sequence) in Clinical Health Psychology. The graduate trainee provided service under the direct supervision of the licensed psychologist/faculty member. In addition to providing direct mental health services and consultation to the high school students three days per week, the ASC Center team (licensed faculty, graduate trainees, administrators, social workers, counselors, school resource or law enforcement officer, and community

mental health providers) met during a weekly staff meeting to discuss particular students.

The primary agenda for each meeting was to develop data-driven (attendance, grades, number of discipline referrals, symptom measures, observations) school-based intervention plans, assign cases to licensed faculty, graduate trainees, or community mental health providers based on student needs and best fit, and make appropriate referrals. For instance, if a referral was made for a student who was potentially depressed and/or suicidal, an appropriate assessment plan was executed (for example the Beck Depression Inventory, Beck *et al*, 1996) followed by evidence-based procedures in treatment, such as cognitive behavioral therapy (CBT; Clarke *et al*, 1999). This model integrates many state-of-the-art concepts from the field of school mental health promotion, including attention to contextual influences (such as classroom variables and academic expectations; Rowling, 2008), effective rural psychology principles (Jameson & Blank, 2007; Owens & Hamel-Lambert, 2007), and use of transportable components of evidence-based protocols in rural community settings (Owens *et al*, 2008).

At the end of the first year, members of the collaborative successfully lobbied the school board to hire a school-based clinician, in this case a clinical social worker, to help oversee and coordinate the collaborative process. The school-based clinician, in turn, received interdisciplinary supervision from university faculty members affiliated to the project. The supervision was used to fulfill a requirement for eventual state licensure of that clinician, an expense the school no longer had to absorb. This *quid pro quo* between the university and the school system to a large extent exemplified the type of systemic collaboration described in the literature as essential to a successful SMH partnership (Center for Mental Health in Schools, 2008b).

By the second year of operation, the newly hired school-based clinical social worker, a doctoral-level licensed marriage and family therapist/faculty member, an additional master's level clinician (both affiliated with the university), and three graduate trainees (from two disciplines) were also on board. Services were now being provided to students five days a week at the high school, and the weekly interdisciplinary staff meeting continued. As the project grew, the team adopted a staffing pattern wherein professionals were invited to the table on a 'need to know' basis, according to the circumstances and needs of the student being discussed. Limiting attendance in this way was designed

to prevent the core meeting from becoming unwieldy or so large that it might unnecessarily compromise confidentiality. There was a core team consisting of one assistant principal, a doctoral-level licensed psychologist/faculty member, a doctoral-level licensed clinical social worker/faculty member, a doctoral-level marriage and family therapist/faculty member, the masters-level licensed psychological associate, several graduate trainees, two licensed clinicians from the community mental health agency, a school-based psychologist, and the school-based clinical social worker.

It became the responsibility of the school-based clinical social worker to facilitate the staff meetings, process new referrals, ensure that the appropriate consent forms had been disseminated and signed, and administratively assign cases to the cadre of mental health professionals. As needed, other grade-level administrators, guidance counselors, other school district social workers, special education teachers, and/or the SRO were invited to provide their insights and recommendations about each student. Given all the disparate perspectives, the staff discussions were often lively, and typically pushed professionals to think beyond their traditional discipline boundaries. The perspective of interdisciplinary school personnel was often beneficial, given that these individuals frequently had daily contact with the students, knew their families, and had a broader understanding of the students and families in the context of the community. Thus the emerging dynamic process during weekly staff sessions provided a comprehensive picture of each student's strengths and needs, and did so in a much more efficient and timely manner than is possible when assessment and intervention occur within the norms of traditional school-based services or individual therapy. Consequently, a more targeted, data-driven and expedited intervention plan was developed for each student, with several layers of cooperative accountability and consultation.

A recent example involved a 15-year-old boy with a history of anxiety, severe depression, and suicidal ideation. After his circumstances had been discussed during the staff meeting, he was referred for a diagnostic evaluation to professionals with the appropriate expertise and ultimately began to receive manual-assisted CBT under the supervision of ASC Center personnel. He was also evaluated by a physician for a potential medication trial in tandem with CBT, both of which have received considerable support in the empirical literature (Michael & Crowley, 2002; Weisz *et al*, 2006).

Appraisal of the harvest

Over the last 18 months in operation, the ASC Center team has served or provided direct intervention to more than 139 students (approximately nine per cent of the student population) with a variety of presenting problems. Among the most common reasons for referral were general mental health issues such as depression, anxiety, or relationship problems (approximately 45%), academic under-performance secondary to a behavior problem or discipline issues (approximately 40%), and substance abuse disorders (9%). Less common reasons for referral included differentiating between a primary anxiety disorder and an autism-spectrum disorder, and risk assessments for aggression, threats to the school population, and/or suicidal ideation or intent (approximately six per cent). In at least two instances, the ASC Center team helped to expedite admission to a psychiatric facility (of which there are none in the Watauga County) for adolescents who were experiencing significant crises during school.

In order to systematize the screening and intake process, referrals to the ASC Center were facilitated by the grade-level administrators, school counselors, school social workers, or school-based clinical social worker. It was also possible for parents, teachers, and the students themselves to make referrals, but every attempt was made to funnel the referrals to staff discussions via one of the aforementioned school staff members. When it was determined by the ASC Center staffing process that treatment was indicated, students were assigned to a member of the team on the basis of 'best fit', taking into account variables such as presenting problem, areas of expertise, prior treatment history, and need for external resources. Many of the students had multiple needs, and the ASC Center team collaborated with families and other agencies to ensure that the basic and psychological needs of the students were met (for example Department of Social Services, Juvenile Justice, Office of Disability Services). In such cases, the ASC Center team and/or its representative became part of a larger community-based treatment team, further engaging in interdisciplinary collaboration and advocacy with the broader system on behalf of the student and the school.

In addition to the screening and intake process, an exit/transition process was developed for those students who had completed services with the ASC Center. When a team clinician was ready to terminate services with a student, that clinician met with the student's

grade-level guidance counselor to discuss the student's emotional, academic, and behavioral status. The guidance counselor provided at least one follow-up visit with the student, and reiterated their on-going support for the student for the remainder of their education at the high school. An ASC Center team member discussed the transition process with the consenting parent or guardian and provided recommendations for follow-up care and monitoring.

Among the 75 students discussed by the ASC Center between February and November 2008, the majority (68%) participated in individual therapy with a member of the team. Among those students involved in this treatment modality, the average number of sessions was 5.1 (range: 1-12). The individual therapy was in addition to regular consultation with teachers, administrators, and parents regarding status and performance indicators. In the same sub-set of students discussed since February of 2008, approximately one third successfully completed treatment or were transitioned, one third were still in active treatment, and the remaining third had graduated or moved, had been referred to another agency for treatment, or had dropped out; see **Figure 1**, below, for clarification. Currently 34 students are involved in active treatment with one of the seven clinicians.

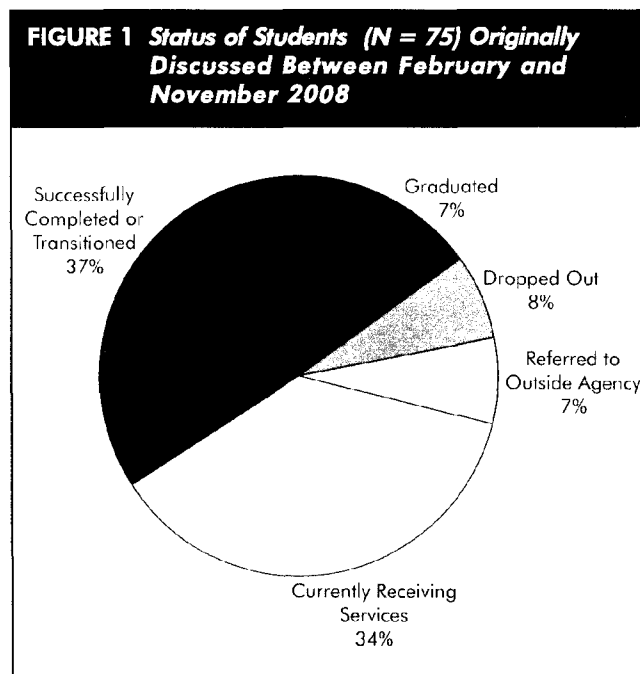
Measuring the yield

Qualitatively, the services and the partnership have been well received, as reported by the school administration, students, parents, and faculty alike. Parents now regularly refer their children, and several students have referred themselves for intervention. The ASC Center initiative was recognized by the local school board and given an Education Partnership Award. The clinicians have reported that their clients appear to accept the ASC Center and related mental health services simply as part of the school culture. This observation mirrors findings from other studies (Francis *et al*, 2006) suggesting reduced stigma from SMH services.

As encouraging as these qualitative reports sound, a plan has been implemented to create a more systematic qualitative and quantitative evaluation of the partnership. Since the fall of 2008, school outcome data (attendance, number of discipline referrals, grades) have been collected on each of the students served, to examine the possible association between ASC Center services and these variables at baseline, post-treatment, and follow-up phases.

A particular ASC Center case illustrates the evaluation plan well. At the time of intake, the student ('Bren', not his real name) was 17 years old and should have been a junior academically. However, at the time of referral Bren had earned only one credit (the equivalent of one year-long course) and had spent most of his previous two years skipping school or under the scrutiny of the legal system or school administration. Although Bren had considerable ability and academic aptitude, according to standardized test scores and previous academic reports, he was deeply entrenched in a pattern of defiance, legal difficulties, suspensions, depression, peer problems, truancy, and general estrangement from the school milieu. During Bren's freshman year in high school, he was present for 48% of the instruction days, absent for 27%, and expelled (without returning) for the remainder of the year. Bren's sophomore year was not much different. He was present for 53% of the teaching days, absent for 14%, and expelled for the remaining 33% of teaching days. During what would technically have been his junior year, he was referred for intensive ASC Center treatment. He was assigned to the master's level psychology intern under the supervision of the licensed doctoral level psychologist.

Including therapy sessions, case management events, teacher and school social worker consultations, meetings with family members, devoted staff meetings, and meetings with outside agencies (for example community support, juvenile justice), 35 treatment events were



recorded for Bren during the course of one academic year. His attendance increased to 87% of teaching days. He was absent on the other 13% of teachings days and was not suspended or expelled during that year and the number of discipline referrals that year was zero. Academically, Bren made up almost two years of course credit and began to re-engage in his studies to the point that he was earning As and Bs in most of his courses. Qualitatively, Bren reported that his assigned therapist was 'a master key to my success'. He added that his therapist:

'made me feel like I wasn't the only one with problems.'

and was consistently available at school in a way that few others had demonstrated before. Bren made special mention that it was the 'relationship' between him and his therapist that, when coupled with his new-found determination, enabled him to succeed. Bren is now preparing to apply for college, is gainfully employed, and is enjoying a strong connection to his school culture. Thus, from both qualitative and quantitative standpoints, there was evidence of improvement in Bren's case which exemplifies the broader plan of evaluation for the project.

When comparing the evolution of the current school mental health project with others known to exist across the country, there are a number of similarities and positive attributes. The types of service provided by the ASC Center are generally commensurate with the national landscape as reported by Teich and colleagues (2007). Consistent with the work of Owens and colleagues (2007, 2008), there is a strong emphasis on interdisciplinary contextual training of graduate students under the supervision of licensed doctoral-level mental health providers/faculty members and with the full collaboration of school-based professionals. Indeed, the high level of commitment to interdisciplinary collaboration, the frequency and intensity of the staffing meetings, and the use of graduate interventionists are arguably the most important features of the ASC Center.

Possibly the most significant weakness of the program to date is the lack of empirically defensible data (beyond reported satisfaction or single case evidence) to support its effectiveness. The fact that the YESS Program was able to develop an SMH initiative in rural Appalachia and provide credible support of its effectiveness (Owens *et al*, 2008) is an encouraging sign that evidence-based practice can be transported to other rural settings such as Watauga County.

Responding to challenges and increasing the yield

Along the way, those associated with the project learned a great deal. For example, school district officials initially balked at the notion of graduate trainees (or 'interns') providing services to students. Part of their reluctance was based on their experiences in the field of education, in which the term 'intern' meant a freshman or sophomore college student involved in early preparation for student teaching. This was a major impediment to the development of the ASC Center, since the main mission of ASU and IHHS is to educate and train students.

However, as the interdisciplinary collaborative relationship developed, the school officials soon understood that an 'intern' in the clinical disciplines was an advanced post-baccalaureate student who had completed most of the graduate coursework and was well prepared for advanced clinical placement. The school officials were further persuaded of the benefits of using well-trained graduate interventionists, since it was an immediate method of addressing the dearth of available therapists for the students. The model of training included didactic components (coursework, readings), weekly staff meetings, live supervision of clinical interventions, individual supervision, and consultation as needed. Consistent with the clinical case of Bren, the effects of graduate trainees' clinical work under the supervision of licensed clinicians are often defensible and commensurate with the effects of professional therapists (see Michael *et al*, 2005 for a detailed discussion), especially when using evidence-based protocols for particular conditions (such as CBT for depression). Thus, the integration of ASU's training mission, its commitment to the advancement of knowledge and health, and Watauga High School's focus on the behavioral and academic success of the students provides the underlying philosophy of the ASC Center.

Working together towards common and complementary goals has also exposed other challenges. For example, the community mental health center clinicians need to balance their time invested in staff meetings with their agency's expectations that they will accrue 'billable hours', a fact which often makes it impractical for them to work with some of the students. In contrast, other ASC Center clinicians do not have to contend with the same administrative and financial barriers. This sets up a difficult scenario for students and families who might not be in a position to pay for services rendered by the community

mental health center or other providers, yet some of the services available outside of the ASC Center are often necessary to provide a complete continuum of care (such as medication management and acute hospitalization). Given the dearth of child psychiatrists and inpatient facilities in Watauga County, these issues remain significant challenges. One possible solution that has been discussed is for the ASC Center to develop a collaborative relationship with a medical center (for example a teaching hospital) in order to use telemedicine. Nonetheless, the menu of evidence-based treatment options has been expanded for all students as a result of this SMH collaboration, and the challenges are often negotiated successfully now that the partnership has been integrated in the school culture.

Summary

At the time of writing, all the partners mentioned in this article remain invested and committed to the project, and efforts are under way to expand funding streams, enhance sustainability, and solidify the presence of the ASC Center in the school milieu. The ASC Center now has one full-time school-based clinician, a quarter-time IHHS clinician, and the equivalent of one full-time doctoral-level faculty member (across three disciplines) to oversee the project. The school district and ASU currently provide matching funds to cover ASU clinician and faculty time to supervise the cadre of graduate students. Through a new two-year graduate assistantship at ASU (Graduate Research Associate Mentoring Program), there are plans to devote one incoming Psychology trainee's time to empirical evaluation of the initiative. Other resources being investigated include the pursuit of a Safe Schools/Healthy Students grant from the Department of Education and possible expansion of the project to other schools in the county.

Many features of the project appear to be consistent with an innovative rural Appalachian ESMH initiative (such as YESS, Owens & Hamel-Lambert, 2007) in which interdisciplinary collaboration between university graduate programs, community schools, and other community constituents is the standard. Use of graduate student interventionists not only addresses the problem of the availability of and access to clinicians in rural areas, but also represents possibly the best way to train (and retain) current and future generations of rural mental health

providers capable of practicing in interdisciplinary school settings and SMH programs. This type of collaboration, which includes the resources of a well-established university and the needs of a community school, offers the ingredients necessary to determine empirically whether particular evidence-based procedures are ecologically valid in rural school settings. In closing, the thoughtful and diligent cultivation of this new harvest, an interdisciplinary school mental health model in a rural setting, while still in the formative stages, has promise for even greater yields in the future.

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References

- American Psychiatric Association (2000) *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition – Text Revision*. Washington, DC, USA: American Psychiatric Press.
- Beck AT, Steer RA & Brown GK (1996) *Manual for Beck Depression Inventory II (BDI-II)*. San Antonio, TX, USA: Psychological Corporation.
- Burns BJ, Costello EJ, Angold A *et al* (1995) Children's mental health service use across service sectors. *Health Affairs* **14** 147–59.
- Center for Mental Health in Schools (2003) *Youngsters' Mental Health and Psychosocial Problems: What are the data?* Los Angeles, CA, USA: Author.
- Center for Mental Health in Schools (2008a) *Mental Health in Schools and School Improvement: Current status, concerns, and new directions*. Los Angeles, CA, USA: Author.
- Center for Mental Health in Schools (2008b) *Schools, Families, and Community Working Together: Building an effective collaborative*. Los Angeles, CA, USA: Author.
- Clarke GN, Rohde P, Lewinsohn PM, Hops H & Seeley JR (1999) Cognitive-behavioral treatment of adolescent depression: efficacy of acute group treatment and booster sessions. *Journal of the American Academy of Child & Adolescent Psychiatry* **38** 272–9.
- Costello EJ, Angold A, Burns B *et al* (1996) The Great Smoky Mountains study of youth: goals, design, methods, and the prevalence of DSM-III-R disorders. *Archives of General Psychiatry* **53** 1129–36.
- Costello EJ, Mustillo S, Erkanli A, Keeler G & Angold A (2003) Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry* **60** 837–44.
- Farmer EMZ, Stangl DK, Burns BJ, Costello EJ & Angold A (1999) Use, persistence, and intensity: patterns of care for children's mental health across one year. *Community Mental Health Journal* **35** 31–46.
- Foster S, Rollefson M, Doksum T *et al* (2005) *School Mental Health Services in the United States, 2002–2003*. DHHS Pub. No. (SMA) 05-4068. Rockville, MD, USA: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.
- Francis K, Boyd C, Aisbett D, Newnham Karyn & Newnham K (2006) Rural adolescents' attitudes to seeking help for mental health problems. *Youth Studies Australia* **25** (4) 42–9.
- Geller JM (1999) Rural primary care providers' perceptions of their roles in the provision of mental health services: voices from the plains. *Journal of Rural Health* **15** 326–334.
- Harowski PM, Turner AL, LeVine E, Schank JA & Leichter J (2006) From our community to yours: rural best perspectives on psychology practice, training, and advocacy. *Professional Psychology: Research and Practice* **37** 158–164.
- Jameson JP & Blank MB (2007) The role of clinical psychology in rural mental health services: defining problems and developing solutions. *Clinical Psychology: Science and Practice* **14** 283–98.
- Keefe SE (in press) *Participatory Development in Appalachia: Perspectives on identity, community, and sustainability*. Knoxville, USA: University of Tennessee Press.
- Lambert D & Agger M (1995) Access of rural Medicaid beneficiaries to mental health services. *Health Care Financing Review* **17** (7) 133–45.
- Michael KD & Crowley SL (2002) How effective are treatments for child and adolescent depression? A meta-analytic review. *Clinical Psychology Review* **22** 247–269.
- Michael KD, Huelsman TJ & Crowley SL (2005) Interventions for child and adolescent depression: do professional therapists produce better results? *Journal of Child and Family Studies* **14** 223–236.
- Morris JA & Hanley JH (2001) Human resource development: a critical gap in child mental health reform. *Administration and Policy in Mental Health* **28** (3) 219–27.
- MTA Cooperative Group (1999) A 14-month randomized clinical trial of treatment strategies for attention-deficit-hyperactivity disorder. *Archives of General Psychiatry* **56** 1073–86.
- North Carolina State Center for Health Statistics (2009, retrieved 8th March 2009) *North Carolina statewide and county trends in key health indicators*. Raleigh, North Carolina, USA: Author. www.schs.state.nc.us/SCHS/data/trends/pdf/.
- Owens JS & Hamel-Lambert J (2007) Rising to the challenge: transforming training to prepare the mental health workforce for interprofessional collaboration. *Report on Emotional & Behavioral Disorders in Youth* **7** 33–47.
- Owens JS, Murphy CE, Richerson L, Girio EL & Himawan LK (2008) Science to practice in underserved communities: the effectiveness of school mental

health programming. *Journal of Clinical Child and Adolescent Psychology* **37** (2) 434-447.

Paternite C (2005) School-based mental health programs and services: overview and introduction to the special issue. *Journal of Abnormal Child Psychology* **33** (6) 657-663.

Rowling L (2008) Prevention science and implementation of school mental health promotion: another way. *Advances in School Mental Health Promotion* **1** (3) 29-37.

Shochet IM, Dadds MR, Ham D & Montague R (2006) School connectedness is an underemphasized parameter in adolescent mental health: results of a community prediction study. *Journal of Clinical Child and Adolescent Psychology* **35** 170-9.

Teich JL, Robinson G & Weist MD (2007) What kinds of mental health services do public schools in the United States provide? *Advances in School Mental Health Promotion* **1** 13-22.

US Census Bureau (2007, retrieved 8th March 2009) *State and County Quick Facts*. Washington, DC, USA: US Department of Commerce.
<http://quickfacts.census.gov/qfd/states/37/37189.html>.

US Department of Health and Human Services (2001) *Report of the Surgeon General's Conference on*

Children's Mental Health: A National Action Agenda. Washington, DC: Author.

US Department of Health and Human Services (2008, retrieved 10th March 2009) *Health professional shortage areas*. Washington, DC: Author. www.raconline.org/maps/#hpsa.

Watauga County Schools (2009, retrieved 7th March 2009) *North Carolina school report cards released*. Boone, North Carolina, USA: Author.
www.ncreportcards.org/.

Waxman RP, Weist MD & Benson DM (1999) Toward collaboration in the growing education-mental health interface. *Clinical Psychology Review* **19** 239-53.

Weist MD & Albus KE (2004) Expanded school mental health: exploring program details and developing the research base. *Behavior Modification* **28** 463-71.

Weist M & Paternite C (2006) Building an interconnected policy-training-practice research agenda to advance school mental health. *Education and Treatment of Children* **29** (2) 173-96.

Weisz JR, McCarty CA & Valeri SM (2006) Effects of psychotherapy for depression in children and adolescents: a meta analysis. *Psychological Bulletin* **132** 132-49.