


An Interdisciplinary University-Based Initiative for Graduate Training in Evidence-Based Treatments for Children's Mental Health

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Abstract

States and jurisdictions are under increased pressure to demonstrate the use of evidence-based treatments (EBTs) for children's mental health, increasing the demand for a workforce trained in these practices. Universities are a critical pipeline for this workforce. This article describes the genesis and evolution of a university-based initiative for training in EBTs for children, youth, and families. Given both the need to make training in EBTs available to future providers in a range of disciplines and that mental health providers increasingly find themselves on interdisciplinary teams (despite university-based training being relatively siloed along disciplinary lines), the initiative has had an interdisciplinary focus. Two tracks are described: (a) Practitioner Track, a course series in which students learn a specific EBT, and (b) Referral Track, a monthly lecture series designed to engage a wider university and community audience. Results of the program evaluation component of this initiative revealed that students can significantly increase their skills and self-efficacy in components of EBT delivery through participation in the active, skill-focused courses. Furthermore, the results of the lecture series evaluation appear to meet an important need for community-based providers and other supportive individuals in transferring useful knowledge about best practices. Implications and future directions are discussed.

Keywords

career education, mental health, child, design/development, curriculum, post-secondary, education, training, employment/work

The field of behavioral health has undergone significant changes in the past 20 years, resulting in increased calls for reliable, cost-effective, and evidence-based therapeutic interventions to be available in community-based settings (Institute of Medicine, Committee on Quality of Health Care in America, 2001; New Freedom Commission on Mental Health, 2003). While reliably implemented evidence-based approaches have the potential for a broad and positive public health impact on disorders that contribute greatly to the global burden of disease (Shea & Shern, 2011), they are rarely implemented in community-based settings (Aarons, Sommerfeld, & Walrath-Greene, 2009; New Freedom Commission on Mental Health, 2003). This momentum to improve therapeutic efficacy has produced a demand for use of evidence-based treatments (EBTs) designed to address common and co-occurring disorders in a variety of settings (e.g., Chambless & Hollon, 1998;

David-Ferdon & Kaslow, 2008; Eyberg, Nelson, & Boggs, 2008; Silverman et al., 2008). Beginning in 1995, the American Psychological Association (APA) began increasing efforts to define and identify such effective treatments (APA Presidential Task Force on Evidence-Based Practice, 2006; Chambless, 1999; Chambless et al., 1998). The National Institute of Mental Health (NIMH) and the Substance Abuse and Mental Health Services Administration (SAMHSA) joined the APA's efforts by encouraging increased evaluation and use of EBTs, beginning a decade

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of growing emphasis on the topic (National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention and Deployment, 2001).

However, while the changes to intervention type and quality have been rapid, treatment models developed largely in university-based settings have been slow to be incorporated into community-based settings (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; New Freedom Commission on Mental Health, 2003). Reasons for this research-to-practice gap are varied, but one important factor is graduate training, which presents a formative opportunity for students to embrace effective treatment approaches.

Graduate training programs, like other institutional settings, can be slow to change, and for the most part, training in specific EBTs has been left to post-graduate training and continuing education. This is the case despite research from adult learning and the implementation literature, suggesting that typical training methods used in continuing education (i.e., lecture only) are ineffective (e.g., Beidas & Kendall, 2010). And, there may be unique benefits of university-based training, such as experiences that may set a critical stage for providers' willingness to learn and implement EBTs. Aarons and Palinkas (2007) highlight the importance of positive training experiences in EBTs as a critical factor predicting successful EBT implementation. Practitioner self-report of EBT use has been correlated with taking an EBT class (Nelson & Steele, 2007), while lack of familiarity with EBTs has been associated with negative attitudes toward EBTs (Nakamura, Higa-McMillan, Okamura, & Shimabukuro, 2011).

Thus, in addition to addressing features of the research-to-practice gap, graduate training in EBTs has an important role in increasing future interest in and openness to EBTs. There is a pressing need for university training programs to lead the charge in providing training in the skills and implementation of EBT programs. Below, we review the literature regarding the integration of EBTs within university-based settings, discuss the relative advantages of situating such training efforts within universities, and then describe an approach taken by the University of Washington (UW), to provide interdisciplinary training and educational opportunities in EBTs. We provide evaluation data on a needs assessment for EBT training at UW, as well as on uptake/success (e.g., enrollment, attendance, and self-report efficacy in EBT skills) for two EBT tracks.

Many community-based agencies interested in providing evidence-based services criticize the pre-employment training in EBTs provided at institutions of higher learning (e.g., Barwick, 2011). Ironically, yet with some notable exceptions, the very institutions actively engaged in EBT research often provide limited opportunities for students to learn EBT (Bertram, Charnin, Kerns, & Long, 2014). An earlier survey found that very few graduate training programs require both didactic and clinical supervision in any EBT:

psychiatry (28.1%), psychology (PhD 16.5% and PsyD 11.5%), and social work (9.8%; Weissman et al., 2006).

The lack of EBT-specific educational opportunities for students contributes to a significant disparity between the approximately 20% of the population with behavioral health needs (New Freedom Commission on Mental Health, 2003) and the number of available clinicians with EBT competency (Hoge, Huey, & O'Connell, 2004; Mazade & Glover, 2007). Barwick's (2011) recent survey of master's- and doctoral-level clinicians who were newly hired shows a startling lack of exposure to, knowledge of, and training in EBT, particularly during their graduate school tenure. In this self-report survey, only 41% of practicing clinicians reported understanding EBTs upon being hired, whereas 72% cited knowledge of EBTs as a necessity for effectiveness, and 73% said that they learned EBTs while working. Perhaps most troubling, only 38% reported possessing skills in at least one EBT when hired, and 44% said that they would have benefitted from training in EBTs when starting their employment. This report indicates that we still have far to go in ensuring that mental and behavioral health providers are workforce ready.

Providing training opportunities at the university level partially addresses another critical implementation dilemma—the impact of employee turnover in community-based settings (Glisson et al., 2008). The rate of annual turnover of community mental health workers ranges from 25% to 50% (L. T. Eby, Burk & Maher, 2010; Gallon, Gabriel, & Knudsen, 2003; Garner, Hunter, Modisetter, Ihnes, & Godley, 2012; Glisson & James, 2002). With high turnover, the agency-level return on investment of training employees in EBTs is decreased dramatically relative to the financial and time burden of training. If there was a ready workforce with key skills to provide EBTs, it would be much more feasible to continue to have an EBT-trained workforce, in the face of high turnover, without overwhelming costs. Of equal importance, agencies experience lower turnover rates when staff are trained in EBT implementation and receive quality monitoring and support (Aarons, Sommerfeld, Hecht, Silovsky, & Chaffin, 2009).

Calls for increased university-based EBT training have come from multiple disciplines in an effort to create a better-prepared, more competent workforce (APA Task Force on Evidence-Based Practice for Children and Adolescents, 2008; Hoge et al., 2007; Institute for the Advancement of Social Work Research [IASWR], 2007; Institute of Medicine, Committee on Crossing the Quality Chasm, Adaptation to Mental Health and Addictive Disorders, 2006). The Annapolis Coalition's Action Plan on Behavioral Health Workforce Development outlined essential steps necessary to affect the quality of the national workforce (Hoge et al., 2007). Specifically, the plan highlighted the need to develop university training centered on EBT. Some university-based programs offer training in specific EBTs.

Among these, motivational interviewing, cognitive behavioral therapy (CBT), and trauma-focused CBT (TF-CBT) appear to be especially popular interventions (Bertram et al., 2014; IASWR, 2007, for example).

In social work, some schools have positioned themselves as centers for training in EBTs and implementation science practice (e.g., the George Warren Brown School of Social Work; Columbia University). This increased effort to include EBTs in educational and field study opportunities appears to be partially the result of a 2007 SAMHSA-sponsored symposium focused on the inclusion of EBT training in university social work programs. Social work programs adopting EBT provide training in specific EBTs through both didactic class-based learning and field study placements (IASWR, 2007).

Psychology training programs have faced similarly increasing calls for training and use of EBTs (Babione, 2010; Bray, 2010). The 2002 Competencies Conference (Kaslow, 2004; Kaslow et al., 2004) gave rise to several work groups and a focus on the importance of high-quality training and trainee-demonstrated proficiencies in the field of psychology. The ensuing Competency Benchmarks established training in the selection, implementation, and evaluation of EBTs as crucial skills for psychologists-in-training (Fouad et al., 2009).

In psychiatry, the American College of Graduate Medical Education (ACGME), the accrediting body for residency training in the United States, organizes psychiatry residency training around six competencies (medical knowledge, patient care, problem-based learning and improvement, interpersonal communication skills, professionalism, and system-based practice). Psychiatry residency programs have begun moving toward “milestones,” which are behaviorally defined knowledge, skills, behaviors, and attitudes expected of trainees progressing through residency (Accreditation Council for Graduate Medical Education, 2007). Through their accrediting bodies, psychiatry residency training programs in the United States and Canada require psychotherapy training in EBTs, although there are variations among programs regarding the process, content, degree of focus on EBT, and evaluations of training outcomes (see Weerasekera, Manring, & Lynn, 2010, for example).

In education, the National Association of School Psychologists (NASP) requires university-based training programs to provide training in EBTs for provision of school-based mental health services. The emphasis on EBTs is evident in NASP’s (2010) standards for initial professional credentialing and the professional standards in the practice of school psychology.

In addition to the limited opportunities for training in EBTs in university-based programs, these programs often exist in silos within rather than across training programs; interprofessional training is the exception rather than the

rule (Lyon, Stirman, Kerns, & Bruns, 2011; Stuart, Tondora, & Hoge, 2004). However, research on the effects of interprofessional training is growing. Initial evaluations of interprofessional training suffered without data from randomized control trials, and evidence to support such collaborative efforts was unclear (Hammick, Freeth, Koppel, Reeves, & Barr, 2007). An update of a 1999 Cochrane review of studies of the impact of interprofessional training reveals that there is now increased support for interprofessional training (Reeves et al., 2010). In addition to positive outcomes such as improved teamwork and organizational culture, interprofessional training programs take advantage of limited resources at the university level by reducing redundancies in EBT training and systematizing practitioner development (Ho et al., 2008; Illingsworth & Chelvanayagam, 2007).

With the introduction of the Affordable Care Act and the far reaches of managed care, the vast majority of mental health professionals will work in interdisciplinary groups providing collaborative care (Chor, Olin, & Hoagwood, 2014; Chu et al., 2012). The quality of interprofessional collaboration can affect the efficacy of any potential services, and the value of cooperative working groups cannot be underestimated (Garland et al., 2013). Participation in interprofessional training positively influences future practitioners’ attitudes toward and knowledge of collaboration opportunities and techniques (Hammick et al., 2007; Nisbet, Hendry, Rolls, & Field, 2008). Mental health professionals may struggle to maintain their role in behavioral health services if they do not participate in interdisciplinary care collaboratives (Bray et al., 2009). Such interdisciplinary training is equally necessary for effective collaboration in the treatment of more specific concerns, such as child abuse and neglect (Damashek, Balachova, & Bonner, 2011). Accordingly, the APA has emphasized the need for interdisciplinary training for psychologists-in-training (Bray et al., 2009; M. D. Eby, Chin, Rollock, Schwartz, & Worrell, 2011), and the ACGME requires psychiatry trainees to learn to coordinate care with non-medical therapists.

Development of the “University of Washington Workforce Initiative”

In 2007, the Washington State passed House Bill (HB) 1088 to increase youth and family access to effective treatments. HB1088 included language and resource support for developing a children’s mental health workforce trained in EBTs. The UW, spearheaded by the Department of Psychiatry and Behavioral Sciences (at the Evidence-Based Practices Institute [EBPI]), developed an interdisciplinary collaborative approach named the “University of Washington Workforce Initiative” (henceforth, referred to as the “Initiative”). In this Initiative, a university-based task force was created to address the lack of interdisciplinary training opportunities for clinicians-in-training, with a special focus

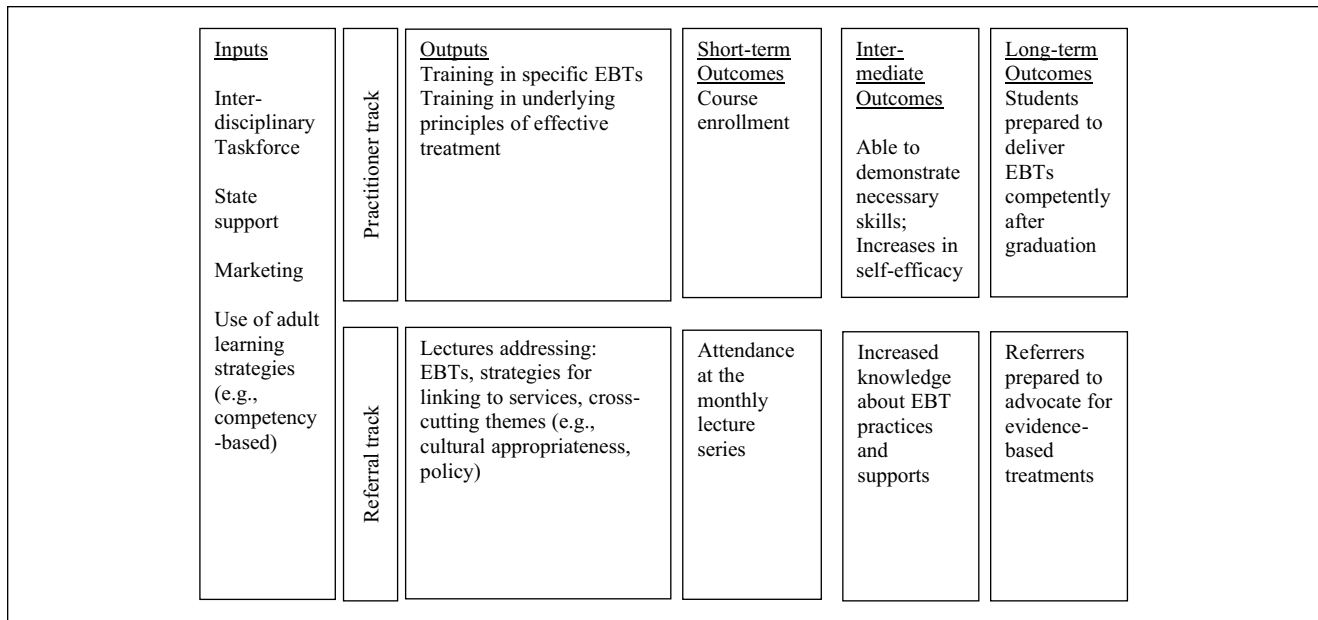


Figure 1. Taskforce logic model.
 Note. EBT = evidence-based treatment.

on EBTs for children, youth, and families (a similar initiative for adult-based models is currently under development). The Initiative has cross-campus support and, in addition to the coordination provided by the EBPI (within the Department of Psychiatry and Behavioral Sciences), includes other departments and schools such as psychology, education (including special education and school psychology), nursing, and social work. A rotating graduate student representative is nominated each year.

The task force’s first activity was to vision the facets of the Initiative, with consideration on how to create upstream demand for effective services. As such, the faculty defined the “workforce” as (a) those who will be actively providing therapeutic services to children, youth, and families, and (b) those who will be in positions to refer to and/or advocate for children, youth, and families to receive EBT services. As a result, two “tracks” were developed: “Practitioner” and “Referral.” See Figure 1 for a logic model of anticipated short-, intermediate-, and long-term outcomes.

Practitioner Track

Initial needs assessment. As a first step to guide development of the Initiative, in 2008 a web-based student survey was developed and distributed to students in the following programs at the University of Washington: social work MSW, psychology PhD, special education PhD, psychiatry residency, psychology pre-doctoral internship, child psychiatry fellowship, and nursing PhD. The 33-item survey

asked about demographic information, previous experience with evidence-based services and children’s mental health, and general interest in EBT training opportunities. Students were expressly asked about their classroom-based and practicum experiences in 15 nominated EBTs. Specific EBTs were chosen based on nominations from the faculty task force of most commonly available EBTs (note that this survey pre-dated the rise in popularity for modularized and components-based approaches, and focused only on treatment approaches, such as TF-CBT, multisystemic therapy, and brief strategic family therapy, which were known to be available in Washington State). In addition to the nominated EBTs, students could write-in other EBTs that they learned.

Questions about training opportunities included items measuring the reason they might like to learn more about EBTs, the populations and settings for which they would be most interested in learning and implementing EBTs, and perceived barriers to receiving training in EBTs (both multiple-choice and write-in options). The survey assessed student interest in taking graduate coursework in a number of specific EBTs. Finally, general clinical training and direct clinical practice experiences both within and outside of the graduate program were assessed.

Respondents. In total, 81 students responded to the survey. Respondents were mostly between the ages of 27 and 37. Eighty-seven percent of respondents identified as heterosexual, 4% were either gay or lesbian, and 9% identified as

bisexual. The majority (76%) of respondents were White, 12% Latino, 3% African American, 5% Asian, and 4% Pacific Islander. Respondents were disproportionately enrolled in the School of Social Work ($n = 41$), followed by psychology ($n = 11$), special education ($n = 10$), psychiatry residents and fellows ($n = 8$), and nursing ($n = 1$). The departmental affiliations were not indicated by 12 respondents.

Results. When asked about their previous experience with 15 EBTs, only 4% of students reported receipt of clinical supervision in any practice and only 5% had taken coursework in a given intervention. In addition, less than one third of the participants had formal instruction in EBT clinical approaches or strategies. These numbers may be an underrepresentation of potential for learning EBTs, because some students were likely early in their graduate career (particularly for master's degree students).

When asked if they would like to learn more about EBTs for children and families, 88% of participants indicated that they would like to learn more, 2% were not interested, and 10% were unsure if they wanted to learn more. Students expressed interest in learning a wide range of EBTs for a variety of populations and settings. More than half of the students noted that they “probably” or “definitely” would like to learn behavioral parenting treatments, cognitive behavioral trauma treatments, treatments for suicide, and family-based therapies for high-risk youth. Approximately 70% of students indicated that they “probably” or “definitely” would like to learn EBTs for ethnic minorities and vulnerable populations (especially Latinos/Latinas, African Americans, immigrants, refugees, and children in multiple systems of care). When asked to describe their reasons for not learning or practicing EBTs, the most common responses included (a) not enough time in the graduate program (write in response), (b) training courses not available, (c) their program does not teach evidence-based practices (write-in response), and (d) they “don't fit the problems of the clients I intend to work with.”

Description of EBT course series. From this survey, an EBT course series was developed. The EBT course series includes one course per quarter for the academic year (fall, winter, spring). Each quarter has a different emphasis, including treatments for externalizing behavior problems (parenting interventions), treatment of anxiety disorders with a special emphasis on post-traumatic stress, and EBTs for youth with complex needs (e.g., co-occurring substance use and mental health concerns, and/or involvement with multiple child-serving systems, such as juvenile justice, foster care, or special education). Each course provides a brief foundational overview of EBTs for children and youth with each of these considerations, and then students learn a specific EBT that matches each category. Students in the

course on parenting interventions learn *Helping the Non-compliant Child* (McMahon & Forehand, 2003). Students in the anxiety/trauma disorders course learn TF-CBT (Cohen, Mannarino, & Deblinger, 2006). Students in the complex needs course learn elements from three EBTs, including dialectical behavior therapy (DBT; Linehan, 1993), multisystemic therapy (Henggeler et al., 2009), and motivational interviewing (Miller & Rollnick, 2002). All courses emphasize applications with diverse families (including cultural, sexual, family constellation, parental intellectual disability, etc.). All courses are taught by experts in that EBT and incorporate active, adult-learning strategies associated with increased learning, including video and in-person modeling demonstrations, and role-play with feedback (see Beidas & Kendall, 2010; Herschell, Kolko, Baumann, & Davis, 2010, for studies of the effectiveness of these approaches). The courses are offered to any matriculated graduate student or resident/fellow in a human-services-oriented degree program (e.g., clinical psychology, social work, school psychology, psychiatric fellows, psychiatric nursing). Enrollment is limited to 20 students per class to ensure an active and personalized learning environment. Courses include 10 weekly classes of 2 hr and 50 min duration. Students receive just over 28 hr of direct classroom instruction time, not including time spent outside of the classroom to complete assigned readings and conduct assignments.

While the courses are offered as pass/fail, all courses require competency demonstrations in core skills to receive course credit. Specific competency demonstrations vary by course, and are designed to ensure that students have a range of different skills. For example, in the parenting interventions course, students are required to demonstrate that they are able to do the effective parenting skills themselves, that they are able to teach a skill to a “parent” through modeling and role-play with a peer, and that they are able to coach a “parent” on how to teach a skill to their child.

In addition to the traditional three-credit course offerings, one-credit seminars are periodically offered, in response to student interest. Past offerings include motivational interviewing and evidence-based approaches to suicide assessment for adolescents.

Referral Track

A monthly lecture series was developed to create a venue for community-level information exchange—specifically providing opportunities for University faculty and community members to come together and share information related to EBTs for children and youth, and for students to have an opportunity to learn more broadly about different EBTs. Lectures are held from October through May, during a lunch hour, and on the University campus (at the School of Social Work). All lectures are videotaped and posted

on the EBPI website (<http://depts.washington.edu/pbhjp/projects-programs/page/university-washington-interdisciplinary-workforce-initiative-children%E2%80%99s>), through a YouTube channel. Attendees receive a certificate of completion that can be used toward continuing education credits and are offered a voluntary opportunity to provide feedback on the lecture. Advertisement for the lecture series includes placing information on website calendars, school newsletters, and several email listservs. Flyers are placed in various locations to alert students to the series as well.

Topics of the lectures vary from year to year and include evidence-based approaches to treatment of specific disorders (e.g., post-traumatic stress disorder [PTSD]), engagement and motivation (e.g., introductions to motivational interviewing), integration of EBTs into specific service settings (e.g., schools, military installations), policy initiatives related to EBTs, and general information about making effective referrals and advocating for EBTs.

UW Interdisciplinary Workforce Program Evaluation

Practitioner Track

Procedures. Students who enrolled in or audited any Initiative-based EBT course were given a paper/pencil measure at the beginning of the first class session. Students were asked to complete the same measure at the conclusion of the final meeting of the academic quarter (10-weeks post). The only inclusion criterion for this evaluation was attendance at the course sessions in which measures were administered. Students provided permission for their responses to be reported in aggregate form for planning and research purposes. No student declined the use of their results and no student declined to participate in the survey. Non-response is solely comprised of students who were absent at the first or last class of the quarter, resulting in incomplete data. This evaluation received exempt status from the University of Washington Institutional Review Board (UW IRB).

Participants/sample. The sample includes 174 students who enrolled in or audited one or more of the three-credit graduate courses or workshops developed by the Initiative between September 2008 and March 2014. The enrollment breakdown is as follows: parenting interventions ($n = 113$), anxiety/trauma interventions ($n = 57$), and complex cases ($n = 32$), with 28 students taking more than one course. For the 28 (14%) of students who took multiple courses in the series, only data from the chronologically first course are included in the analyses.

Respondents consisted of students in graduate or post-doctoral programs within the university, or approved non-matriculated students ($n = 2$). Students from a wide variety of departments and schools are represented in the results,

including 55 in educational psychology, 47 in social work, 21 students in the school of nursing (including psychiatric nurse practitioners), 21 in psychology, 13 in special education, 7 in psychiatry, 2 in education, and 8 students from other disciplines. One hundred thirty-eight students completed both pre- and post-course measures and are included in the final analyses. The reason for non-completion at both time points was absence on the first ($n = 15$) or last day of class ($n = 30$), with one student missing both time points.

Measures. The specific questions asked across each course varied due to the different skill content taught. A global, general self-efficacy question was asked about administration of the therapeutic practice of focus (“How confident are you in your ability to conduct [parenting interventions, interventions for anxious youth and youth with PTSD, or youth/family interventions for adolescents with multiple system involvement]?”). More detailed questions differed slightly between the courses and ranged from 22 to 24 items; however, six skills were assessed across all three courses (these items were constructed based on expert consensus of critical skills in each domain). The six common skill domains assessed across courses included assessment and observation (e.g., administering and scoring behavior rating scales), client engagement and relationships (e.g., managing resistance from parents/caregivers), theory and clinical approaches (e.g., using behavioral rehearsal, giving homework assignments), general clinical self-efficacy (e.g., feeling well trained and confident), and treatment-specific strategies (e.g., giving feedback to parents, creating a “trauma narrative”). All assessments were on a 7-point scale, with higher scores indicating higher levels of self-perceived skills. A rating of a “1” indicated “not at all proficient and would like assistance,” and a rating of a “7” indicated “extremely proficient, no assistance required.” To enhance interpretability, average scores were used. Alpha coefficients for the full measures used in each of the three courses were high and ranged from .964 to .967. Specific measures are available upon request.

Results. We used a paired-samples t test to assess change across the two time points. Across all courses, overall scores on self-efficacy increased. On a 7-point scale (1 = *not at all* to 7 = *extremely*), students in the parenting interventions course went from an average of 3.15 to 5.43, $t(77) = -21.04$, $p = .001$. Likewise, students in the anxiety/trauma treatment course went from an average of 3.28 to 5.39, $t(38) = -14.55$, $p = .001$. Students in the course for extreme and complex needs went from 2.48 to 5.10, $t(19) = -10.97$, $p = .001$. These changes reflect large effect sizes, Cohen’s d_2 ranging from 2.33 to 2.45 (Cohen, 1988). In other words, students’ self-efficacy increased by more than 2 standard deviations from the beginning to the end of each course.

Table 1. Comparison of Pre- to Post-Score Changes for Students Completing a Course.

Variable	Pre		Post		t	df	p	Cohen's d
	M	SD	M	SD				
General self-efficacy								
Parenting (<i>n</i> = 78)	3.15	1.16	5.43	0.63	-21.04	77	<.001	2.38
CBT treatment (<i>n</i> = 39)	3.28	1.05	5.39	0.70	-14.55	38	<.001	2.33
Complex disorders (<i>n</i> = 20)	2.48	1.06	5.10	0.68	-10.97	19	<.001	2.45
Skill domains (<i>n</i> = 137)								
Assessment and observation	3.15	1.34	5.36	0.76	-21.62	136	<.001	1.85
Client engagement	3.07	1.24	5.25	0.82	-22.55	136	<.001	1.94
Theory and clinical approaches	3.26	1.39	5.41	0.86	-20.62	136	<.001	1.76
Clinical self-efficacy	2.74	1.17	5.15	0.76	-25.91	136	<.001	2.22
Treatment-specific strategies	3.05	1.22	5.44	0.71	-25.54	136	<.001	2.17

Note. Likert-type scale anchors were as follows: 1 = *not at all proficient and would like assistance* and 7 = *extremely proficient, no assistance required*.

Students reported growth across each of the six specific skill areas (assessment and observation, client engagement and relationships, theory and clinical approaches, general clinical self-efficacy, and treatment-specific strategies). At baseline, students reported lowest scores related to self-efficacy in delivery of EBT (average = 2.78, *SD* = 1.17) and highest scores related to theory and clinical approaches (average = 3.25, *SD* = 1.39). At the end of the courses, students generally rated their skills highest in the treatment-specific strategies (average = 5.46, *SD* = 0.71), with lower, but statistically significant improvements in general clinical self-efficacy (average = 5.14, *SD* = 0.77; see Table 1). These changes reflect large effect sizes, Cohen's *d* ranging from 1.76 to 2.22 (Cohen, 1988), again reflecting nearly 2 standard deviation increases from the beginning to the end of the courses.

In addition to subjective, self-report ratings of skill growth and self-efficacy, students in each course were rated on observed clinical competencies by the instructor(s). Specific competencies varied by course and were designed to reflect core skills necessary to deliver that particular EBT. Students were observed by classmates and the instructor(s) and, to support self-directed learning, conducted their own self-assessment of strengths and goals for improvement. Students not achieving competency on their first evaluation attempt received additional coaching by the instructor or peers until competency was reached; assistance included in the moment prompts, coaching, or additional homework assignments to practice the skills and repeat the demonstration. By the end of each course, all students achieved acceptable ratings of clinical competencies (i.e., students were able to demonstrate key skills associated with the delivery of the EBT as rated on a standardized observation form). Instructor ratings provide some corroboration for the self-report changes in perceived self-efficacy and skill growth.

Referral Track

Procedures. Attendance at each lecture was recorded as a measure of university and community interest in the lecture series and in the topics covered in the lecture series. Evaluations were collected at the conclusion of the lecture series. Completion of the evaluations was voluntary. It was not possible to determine how many individual people are represented by the number of responses as many individuals attended more than one lecture. Thus, the same attendee may be counted more than once if they attended multiple lectures, and the percentages are estimates which may be influenced by individual variation in completion of surveys.

Participants/sample. The sample includes responses from individuals who attended lectures between November 2009 and May 2014. Attendance across all lectures during this period was 801. Approximately 70% of attendees completed feedback surveys (*n* = 561). Thirty-six percent were individuals from the clinical and referral community outside of the UW, 20% from psychiatry, 18% from social work, 6% from psychology, 3% from special education, 3% from nursing, 3% from school psychology, and less than 1% from education or from undergraduates. The affiliation of 10% of the attendees was unknown.

Measures. The voluntary evaluation was completed in a paper-and-pencil form and consists of two questions on an 8-point scale: (a) Overall, do you feel today's lecture met your expectations? (b) How useful will the information presented be in your daily work? Participants rated lectures on an 8-point scale (1 = *not at all*; 8 = *extremely*). Higher ratings are more favorable. Participants were able to provide general suggestions and feedback through an open-ended question.

Results

Number of attendees per lecture. The average number of attendees per lecture per year fluctuated between 24.8 and 37.3 (2009–2014). The highest number of attendees at any given lecture was 67, and the least was 15. There was a steady increase in participation from individuals from community-based groups, reaching 50% of attendees by 2013–2014.

Satisfaction ratings. Participants rated the lectures highly. Ninety-seven percent indicated that the lectures met or exceeded their expectations (rating of 5 or higher on an 8-point scale; average ratings). The average rating was 6.92 ($SD = 1.07$). Ninety-three percent ($n = 521/561$) of respondents indicated that the information presented was useful in their daily work, with an average rating of 6.46 ($SD = 1.34$).

Discussion

This Initiative provides an example of a university-based interdisciplinary strategy to increase workforce readiness to deliver EBTs. While graduate training efforts are only one of many necessary components for increasing access to evidence-based therapeutic interventions within communities, the potential benefits—across the practitioner and referral tracks—are notable.

In the area of graduate training for future practitioners, if students graduating from institutes of higher education emerge with the skills to effectively use EBTs, the burden on local and state jurisdictions to fund and sustain EBTs in community-based settings could be reduced. With agencies experiencing high turnover rates (Garner et al., 2012) and high costs of training (direct and indirect), having a workforce with prior EBT training could make EBT implementation more feasible. In addition, if individuals who may not deliver EBTs, but are in positions to refer to EBTs and create market demand, have increased knowledge of the most effective treatments available to address common emotional and behavioral disorders, they may be more likely to advocate for EBTs. As demonstrated in the field of organizational behavior and management, increased market demand could lead to increased pressure for agencies to adopt EBTs (Pagoto et al., 2007).

The findings from the evaluation of the practitioner track indicated substantial improvements in students' ratings of self-efficacy across many fundamental EBT skills. This suggests that, at least in terms of self-report, learning to deliver EBTs may be achievable within an interdisciplinary setting. Interestingly, the magnitude of self-reported skill acquisition across the courses closely reflects findings from other training initiatives designed for professionals already in the workforce (e.g., Gray, Elhai, & Schmidt, 2007; Sethi, Kerns, Sanders, & Ralph, 2014; Turner, Nicholson, & Sanders, 2011). This may indicate that students can achieve

similar training benefits within a classroom training environment compared with state-of-the-art workforce provider training, which typically occurs in a more concentrated dose (2–5 days). Potentially, similarities in improvement are related to *how* the courses were taught—given that both state-of-the-art workforce provider training and the Initiative courses include active and experiential learning methods, necessary for behavior change (Beidas & Kendall, 2010).

It is important to note, despite similarities in self-reported efficacy, that there are several important differences between learning in a classroom environment, without being situated within a clinical services setting, and learning within a professional environment. Professionals may return from training to a setting that is ripe for immediate practice of newly acquired skills (i.e., they may be seeing a client the next day with whom they could start to apply knowledge). For students, there may be a more significant time lag, which could limit transfer of knowledge. Durlak and DuPre (2008) provide a synthesis of necessary supports for effective intervention implementation, including the need for students to have support and feedback during practice. On the flipside, immediate practitioner practice also may be hampered by structural barriers at community workplaces, such as administrative approvals to use specific EBT or insurance carriers that do not reimburse for that specific treatment.

Challenges

There were several challenges affecting the Initiative. The potential impact of the Initiative may be titrated due to university students lacking reliable opportunities to practice newly learned EBTs. In this Initiative, some students, but not all, were in practicum placements that provided opportunities for skills practice and application. Even students in practicum placements may or may not have supervisors trained in newly learned EBTs who could support application of the EBT with clients. Reviews of clinician training have more recently cited supervision as critical for behavior change (Beidas & Kendall, 2010; Herschell et al., 2010), and best practices for supervision are being evaluated (e.g., Dorsey et al., 2013). Conversely, the university course can provide for an extended opportunity to transfer information and training in EBTs in a setting conducive to discussion, critical evaluation, and assessment that facilitates at least conceptual learning of the evidence-based practice.

There were faculty-level challenges in implementation as well. While the legislation had a small resource attached to support the teaching efforts, it has been difficult to identify sustainable sources of funding for the teaching faculty. This is particularly the case, given that courses are taught by faculty in one department or school, yet students come from multiple programs. Therefore, there is not a single

department who can bear the cost of teaching. A cost-sharing model will need to be developed to ensure the sustainability of the program.

Possible facilitating factors. Despite the challenges noted above, faculty on the Interdisciplinary Taskforce identified several factors that were perceived to be associated with the relative success of the Initiative.

Interventions valued by field placements. The courses were carefully constructed based on what is known from community-based agencies about the types of interventions that they would most like students to learn, as well as consideration of the types of interventions potential students themselves were interested in learning (as referenced in the student survey). This approach increased the relevance of the course series and generated interest of several community agencies to place students who they knew took one or more course.

Basing lectures on areas of interest. The field of EBTs is continually evolving, and as new interventions and approaches become available, questions and concerns are often raised by community providers and students alike about the appropriateness and acceptability of particular practices (Durlak & DuPre, 2008; Wandersman et al., 2008). Having a regular opportunity to invite dialogue between community providers, EBT referrers, students, and university faculty increased the relevance of and interest in the lecture series.

Use of adult-learning methods. Previous research has established that active skills demonstration is a significant facilitative factor in skill acquisition (Beidas & Kendall, 2010). An examination of multiple training strategies determined that strategies associated with workshop supplements, including observation, feedback, consultation, and coaching, were among the most valuable in increasing provider skills (Herschell et al., 2010). Behavioral rehearsal, used extensively in the course series described above, is an active and supportive method to increase skill (Beidas, Cross, & Dorsey, 2014). Several studies have demonstrated that behavioral rehearsal is useful in immediate skill acquisition, though other supports may be necessary to maintain skills over time (Cross et al., 2011).

Focus on the “what” and the “why.” All courses and lectures about specific interventions constructed content to strategically combine knowledge of how to deliver an intervention (the “what”) with the theoretical underpinnings justifying the use of a particular strategy (the “why”). Previous studies have found that when learners understand the rationale behind particular skills and interventions, they are more likely to embrace the new knowledge and

incorporate it into their practice (e.g., Bellg et al., 2004). As explicated by Sburlati and colleagues, there are often underlying competencies in EBT training that enable generalization of knowledge from their initial training into their employment settings (Sburlati, Schniering, Lyneham, & Rapee, 2011). Furthermore, learners of new interventions must feel confident in delivery of the content of the intervention and with the process of delivery. Results from this evaluation indicate that students increase in confidence across both areas. Examining the ability to convey this level of information within the lecture series format is an area for future evaluation.

Interdepartmental support. This Initiative benefited from high levels of interdepartmental support. Key faculty across multiple departments and schools united to provide a necessary infrastructure to advertise and encourage students to enroll in the courses and attend the lectures. Faculty met at least quarterly during the first few years of the Initiative to decide how it should be crafted and collaborate on logistics. Department representatives continue to meet regularly to provide feedback and guidance related to Initiative activities. This interdepartmental support represents a “changing of the tides” as it relates to acceptance and support for EBTs in children’s mental health. While, in general, some faculty certainly have differing views about the value of this type of educational experience (Bertram et al., 2014), the coming together of faculty from these diverse departments in this Initiative indicates the potential for a high level of support for such activities.

Program Evaluation Limitations

There are several limitations to this evaluation. First, the initial needs assessment was conducted only as a guide for the initiative, not as a rigorous research study. As such, it should be interpreted with caution as we were unable to report on response rates and there was differential participation from students in different graduate departments. For the course series, data on student self-efficacy were all self-reported. While self-report is a valuable tool to understand internal processes, it is limited by potential response bias and social desirability, and it is unclear to what degree self-report of increased knowledge and skill corresponds to actual behavior change or ability. Furthermore, we were only able to assess students at the end of each course and do not have information about how course-related gains are maintained over time. Surveys were missing from 21% of students due to absence on the first or last class, when the surveys were distributed. We had a limited evaluation of the lecture series. Because of the anonymity of the responses, we are unable to determine the representativeness of responders compared with the total number of participants.

Next Steps

In Washington State, legislators and policy makers are actively seeking remedies to address significant geographic differences in access to effective programs. Interest in supporting increased university-based training has come from both the state mental health agency and foundation and philanthropic sources. At the present time, the course series and lecture series continue under the auspices of the State-funded EBPI at the UW. Funding for one of the three courses is now provided by the educational psychology program, which has incorporated the course into core curriculum. The other two courses are funded directly by the EBPI—with funding negotiated annually. As such, the long-term sustainability of the Initiative is tenuous.

Therefore, several next steps are being considered as strategies to ensure the longevity of the Initiative. In the short term, we aim to (a) strengthen the Initiative and (b) further document impact. In this way, we “enhance the case” for these types of efforts. As a priority to strengthen the current Initiative, we seek to fully establish practicum opportunities for students in the course series. Practicum placements provide a venue to extend the knowledge gained through classroom-based teaching methods (especially behavioral rehearsal) and include strategies such as clinical consultation, which has been demonstrated to be a critical aspect translating the skills gained in classroom-based settings to clinical situations (Edmunds et al., 2013). A strategy to further document impact will be to follow students’ progress to and following graduation, to specifically document benefit to community agencies. Anecdotally, many students do go on to service fields and providing EBTs. This is consistent with reports that exposure to EBTs is associated with more positive attitudes toward and increased self-reported use of EBTs (Nelson & Steele, 2007). As mentioned above, at the agency level, high turnover rates and the significant costs associated with EBT training could be partially addressed if employee candidates began with some training in EBTs. Regarding growth, we are currently investigating possible expansion to undergraduate training programs. This is an important population of future providers, especially considering the anticipated expansion of the mental health workforce (19%–29%; Bureau of Labor Statistics, 2012). And, we will be investigating the interest of other Washington-based universities to adopt this, or a similar, curriculum component. A possibility for creating a certificate in “EBT for children and youth” is being explored.

In summary, there is an established need for increasing training opportunities in EBTs for children’s mental health. Institutions of higher education need to assure that their training is useful and relevant not only to their students but also to the communities in which they will work. Placing the entirety of the training burden on community agencies with limited budgets and high turnover threatens feasibility and sustainability. Interdisciplinary learning environments can be efficient

in skill transfer while providing students with a rich and engaging learning environment. Consideration to other professional groups with supportive roles can enhance a workforce effort. Our hope is that our example provides a model, or impetus, to other universities to undertake this important work and provide EBT training at earlier, formative stages for trainees who will ultimately provide or be involved in ensuring appropriate mental health care for children.

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