Innovative Graduate Research Education for Advancement of Implementation Science in Adolescent Behavioral Health

Donna L. Burton, PhD,

Department of Child & Family Studies, College of Behavioral & Community Sciences and Department of Community & Family Health, College of Public Health, University of South Florida

Bruce Lubotsky Levin, DrPH, MPH,

Department of Child & Family Studies, College of Behavioral & Community Sciences and Department of Community & Family Health, College of Public Health, University of South Florida

Tom Massey, PhD,

Department of Child & Family Studies, College of Behavioral & Community Sciences and Department of Community & Family Health, College of Public Health, University of South Florida

Julie Baldwin, PhD, and

Northern Arizona University, Flagstaff, AZ

Heather Williamson, DrPH, MBA, OTR/L

Northern Arizona University, Satellite Campus, Phoenix, AZ

Donna L. Burton: dburton@usf.edu; Bruce Lubotsky Levin: levin@usf.edu; Tom Massey: massey@usf.edu; Julie Baldwin: julie.baldwin@nau.edu; Heather Williamson: heather.williamson@nau.edu

Abstract

An innovative approach to research education that integrates the theory and principles of implementation science, participatory research, and service learning in the area of adolescent behavioral health is presented. Qualitative interviews and surveys of program participants have been conducted to assess the program's curricula, service-learning partnerships, student (scholar)

Correspondence to: Donna L. Burton, dburton@usf.edu.

satisfaction, and views of community partnerships and academic mentors. The Institute has experienced the successful completion of its first and second cohorts and enrollment of a third cohort of scholars. Community partners are utilizing results of service-learning projects to influence agency operations. Institute scholars have identified research and service learning experiences as key factors in the decision to apply to the Institute graduate certificate program. The availability of tuition support is identified as valuable but not ranked as the most important reason for scholar interest in the program. Academic mentors report positive relationships with community agencies. Future iterations of the program will expand options for distance learning and alternatives to traditional graduate education for community-based scholars. Community partner agency capacity for participation is expected to change over time. Methods are being identified to both sustain existing partnerships and develop new community partnership relationships.

Keywords

Implementation science; translational research; academic-community partnerships; child and adolescent behavioral health

Introduction

Child and adolescent mental health researchers have made significant gains in developing and demonstrating the effectiveness of various interventions that result in desirable outcomes for children and adolescents, such as reductions in disruptive behavior and emotional distress, attenuation of risk factors associated with drug and alcohol use, and increases in adaptive, pro-social behaviors. However, despite their proven efficacy, these evidence-based practices (EBPs) are not widely used in clinical and community practice settings.[1] The lack of their use is due to a great number of difficulties in translating, disseminating, and implementing research findings in real world settings.[2] Barriers to the use of EBPs have been discussed extensively, and attention has been drawn to the structural, organizational, and attitudinal barriers that hinder the implementation of new programs.[3,4] Further, the translation of research knowledge to practical use has been difficult because it also requires the coordination of research, clinical practice, health policy, and health economics.[5]

Central to the difficulty in transporting findings from academic to real world settings is the lack of sufficient means of disseminating and sharing research findings between academic and service providing entities. The U.S. Department of Health and Human Services' (DHHS') *Healthy People 2020* notes that expanding services for children and adolescents will depend on promoting effective collaboration across these critical areas.[7] Translation from science to practice requires a "two-way adaptation" where both practitioners and researchers are made aware of the unique constraints of research and practice.[8] As noted by Green,[9] the research to practice gap is not due to the hubris of practitioners or researchers, but rather the needs and perspectives that each bring to their profession.

The purpose of this article is to describe a unique comprehensive research education program, the *Institute for Translational Research in Adolescent Behavioral Health* (the *Institute*) at the University of South Florida, designed for graduate students and community-

based service providers, that integrates the theory and principles of implementation science and participatory research within a service-learning model. The intent is to advance educational training for behavioral health graduate students that addresses best practices in the field of child and adolescent behavioral health (including alcohol, drug abuse, and mental health mental health) services. The *Institute* is designed to provide a unique multidisciplinary approach that emphasizes academic-community partnerships in order to train future researchers to better understand how research and practice can be better integrated for the continuing improvement of services provision. It should also serve to enhance the understanding of both graduate students and their community partners of the natural barriers to program adoption, implementation, and sustainability. The education program occurs within the context of research strategies for the translation, implementation, and evaluation of evidence-based practices.

Core aims of the Institute's graduate research education program are to: 1) enhance drug abuse research through the development of a curricula and partnerships for education in translational research; 2) provide for a team mentoring program that prepares researchers on issues of child and adolescent drug abuse and other co-occurring disorders, specifically those childhood precursors to later development of co-morbid disorders; 3) foster the development of drug abuse researchers, with attention to recruitment of participants from racial/ethnic groups that are under-represented in research; 4) evaluate the impact of the project with regard to the learning outcomes and career trajectories of scholars, the implementation of EBPs in community settings, and the development of new collaborative research efforts; and 5) disseminate program findings nationally.

The *Institute* is designed to meet the unique needs of the *Institute* scholars through a flexible education framework of multidisciplinary team mentoring, an integrated online core curricula, and service learning research experience co-facilitated by community-based partner agencies.

Background

The *Institute* program

Currently, drug abuse, mental health services research, and education are viewed as three independent paradigms. Whereas these disciplines do not operate entirely independently from one another, their cohesive integration is far too rare. There may be incidental communication in both directions, but this does not equate to bi-directional information sharing and knowledge building. Figure 1 provides a visual representation of an innovative model in which the academic research setting and community services settings are involved in a collaborative research education experience. In this model, the generation of research knowledge is a fundamental operation of the system and not merely an attendant process. The establishment of such a paradigm provides a platform for integrated, multidisciplinary clinical and services research that facilitates the translation of evidence-based treatment and prevention interventions into novel settings and populations, and does so within the context of a graduate level research education curriculum (see Figure 1).

The development of a knowledge base in implementation science emphasizes the interface between academic research and community practice, and the need to create a greater awareness among researchers and educators regarding the impact of practice on the evidence base. Also, by fostering collaborative, multidisciplinary approaches, knowledge about EPBs and skills in delivering EBPs in community settings for both researchers and practitioners are enhanced. This helps to ensure that interventions are more effective and accessible.

Theoretical framework

To accomplish this ambitious agenda, the academic program, contained in a graduate certificate program, draws on the research base developed for academic mentoring, service learning models, and innovative learning principles. The program is embedded in a multidisciplinary team mentoring approach with graduate degree, graduate certificate, and non-degree seeking students and professionals in the field working together with an academic mentor and community partner. Whereas traditional mentoring experiences in academic settings have occurred in one-to-one relationships, recent approaches have utilized multiple mentoring relationships, including using professional mentors who are outside of the institutional setting.[10] The *Institute's* team mentoring approach, through partnership with community organizations, is in keeping with national initiatives and cross-cutting priorities to educate a range of audiences on the science underlying drug abuse as it relates to co-morbid disorders in children and adolescents. Special attention also has been given to the recruitment of a diverse cadre of participants that reflects not only the ethnic diversity found in community-based populations of persons seeking services, but also reflects the multidisciplinary approach essential to building effective research and service delivery teams.

Service learning

The importance of service learning stems from its value in providing new concepts in health professional education that shift the locus of education and research from campus into the community and avoid overlooking the potential for community settings to contribute to education in a meaningful way.[11] Service-learning is rooted in experiential learning theory and emphasizes reciprocal learning as a means to ensure that knowledge is generative, contextual, and negotiated among contributing partners. As such, service learning, as a theoretical framework, is particularly well-suited to the *Institute* graduate certificate program's chief aims. While service-learning alone would seem sufficient as a theoretical framework for the *Institute*, core concepts of adult learning theory and blended (or hybrid) education approaches have been integrated into the model to produce a novel three-component theoretical framework in a research education graduate certificate program that maximizes the benefits to participants and other key stakeholders.

Innovative learning principles

Principles of Adult Learning Theory (ALT) suggest that adult learners are life-centered and task oriented.[12] The *Institute's* use of community partners is therefore an ideal match for adult learners by providing for site-oriented tasks (i.e., research projects). Adult learners also have a need to know why they are learning something before undertaking the process, and in this sense, the *Institute's* emphasis on practical applications of course material is a good

match for adult learners.[12] Finally, when compared to aspects of children's learning, adults are internally versus externally motivated and prefer to rely on self-directed approaches to knowledge acquisition.[12] The *Institute's* collaborative partnerships between the academic setting and community-based providers demonstrates to scholars the direct impact of their new knowledge and inevitably draws attention to career-oriented thinking, thus enhancing individual motivation to acquire new knowledge and skill sets.

Blended learning

Blended learning (BL) refers to an academic curriculum that combines traditional face-to-face instruction with web-based technologies. Combining these components optimizes both environments in ways that are not realized by other approaches (see Table 1).[13]

Learning environments are discernibly transformed when participants are together (part of a community of learners) and apart (communicating from anywhere and at any time without situational constraints).[14] The *Institute* graduate certificate program provides a face-to-face enhanced distance learning curricula that allows for flexibility for adult students to engage with the graduate course content online as well as in places convenient to them, but also bringing them together at critical points during the delivery of the curricula. Mentoring team activities are both face-to-face and technology assisted. BL provides for a good fit for adult learners who prefer self-directed approaches to education.

Methods

Approach

The *Institute* is led by an executive committee that embraces multidisciplinary perspectives and is informed by nationally known content experts in behavioral health services research, policy, and services delivery fields.

Faculty from two colleges (Behavioral & Community Sciences; College of Public Health) within the University of South Florida serve as academic mentors who work together with community-based providers. Academic mentors help to ensure the *Institute* curriculum embraces a multidisciplinary perspective and stays abreast of extant issues relevant to the behavioral health field. They also help to ensure that scholars can successfully apply the skills of research so their service learning projects are developed with attention to guidelines for sound research. For example, academic mentors may review the Institutional Review Board (IRB) application or set up seminars with scholars to review and recommend methods for data collection and analysis for their service learning research projects.

Academic mentors and the executive committee are supported by national mentors who together ensure a critical learning experience in the translation of evidence-based science to the provision of services to adolescents with mental and substance use disorders. National mentors are experts in areas including adolescent drug abuse, mental health, translational research, implementation science, juvenile criminal justice, cultural diversity, applied research, and services delivery for special populations and underserved groups. The multidisciplinary nature of the executive committee and faculty are reflective of the

commitment to a true multidisciplinary partnership and a national perspective for education and training.

As seen in Figure 2, supporting the work of the *Institute* executive committee is the national advisory board (NAB). The NAB is drawn from national experts in behavioral health and translational research, and reflect a multidisciplinary approach to behavioral health education training. Through semi-annual meetings and teleconference calls, the NAB provides expert consultation in all *Institute* research initiatives, including the state of implementation science, co-morbidity of substance use and mental disorders, translational research, training in clinical and services research, and minority recruitment and participation. The NAB also reviews curricula content and conference agendas to encourage innovation.

To ensure an integrated and multidisciplinary education experience, content experts and academic mentors actively collaborate with both the executive committee and *Institute* scholars. Content experts include locally and nationally recognized academicians, national behavioral health leaders, clinical practitioners, and administrative professionals with expertise in child and adolescent behavioral health.

Academic mentors are university-based faculty who team up with a local community partner agency to help maintain management and supervision of the research-oriented service leaning projects conducted by *Institute* scholars. The *Institute* academic mentors, the executive committee, content experts, and academic mentors collectively provide a learning experience tailored to the academic demands of the *Institute* program and contemporary issues in the field of translational science.

This multidisciplinary blending of university-based faculty, nationally known content experts, strategically selected community partners, and national mentors represents a training infrastructure uniquely positioned to address the complex educational issues associated with training young clinical and services researchers in the translation of evidenced-based behavioral health interventions for adolescents into real world community environments. Taken together, the activities of these groups ensure an active learning environment, integration of activities that take place at community partner sites, a state-of-the art curriculum focused on translational research and adolescent behavioral health, and the development of research service-learning projects that are relevant to the field and in keeping with the vision for services delivery of our community partners.

Curriculum

The *Institute* delivers the core curricula to scholars in the program through a newly developed *Graduate Certificate in Translational Research in Adolescent Behavioral Health Program*. This hybrid 15 credit graduate certificate program was designed to be completed online in conjunction with face-to-face learning experiences over four consecutive academic semesters. The program consists of three online courses (three credits per course) and three service-learning courses (two credits per course) relevant to translational research and adolescent behavioral health. The first cohort began in the Spring Semester, 2013.

The online courses were developed to disseminate knowledge and develop skills but also to better prepare clinical and services researchers for careers in addictions services research. All three courses are delivered through web-based technologies with learning strategies that are innovative and blended in two ways. First, there are three primary modalities for delivery of the research education curricula: 1) a distance learning curricula; 2) integrated mentoring teams; and 3) an annual research and policy conference. These modalities blend learning activities through a mix of web-based and distance learning strategies with more traditional face-to-face live lectures, active mentoring, and hands-on service learning.

Second, research education and clinical applications are blended within the graduate certificate program curriculum. The multidisciplinary mentoring teams are the primary example. These teams serve as the vehicle by which a bi-directional relationship between clinical research and clinical practice is understood. *Institute* scholars are mentored by both academic researchers and clinical services professionals on behalf of the community collaborating partners. These two groups act as partners in ensuring integrated curricula delivery. Course content, web-based lectures, and annual conference sessions are delivered by content experts and national mentors selected for their expertise in clinical services and research.

Course content and related research education activities are delivered through an integrated e-learning environment. It is a technology-driven learning approach incorporating real-time as well as asynchronous educational activities through state-of-the-art web-based learning platforms. Local participating instructors and national mentors provide a variety of educational modalities in both group and individual formats, including a web-based lecture series, discussion groups, case studies, and independent reading assignments. Delivery of course content relies on internet-based audio and video content, podcasts, and other virtual classroom methods. Special support needs for distance-learners are acknowledged and curricula leaders and instructors utilize discussion forums, email, and teleconferencing to ensure student engagement and support. Course content provides the platform for educational and research experiences for *Institute* scholars who are clinically or services research focused in their academic and career development.

The content of the three graduate certificate courses address basic material in the following areas:

Course I: Foundations in Adolescent Behavioral Health—This course provides scholars with the fundamental underpinnings of epidemiology in child and adolescent drug abuse; core concepts in and application of biostatistics; the neurobiology and social neuroscience of mental, emotional, and behavioral disorders in at-risk adolescent populations; genetic/environmental vulnerability; and drug abuse surveillance and data usage.

Course II: Translational Research Methods in Adolescent Behavioral Health— Course II provides *Institute* scholars with knowledge of basic health research and translational research methodologies, the fundamentals of implementation science,

measurement issues relevant to adolescent behavioral health services research, research ethics, and protection of human subjects.

Course III: Advanced Research Education in Adolescent Behavioral Health— The third course provides scholars with special topics in evidenced-based practice, advance topics in translational research and implementation sciences, adolescent developmental risk and resilience, and basic principles of community-based participatory research. These three graduate certificate courses total nine credit hours. Figure 3 provides an overview of the program plan by semester.

Service learning

In addition to the three-course curriculum, *Institute* scholars also earn six credit hours for three service learning courses (*Service Learning in Adolescent Behavioral Health, I-III*). The three courses, taken consecutively are community-based, with time spent in the classroom limited to group discussions, progress checks, and problem solving meetings. The bulk of student time is spent working with behavioral health services agencies to plan and conduct an applied research or evaluation project relevant for enhancing the implementation, integration, or sustainability of EBPs in the community. Thus, scholars are provided an opportunity to apply their knowledge of implementation science in practice settings. The experience is based on recognition of the exigencies of services delivery in the real world where the ideals of best practice protocols and evidenced-based programs must meet the demands of politics, funding, community tolerance, organizational culture and capacity, and staffing competencies.

Consistent with the service-learning model, *Institute* scholars must acknowledge the reciprocal role of service learning. Projects are mutually defined, and the methodology is developed in close cooperation with agency mentors. The result is a project that is academically sound, cognizant of the current state of knowledge regarding implementation science, and relevant not simply to the needs of the organization, but consistent with the community agency's understanding and capacity, and the relevance of the use of EBPs in their unique functional system. Through the mix of classroom discussions and meetings, coordination of the agency's needs, and application of the implementation science base, the key components of the service-learning model are met. These include: a balanced and reciprocal learning emphasis; reflective learning in a shared environment; the civic relevance of improving services; and the integral role of community partners in defining research.[15,16]

The service learning experience is conceptualized as a *Capstone Project*, bringing together core curricula with service learning activities, and culminating in a presentation at the *Annual* (National) *Research & Policy Conference on Child, Adolescent, and Young Adult Behavioral Health* in Tampa, Florida. *Institute* scholar research groups have three semesters to conceptualize, plan, complete, and present their capstone projects. Their projects represent the development of applied research studies in content areas within translational research in adolescent behavioral health. The capstone projects are guided by executive team members, academic mentors, and representatives from community partner organizations. The projects represent the diversity and unique status of the agencies where the teams are working. As a result, projects may reflect very different aspects of the science and process of

dissemination and implementation of evidence-based practices; however, each project offers the opportunity to fulfill the agency's vision for services delivery while enriching the learning experience of *Institute* scholars.

In keeping with the academic commitments of the *Institute*, a final product of the service learning effort is adding to the body of knowledge in implementation science. Following the presentation of their research projects at the annual national conference in Tampa, *Institute* scholars spend the remaining semester preparing manuscripts for submission to peer-reviewed journals, and presentations at regional and national conferences. *Institute* scholars are also strongly encouraged, with the assistance of their academic mentors, to prepare a grant application for implementation of EBPs in community settings.

Program evaluation

Consistent with the federal grant requirements and the need for continuous quality improvement, a robust program evaluation effort is embedded in the research education model. The purpose of the evaluation is to provide ongoing formative feedback of the operations of each component of the *Institute* as well as a long-term outcome evaluation of the ultimate effectiveness of the program in training graduate student researchers and partners in the implementation, integration, and sustainability of EBPs in community agencies.

To achieve this, the evaluation methodology includes both process and outcome evaluations through four interrelated tasks during implementation and operation of the project: 1) conducting process evaluations to identify both initial and ongoing barriers associated with implementation and sustainability of the training processes and the community-based service learning experiences; 2) conducting proximal outcome evaluations of the service learning educational component, instructional courses, and the *Institute* scholar activities at the annual conference; 3) conducting proximal outcome evaluation relevant to the specific aims of the grant; and 4) conduct distal outcome evaluations of the long term training successes for participants associated with their completion of the institute and subsequent research careers.

The evaluation utilizes a mixed method approach of qualitative and quantitative methodology. Results of some of the qualitative data analyses are discussed here, and results of outcomes from quantitative measures will be reported following completion of data collection.

Process evaluation activities conducted throughout the implementation and operation of the project are designed to provide periodic performance feedback for purposes of continuous program improvement. This evaluative process is designed to focus on internal program issues and to review progress towards goals.[17] Process evaluation also informs the recruitment and retention of diverse participants. Data sources for the process evaluation include: 1) interviews with key stakeholders (academic mentors, content experts, representatives of community sites, and program participants); 2) resource reviews conducted by the executive committee to determine the match between curricula as developed and the existing and emerging educational needs; and 3) recruitment, retention,

and separation interviews to ensure that the program maintains a culturally sensitive and diverse recruitment strategy.

Important questions for the process evaluation are associated with establishing a strong program experience for scholars through continually reviewing and improving program processes. For example, some of the questions that have proven to be most pertinent to ongoing program improvement include: 1) how can strong collaborative partnerships be built and maintained with area agencies that provide service learning sites?; 2) how can the *Institute* continue to improve the recruitment of scholars, the establishment of teams, and the identification and selection of community sites?; 3) are appropriate strategies developed and feedback provided to address unforeseen barriers to recruiting and retaining diverse participants?; and 4) how can the *Institute* evolve to address the needs of scholars, community agencies, and academic mentors?

Outcome evaluation efforts are guided by the specific aims of the *Institute* and documentation of educational outcomes for scholars. Proximal outcomes of coursework, the service learning experience, and the annual conference include satisfactory completion of educational modules and activities provided in coursework and training events, demonstrated proficiency in the community-based service-learning project, and successful completion of the capstone project. To ensure the program of instruction and training is meeting the anticipated needs of the scholars, more qualitative feedback through annual interviews and participant evaluations will complement the quantitative measures of learning proficiency.

The second order proximal outcomes concentrate on the successful fulfillment of the aims of the grant. These proximal outcomes are subsumed under the larger evaluation of *Institute* efforts, but provide the broad framework from which the evaluation was organized. The specific grant aims include: 1) enhancing drug abuse research through the development of a curricula and partnerships for education in translational research; 2) providing a team mentoring program that prepares researchers on issues of child and adolescent drug abuse and co-occurring disorders; 3) fostering the development of drug abuse researchers with attention to recruitment from under-represented racial/ethnic groups; 4) evaluating the impact of the project with regard to the learning outcomes and career trajectories of scholars; and 5) disseminating program findings.

As described above, the specific aims of the grant required a consideration of both process and outcome oriented evaluations, with a clear emphasis on both the immediate experiences of the scholars as well as a longitudinal assessment regarding how their training experiences influenced their future professional careers. Quantitative and qualitative data assesses progress and accomplishments in enhancing and developing collaborative efforts between academic researchers and community-based agencies using the service learning model demonstrates proficiency in conducting research through a successful capstone experience, and measures the kind, quality, and amounts of training provided in course work and community sites. Annual interviews with each cohort will provide feedback for the continued evolution and improvement of the mentoring process. The application, recruitment, and retention rates for applicant pools will be analyzed with the dual purpose of

documenting successful efforts and for adjusting procedures to increase minority participation and retention across the life of the grant.

The career trajectories of the scholars will be annually assessed and through the subsequent three years by tracking research and grantsmanship as measured by professional presentations, peer-reviewed publications, and funded grant activities. Annual surveys to assess research productivity will be utilized to document the scholars' involvement in substance abuse research and the value and relevance of their training experience over time.

An anticipated ancillary outcome of the program will be the increased support and capacity of community partners for implementing and utilizing appropriate EBPs in service practice. Through continued collaboration with community partners, questions of interest will include: 1) what increases have occurred in co-occurring substance abuse research activities among community partners?; and 2) what expertise and research capacity has been developed among community scholars?

Preliminary results

The *Institute's* core aim is to foster the development of drug abuse researchers and practitioners. To this end, the *Institute* recruited 28 *Institute* scholars in the first two years. Institute scholars are either graduate students or practitioners working full-time in substance abuse and/or related community agencies. Another core aim is to foster the development of individuals from under-represented groups in the field, and to-date, the *Institute* has achieved this goal, with 32% of scholars identifying as members of a racial or ethnic minority group, with 89% being female. The program also has been a successful initiative in attracting Institute scholars from diverse academic disciplines, including scholars representing the fields of criminology, nursing, public health, behavioral health, school psychology, social work, and rehabilitation/mental health counseling.

Institute scholars provide feedback regarding their expectations of and experiences in the *Institute* through surveys and in-depth interviews. One goal of program evaluation is to identify barriers as well as opportunities in efforts to successfully recruit and retain diverse scholars. The first two cohorts of scholars completed a *Scholar Feedback Survey* in their second semester of the program. Among the first cohort of survey respondents (n=11), research experience and service learning opportunities were items most identified as important or very important in the decision to become an *Institute* scholar (100% and 91%, respectively). Tuition waiver was the third most identified reason for applying to the *Institute*, with 73% of scholars identifying this as important or very important.

The second cohort of scholars (n=9) identified research experience as the primary reason for their decision to apply to the *Institute* graduate certificate program, with 100% identifying this as very important. Further, 100% of the second cohort respondents identified the service learning experience as important or very important in their decision to apply to the *Institute* and 89% indicated the availability of academic mentors and a tuition waiver as important or very important in their decision to apply to the *Institute* graduate certificate program.

Scholars were also asked to provide comments on what should be emphasized about the *Institute* graduate certificate program in future recruitment efforts. Their comments included: 1) the importance of the opportunity to work closely with community partners and academic mentors; 2) partnerships with the community organizations; 3) the opportunity to present findings at a national conference; and 4) research opportunities that arise from service learning as well as the service learning experience being in community settings. In fact, service learning and community partnerships were mentioned in six of the 10 individual comments that were provided by the first cohort of scholars.

The second cohort of scholars also provided comments on what should be emphasized about the *Institute* graduate certificate program in future recruitment efforts. This group of scholars remarked about the hands-on research experience, the opportunity to work in a multidisciplinary setting, the opportunity to conduct research with community organizations, gaining research experience in graduate school, and the opportunity to work with community mentors and community agencies. For the second cohort of scholars, tuition waiver was mentioning in five of the nine individual comments provided.

In sum, surveys to date have shown that scholars are identifying the research experience through real-world community service learning opportunities as key factors in their decision to apply to the *Institute* graduate certificate program and as features they would recommend the *Institute* to pursue in future scholar recruitment initiatives. The availability of tuition support is identified as valuable but not ranked as the most important reason for scholar interest in the *Institute* graduate certificate program for either cohort.

Feedback from the first two cohort of scholars has been used to enhance scholar recruitment. The *Institute* executive committee has since developed a plan for recruitment efforts to include testimonial videos in which *Institute* scholars share the benefits of their applied community research experiences. These testimonial videos allow the *Institute* to highlight the academic and career-related successes of *Institute* scholars.

Another aim of the *Institute* is to enhance drug abuse research education. To date, the *Institute* Graduate Certificate program is the only USF graduate certificate program focused on translational research. The coursework is the result of the combined effort of over 20 content experts across a variety of academic disciplines. In addition, as a result of their involvement in the *Institute*, faculty members on the *Institute* executive committee developed a new *Master of Science Degree in Child and Adolescent Behavioral Health* program with a *Translational Research & Evaluation* Concentration.

The implementation of the *Institute* graduate certificate program has not been without challenges. For some *Institute* scholars, the online method of presenting graduate coursework has proven difficult and required additional time and effort by *Institute* faculty to help navigate the technology. Additionally, some *Institute* scholars are practitioners within community-based agencies. Adjusting to the demands and structure of graduate level coursework has proven challenging. To address these concerns, the *Institute* is exploring alternatives to the manner in which course content is provided to practitioners versus graduate students, with the intention being to encourage their involvement in translational

research and services research training. Options are being explored for future iterations of the *Institute* graduate certificate program to address these issues including offering course content as short courses or as webinars so practitioners can earn profession-based continuing education credits.

Evaluation outcomes have shown that a key motivator to enrollment in the *Institute* graduate certificate program is the opportunity to engage in research activities in community settings though service learning projects. In order to gauge scholar satisfaction with the overall service learning experience, scholars were surveyed for their input into service learning activities. Results suggest that scholars may be more likely to engage in translational research experiences in the future as a result of their service learning experiences. *Institute* scholars identified the dual benefit of service learning projects as a means to learning course content while also making contributions to the community agencies.

Aspects of the service-learning program may require adjustment going forward. For example, journaling was encouraged in year one as a way to chronicle scholar experiences. *Institute* scholars did not find journaling useful to their productivity. Scholars also indicated a need for more "hands-on" assistance with the Institutional Review Board application process than was originally anticipated. There were mixed results as to whether scholars felt they were adequately trained and supervised by their community partner agency. Strategies for tailoring these relationships to meet scholar needs, such as improving flexibility in the interactions of research teams with community partners and increasing accessibility to community partners are being investigated. In addition, more guidance on the expectations for scholar mentorship by community partner agencies may help resolve scholar concerns about the need of support from their community agency.

Academic mentors and community partners participated in program evaluation through in-depth interviews. From their perspectives, the design of the service-learning program was beneficial in many ways; however, challenges were also identified. Community partners identified flexibility as being key to the program's success, since projects could be tailored with respect to each agency's timeline and level of operational support. However, some agencies wanted additional guidance regarding the scope of their projects in order to ensure the research was feasible for the given timeline. Academic mentors also identified the need for additional guidance in their roles as mentors while at the same time expressing appreciation the program allows for each mentor to provide guidance in a manner to which they are accustomed. Based on this feedback, the Institute executive committee have been more involved in the service-learning projects to provide guidance on project feasibility and role expectations.

Program evaluation results have also shown that scholars have experienced issues in the service-learning project related to logistics, team dynamics, and personal relocation. Given existing work, graduate school, and life commitments, timely communication and ability to meet were issues for some *Institute* scholar teams. In addition, some teams had more difficulty identifying roles and responsibilities of each member causing some team dynamic concerns. In response to these concerns, the *Institute* has integrated team dynamics into the curriculum. Additionally, in year two, some *Institute* scholars have relocated out of the area.

In response, the *Institute* is exploring strategies for offering the service-learning component via a fully distance-learning forma. The ability to complete the service-learning requirement through distance-learning may also increase the applicant pool and create additional diversity amongst *Institute* scholars.

Additional aims of the *Institute* include influencing the career trajectories of program participants and the dissemination of program findings. *Institute* scholars from the first cohort credit the *Institute* with assisting in their obtainment of new employment opportunities in the behavioral health (and more specifically, substance abuse) field. The ability to discuss translational research and their applied experience strengthen their applications for employment. *Institute* scholars also identify their involvement in the *Institute* graduate certificate program as encouraging their desire to seek a career in translational research. Long-term follow-up to track career trajectories is planned.

To encourage dissemination of program efforts, the *Institute* provides a mechanism to attend national conferences and technical assistance on manuscript development. The *Institute* begins and ends the graduate certificate program with scholars attending the *Annual* (National) *Research & Policy Conference on Child, Adolescent, and Young Adult Behavioral Health* in Tampa, Florida. The *Institute* provides a full track focused on translational research at the annual conference. Scholars in the first year of the program attend the conference as an educational and networking opportunity. The *Institute* creates a full schedule of events specific to the *Institute's* mission. In their second year, scholars present the results of their service learning projects at the annual conference. In addition, cohort one scholars have presented their work at four other national conferences and six local events. The local events created a great feedback loop to get the results of the scholars' research efforts back to the community agencies for their immediate use. The *Institute* also provides a manuscript workshop for *Institute* scholars in the last semester of the *Institute* graduate certificate program. The manuscript workshop provides guidance on manuscript preparation and journal selection, with the expectation for *Institute* scholars to submit a manuscript for publication based upon their service-learning projects.

Implications for Behavioral Health

The emphasis of the *Institute* is the development of an innovative research education program in translational research in child and adolescent behavioral health. To date, the *Institute* has seen the successful completion of its first and second cohorts of *Institute* scholars. This directly and positively impacts the preparation of new researchers in the field of child and adolescent behavioral health and teaches the scholars skills of translational research and implementation science that are imperative to effective adoption of EBPs in community settings. Community partner agencies, all of which provide behavioral health services to children and adolescents and their families, are utilizing the results of service-learning projects to influence agency operation. Academic mentors have either created or strengthened relationships with these community agencies as a result of their participation in the *Institute*.

The *Institute* graduate certificate program continues to evolve to meet the dynamic needs of *Institute* scholars, community partners, and academic mentors. Programmatic changes have been implemented to address the recruiting and retaining of a diverse group of *Institute* scholars. In addition, future iterations of the program will seek to expand options for distance learning for service learning and alternatives to traditional graduate education for community-based scholars. The *Institute* also anticipates increasing the capacity for additional community partner agency participation, creating new partnerships with other child and adolescent behavioral health organizations inside as well as outside the Tampa Bay area.

Acknowledgments

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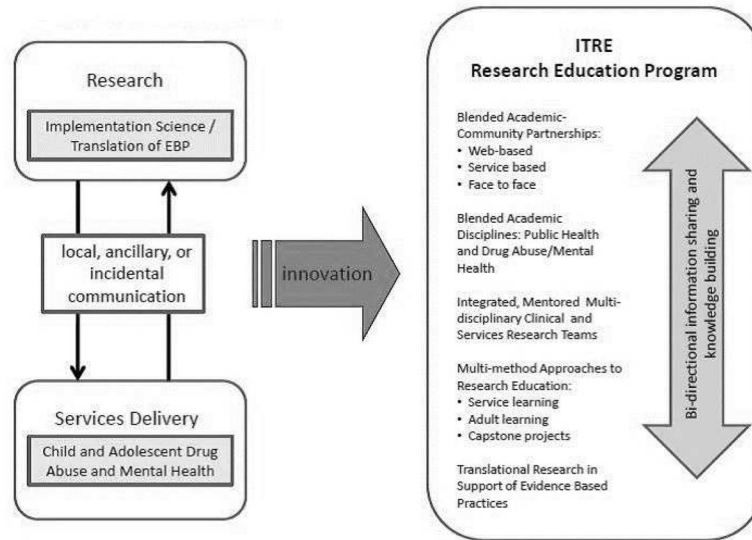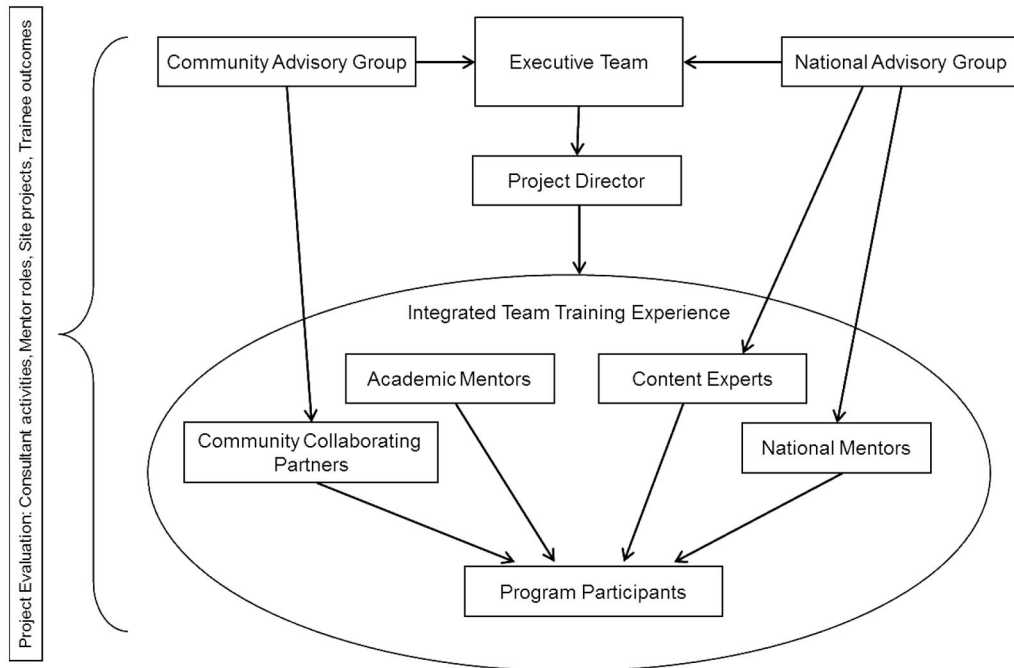
Figure 1.
Paradigm Shift

Figure 2.
Organizational Structure
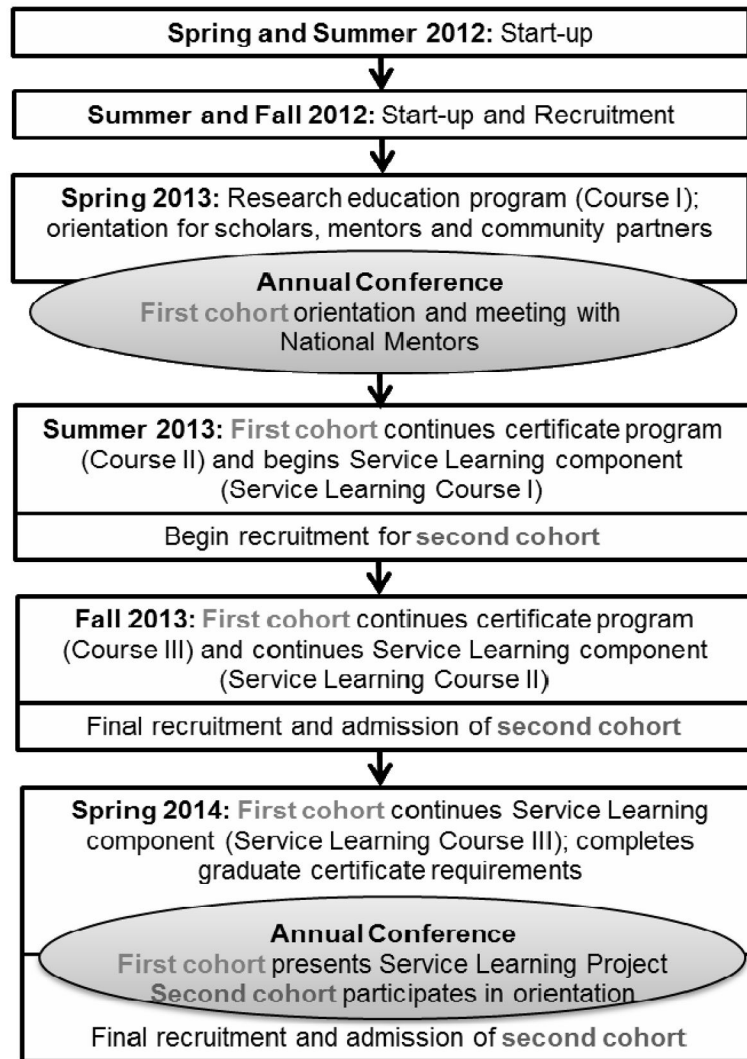
Figure 3.
ITRE program plan by semester

Table 1

Benefit of a Blended Theoretical Approach for Key Stakeholders

	USF	Program Participants	Community Partners
Theoretical Component			
Service learning	• enhance curricula and extends it beyond the lecture hall • contextualizes learning • enhances the career-building component of research education	• emphasizes critical relection and thinking • contextualizes learning • enhances the career-building component of research education	• responds to community identified concerns for research education • relies on task-oriented learning approaches in line with partner organization's vision for research • introduces research education to practitioners and clinical researchers • sets up for adoption of EBPs
Adult learning theory	• advances and innovative aproach for adult learners	• allows for self-directed approaches to learning	• allows for self-directed approaches to community-based research
Blended learning	• establishes and evaluates an innovative learning framework • advances the commitment to a web-based approach for distance learners	• eliminates time, place and situational constraints on access to the curricula, personnel, and other participants	• encourages participation and interaction of community partners with the university/resear ch environment • promotes flexibility of learning environment (time, place, etc.)