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Closing the Research to Practice Gap in Therapeutic Residential Care: Service Provider–University Partnerships Focused on Evidence-Based Practice

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Abstract

Residential care has been criticized for its high cost and limited research evidence. While recent studies and reviews of the literature suggest that a number of evidence-based practices are being implemented in residential care settings, more research is needed to develop and test empirically based practices that can be successfully implemented in residential care. In this article, we offer a promising strategy to address this issue: a long-term research partnership between a large service provider agency and a university-based research center to conduct a program of research which has resulted in translation of evidence-supported practices into service provider programs, contributions to the science of residential care, and training opportunities for young applied scientists to specialize in this important work. This evolving program of research includes four core applied research topic areas in which this collaboration has had some ongoing success: program and practice implementation fidelity, therapeutic process factors, aftercare, and psychotropic medication use. We suggest that this type of long-term collaborative research partnership is an approach for others to consider for conducting research that informs effective residential care practices.

Keywords

therapeutic residential care, evidence-based practice, program implementation, aftercare, psychotropic medication, research partnerships

Residential care continues to be a significant sector in child and family services in the United States and across the world (Thoburn & Ainsworth, 2015). Current estimates for the United States indicate that there were more than 50,000 youth served in these settings in 2013 (U.S. Department of Health and Human Services, 2015). These youth tend to have more significant risk factors than youth treated in less restrictive placements. For example, a study by Pottick, Warner, and Yoder (2005) found that approximately 63% of youth in group care settings had dual clinical diagnoses compared with 50% of those in foster care; 30% in group care and 12% in foster care attempted or threatened suicide; 21% reported substance abuse compared with 10% in foster care; and 57% of youth in group care had impaired psychological and social functioning compared with 40% in foster care. In addition, the prevalence of serious emotional and behavioral problems among children in residential care settings appears to be on the increase (Duppong Hurley et al., 2009). Studies have also suggested that children served in residential settings have significant risks in other areas such as educational disabilities (Trout, Hagaman, Casey, Reid, & Epstein, 2008; Trout, Hagaman, Chmelka, et al., 2008) and physical health problems (Nelson et al., 2011). While many high-risk youth are served in residential care, during the past two decades there have been numerous concerns voiced regarding residential care such as the high cost of care, minimal development of residential theory and research evidence, general lack of integrating family and community supports, unclear youth placement criteria, minimal aftercare services, and possible iatrogenic effects (e.g., Annie E. Casey Foundation, 2010; Dozier et al., 2014; Lee & Thompson, 2009). Despite these pressing questions, limited research has been conducted about evidence-supported

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practices in residential care for youth. For example, a recent survey of residential care providers indicated that evidence-based practices are being implemented in residential care settings (James et al., 2015), but relatively few studies have been done regarding the efficacy or implementation fidelity of these practices in residential care (James, 2011; James, Alemi, & Zepeda, 2013). The most promising evidence-supported models developed specifically for residential care include the Teaching-Family Model (Thompson & Daly, 2015; Wolf, Kirigin, Fixsen, Blase, & Braukmann, 1995), the Sanctuary Model (Bloom, 1997), Positive Peer Culture (Vorrath & Brendtro, 1985), and the Stop Gap Model (McCurdy & McIntyre, 2004), according to the scientific reviews of the California Evidence-Based Clearinghouse for Child Welfare (www.cebc4cw.org). Given the urgent questions surrounding the effectiveness of residential care and the fact that thousands of youth are receiving such care daily, it is of utmost importance to empirically examine the services provided to youth in residential care. Therefore, experts are calling for an international research agenda focused on therapeutic residential care (TRC; Whittaker et al., 2016—see commentary article by Whittaker in this issue which provides a working definition for TRC).

Service Provider–University Partnerships

We suggest that a promising approach to address the pressing need for research focused on residential care issues is to develop partnerships between service providers and university research centers to conduct rigorous research that promotes translation of findings directly into residential care practice settings. This is not a new idea, and there are extant examples of service providers and external researchers partnering to do high-quality research that has direct implications for practice settings. A recent example is the development and rigorous testing of an intervention designed to support the transition of youth in foster care and juvenile justice custody to adult independent living (Jacobs Valentine, Skemer, & Courtney, 2015). In this example and in our own experience (e.g., Lee & Thompson, 2009), most of these partnerships have been focused on specific projects. Building on the experience of some of these successful collaborative projects, we would instead suggest partnerships focused on the development of a planful, long-term program of research. We will describe such a long-term partnership which has been in place for over a decade and is based on the following dimensions: mutual respect for both research and practice, joint decision making about research priorities, a focus on incremental growth over time, routine and frequent contact between scientists and practitioners, the sustainability of the partnership over time, and a focus on training and development of applied scientists (Duppong Hurley et al., 2010).

The service provider organization in this partnership is Father Flanagan's Boys Home, commonly known as Boys Town. Boys Town is a large agency, directly serving more than 1,500 children in residential care annually in 10 states and the District of Columbia. In total, Boys Town serves more than 30,000 youth and their families annually across an integrated continuum of care, in which services range from psychiatric residential treatment to family- and community-based interventions. TRC has always been the core service in this continuum. Boys Town has also had an active internally funded research department for the past 25+ years focused primarily on program development, evaluation, and scale-up.

The university research center is the Academy on Child and Family Well-Being at the University of Nebraska-Lincoln (UNL), formerly called the Center for At-Risk Children's Services. This Academy is housed in the College of Education and Human Sciences, and has been in place for nearly two decades. The primary focus of the Academy has been on applied research related to educational and community-based interventions for children and families with emotional and behavioral challenges. The UNL Academy came to the partnership being led by an experienced and productive professor and a staff of research faculty who as a group had a track record of successfully competing for and conducting federally supported applied research with at-risk children and families.

Boys Town brought deep program experience, a research-informed care orientation, extensive program data (psychosocial, administrative, clinical), and experienced applied researchers to the partnership. In addition to their applied research experience, the UNL Academy brought university resources (e.g., library services, graduate student time) not available at Boys Town. Boys Town and UNL began the partnership by jointly funding an initial research faculty position at the university to begin to focus on preliminary studies related to residential practice until grant funding could be obtained to support this and additional positions. UNL also committed staff time from other faculty to work on these pilot studies and grant proposals. This provided an immediate increase in research capacity for Boys Town and an opportunity for the university to conduct research that would directly affect children and families on a large scale.

At the beginning of the development of this integrated program of research, we experienced a period of a couple of years settling on areas of focus for the research which could attract federal funding and also be translated into improved practice. Some ideas were pursued only to be discontinued without much productivity. One of the most critical features of this partnership which helped us persist was the identification of research questions which came from both practice issues and research literature related to residential care and youth with behavioral-emotional challenges. Early on, we also recruited an advisory panel of prominent scientists

from the fields of residential and foster care, child welfare, child and adolescent behavioral health, education, juvenile justice, and parent and family intervention. Panelists were asked to provide advice about promising research directions, scientific collaborators, opportunities for development of new programs or practices, and potential research funding sources. This consultation occurred in both individual meetings with panelists and on-site group meetings. Scientists, practitioners, and organizational leaders attended these meetings, and later served on study advisory and oversight committees. This helped to focus research questions on what would mutually advance the field of residential care for children and youth and specific programs offered by Boys Town. Two of the most prominent areas of research for this partnership came out of these meetings—program implementation fidelity, and the development and testing of an aftercare intervention for youth and their families departing from residential care to a family setting.

Researchers and practitioners continued to identify other lines of research developed from these conversations in the areas, including therapeutic process factors, academic and physical health risks and interventions, and psychotropic medication use for youth in residential care. These areas of research focus have evolved into what we consider a long-term program of research that continues today. This collaboration between university scientists, research staff and students, provider-based research staff, and agency practitioners continued through frequent telephone conversations, joint on-site meetings about specific research projects, research planning meetings, and periodic reports to executive leaders in both organizations. In addition, collaboration has included jointly authored journal articles and conference papers, joint planning and preparation of grant proposals, and ongoing consultation with scientists and practitioners outside of our group. In this way, both practitioners and applied scientists have made important contributions to the design of studies that would potentially affect practice. Because the provider organization was involved in practice across a wide scale, there was also ample opportunity to field test intervention programs and practices developed from the research. Finally, Boys Town practitioners provided services during intervention studies to help guide and facilitate potential applications to practice settings.

This represents a level of collaboration not often found in university research settings or practice-based agencies. In our experience, this does require researchers to be present on a regular basis in practice settings and practitioners to have the opportunity to be directly involved in designing and conducting research projects. Likewise, practitioners benefit from learning about the latest research developments in the field and innovative methods to gather empirical data on service delivery. It also requires patience on the part of both scientists and practitioners, as research and practice frequently involve different values, priorities, approaches, and goals.

Another critical feature of this partnership has been transparent discussions about research priorities, finances, and staff time commitments. In addition to the frequent in-person communication, this required some ongoing financial contributions from both organizations. The benefits to both partners, however, include increased research funding, development of new interventions and practices to improve youth outcomes, and the opportunity to fuel growth in services with research evidence. For example, Boys Town more than doubled the numbers of children and families served during this partnership, a major strategic goal supported by this research. In an effort to clarify terms of the partnership for both agency and university leaders, a Memorandum of Understanding between the two organizations was first executed in 2010, and then renegotiated as an official interagency contract in 2015. This newest agreement includes a small amount of salary support for Academy leadership provided by Boys Town, but this has been more than replaced by increased research capacity and grant funding for both partners.

A final feature that was important to this ongoing collaboration was a consistent emphasis on the mutual benefit for both organizations. The primary benefits for the provider organization include increased research capacity, externally directed program evaluations, and research funding. For the university, the partnership provides a unique opportunity for conducting applied research that directly benefits children and families on a wide scale. This partnership also provides both organizations with an opportunity to train students in applied research. One example of this is that two funded grants were awarded to the university from the Department of Education's Institute for Educational Sciences (#R324B160033, #R324B1100001) to support post-doctoral fellowships for early career applied scientists. Another is that two of the Boys Town clinical staff earned doctorates at the university and continue to be involved in the partnership as applied scientists.

Although the collaborative research produced during this partnership has been expanded to also include family- and community-based interventions, the partnership began with a focus on research about residential care, and this focus continues today.

TRC Practice Setting

Before outlining the dominant lines of research generated during this partnership, we will first describe the Teaching-Family Model and some of the research and practice development previously conducted on this model. The Teaching-Family Model, which has been adapted and scaled up at Boys Town sites, continues to be the core model upon which this collaborative research is based. This model was developed and initially tested nearly 50 years ago at the University of Kansas in an applied research setting called Achievement Place (Phillips, 1968). The focus was on the

development of a community-based alternative to detention for youth served in the juvenile justice system. The intervention occurs in a family home setting with highly trained and supported married couples called Family Teachers serving as the primary treatment agents. Results of the early research on this model suggested positive pre–post treatment outcomes for reducing delinquency (Kirigin, Wolf, Braukmann, Fixsen, & Phillips, 1979; Phillips, Phillips, Fixsen, & Wolf, 1971), but post-discharge effects were mixed. However, follow-up studies at Boys Town have indicated significant long-term treatment effects (Friman et al., 1996; Huefner, Ringle, Chmelka, & Ingram, 2007; Ringle, Ingram, & Thompson, 2010; Thompson et al., 1996). Also, in a more recent National Institute of Mental Health (NIMH)-funded quasi-experimental study of the Teaching-family Model in North Carolina, results indicated that youth served in Teaching-Family Model homes continued to improve after discharge compared with youth in a comparison group of homes using a more eclectic approach, whose problems did not improve after discharge (Farmer, Seifert, Wagner, Burns, & Murray, 2016).

The first successful, large-scale replication of this model began at Boys Town in the 1970s (Fixsen et al., 1978), and it is still implemented there today. The primary program model elements are teaching skills, building healthy relationships, motivation systems (token economy), creating a positive family environment, and promoting self-determination. At Boys Town, a model element relating to religious practice and spiritual development was added; training, supervision, and data support systems were developed, and the program was scaled up at sites around the country (Thompson & Daly, 2015). This adaptation of the model is called the Boys Town Family Home Program.

The Teaching-Family Model has also been implemented at numerous other agencies across the United States and internationally, and ongoing program implementation and scale-up are supported by a national provider organization called the Teaching-Family Association (www.teaching-family.org). The model is also rated as having promising research evidence by the California Evidence-Based Clearinghouse for Child Welfare (www.CEBC4CW.org) and the National Registry of Evidence-Based Programs (NREP; www.nrep.gov). The Boys Town Family Home Program is also rated as having promising research evidence by the Office of Juvenile Justice and Delinquency Development Model Programs Guide (www.crimesolutions.gov).

Dominant Lines of Research Related to Residential Care

Lines of research evolved over time during this partnership as they do in any applied research effort. First, because Boys Town had already scaled up the program to sites across the country, there was a keen interest in implementation science from the beginning. Second, studies had suggested positive outcomes, but there was not a body of knowledge about which program components or practices were related to positive youth outcomes. Finally, there was an interest on the part of both researchers and practitioners related to developing new or modified interventions and practices that would enhance youth outcomes. The following paragraphs summarize this research along with some practice applications that resulted from this ongoing program of research that continues to evolve today.

Fidelity of Implementation

A natural topic for the research collaboration was implementation fidelity. Because of the complexity inherent in implementing the Teaching-Family Model and because model fidelity is a fundamental assumption for testing model effectiveness and efficacy, we felt that it was important to supplement outcome evaluation studies with studies focusing on implementation strategies and intervention components which may be related to youth outcomes. A grant from the NIMH (PI: Duppong Hurley; #R34 MH080941) was obtained to pursue this line of research. Effective implementation of interventions requires the presence of many factors such as an operationally defined and manualized intervention, effective staff training, staff and administrative support for the intervention, organizational readiness to change, supervision and technical assistance, feedback mechanisms to monitor ongoing program fidelity, and a plan for sustainability (Dane & Schneider, 1998; Elliott & Mihalic, 2004; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). One key component is program fidelity, which includes many multi-faceted and measurable aspects such as (a) adherence, (b) dosage, (c) quality of program delivery, (d) participant responsiveness, (e) program differentiation, (f) monitoring of comparison groups, (g) program reach, and (h) adaptation (Dane & Schneider, 1998; Durlak & DuPre, 2008).

Boys Town staff had developed a suite of program implementation practices, but limited research had been conducted to test and improve these practices. To better understand the fidelity of program implementation (including adherence and quality of program delivery) of the Teaching-Family Model in residential care settings, a comprehensive method for assessing treatment fidelity was developed, including youth fidelity ratings of their homes, supervisor fidelity ratings of staff, staff self-ratings of fidelity, independent reviewers' ratings of fidelity based on in-person observation, and fidelity of implementation based on records review of the utilization of the token economy system, a core program component.

In addition to measuring fidelity from multiple perspectives, we wanted to examine the relationships between various measures of fidelity and youth outcomes. Our primary

hypothesis was that higher ratings of fidelity would be related to improved youth outcomes, but we also anticipated differences between measurement approaches. One of our most important findings was that the implementation of the token economy system, especially in regard to the percentage of positive reinforcement/praise statements to corrective statements, was predictive of positive youth mental health outcomes during care (Gross et al., 2015). This finding suggests that "catching kids being good" is a critical component of the Teaching-Family Model related to positive outcomes. However, it may also suggest that youth who are better able to follow program expectations are more likely to receive positive statements from staff.

When examining supervisor ratings of staff, surprisingly, we did not find a relationship to youth outcomes. Examining the data more closely, we realized that there may be a confounding of supervisor ratings based on supervision units (Duppong Hurley, Lambert, & Van Ryzin, 2013). Family Teachers are grouped into one supervision unit. We observed that some teams or units have a culture of very high expectations, which corresponded to relatively low implementation ratings. In other words, a supervisor who has high expectations for her team may have rated the performance of all team members lower than other supervisors rating their team members. This suggested to us that using supervisor implementation ratings of direct care providers may be useful inside a team, but it may not be valid when comparing across units. Ratings of independent observers were also not predictive of youth outcomes during care (Duppong Hurley, Lambert, Van Ryzin, Sullivan, & Stevens, 2013). While there was variability in the ratings from observers, overall, the ratings were largely acceptable and reflected high levels of implementation; thus, it might be that once a certain threshold of fidelity is achieved small variations are not predictive of improvements in youth outcomes. Finally, youth ratings of fidelity were predictive of positive youth outcomes; however, the fidelity ratings were also highly correlated with youth ratings of therapeutic alliance with staff (Duppong Hurley, Lambert, Gross, Thompson, & Farmer, 2017). It is interesting that the youth ratings of fidelity were the only ones predictive of youth outcomes. Therefore, it seems especially important to collect data about youth voices regarding the quality of care they receive, and it may be important to supplement implementation ratings with measures of therapeutic alliance.

Therapeutic Process Factors

Another key area of focus for the research collaboration was the examination of factors between the youth and treatment providers that may affect treatment outcomes, referred to as common therapeutic process factors (e.g., Karver, Handelsman, Fields, & Bickman, 2005). The quality of treatment implementation is likely influenced by common therapeutic process factors such as the participants' engagement or support for the intervention (Dane & Schneider, 1998; Dusenbury, Brannigan, Falco, & Hansen, 2003), motivation to change (Broome, Joe, & Simpson, 2001; R. M. Ryan, Plant, & O'Malley, 1995; Schroder, Sellman, Frampton, & Deering, 2009), client satisfaction with the treatment (e.g., Donabedian, 1988; Fixsen et al., 2005), and the working relationship or rapport between the clinician and client (Donabedian, 1988), commonly referred to as therapeutic alliance or therapeutic relationship. In adult populations, there is evidence that the quality of therapeutic alliance can play a large role in subsequent outcomes, perhaps accounting for as much as 30% of the variance in adult treatment outcomes (M. J. Lambert & Barley, 2002). A recent review of 23 studies of therapeutic alliance with youth also found modest support for the importance of therapeutic alliance in relation to youth outcomes (Shirk & Karver, 2003). Moreover, a recent meta-analysis found support for the role of common therapeutic process factors in youth treatment outcomes, such as therapeutic alliance, youth willingness to participate in treatment, counselor interpersonal skills, and youth client participation (Karver, Handelsman, Fields, & Bickman, 2006). While these reviews are promising, the literature is just beginning to emerge examining processes related to treatment process factors with youth (e.g., Karver et al., 2005). Given that youth in residential care spend a substantial portion of their day with their treatment providers, the relationship between these treatment process variables to client outcomes may possess even greater relevance.

The first step in our research about therapeutic process factors was to examine the psychometric properties of assessments to see if measures used in outpatient settings performed adequately with youth in residential care. For example, our research has found that a motivation to change scale largely worked in a similar fashion for youth entering residential care for conduct disorders as it did for youth in outpatient settings (M. C. Lambert, Duppong Hurley, Athay Tomlinson, & Stevens, 2013). However, there was a surprisingly low correlation among the subscales assessing readiness for treatment and problem recognition compared with outpatient studies. Perhaps youth entering residential care may observe that they have problems, but they may not be in agreement with the adults in their life that being placed in residential care is the preferred treatment option. Likewise, we found that the Peabody Treatment Progress Battery youth and staff assessments for therapeutic alliance (Bickman et al., 2010) had adequate psychometric properties when used in residential settings; although the correlations between youth and staff ratings of therapeutic alliance were somewhat low (Duppong Hurley et al., 2013).

We have also begun to explore the relationship of therapeutic alliance to youth behavior. To date, there have been a few descriptive studies describing the therapeutic

relationships in traditional residential care (Moses, 2000; Zegers, Schuengel, van IJzendoorn, & Janssens, 2006) and wilderness camp settings (Bickman et al., 2004; Manso, Rauktis, & Boyd, 2008). We found some evidence that changes in therapeutic alliance in early months of residential care were related to youth behavioral outcomes at 6 months into care, but the results were not replicated when looking at 12-month youth outcomes (Duppong Hurley, Van Ryzin, Lambert, & Stevens, 2015). We find it intriguing that improvements in therapeutic alliance between youth and Family Teachers were related to improved outcomes, especially when considering that the services include youth living in a village with about 400 other youth, attending the Boys Town High School and interacting with many other service providers (e.g., counselors, teachers, coaches). In a previous study, ratings of therapeutic alliance between Boys Town youth and on-campus outpatient behavioral health therapists found that therapeutic alliance only accounted for 3% of the variance in youth outcomes (Handwerk et al., 2008). These findings suggest that assessing youth perspectives of therapeutic alliance with direct care staff may provide the most helpful insight into one of the key factors related to improved outcomes and the experiences of youth in residential care in general.

A core practice in the implementation of the Teaching-Family Model is the use of consumer satisfaction surveys completed by youth. Given the findings from this research regarding the shared variance of implementation fidelity and therapeutic alliance, Boys Town added a condensed version of the youth implementation rating scale, also including items related to therapeutic alliance to better understand youth perceptions of services. In addition, supervisors were encouraged to use these youth ratings to help them coach Family Teachers both in model implementation and in adult–youth relationship development, another core component of the model. The results of this line of research have also continued to strengthen the emphasis on relationship development in the training, supervision, and evaluation of Family Teachers and supervisors. Future research is needed, however, to better understand the interplay between common therapeutic process factors, fidelity of program implementation, and the relationship to youth outcomes. We begin to explore this complex issue (Duppong Hurley et al., 2017) within this special issue on evidence-based practice in residential care. Clearly, therapeutic process factors are promising predictors of youth outcomes, but more research is needed to better understand their potential to improve youth experiences during residential care and their eventual outcomes following their stay.

Aftercare

Another excellent opportunity for this research collaboration was to respond to the oft cited concern that youth leaving residential care (and indeed, all out-of-home care programs) lack needed supports to be successful when leaving care. This is seen in evidence demonstrating high reentry rates of children following discharge from residential care. Specifically, while some youth successfully transition back into the home and community setting, follow-up studies have found that as many as 75% report additional out-of-home placements or other placement disruptions (McMillen, Lee, & Jonson-Reid, 2008; Narendorf & McMillen, 2010). These findings are discouraging as there is little to no funding for aftercare services, and the effects of placement instability have a clear and negative impact on community resources, youth and family relationships, youth educational outcomes, and overall youth well-being (Herenkohl, Herenkohl, & Egolf, 2003; Perry, 2006; J. P. Ryan, Hernandez, & Herz, 2007). In an effort to address the high rates of reentry, researchers at the Academy for Child and Family Well-Being and researchers and practitioners at Boys Town teamed up to develop and evaluate an aftercare program to provide home and school supports following reunification for school-aged youth.

On the Way Home was developed as a multi-component aftercare intervention for high-risk youth reintegrating into home and community school settings following a stay in residential care (Trout, Tyler, Stewart, & Epstein, 2012). Program components include parent training and support through a modification of the Boys Town Common Sense Parenting program (Burke, Herron, & Barnes, 2015), school engagement and drop-out prevention through a modified version of Check & Connect (Christenson, Evelo, Sinclair, & Thurlow, 1997), and a home-based homework support intervention. On the Way Home program components are provided to families and youth for a 12-month period, typically begin approximately 8 weeks prior to youth discharge, and are administered by a trained family consultant who works with the youth, families, schools, and the community to promote youth school and placement stability. Family consultants carry caseloads of up to 15 families, provide approximately 3 hr of support per family per week, and are on call 24 hr a day, 7 days a week (Trout, Jansz, Epstein, & Tyler, 2013).

Leveraging the unique research to practice strengths this partnership, the On the Way Home program was initially developed through a 5-year Department of Education Institute for Educational Sciences Goal 2 Grant (PIs: Trout and Epstein, #R324B070034). The development grant provided support for a series of qualitative and quantitative studies, including focus groups, a feasibility study, and a small randomized-controlled trial (RCT). Development started with a series of focus groups with families, youth, and school personnel in an effort to ensure that On the Way Home would be both practical and appealing to the ultimate consumers of the intervention—youth, parents, and educators (for a review, see Trout & Epstein, 2010). Focus group

feedback was used to modify program components, and a small feasibility trial was conducted to further refine service implementation, supervision, and evaluation. As a result of the feasibility trial, program modifications were made to improve both program implementation fidelity and youth outcomes. Finally, following these initial development activities, a small RCT was conducted with 80 discharging youth. The two conditions were an On the Way Home group and a minimal attention treatment as usual control group. While underpowered, findings revealed promising and statistically significant differences between groups. Specifically, at 12 months post discharge, youth in On the Way Home group were 5 times more likely to remain at home or in the community and 3 times more likely to stay in school than youth randomly assigned to the business as usual condition (Trout, Lambert, et al., 2013).

After completing the initial On the Way Home RCT, a Goal 3 Efficacy study grant from the Department of Education's Institute for Educational Sciences (PIs: Trout and Epstein; #R324A120260) was obtained to further evaluate the implementation of the program across youth discharging from other agencies across Nebraska and to evaluate factors that may affect intervention effects. Specifically, through this larger RCT, efforts are currently underway to determine the short-term and long-term effects of On the Way Home on family functioning and youth educational, behavioral, and placement stability outcomes; to identify potential mediators and moderators affecting youth success; and to determine program cost benefits. This study is currently underway, and results will be reported in the literature and used to support wider scale implementation of the program. In addition, efforts are already underway to prepare Boys Town practitioners for scale-up and replication internally across Boys Town sites, and additional projects and grants are pending to modify, extend, and evaluate On the Way Home with other populations of children served in out-of-home care (e.g., children served in foster care and in psychiatric residential treatment facilities).

Psychotropic Medication Use in Therapeutic Residential Care

The current research focus on psychotropic medication use was a direct result of earlier research at Boys Town on this topic and the convergence of interest in this topic for two researchers—one at Boys Town and the other at the UNL Academy. In the early 2000s, Boys Town staff had noted a significant increase in the use of psychotropic medications for youth admitted to the Family Home Program. In addition, our clinical impression was that at admission many of these youth were on psychotropic medications they did not need, and that these medications could be safely and successfully removed within the context of a strong cognitive-behavioral treatment milieu. Therefore, we conducted our first study related to this issue using archival data to track medication use at admission to the Family Home Program, during care, and at discharge. We found that 40% of youth were admitted on psychotropic medications compared with 26% at discharge (Handwerk, Smith, Thompson, Spellman, & Daly, 2008). We also found that youth departing on medication were more likely to be male, younger, and rated as doing more poorly in the program. Two of these factors are not specifically related to clinical need, and the third suggested that either psychotropic medication was more likely to be continued for youth with refractory problems, or that these medications were not really helping youth with their challenges. These findings confirmed our observation of a high rate of medication use at admission along with our ability to significantly reduce the use of these medications during placement in residential care. They also prompted a new program of research by both the UNL Academy and Boys Town scientists related to this issue that continues today.

A subsequent review of the literature suggested that there had also been a significant increase in the use of psychotropic medication for children in foster care and the population in general (Safer, Zito, & Gardner, 2004; Zito et al., 2008), so our next step was to describe and publish a clinical protocol for medical and clinical staff working with youth placed in residential care (Spellman et al., 2010). This protocol was designed to integrate behavioral and medical interventions with a goal to reduce use of psychotropic medication in residential care programs as well as other out-of-home placement settings. This was followed up by another study about the common practice of polypharmacy in residential care programs, showing that there were few behavioral differences between youth receiving one psychotropic medication and those on two or more (Griffith et al., 2010). Although there was no way to address the appropriateness of the prescriptions, results did suggest that there was no clear rationale for the higher medication rates found for the youth on multiple psychotropic medications. This also raises questions about why and how certain youth end up on multiple medications, when such a practice has been criticized as having the potential for significant adverse health effects (Correll, 2008).

Our next step was to jointly host a scientific meeting cofunded by the NIMH and the National Institute for Child Health and Human Development (PI: Huefner; #R13MH094101). The meeting was held at Boys Town with the objective to create a national research agenda focused on psychotropic medication use in residential care and other out-of-home settings. The meeting allowed a group of 22 researchers and practitioners to engage in collaborative planning to conduct research that would inform pharmacotherapy practice and policy in out-of-home settings over the next several years. Our ongoing collaborative research in the partnership focused specifically on continuing our efforts examining psychotropic

medications in residential care, and it also included other clinical scientists who participated in the R13 meeting as well as comparable data from another service provider (Bellonci et al., 2013; Griffith et al., 2012). Another direct result of the R13 meeting was the opportunity to publish a special issue of the *Journal of Child and Family Studies* under the direction of researchers from both Boys Town and the Academy. The special issue was published in May 2014, with 14 articles focused on psychotropic medication use with troubled children and youth. Six of the articles were cowritten by participants of the R13 meeting (Brenner, Southerland, Burns, Wagner, & Farmer, 2014; Burcu, Zito, Safer, & Ibe, 2014; Foltz & Huefner, 2014; Griffith, Epstein, & Huefner, 2014; Huefner & Griffith, 2014; Huefner, Griffith, Smith, Vollmer, & Leslie, 2014).

Finally, recommended best practices for clinical psychotropic medication management in residential care were also summarized in a recent book chapter (Bellonci & Huefner, 2014). The conclusion of this chapter held that best psychotropic medication practices in the context of residential care programs allow for thoughtful diagnostic and treatment reassessment. In addition, it was argued that fully integrating prescribers into the clinical and administrative leadership of residential programs maximizes the possibility for psychotropic medication to play a beneficial role in generating long-term positive outcomes for youth.

Conclusion

Residential care has been criticized for some time for a lack of evidence for its efficacy. Residential care is a complex, multi-faceted intervention that serves children and youth at high levels of risk and who often present with multiple problems. Also, placement in residential care is a life-changing event for both youth and families. Nevertheless, our collaborative work suggests that important and helpful studies can be carried out in residential settings, and that findings can be translated into practice. The partnership described in this article has significantly increased our capacity to conduct much needed research in a cost-effective fashion. The partnership required some modest initial investment, but it has resulted in increased research funding, new and improved practices, program growth, and more opportunities to influence the field. Moreover, the partnership has been successful in using rigorous, experimental designs as appropriate, such as testing an additional intervention to enhance residential care (e.g., aftercare). We offer this approach to collaborative research partnerships as one promising vehicle to implement a research agenda that will continue to inform effective practices for this service sector.

One advantage of a research partnership such as the one described in this article is in the study of program implementation itself. Program implementation monitoring is rarely funded by service contracts. Yet, provider agencies must have appropriately trained and credentialed staff to implement programs successfully. We would suggest that implementation science is best advanced by a partnership which allows the generation of new knowledge in the setting and the context in which the knowledge is purveyed and deployed. Some of our most important research findings have come in the area of program implementation as a result of this partnership. Successful implementation of new or modified practices which show positive evidence is a critical component of all translational research.

This partnership has allowed us to develop and test intervention programs and practices that are being scaled up at Boys Town sites and also have the potential to be scaled up by other residential providers. A critical aspect for development, testing, and scale-up of interventions is the fit of intervention programs to agency philosophy and practices. Each agency has a core philosophy and culture. The theoretical foundation might be applied behavior analysis, positive peer culture, psychodynamic, or trauma informed in its substance. Evidence-based practices developed outside these settings may or may not fit into the overriding paradigm under which an agency operates. A research partnership such as the one described in this article permits the practices that fit into an agency culture to be studied as they are developed and unfold. We believe that this type of arrangement can advance practice more rapidly and more completely. We still, however, face the challenge of supporting the scale-up of these evidence-supported practices outside of Boys Town.

The leadership in the practice organization and the university currently feels that this partnership has been incredibly productive and successful. Even though it has taken staff time for both the service provider agency and university, the rewards for both have been substantial. In addition to the examples presented about new and improved practices, the partnership has resulted in more funding for research and more opportunities to share knowledge gained with others. Awards of nearly US$10 million in federal research funding and approximately 75 jointly authored published journal articles have come directly from this collaboration. We have found that this type of collaborative research environment capitalizes the strength of both service provider agencies and research centers.

In conclusion, we offer a few final comments to others who take this path: (a) it may be easier to build this type of partnership when the provider agency has an established history of applied research, internal research expertise, and an appreciation for research on the part of program practitioners and leaders; (b) it may also be helpful if the core model of TRC is based on theory, and either has been tested or is currently being systematically evaluated; (c) for the university research center, a successful track record of collaborating with local agencies and an understanding of the

complexity of provider-based data may be very useful; (d) both partners should understand that this approach does require more than a small amount of time and money, especially in the beginning stages; (e) it will also require flexibility on the part of both practitioners and scientists due to the conflicting goals and priorities for each; (f) partners should focus on long-term benefits for both organizations; and (g) this type of approach can produce high-quality science that can be translated to practice.

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