Bringing a Behavioral Health Consultant to Residency: Implications for Practice and Training

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**Recommended Citation**

Available at: [https://dc.etsu.edu/ijhse/vol2/iss2/4](https://dc.etsu.edu/ijhse/vol2/iss2/4)
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Abstract
This study examined pediatric residents' responsiveness and experiences in the context of a new pilot program, building an on-site Behavioral Health Consultant (BHC) into their primary care training site. Fifteen pediatric residents were divided so that 9 had access to an on-site BHC and 6 did not. Over the first year of the program, research assistants observed 322 patient visits to record concerns raised, residents' responses, and visit length. Data regarding BHC activity and residents' subjective impressions of the program were also collected. Results showed that at least one BH concern was raised in 24% of observed visits. Residents with access to the BHC initiated 89 on-the-spot referrals, resulting in 127 BHC-to-patient interactions. On average, residents spent 10 additional min/visit when BH concerns were raised but those with access to the BHC saved 8 min/visit when BH concerns were raised. Overall, residents utilized the service, particularly first and second year residents. Those with BHC access managed BH concerns in less time than those in the control group. Residents who utilized the BHC were very satisfied, perceived a better quality of care and patient outcomes, and desired future BHC collaboration. Implications for training residents in the area of pediatric behavioral health by using an on-site provider are discussed.

Keywords
Behavioral Health, Residency, Pediatrics, Integrated Care

This article is available in International Journal of Health Sciences Education: https://dc.etsu.edu/ijhse/vol2/iss2/4
Introduction

According to national estimates, 10-25% of children seen in pediatric primary care clinics present with significant behavioral health (BH) concerns (Jellinek et al., 1999). BH concerns in early childhood, without intervention, are associated with increasing problems throughout childhood and psychopathology that often persists into adolescence (Frick & Lonely, 1999; Hofstra, Ende & Verhulst, 2002). Further, pediatric behavior problems have been shown to have a negative impact across settings such as home, school, with peers, and during public outings. They often bear significant social costs such as school dropout, unemployment, family breakdown, drug/alcohol use, and/or increased delinquent or risky behaviors (Hiscock et al., 2008).

Yet, even as primary health care settings have become the principal source of treatment for BH concerns (Garcia-Shelton, 2006; Regier et al., 1993), pediatricians do not consistently implement behavioral interventions in their day-to-day practice (Perrin & Stancin, 2002). Lack of time and training are reported as the foremost barriers to identifying and treating BH issues (Cooper, Valleley, Polaha, Begeny & Evans, 2006; Gray, Brody & Johnson, 2005; Leslie, Weckerly, Plemmons, Landsverk & Eastman, 2004; Pace, Chaney, Mullins & Olson, 1995; Varni & Christophersen, 1990). Additionally, Cheng, DeWitt, Savageau and O’Connor (1999) reported that a pediatrician’s confidence in providing effective guidance is a significant barrier to addressing BH concerns in primary care. In their study, the top predictors of pediatricians’ addressing BH issues were their perception of the importance of the concern and self-efficacy of providing effective counseling interventions. Matters regarding time and reimbursement barriers were cited as secondary predictors (Cheng et al., 1999).

In an effort to instill greater confidence and skill in pediatric residents around BH concerns, the Accreditation Council for Graduate Medical Education (ACGME), requires a 30-day rotation in developmental and behavioral pediatrics (DBP), which, among its other objectives, must include, “normal and abnormal child behavior and development, including cognitive, language, motor, social, and emotional components,” “behavioral counseling and referral,” and “recognition and coordinating care for childhood and adolescent mental health problems that require referral for diagnosis and treatment” (Accreditation Council for Graduate Medical Education, n.d.). In addition, various resources are available to residents-in-training such as the Bright Futures publications (American Academy of Pediatrics, n.d.) and practice guidelines such as those for ADHD (e.g., American Academy of Pediatrics, 2011). However, a 30-day rotation may not be sufficient to address all the aforementioned objectives (American Academy of Pediatrics, 2009; Leigh, Stewart, & Mallios, 2006; McCue Horwitz et al., 2010). Only 12% of residents report being interested in DBP rotations and 28% of residents indicate they did not attend the entire rotation (American Academy Pediatrics, 2009; McCue Horwitz et al., 2010).

Thus, it remains unclear how pediatricians should be trained to engage evidence-based BH interventions in a way that matches their busy, population-health focused practices. Real-time observation data from pediatric primary care show when BH concerns are raised, the resulting discussions add approximately 5-7 minutes to the visit, and often consume more than half of the visit (Cooper et al., 2006). Pediatric psychology and related disciplines have developed an armamentarium of brief, evidence-based behavioral interventions that might fit well within the pediatric primary care milieu (e.g., Friman & Piazza, 2011; Polaha, Volkmer & Valleley, 2007);
however, these have not been well disseminated in pediatric residency training settings (Varni & Christophersen, 1990).

One solution, growing in availability, is the integration of psychologists into primary care (e.g., Bray & Rogers, 2001; Strosahl, 2000) to address BH concerns as well as increase physicians’ savvy about brief, evidence-based BH treatments. Integrating BH services has resulted in positive outcomes such as increased physician knowledge and confidence in addressing BH concerns in a flexible way that fits with their practice flow (Gray et al., 2005). Additionally, having a behavioral health professional readily available may decrease the BH time demand by offering immediate, low-effort access to more complex or time-intensive assessment or treatment regimens than those that are feasible for a pediatrician’s practice. Few studies have examined behavioral health consultant (BHC) utilization in primary care, and none have focused on pediatric residency training programs. Moreover, focusing on early-career integration models, as within a residency training program, is consistent with team based care related to interprofessional education and interprofessional collaboration, both of which are high priorities for decision makers within health education (e.g., World Health Organization, 2010) and can improve health care quality and patient outcomes (e.g., Barr, 2002; Meads & Ashcroft, 2005).

In this project, a novel training program was piloted within a pediatric residency clinic including three components: 1) noon lunch didactics regarding the top five behavioral concerns presenting in pediatric primary care; 2) on-site, real-time consultation and training regarding behavioral concerns raised in primary care visits; and 3) the availability of an on-site BHC to take residents’ referrals. The primary objective of this study was to evaluate the third component by examining pediatric residents’ responsiveness to the presence of an on-site BHC in terms of addressing BH concerns raised, utilization of the BHC, the impact of the BHC on time spent during visits, and to examine residents’ subjective perceptions of the BHC service.

**Method**

**Participants**

Participants were 15 pediatric residents from a university-affiliated pediatric residency training clinic. Cohorts of first, second, and third year residents consisted of five pediatric residents in each group. Three residents, one from each cohort, provided patient services in the ambulatory pediatric clinic one afternoon (approximately three hours) every week for a year as part of their regular residency training experience. The BHC was a doctoral student in the university’s psychology program with graduate training in pediatric behavioral health and integrated primary care. A licensed clinical psychologist who specialized in pediatric behavioral health/integrated care supervised the BHC.

**Procedure**

The BHC was available during clinic hours 3 days per week, allowing 9 residents (three in each cohort) access to on-site collaboration. This resulted in 2 clinic days without BHC-access; thus the six residents (two in each cohort) who worked on those days served as the control group. Residents with BHC-access could utilize the BHC in a variety of ways including hallway consultation regarding patient concerns or on-the-spot referrals in which the BHC would work.
directly with the patient during the visit in which a BH concern was raised (i.e. “warm hand-off”). The BHC was located in the same room as the clinic preceptor, listening to case presentations and available as needed.

**Consultation Notes.** The BHC maintained activity data for approximately 10 months of the year-long program. Data collected included resident cohort, types of collaboration initiated, types of concerns referred, patient demographics, and whether the interaction resulted in a one-time warm hand-off referral or additional follow-up appointments.

**Clinic Observations.** Research Assistants (RAs) conducted 322 live observations of all 15 residents during six 2-week phases across one calendar year. Data collected included types of BH concerns raised, how such concerns were addressed by the resident, and time spent. “Time spent” included: 1) the initial exam time between the resident and patient (i.e., determining primary concerns for the visit); 2) the time spent precepting with training program faculty; and 3) the time spent by the resident providing feedback/recommendations to the patient. These periods were time stamped separately to eliminate any downtime while the resident waited for a preceptor or lab result. The three time stamps were added together to get a total visit time.

In addition to time data, RAs coded which concerns were raised and how the resident responded to the concern(s) raised. The coding system, developed by Cooper et al. (2006) consisted of 25 potential concerns brought up during pediatric visits such as sleep, feeding, toileting, developmental delays, inattention, school or family problems, anxiety, and depression. Seven response styles were coded as (1) no action taken; (2) prescribed medication; (3) provided handout; (4) referred to BHC onsite; (5) referred to mental/behavioral health consultant off site; (6) specific intervention recommended; and (7) gave supportive statements. A response was coded for each individual BH concern raised, and multiple responses could be coded for a single BH concern (i.e., a concern of hyperactivity could be addressed by prescribing a medication, providing a handout, giving supportive statements, and also referring to the on-site BHC).

All procedures were approved by the university’s Institutional Review Board (IRB). Patients’ parents were given a disclosure explaining the study and asked for their consent to be observed and audio recorded. Disclosures were provided in both English and Spanish. Six research assistants collected observational data and conducted inter-rater reliability for 30% of all observations. Agreement was maintained at 90% or higher for data collected across the project duration.

**Resident Impressions.** At the end of the resident training year, an RA previously uninvolved with the study conducted individual and anonymous exit interviews with each resident. This report collected final resident impressions about their experience, level of satisfaction, and feedback regarding the training program.

**Results**

**BHC-Access Group: Consultation Notes Data**

**BHC Utilization.** Consultation notes revealed that all nine residents in the BHC-access group referred patients to the BHC. A total of 89 patients were referred by residents, with each resident
referring 10 patients, on average, over the 10-month data collection period, with a range of 7 to 16. Since residents’ individual caseloads are smaller in their first year of residency (Y1) and increase to the third year (Y3), referrals by cohort consisted of: Y1 residents referred 14% of their patients to the BHC, Y2 residents referred 9% of their patients to the BHC, and Y3 residents referred 6% of their patients to the BHC. All of these referrals were on-the-spot “warm handoffs,” with 51 of them (57%) resulting in a one-time, brief BH intervention by the BHC, and 38 of them (43%) resulting in one to eight follow-up BH appointments. Follow-up appointments were handled in one of two ways: 1) the BHC was scheduled to see the family again independently or 2) the patient was followed up as needed during future medical appointments (e.g., many ADHD-related appointments were handled in this manner since patients typically had regularly-scheduled medication management appointments). Warm handoffs and follow-up appointments numbered 127 BHC-to-patient interactions altogether during the 10-month period.

**Patient Demographics.** Sixty-five percent of the patients referred to the BHC were boys and patient ages ranged from 4 months to 13 years. Eighteen percent of patients were between 4 and 24 months; 15% between 25 months and 5 years; 53% between the ages of 6 and 9 years; and 14% between 10 and 13 years. Referred patients were primarily Caucasian (80%), followed by Hispanic (15%), and African American (5%).

**Behavioral Concerns Addressed.** ADHD was the primary referral concern for 44% of patients involved in BHC interactions. The second most common referral reason was disruptive and noncompliant behavior (24% of BHC visits). Additional referrals included problems with sleep (8%), toileting (8%), developmental delays or Autism (6%), separation anxiety (4%), and feeding/eating issues (4%). Another 2% of visits accounted for other various referrals such as school avoidance, adjustment issues, or depression.

**Comparisons Between Groups: Live Observation Data**

**Time Spent.** Live observations were coded on 322 pediatric resident appointments, and of these, 24% of visits (N=77) resulted in at least one BH concern raised. Time stamp data showed residents across both groups spent an average of 20.9 minutes for a patient visit that did not involve any behavior concerns (N=245). Yet, when at least one behavior concern was raised this total visit time increased by an average of 10.2 minutes (total= 31.1; see Table 1).

Of the 77 visits that included behavioral concerns, 52 occurred with residents in the BHC-access group. Of these, 36 (69%) resulted in resident-to-BHC interactions. Comparisons between groups showed that on average, residents with BHC-access saved 8.3 minutes per visit addressing BH concerns when compared to their control group counterparts (i.e., 28.4 minutes versus 36.7 minutes, respectively; Table 1). Both groups spent a similar amount of time during precepting; however, residents without BHC-access took over 5 additional minutes during the initial exam session (collecting information about presenting problems and conducting examination) and took over 2 additional minutes during the follow-up exam session (providing treatment plan and recommendations after precepting) on average.
Table 1. Time Spent during Pediatric Ambulatory Visits (means and standard deviations in minutes per visit)

<table>
<thead>
<tr>
<th>Total Observations (N=322)</th>
<th>Initial Exam Session</th>
<th>Precepting Session</th>
<th>Follow-up Session</th>
<th>Total Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Behavioral Concerns (N=245)</td>
<td>13.1 SD = 6.6</td>
<td>3.8 SD = 2.7</td>
<td>4.0 SD = 4.0</td>
<td>20.9</td>
</tr>
<tr>
<td>At least One Behavioral Concern (N=77)</td>
<td>20.2 SD = 12.5</td>
<td>5.3 SD = 3.6</td>
<td>5.4 SD = 4.7</td>
<td>30.9</td>
</tr>
<tr>
<td>Observations with Behavioral Concerns Only (N=77)</td>
<td>Initial Exam Session</td>
<td>Precepting Session</td>
<td>Follow-up Session</td>
<td>Total Visit</td>
</tr>
<tr>
<td>Control Group (N=25)</td>
<td>24.0 SD = 18.3</td>
<td>5.9 SD = 4.0</td>
<td>6.9 SD = 6.5</td>
<td>36.8</td>
</tr>
<tr>
<td>BHC-access Group (N=52)</td>
<td>18.6 SD = 8.1</td>
<td>5.1 SD = 3.4</td>
<td>4.8 SD = 3.6</td>
<td>28.5</td>
</tr>
</tbody>
</table>

Time spent was also analyzed based on cohort group (Table 2). Results indicated that Y1 residents in the BHC-access group saved an average of 6.8 minutes when compared to Y1 residents in the control group. Second-year residents in the BHC-access group saved an average of 27.3 minutes when compared to the Y2 residents in the control group. Third-year residents in the BHC-access group did not generate time savings, rather, they spent an average of 10 minutes longer per BH visit than the control group.

**Resident Responses.** Resident responses were recorded when behavioral concerns were raised during visits (Table 2). In response to BH concerns, BHC-access residents took no action (37%), provided supportive statements (37%), and prescribed medication (1%) at rates similar to residents in the control group (42%, 34%, and 2% respectively). BHC-access residents showed a marked difference in referral rates to outside community mental health resources at 1%
compared to 20% frequency rates among the control group. BHC-access residents also
demonstrated higher rates of providing specific interventions (20% versus 2%) for BH concerns
raised.

Table 2. Time Spent and Resident Responses Based on Cohort (mean in minutes per visit)

<table>
<thead>
<tr>
<th>Resident Year</th>
<th>Total time spent for visit with at least one BH concern</th>
<th>BHC-Access Group Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>BHC-Access Group</td>
<td>Primary management style used to address behavioral concerns</td>
</tr>
<tr>
<td>I</td>
<td>37.6</td>
<td>Collaborated with BHC to implement the most behavioral interventions on their own</td>
</tr>
<tr>
<td>II</td>
<td>52.0</td>
<td>Utilized warm handoff referrals to the BHC the most</td>
</tr>
<tr>
<td>III</td>
<td>19.1</td>
<td>Referred off-site for BH services, provided supportive statements, or took no action</td>
</tr>
</tbody>
</table>

Resident Impressions

Anonymous exit interviews were conducted with residents at the end of the year. Residents who
had BHC-access rated the training experience positively overall (average score was a 9 on a 10-
point Likert scale). They reported high satisfaction rates, perceived increased quality of patient
care, perceived clinically significant improvements, and desire for future collaboration. Many
indicated that future employment decisions would be positively influenced by the availability of
on-site BHC access. Constructive feedback from the BHC-access group included wanting more
clinic coverage in the future and a desire for more time to observe the BHC with patients.
Residents who did not have BHC access reported dissatisfaction with being part of the control
group and not being able to collaborate with the BHC.

Discussion

This project engaged a novel training program aimed at enhancing pediatric residents’ ability to
address BH concerns raised in primary care. The larger program involved didactic and on-site
teaching components, however, the current study was targeted at residents’ use and
responsiveness to a third component consisting of an on-site BHC. Overall, results showed that
residents who had BHC access utilized services, but collaborated at varying levels by cohort.
Additionally, BHC-access residents demonstrated higher rates of providing specific interventions
for BH concerns raised when compared to the control group, suggesting that access to a BHC
may also increase the residents’ comfort and confidence in providing recommendations on their
own.
This study corroborates previous research in that BH concerns raised in pediatric primary care visits can induce an unexpected time burden (Cooper et al., 2006; Pace et al., 1995), showing an average increase of 10 minutes per visit. This study is the first, however, to provide preliminary evidence of a time savings associated with the availability of BHC services. Moreover, time saved was noticeably different by cohort year. Remarkably, the three Y2 residents with BHC access spent 27 minutes less per visit when behavior concerns were raised in comparison to their Y2 control group counterparts. Preliminary data collected in consultation notes shows that Y2 residents with BHC access primarily responded to concerns by introducing the BHC (a warm-handoff) and moving on to another patient. In contrast, Y1 residents in the BHC-access group tended to implement brief interventions on their own; utilizing the BHC for hallway consultation, in vivo training, and immediate observation and feedback of their implementation. This method still saved almost 7 minutes per visit.

The differences observed between cohorts and their utilization of the BHC were unanticipated findings. Due to their lower patient load, Y1 residents may have had more time to take part in in vivo training in which they could “tag-team” with the BHC in-session and get immediate feedback about their BH recommendations, while Y2 residents, with an increased patient load, preferred to “hand off” the behavioral visits for time efficiency. Third-year residents, who utilized the BHC the least, may have already developed a practice habit for BH concerns that was more difficult to influence. Alternatively, many residents at that stage of training already know where they will be practicing as a physician and may have known their clinic of practice would not have an on-site BHC, therefore, deterring them from collaboration and increasing the likelihood that they will refer BH cases out of the clinic. Regardless, this evidence seems to suggest that integrating an on-site BHC into a residency training program may be most advantageous to do early on in training to maximize practice and fluency with coordinated care.

An important direction for future research is the process by which residents learn about interventions for BH concerns from the BHC, and how this impacts outcomes like their working/practical knowledge of evidence-based behavioral interventions. It would be relevant to note how much time residents spent watching the BHC (i.e., in vivo training) or debriefing with the BHC after patient care (case-based learning) as well as whether their recommendations to patients are consistent with their training in evidence-based behavioral interventions. One interesting observation made in the context of this project was that the use of the BHC for “warm hand-off” might save time but, particularly without follow-up, might result in less training regarding how to handle a given BH concern. In the precepting room, it regularly occurred that residents would report a BH concern to their supervisor and, when asked about their course of action they would state, “refer to the BHC” rather than strategize an intervention on their own. Regardless of residents’ utilization of the BHC, these data do not bear out whether BHC-access residents were actually perceived as “better trained” by their preceptors in comparison to the control group, and no objective outcome measures where used to assess pre/post BH knowledge among the residents. This push-pull of time savings vs. quality training is certainly an area ripe for consideration.

All BHC-access residents rated this experience positively, and many spontaneously reported that on-site access to BH consultation was more beneficial/desirable than the extant 30-day BH rotation required. Quotes included: “I learned more through this collaboration than any other training I’ve had to do in regards to behavioral and mental health.” “I am now a huge advocate
of an integrated model within pediatrics. Getting immediate feedback about my patients and having a BHC available for real time consults is invaluable.” “My treatment plans for patients were greatly enhanced and I have more knowledge and confidence than before.” “Although I wouldn’t turn down a job offer because of no BHC-access, I would absolutely be more inclined to accept a job offer somewhere that had a BHC onsite; I just don’t think there are many of those places around yet.” “I am just glad the study is over so I don’t have to be in the control group anymore and I can finally get access to the BHC!”

Incorporating a training program such as this may have several benefits. First, residents and behavior health providers get earlier experiences with integrated care which can facilitate a smoother transition into integrated clinics in the future as well as increase the number of advocates for integrated health care after having had such a training experience. Second, residents may be more likely to reach the ACGME’s competency goals if the rotation is presented in a longitudinal and hands-on approach throughout all three years of training. Third, because residents are in training and tend to take longer in patient visits than seasoned physicians, having access to time-saving strategies such as an on-site BHC might be an especially efficient way to maximize patient care, resident training, and potentially generate additional revenue. Finally, integrating team based care is consistent with the spirit of interprofessional education and interprofessional collaboration, both of which are growing in importance within health care internationally (e.g., World Health Organization, 2010). Clearly much research is still needed in the context of residency training programs and how having an on-site BHC can improve the quality of training, as well as patient satisfaction.

References


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