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# Pediatric Primary Care Providers' Relationships with Mental Health Care Providers: Survey Results

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**Abstract**
*Background* As many as 20 % of children have diagnosable mental health conditions and nearly all of them receive pediatric primary health care. However, most children with serious mental health concerns do not receive mental health services. This study tested hypotheses that pediatric primary care providers (PPCPs) in relationships with mental health providers would differ in their care of patients with mental health concerns when compared to PPCPs not in such relationships.
*Objective* To explore differences between PPCPs who have relationships with mental health care providers and those who do not with regard to their care of children with mental health concerns.
*Methods* Seventy-two PPCPs completed a mailed survey addressing topics such as comfort levels diagnosing and managing patients with behavioral health disorders, perceived barriers to care, activity related to prescribing psychotropic medications, and availability of consultation with mental health specialists. More than one-third (19 providers) of providers reported no specialized training in behavioral pediatrics and nearly 45 % (32 providers) indicated having a relationship or partnership with a mental health specialist.

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*Results* Those providers who reported relationships indicated greater availability of consultation and communication with psychiatric providers as well as telephone consultation with non-psychiatric mental health providers. All providers were more comfortable assessing as opposed to treating children with disorders, with the exception of attention disorders, which providers were comfortable with both treating and assessing. For all conditions, there was no main effect for partnership.
*Conclusion* While partnerships may be associated with greater availability of consultation and communication, for this sample of PPCPs there was no evidence of advantage with respect to diagnosis and management. The paper concludes with a discussion of study limitations, the need for further research, and suggestions for practice.

**Keywords** Pediatric primary care · Behavioral health · Collaboration · Partnership

## Introduction

Research suggests that more than 20 % of children[1] have identifiable mental health disorders and that only one in five of them receives treatment (Van Landeghem and Hess 2005). Barriers to children's utilization of mental health services are numerous and reflect issues affecting families, health and mental providers, as well as care delivery systems. Families often do not gain access to mental health services due to health insurance limitations (Kataoka et al. 2002), stigma associated with needing mental health services (Heflinger and Hinshaw 2010), ability to obtain an appointment with a mental health provider (Pidano 2007), and transportation to services (McKayet al. 1996). This paper addresses one promising strategy for improving access to mental health services for children: improving linkages between pediatric primary care and mental health services (Institute of Medicine 2001). The aim of the study was to compare how pediatric primary care providers (PPCPs) in relationships with mental health providers differ in the care of children with mental health concerns from those not in such relationships. Pediatric primary care is an opportune site for early recognition of mental health problems in children and connection to mental health specialists given that pediatric primary care providers have near universal contact with children. The American Academy of Pediatrics (AAP) recommends twelve health care visits during first 2 years of life (American Academy of Pediatrics 2008), and almost 90 % of children have at least one medical visit annually (National Survey of Children's Health 2011).

### Pediatric Primary Care and Mental Health

Relationships and partnerships between pediatric primary care and mental health providers, one approach to linked or integrated care, and the topic of the study reported herein, can help to ensure a coordinated and holistic approach to care. Mental health providers can contribute to the improvement of psychosocial, educational, and general health outcomes for children when they collaborate with PPCPs and better understand the demands and expectations placed on PPCPs as well as the challenges PPCPs face in addressing the mental health concerns of their patients (Ward-Zimmerman and Cannata 2012). PPCPs and mental health specialists may be linked in a variety of ways ranging from informal consultative relationships to formalized partnerships that

[1] The term children is used in this paper to refer to those under the age of 18.

require memoranda of understanding or agreed-upon procedures for referral, co-management, and communication (Sarvet et al. 2010; Starkowski 2008).

Recently the notion of medical home has received much attention in the health policy and practice improvement literatures (Malouin and Merten 2010). A medical home is usually a primary care setting that provides accessible, coordinated, comprehensive, continuous, patient-centered and cultural competent care to its patients (American Academy of Pediatrics 1992). The AAP coined the term and originally conceived of the medical home model as a strategy for caring for children with special health care needs. However, the model has been recognized for its value in describing optimal care for all children and has also been incorporated into adult medicine (Sia et al. 2004). Studies of the medical home model in pediatrics have documented its efficacy in improving patient outcomes for low birth weight and asthma and reducing emergency department utilization and hospitalizations (Cooley et al. 2009). The American College of Physicians (ACP), in its 2010 position paper, *The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home with Specialty/Subspecialty Practices*, further extended the concept of medical home to conceptualize a system of care that goes beyond primary care to the other services that patients need and use. The ACP used the term "medical neighborhood" to describe this system and emphasized the critical role of coordination within the medical neighborhood to ensure optimal patient outcomes (American College of Physicians 2010). Although not specifically cited in the ACP paper, mental health services are a critical component of the medical neighborhood.

## State Models of Collaborative Care

The National Technical Assistance Center for Children's Mental Health's conclusion from a special forum held to discuss integrating mental health services into primary care also called for increased attention to relationships between primary care and mental health providers (Stroul 2011). Several states, including Massachusetts (An Act Relative to Children's Mental Health 2008) and Connecticut (Starkowski 2008) have crafted policy and developed systems to ensure coordination of the two specialties in care delivery. Program components in these two states include mandatory screening for emotional and behavioral concerns in primary care (Massachusetts), improved access to psychiatrists via telephone for pediatricians when patients are identified in primary care (Massachusetts), formal memoranda of understanding between primary care practices and mental health agencies (Connecticut), communications back and forth between providers about patient issues, and education in the primary care sites about mental health issues.

Models of medical/mental health relationships have shown positive results. Targeted Child Psychiatric Services (TCPS) in Massachusetts provided teams of mental health providers to work with primary care sites in meeting the mental health needs of primary care patients. This initiative was successful in shortening waiting times for appointments with child mental health specialists as well as helping primary care providers manage almost half of the patients they identified as having emotional and behavioral problems without referral to a child psychiatrist, easing the demand on the overburdened child psychiatry system (Connor et al. 2006). TCPS in Massachusetts has evolved into the statewide Massachusetts Child Psychiatry Access Project (MCPAP), which provides rapid access to child psychiatry consultation and referrals to mental health services for children identified by their PCPs. MCPAP has resulted in a significant increase in pediatric primary care providers reporting that they are able to meet the psychiatric needs of their patients (Sarvet et al. 2010). The State of Washington implemented a similar program, the

Partnership Access Line (PAL), based on the MCPAP; its developers have also reported positive results with respect to provider utilization and satisfaction. As with MCPAP, however, to date no patient outcome data have been published (Hilt et al. 2009, 2010).

Results from demonstration projects in four primary care sites in Connecticut showed that partnerships between primary health care and mental health providers yielded several opportunities for improving the delivery and quality of child mental health services (Honigfeld and Nickel 2010). Primary care medical sites implemented universal screening, tracked referrals, managed psychotropic medications and shared information across health and mental health care sites. Partnerships included a team approach to managing children's behavioral and emotional issues. Further, a report from one pediatric primary care practice in Connecticut with more than 12 years' experience collaborating with mental health providers confirmed multi-site research findings (Ward-Zimmerman and Cannata 2012). Clinicians from a large multi-site mental health agency worked with a pediatric practice to implement universal mental health screening at all well-child visits, onsite counseling services, seamless connection of children to psychiatric and other support services, and communication between health and mental providers. Results demonstrated improved used of mental health services as well as improved functioning for children as measured by the Ohio Scales (Ogles et al. 2001, 2004).

### The Current Study

The current study explored differences in approaches to care for PPCPs who reported relationships with mental health providers and those who did not. We hypothesized that PPCPs who reported relationships with mental health providers (1) would be more comfortable in both assessing/diagnosing and intervening with patients with behavioral health issues; (2) would be more likely to use screening tools (Honigfeld and Nickel 2010); (3) would be more likely to initiate psychotropic medications (Sarvet et al. 2010) (4) would be more aware of mental health resources in the community; and (5) would report greater availability of communication and consultation with psychiatric providers in comparison with those PPCPs who did not report such relationships (Pidano et al. 2011a). The survey also asked participants to indicate barriers to activities such as identifying/assessing disorders, initiating and monitoring medication, providing guidance or counseling, and referring to both psychiatric and non-psychiatric behavioral health specialists, as well as interest in relationships with mental health provider. We predicted that providers currently in relationships would indicate fewer barriers to practice and greater interest in having a relationship.

## Methods

### Participants

Seventy-two pediatric primary health care providers (PPCPs; pediatricians [MDs], advanced practice registered nurses [APRNs], and physician assistants [PAs]) participated in this study. As seen in Table 1, 44.5 % of providers reported some type of relationship or partnership[2] and 55.5 % reported no relationship/partnership with a mental health provider.

[2] The survey asked participants whether they were involved in a formal or informal relationship/partnership with a mental health specialist or community agency; the survey did not define the relationship/partnership but asked participants to describe it. Those who did provided only brief descriptions resulting in an incomplete picture of the relationships/partnerships.

Of the fifty-four (75 %) participants who answered a question regarding specialized training in behavioral pediatrics 20 (37 %) had participated in continuing education, 12 (22.2 %) completed a rotation during their graduate education, one (1.9 %) completed a fellowship, and two (3.7 %) indicated "other" training that was not specified. However, 19 (35.2 %) of the 54 reported no specialized training in behavioral pediatrics. Table 1 provides additional information about the sample demographics, as well as comparisons between the two groups.

In answering one general question, participants estimated the percentage of their patients with emotional, behavioral, or psychosocial problems. Just over one-half of providers (51.4 %) indicated that one percent to 20 % of their patients have such difficulties and another 41.7 % estimated that 21–40 % of their patients have these difficulties. Only 7 % reported that more than 40 % of their patients have an emotional, behavioral or psychosocial problem.

## Procedure

Letters were mailed to a sample of 327 PPCPs in Connecticut, inviting them to participate in a survey addressing their care with respect to emotional and behavioral issues in their patient population. We identified potential participants by selecting every third name from a state registry of providers who had administered at least one immunization in the past year. We reasoned that primary care child health providers were the most likely to give

**Table 1** Sample characteristics (N = 72)

| | Partnered ($n = 32$) | Non partnered ($n = 40$) | Sig. |
|---|---|---|---|
| Gender[a] | | | |
| Male | 16 (50.0 %) | 15 (38.5 %) | n.s. |
| Female | 16 (50.0 %) | 24 (61.5 %) | |
| Provider type | | | |
| MD pediatrician | 29 (90.6 %) | 36 (90.0 %) | n.s. |
| Other | 3 (9.4 %) | 4 (10.0 %) | |
| Years in practice | $M = 16.86$ | $M = 18.37$ | n.s. |
| Experience level | | | |
| Less experienced | 10 (34.5 %) | 12 (31.6 %) | n.s. |
| Moderately experienced | 12 (41.4 %) | 11 (44.7 %) | |
| Most experienced | 7 (24.1 %) | 9 (23.7 %) | |
| Number of patients (provider) | $M = 2{,}231$ | $M = 1{,}575$ | n.s. |
| Number of patients in practice | $M = 6{,}053$ | $M = 5{,}309$ | n.s. |
| Percentage of patients insured by Medicaid | | | |
| <40 % | 13 (40.6 %) | 28 (71.8 %) | .008 |
| >40 % | 19 (59.4 %) | 11 (28.2 %) | |
| Percent of patients with emotional/psychological problems | | | |
| 20 % | 17 (53.1 %) | 20 (50.0 %) | n.s. |
| >20 % | 15 (46.9 %) | 20 (50.0 %) | n.s |

[a] One participant did not indicate gender

immunizations; however, as the registry includes some physicians who are not in primary care, some specialists did receive surveys. Approximately 10 days later, the surveys, with informed consent/agreement forms and stamped, addressed return envelopes were mailed, followed, over the next several weeks, with first a reminder letter and then a duplicate copy of the survey. Introductory material informed recipients that completing the survey would take about 20 min, and they were given the option of entering their names in a raffle for gift certificates. The University of Hartford's Human Subjects Committee approved the survey materials and procedure for this study; all participants were treated in accordance with the American Psychological Association's Code of Ethics (APA 2002).

Forty-five blank surveys were returned to the researchers for a variety of reasons (wrong address, provider no longer in practice, or provider declined to participate, generally because he or she did not see children or did not see them in a primary care setting) leaving 282 potential participants. Seventy-two PPCPs returned surveys which represents a return rate of 25.5 %.

*Survey Instrument*

The survey was adapted from one used previously (Pidano 2007; Pidano et al. 2011a), primarily by limiting the number of mental health disorders included, adding questions about activities related to the use of psychotropic medications, and inquiring about relationships with mental health providers. The survey was comprised of six sections: Practice Information, Behavioral Health Disorders, Barriers, Experiences with Mental Health Services, Relationships with Mental Health Providers, and Participant Demographic Information.

In addition to requesting demographic and practice information from the participants, the survey utilized Likert-type scales to ascertain respondents' comfort with assessing/diagnosing and providing interventions for children with eight mental health concerns: attention deficit/hyperactivity disorder (ADHD), alcohol abuse, anxiety, autism, depression, eating disorders, oppositional defiant disorder (ODD), and posttraumatic stress disorder (PTSD). For example, for patients with each of the eight disorders, respondents indicated their comfort level assessing/diagnosing and providing health interventions on a scale of 1–5 ranging from "not at all comfortable" to "completely comfortable". Utilizing similar scales (from "not at all likely" to "completely likely") respondents also rated their likelihood of utilizing screening instruments and initiating psychotropic medications for different disorders. They also responded to questions about their comfort managing medications under different conditions (e.g., when prescribed initially by a psychiatric provider) and their comfort levels with prescribing medications (SSRIs, stimulants, atypical antipsychotics, and polypharmacy) without psychiatric consultation.

Participants rated their agreement ("strongly disagree" to "strongly agree") with being aware of mental health resources in the community; using the same scale, they responded to questions about having on-going communication available with psychiatric providers regarding medication, and whether they have psychiatric consultation regarding medication on a regular basis available to their practice, as well as whether there are mental health agencies or non-psychiatric providers with whom they are able to consult by phone if needed.

Participants indicated potential barriers to identifying and assessing mental health disorders, initiating and monitoring medication, providing counseling themselves, and referring to psychiatric and non-psychiatric specialists. Options included: too little time, insufficient knowledge, no or minimal reimbursement, lack of available specialists, lack of office staff, and concern about labeling children/stigma. Initially, providers indicated on a

5-point scale the extent to which they encountered barriers (1 = not a barrier to 5 = an extreme barrier); subsequently, for presentational efficiency, these data were rendered dichotomous, indicating whether or not the barrier in question was identified (not a barrier vs. any indication of a barrier).

Finally, providers indicated their level of agreement about being interested in establishing a formal, consultative relationship with a mental health provider and their belief that it would be beneficial to have a mental health provider on-site at least for a day or two a week.

## Results

### Analysis Plan

The overall analytic approach was to compare PPCPs' responses (those in relationships vs. those not in relationships with mental health providers) about the assessment and management of patients with behavioral health disorders. To this end, a variety of statistical procedures was used, but the dominant approach involved the use of mixed model Anovas where relationship status (relationship vs. no relationship with a mental health specialist) served as a between-subjects factor and responses to survey items concerning the eight specific disorders served as within-subjects factors. Where appropriate, effect sizes were determined with Cohen's *d,* the most commonly used statistic to represent the magnitude of difference between means. Data were analyzed with IBM SPSS Statistics v.20 and stored according to a data management protocol approved by the university's Human Subjects Committee.

As Table 1 indicates, few demographic differences between the two groups (relationship/no relationship) emerged. The relationships themselves ranged from formal partnerships with memoranda of understanding, to the availability of telephone consultation, to having a mental health provider located in the primary care office, at least part-time. Gender, credentials, and levels of experience, were evenly distributed across the two groups, and the size of practice and proportion of clients with psychological disorders also did not differ. The only significant difference across groups concerned the proportion of Medicaid clients served by a practice. As indicated in Table 1, the PPCPs from partnered practices reported a larger percentage of Medicaid clients (59.4 %) than those from the non-partnered practices (28.2 %).

### Comfort with the Assessment and Treatment of Childhood Behavioral Health Disorders

The first hypothesis predicted that PPCPs in relationships/partnerships would be more comfortable assessing and treating children with behavioral health disorders than those providers not partnered with mental health providers. A mixed 2 (partnership) × 2 (assess vs. treat) × 8 (disorder) Anova with repeated-measures on the last two factors, was run to examine comfort assessing and treating various childhood psychological disorders as a function of partnership status. The analysis yielded a significant within-subjects effect $F(1, 65) = 66.02$; $p < .001$, Cohen's $d = 2.02$, for comfort assessing (overall $M = 3.52$, $SD = 0.73$) vs. comfort treating (overall $M = 2.86$, $SD = 0.87$) these disorders. This indicated that while providers are relatively comfortable *assessing* childhood disorders overall (M values $> 3.00$ = somewhat/completely comfortable) they are relatively uncomfortable *treating* the same ($M$ values generally $<3.00$ = somewhat/not at all

comfortable). A significant within-subjects effect for disorder $F(7, 455) = 44.25$; $p < .001$, $d = 1.65$, further indicated that relative degrees of comfort assessing and treating varied across the disorders. Inspection of the means suggested that while providers were comfortable assessing and treating ADHD (*M* values above 4.0 on 5-point scale), they were clearly less comfortable assessing and treating other childhood disorders, most notably ODD and PTSD (see Table 2). A significant within-subjects (assess vs. treat) x disorder interaction $F(7, 455) = 7.77$; $p < .001$, $d = .69$ was also obtained, indicating that the discrepancy between comfort assessing and treating apparent for the other disorders is non-existent for ADHD.

With one possible exception, no effects for partnership status emerged in this overall analysis (i.e., no main effects for, or interactions with, relationship status). This pattern of results fails to confirm the first hypothesis. The one exception to the general pattern was a small, marginally significant effect for partnership status reflected in a (assess vs. treat) x partnership interaction $F(1, 65) = 2.96$; $p = .09$, $d = .43$. This particular interaction suggested that the discrepancy between comfort assessing and treating childhood psychological disorders (i.e., more comfortable assessing than treating) was somewhat greater for the non-partnered (difference of .85) than for the partnered (difference of .52) providers.

To further explore comfort assessing and treating specific disorders, a series of mixed 2 (assess vs. treat) by 2 (partnership) Anovas, with repeated measures on the first factor, were run separately for each disorder. As seen in Table 2, significant within-subjects effects revealed, once again, that providers were more comfortable assessing than treating all disorders except ADHD, which they were equally comfortable assessing and treating. Consistent with the aforementioned interaction, significant interactions with partnership status for ADHD and ODD suggested, as before, that the greater comfort assessing than treating child psychological disorders was more pronounced among non-partnered providers. Again, there were no main effects for partnership status.

## Use of Screening Tools

We hypothesized that providers in relationships/partnerships would be more likely to make use of formal screening instruments than non-partnered providers. Two-tailed, independent

**Table 2** Mean comfort level assessing and treating childhood behavioral health disorders

| Disorder | Partnership | | No partnership | | $F(1, 68)$[a] | Sig. | $F(1, 68)$[b] | Sig. |
|---|---|---|---|---|---|---|---|---|
| | Assess | Treat | Assess | Treat | | | | |
| ADHD | 4.27 | 4.30 | 4.46 | 4.19 | 2.54 | n.s. | 4.02 | .05 |
| Alcohol/drugs | 3.40 | 2.47 | 3.73 | 2.49 | 57.89 | .000 | 1.02 | n.s. |
| Anxiety | 3.57 | 2.97 | 3.84 | 3.05 | 38.89 | .000 | 1.14 | n.s. |
| ASD | 3.63 | 3.10 | 3.57 | 2.84 | 26.84 | .000 | 1.38 | n.s. |
| Depression | 3.80 | 3.07 | 3.81 | 2.92 | 43.50 | .000 | .44 | n.s. |
| Eating disorder | 3.07 | 2.57 | 3.76 | 2.86 | 30.92 | .000 | 2.72 | n.s. |
| ODD | 2.83 | 2.27 | 3.41 | 2.41 | 37.26 | .000 | 3.84 | .05 |
| PTSD | 2.50 | 2.17 | 2.76 | 2.16 | 15.13 | .000 | 1.85 | n.s. |

All responses based on scale ranging from 1 (not at all comfortable) to 5 (completely comfortable)

[a] Within-subjects effect for the discrepancy between comfort assessing and comfort treating disorders

[b] Interaction: relative comfort assessing and treating disorders across partnered and non-partnered practices

samples *t* tests revealed that there were no significant differences between the groups in the reported likelihood (1–5) of using formal screening tools to detect children who might have any of the eight disorders; this result fails to confirm the second hypothesis.

### Prescribing Psychotropic Medications

Providers also indicated (1–5) the likelihood of their initiating the use of psychotropic medication with patients ($M = 2.12$, $SD = 0.74$). Results presented in Table 3 mirror the preceding results insofar as ADHD stands out relative to the other disorders. In this case, a significant within-subjects effect for disorder $F(7, 462) = 100.16$, $p < .001$, $d = 2.46$, demonstrated that while providers said they are likely to initiate a course of psychotropic medication for ADHD ($M = 4.50$ overall), they are not likely to prescribe medications for other disorders (*M*s all below 3.0). We predicted that PPCPS in partnerships would be more likely to initiate psychotropic medications for their patients. There was no significant effect for relationship status in the overall analysis of these data but a significant difference was found for ASD. While providers did not appear any more or less likely to initiate psychotropic medication with this patient group (ASD) than with others, they were more likely to do so when they were in a relationship ($M = 2.07$) than when they did not ($M = 1.44$), $t(66) = 2.59$, $p = .01$. The third hypothesis thereby received limited support.

### Community Resources

It was expected that PPCPs in partnered practices would be more aware of mental health resources in the community. The question did not define resources given that these vary from location to location. Participants rated their awareness of mental health resources in their communities, with results indicating no difference between the two groups on this variable, contrary to our predicted result.

### Communication and Consultation

We hypothesized that PPCPs in relationships would report greater availability of communication and consultation with both psychiatric and non-psychiatric specialists when compared with those reporting no relationship/partnership. Results from two-tailed, independent sample *t* tests indicated that providers with partnerships reported significantly greater availability of on-going communication with psychiatric providers regarding medication issues ($M = 3.17$) than pediatricians without partnerships ($M = 2.33$),

**Table 3** Mean likelihood of initiating psychotropic medication by partnership status

| Disorder | Partnership ($n = 32$) | No partnership ($n = 40$) | Sig. |
|---|---|---|---|
| ADHD | 4.41 | 4.56 | n.s. |
| Alc/drugs | 1.31 | 1.18 | n.s. |
| Anxiety | 2.59 | 2.36 | n.s. |
| ASD | 2.07 | 1.44 | .01 |
| Depression | 2.62 | 2.44 | n.s. |
| Eating disorder | 1.69 | 1.51 | n.s. |
| ODD | 1.69 | 1.44 | n.s. |
| PTSD | 1.66 | 1.46 | n.s. |

Responses based on scale ranging from 1 (not at all likely) to 5 (completely likely)

$t(68) = 2.86$, $p = .006$. Furthermore, partnered providers reported significantly greater availability of psychiatric consultation regarding medication on a regular basis ($M = 2.93$) than did non-partnered providers ($M = 2.10$), $t(68) = 3.01$, $p = .004$, as well as greater availability of phone consultation with other mental health agencies or non-psychiatric providers ($M = 3.13$) than non-partnered pediatricians ($M = 2.36$), $t(67) = 2.72$, $p = .008$. Results thus support the fifth hypothesis regarding communication and consultation with mental health providers.

## Barriers to Management of Childhood Behavioral Health Disorders

We predicted that PPCPs who were partnered with mental health specialists would report fewer barriers to a range of activities related to patient care and mental health. Table 4 presents the range of possible barriers for the activities relevant to the management of childhood psychological disorders in pediatric practice sites. The frequency with which specific barriers were identified was compared across the partnered and no partnered groups. Because no differences were found, the overall frequency with which specific barriers were identified for different activities are reported in the table without breaking these data down by partnership status.

As seen in the table, the specific barriers identified by a majority of providers (i.e., >50 %) varied somewhat by the activity in question. While PPCPs in the sample reported a range of comfort levels in assessing and screening these disorders (Table 2), a variety of barriers appear to impact their doing so. More specifically, a majority of participants identified lack of time (72.2 %), insufficient knowledge (55.6 %), reimbursement (66.7 %), and a lack of available specialists (73.6 %) as barriers hindering this task. A lack of specialized knowledge (75 %) and staff (65.3 %) also stood in the way of providers initiating psychotropic medication prescriptions themselves or, to a lesser degree, monitoring the medications prescribed by others (58.3, 59.7 %). A large majority identified barriers to providing guidance or counseling themselves to patients including lack of time (79.2 %), insufficient knowledge (80.6 %), reimbursement (70.8 %), and a lack of specialized providers (61.1 %).

Partnership status was associated with specific barriers in a few activities. Reimbursement for screening/assessment and for counseling was reported by proportionately fewer of those in partnerships (60.7, 71.4 %) than by those without partnership status (83.8,

**Table 4** Barriers to PCPs management of patients with childhood behavioral health disorders

| Barrier | Provider activity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Identify/ screen assess | | Initiate meds | | Monitor meds | | Offer counseling/ guidance | | Make referral | |
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Too little time | 52 | 72.2 | 30 | 41.7 | 26 | 36.1 | 57 | 79.2 | 11 | 15.3 |
| Lack knowledge | 40 | 55.6 | 54 | 75.0 | 42 | 58.3 | 58 | 80.6 | 6 | 8.3 |
| Reimbursement | 48 | 66.7 | 30 | 41.7 | 29 | 40.3 | 51 | 70.8 | 13 | 18.1 |
| Lack specialists | 53 | 73.6 | 47 | 65.3 | 43 | 59.7 | 44 | 61.1 | 57 | 79.2 |
| Lack office staff | 28 | 38.9 | 17 | 23.6 | 15 | 20.8 | 21 | 29.2 | 13 | 18.1 |
| Concern about stigma of labeling | 9 | 12.5 | 7 | 9.7 | 3 | 4.2 | 6 | 8.3 | 5 | 6.9 |

91.2 %). Similarly, providers in partnered practices were somewhat less likely to identify a lack of specialists (82.8 %) as a barrier to making referrals than providers in non-partnered practices (97.1 %). In a different pattern, the partnered providers were somewhat more likely (96.7 %) than their non-partnered colleagues (77.9 %) to claim that there is too little time to offer counseling/guidance to their patients. There was limited support for this hypothesis concerning barriers to management of psychological disorders.

Interest in Formal Relationships with Mental Health Specialists

We predicted that PPCPs currently in partnerships with mental health providers when compared to non-partnered respondents would both have more interest in a formal, consultative relationship with such a provider and would think it more beneficial to have a mental health provider on-site, at least part-time. While there was no significant difference between the two groups, it is noteworthy that a striking majority overall were interested in establishing a formal consultative relationship with a mental health provider (79.1 %) and in having a mental health provider on-site, at least part-time (73.6 %). More specifically, 82.0 % of the non-partnered PPCPs either agreed or strongly agreed that it would be helpful to have a formal relationship with mental health provider and 73.8 % agreed or strongly agreed that having one on-site would be helpful. As indicated, these percentages were not significantly different from the partnered PPCPs (75.5 and 73.5 %, respectively), and our hypotheses were not supported.

## Discussion

This study surveyed a sample (N = 72) of pediatric primary care providers to explore how relationships/partnerships with mental health specialists related to their assessment and management of children and adolescents with eight different disorders. Results suggested few differences between those PPCPs involved in relationships with specialists and those who were not. Thus, the results of this study both add to the understanding of relationships between PPCPs and mental health specialists and—perhaps just as importantly—raise some questions to be addressed in future research.

The areas in which providers in relationships in this sample appear to have an advantage over those who are not in relationships are the availability of consultation and communication with psychiatric providers as well as telephone consultation with non-psychiatric mental health providers. However, for this sample, the availability of this consultation and communication did not translate into greater comfort levels assessing/diagnosing or intervening with pediatric patients with the eight target disorders as had been expected. Similarly, involvement in a relationship or partnership was not associated with greater comfort in prescribing medications for conditions other than autism. Providers in relationships did report reimbursement for screening and counseling in the office to be less of a barrier than non-partnered participants. It is not surprising that these PPCPs indicated that lack of mental health specialists was also less of a barrier than did PPCPs not in relationships. PPCPs in relationships may believe they experience fewer barriers to screening and counseling because they are confident that their patients will have access to services. This is evident in that PPCPs in relationships reported that lack of specialists is less of a barrier; however, both groups indicated that this lack is a barrier, consistent with the results of previous studies (Pidano et al. 2011a; Trude and Stoddard 2002). Somewhat surprisingly, providers without relationships indicated that "too little time" was less of a barrier

to counseling patients than those in relationships. It may be that providers who were extremely pressed for time, and perhaps unable to offer substantive guidance or counseling, were also those who sought out or agreed to relationships.

Two findings in particular raise some interesting questions: providers not in relationships were somewhat more comfortable than those in relationships in assessing/diagnosing disorders, and providers in relationships were not significantly more comfortable assessing/diagnosing or intervening with any of the disorders than those in the non-partnered group. Perhaps those providers not in relationships see less of a need to develop affiliations with mental health providers because they believe they are competent to handle more concerns on their own. Those in relationships might be less inclined to assess/diagnose and intervene because they have mental health provider colleagues to whom they can refer.

## Limitations

The modest sample size and the restricted geographic area reduce the generalizability of this study's results. It is unclear why there was a low return rate but there are several possibilities, including the fact that most of the data were collected in the summer when providers may have been on vacation or returning from vacation. In addition, potential participants may have received requests during the same time period to complete surveys from other sources, such as the American Academy of Pediatrics, which periodically distributes questionnaires to its members. With limited time available, PPCPs might be more likely to participate in studies sponsored by their primary association or other medical organizations than in one from researchers whom they did not know located at a university with which they had no affiliation. It might also be that only PPCPs who have a strong interest in behavioral health were inclined to participate in the study. Further, the time commitment (20 min) may have discouraged some providers from participating. In the future, briefer and/or electronic surveys might yield a higher rate of participation, as might surveys that are sent with collaborating medical professionals.

All of the data were based on self-report surveys and were subject to both the advantages and disadvantages of that methodology including the fact that participants had to estimate, recall, and make subjective judgments and decisions for many of the questions. They may also have experienced demands related to social desirability and competence when completing some sections of the survey. Finally, we did not have access to any patient data and so could not address the very important question of whether primary care—mental health relationships result in more effective care and better outcomes for patients.

## Directions for Future Research

Several questions emerge from this study and provide a wealth of opportunities for future research to inform policy, system building, and practice change to improve access to services and outcomes for children who experience mental health issues. Most critical is the question of "what differences can pediatric primary care-mental health relationships make in terms of ensuring better identification of children with mental health concerns and their receipt of intervention services that are integrated with their health services?" The results also suggest that it is worthwhile to formally study what pediatricians believe would be the beneficial outcomes of their relationships with behavioral health providers and how

those outcomes can be realized. Previous research (e.g., Honigfeld and Nickel 2010; Bower et al. 2001; Connor et al. 2006; Fishman et al. 1997; Kates et al. 1997; Oxman et al. 2002; Sarvet et al. 2010), has suggested that such partnerships are beneficial. One area worth exploring is the effects of relationships on prescribing and managing psychotropic medications, which would ease the burden on psychiatric prescribers to serve an increasing number of children who use medications for mental health conditions.

In this study, participants provided only limited information about their relationships with mental health providers. It will be important for future studies to consider the impact of relationship characteristics such as duration, level of formality, variations in communication, and procedures. For example, some relationships may have been in the early stages of formation while others may have been well-established; some may have been for referral purposes only while others may be more extensive, such as those that have resulted from Connecticut's recently enacted requirement that enhanced care clinics develop formal memoranda of understanding with primary care practices. Some of the partnered providers may not have had the time to develop mechanisms for referral, sharing of patient information, and generally improving the capacity of PPCPs to address mental health concerns of their patients.

Future research will not only need to provide a better understanding of the effects of different types of relationships but will also need to identify the critical components of those which are found to be associated with positive outcomes for children. One study (Pidano et al. 2011b) has suggested that communication is a key aspect of partnerships, but more comprehensive research is clearly indicated. The colocation model described by Ward-Zimmerman and Cannata (2012) also underscored the importance of communication, as well as the importance of identifying a "champion" in the pediatric office to support the partnership. In addition, studies are needed that include larger, more geographically diverse groups of PPCPs and that incorporate multiple sources of data. For example, accessing and analyzing practice data and patients' files and medical records for information related to mental health disorders, use of screening instruments, patterns of prescribing psychotropic medications, and referrals to, and communication with, mental health specialists would add important quantitative and objective information to the data that can be obtained through provider self-report instruments. Most importantly, it will be essential to obtain and better understand patient experience and outcome data.

## Implications

Taken as a whole, the results suggest that the PPCPs who participated in this survey are amenable to having a consultative relationship with a mental health provider and to having a mental health provider in the office, at least on a part-time basis. Further, those who are currently involved in relationships with mental health providers reported greater availability of consultation with both psychiatric and non-psychiatric mental health specialists than those who are not in relationships. However, there are no substantive indications in the results that involvement in a relationship is associated with greater comfort in assessing/diagnosing or intervening with children with behavioral health disorders with the exception of PPCPs in relationships reporting that they are more likely to prescribe psychotropic medications for children with autism.

One of the greatest benefits of pediatric primary care-mental health partnerships is that the PPCP has a trusted expert with whom to consult and to whom patients can be referred. Research is also needed to determine other factors that might be effective in helping PPCPs

move toward greater comfort levels with managing, or co-managing children with mental health disorders. With an increasing emphasis on primary care in recent health care reform legislation (Abrams et al. 2011) and its relationship to other medical and nonmedical services that patients use, partnerships among providers will become increasingly important as new models of delivery that address efficacy and efficiency evolve. Because mental health concerns have been shown to be directly related to health, school success (Wertheimer et al. 2003), and general quality of life, they need to be addressed in collaboration with health care services where concerns can be identified early, connections to mental health specialist ensured, and integrated care plans implemented. Partnerships between health and mental health providers provide great potential to realizing this piece of the medical home service delivery model by engaging child health providers in surveillance and early detection of mental health issues and connecting children to mental health professionals for treatment. Yet, further research is needed to delineate the types and characteristics of partnerships that can be most effective in supporting health and mental health providers to work together toward improved outcomes for children.

Although more research is clearly needed, we believe that mental health providers have an opportunity to participate in relationships that may improve the quality and integration of care and positive outcomes for children and families. Based on the results of this study, as well as our experience, and in the context of the literature cited in the introduction to this paper, we suggest that mental health providers:

1. Pursue education regarding the medical home concept and acquire familiarity with the literature on collaborative and integrated care
2. Network with other mental health providers with similar interests; for example, mental health professionals might consider joining divisions or sections of their professional organizations that focus on pediatric care, integrated care, and health care
3. Learn about the roles and responsibilities of PPCPs, as well as the challenges they face
4. Work to establish connections with local PPCPs that may evolve into on-going relationships that support collaborative care
5. Recognize and act on the willingness and interest that PPCPs, such as those in this study, have expressed with regard to relationships with mental health care providers. Many PPCPs are not formally trained to address emotional and behavioral health issues, and psychologists can play an important role in improving outcomes for children. For example, PPCPs in this sample report high levels of comfort in assessing and treating children with ADHD, as is evident from Table 2. However, this does not necessarily mean that their patients are also receiving psychotherapeutic interventions that address issues such as non-compliance at home and school, organizational difficulties, and compromised peer relationships.

## Concluding Statement

This study contributes to the growing body of research that focuses on collaborative and integrated care for children. Based on our experience, the results reported here, and our understanding of the literature, we concur with Clay (2012) that "Integrated care is the future". For the sake of children, it is imperative that there is a cadre of both pediatric primary care providers and mental health specialists who are prepared to meet the challenges of that future.

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