

Strengthening the Coordination of Pediatric Mental Health and Medical Care: Piloting a Collaborative Model for Freestanding Practices

Carolyn A. Greene¹ · Julian D. Ford¹ · Barbara Ward-Zimmerman² · Lisa Honigfeld³ · Anne E. Pidano⁴

Published online: 29 March 2016
© Springer Science+Business Media New York 2016

Abstract

Background Collaborative pediatric mental health and primary care is increasingly recognized as optimal for meeting the needs of children with mental health problems. This paper describes the challenges faced by freestanding specialty mental health clinics and pediatric health practices to provide such coordinated mind-and-body treatment. It describes critical elements of a proactive approach to achieving collaborative pediatric care under real-world circumstances using the patient-centered medical home neighborhood (PCMH-N) model.

Objective The current study evaluates the field test of the practitioner-informed model to facilitate interdisciplinary collaboration (PIM-FIC), a systematic approach to improving inter-professional collaboration by building relationships and enhancing communication between pediatric mental health and primary care practices.

Methods Thirty-nine providers at two mental health and two pediatric primary care practices participated in a pilot project and completed surveys prior to and following their participation. Key informant interviews were also conducted prior to the project.

Results Participating practitioners' survey and interview responses indicate that the quantity and quality of communication between pediatric mental and medical health care providers increased post-project, as did satisfaction with overall collaboration.

Conclusions Improving relationships and communication are first steps in building the infrastructure to support effective coordinated care. Project results highlight practical and easily implemented strategies that pediatric mental health and primary care practices can take to strengthen their collaboration. Findings also suggest a need for collaborative care

✉ Carolyn A. Greene
cgreene@uchc.edu

¹ Department of Psychiatry, University of Connecticut Health Center, 65 Kane Street, West Hartford, CT 06119-7120, USA

² Integrated Care Consultant, Glastonbury, CT, USA

³ Child Health and Development Institute of Connecticut, Inc., Farmington, CT, USA

⁴ Department of Psychology, University of Hartford, West Hartford, CT, USA

policies and competencies for child mental health providers working in freestanding practices within the PCMH-N.

Keywords Collaborative care · Communication · Interdisciplinary relationships · Mental health care · Pediatric primary care

Introduction

Pediatricians want and need mental health colleagues with whom they can collaboratively care for their patients in a coordinated and effective manner (e.g., Foy and Perrin 2010). While an increasing number of pediatric practices include co-located behavioral health professionals who conduct brief assessments and interventions, children requiring more intensive or long-term treatment benefit from referral to specialty mental health providers who generally practice in separate locations from pediatric medical primary care sites (Nash et al. 2013; Pomerantz et al. 2014). However, working in physically separate locations can pose significant barriers to timely and efficient inter-professional collaboration and communication. Unlike the practice guidelines that have been developed for use by behavioral health providers practicing in primary care settings (Alexander et al. 2010), specific strategies and practical tools that specialty child mental health providers working in freestanding practices can use to facilitate and enhance systematic collaborations with the medical providers practicing in their communities have not been well developed or empirically tested in community settings. The purpose of this project, therefore, was to develop and preliminarily test a systematic model for facilitating collaboration between free-standing pediatric and mental health practices.

The current paper, therefore, goes beyond describing the barriers to inter-professional collaboration and reports on the field test of the practitioner-informed model to facilitate interdisciplinary collaboration (PIM-FIC), a proactive and practical approach to addressing barriers to achieving collaborative mental health care under real-world circumstances consistent with the patient-centered medical home neighborhood (PCHM-N) model and the tenets of relational coordination (Gittell 2000). The PIM-FIC aims to dismantle isolated practice models and foster collaborative mental health and pediatric partnerships by building interdisciplinary relationships and improving communication practices. Further, rather than reflecting the perspectives of one discipline, as much of the current literature tends to do (e.g., Beacham et al. 2012; Brucker and Shields 2003; Massa et al. 2012; Williams et al. 2005), a critical strength of the PIM-FIC is that the guidelines and strategies were responsively developed from feedback provided by *both* the mental health and pediatric primary care providers participating in the project to meet their specifically identified needs and preferences.

Collaborative Care for Children: From Medical Home to Medical Neighborhood

There is increasing recognition of the advantages to addressing children's behavioral and mental health needs within primary care. Approximately 10–25 % of the 74 million children younger than 18 in the United States (Howden and Meyer 2011) experience mental health problems (Costello et al. 2003; Ford et al. 2006; Jellinek 2013), and most of these youth are seen by pediatric primary care providers (PPCPs) (Bloom et al. 2013). The

American Academy of Pediatrics (AAP) therefore recognizes that pediatricians must attend to mental health issues as part of their ongoing care of children (American Academy of Pediatrics 2009, 2014). Furthermore, guidelines and standards for the patient-centered medical home (PCMH) require that pediatric primary care providers not only identify and deliver early intervention for mental health concerns, but also coordinate and oversee the ongoing provision of their patients' mental health care (National Committee for Quality Assurance 2014).

Most pediatricians do not wish to be solely responsible for the treatment of mental health problems (Pidano et al. 2011; Stein et al. 2008) and thus seek mental health professionals with whom they can consult and to whom they can refer their patients. Even if a practice has an in-house mental health practitioner who provides behavioral health interventions such as consultations and brief courses of treatment, the needs of children whose mental health challenges are complex and severe are generally best met by referral to specialty mental health providers for intensive and/or long-term treatment (Nash et al. 2013; Pomerantz et al. 2014). Therefore, specialty mental health psychologists in the community serve a valuable role for meeting the collaborative care requirements of the PCMH.

However, the PCMH model does not address the changes to the infrastructure of specialty mental health practice that are needed to implement greater communication and care coordination among mental health and primary care providers. (Huang and Rosenthal 2014). Collaborative care between separate practice sites requires purposeful communication, because chance meetings "in the hallway" are not possible and regular staff meetings at each practice only include onsite providers. Inter-professional relationships must be initiated, nurtured and sustained despite limited (if any) points of personal contact.

An extension of the PCMH, the Patient-Centered Medical Home Neighborhood (PCMH-N) is a promising framework developed in the healthcare arena to address collaboration by primary care and specialty providers (Fisher 2008; Pham 2010). While the medical home focuses on the processes and components of quality primary care, the medical *neighborhood* concept provides guidance and structure to relationships between primary care medical home providers and specialists, hospitals, and other clinicians and facilities that make up the healthcare and larger community service system (American College of Physicians 2010; Fisher 2008; Pham 2010; Taylor et al. 2011), and therefore can inform the work of pediatric mental health and primary care clinicians practicing in separate settings but needing to collaborate in the care of shared patients. Core components of effective inter-professional relationships in the medical neighborhood include: bi-directional communication, timely consultation, effective flow of information across caregivers, and the development of formal agreements to guide communication, coordination and co-management (American College of Physicians 2010; Taylor et al. 2011).

Improving Collaborative Practice

The concept of relational coordination (RC) can also guide efforts to improve inter-professional collaborative practice (Gittell et al. 2013). First developed in the aviation industry, RC posits that the two connective elements of relationships and communication are essential to effective shared task completion among individuals participating in interdependent, uncertain and time-constrained work settings such as patient care (Gittell 2000).

Fostering Collaborative Mental Health-Medical Partnerships by Building Relationships

With some notable exceptions, the fields of mental health and medicine have historically engaged in separate education, training, and treatment approaches (Kessler et al. 2009). This separation has fostered a lack of understanding of each other's activities that impedes providers' ability to work together (Kainz 2002). Building these relationships and fostering understanding of the other's professional culture contributes to enhanced communication and referrals, dismantling a key barrier to collaboration between primary care and specialty mental health. Physicians who have a relationship with a mental health provider engage in greater coordination of care, report greater availability of consultation and communication with psychiatric providers, and greater availability of telephone consultation with non-psychiatric mental health providers (Pfefferle et al. 2006; Pidano et al. 2014). A survey of 48 PPCPs revealed that although 73 % of providers were aware of mental health resources in the community, only 42 % could identify a specialist with whom they could consult (Pidano et al., 2011). Clearly, being aware of providers who can offer treatment resources is different from actually having a collaborative relationship with them. Noteworthy is the fact that 85 % of PPCPs stated they would be interested in a formal relationship with a mental health professional.

Enhancing Collaborative Mental Health-Medical Partnerships by Improving Communication

Studies of physician referral patterns and barriers to integrated care highlight the need for improved bidirectional communication once a mental health need has been identified (Kainz 2002; Pidano et al. 2011; Sarvet and Wegner 2010; Williams et al. 2005). Insufficient communication interferes with the continuity and coordination of care, and ultimately compromises treatment outcomes (Williams et al. 2005). While communication is a challenge amongst all primary care and specialty providers (Stille et al. 2006), the gaps in the information that flows between primary care and mental health practitioners appear to be especially problematic (Foy and Perrin 2010; Williams et al. 2005; Yuen et al. 1999). Surveys of pediatricians consistently reveal that they do not receive sufficient information from mental health clinicians to whom they have referred their patients (Gerdes et al. 2001; Ross et al. 2011; Williams et al. 2005). Additionally, pediatricians report that they provide information to mental health providers on referred patients less than half of the time (Ross et al. 2011; Yuen et al. 1999), and mental health providers report that they are frequently the initiators of collaborative contacts (Brucker and Shields 2003). However, to our knowledge no studies have been published that attempt to identify barriers to information exchange from both the mental health and primary care providers' perspectives. In a recent study of the co-management of pediatric depression and anxiety, communication between mental health and primary care providers occurred for only 6 % of patients, despite the inclusion of communication templates (in the absence of relationship-building components) in a pediatric toolkit (Rubin et al. 2014). Nevertheless, providers in both professions agree that regular contact is important for optimal patient care (Miller et al. 2004).

Complex state and federal privacy laws, time constraints, and lack of reimbursement for communication outside of patient visits are a few of the well-documented barriers to inter-professional communication (American Academy of Pediatrics 2012; Knowles 2009). Additional barriers are the differing expectations regarding frequency of communication ("need to know" vs. routine updates) and the content of information to be shared (diagnosis and

treatment plan vs. detailed summaries of treatment) that results from the separate, or “siloed,” approach to training and practice of mental health and medical professionals. Although “communication toolkits” consisting of sample letters and forms that can be used to enhance collaboration have been developed and recommended previously by both psychologists (Ruddy et al. 2008) and pediatricians (American Academy of Pediatrics 2010), standardized and efficient collaborative communication policies and practices that detail what information to share, and when, are largely non-existent. This inhibits the collaborative practices between specialty mental health and primary care providers unlike the standardized practices that occur between primary care and most other health specialists (Massa et al. 2012).

Case Study in Collaborative Mental Health-Medical Care: The PIM-FIC Project

Researchers at the University of Connecticut Health Center, Department of Psychiatry developed the practitioner-informed model to facilitate interdisciplinary collaboration (PIM-FIC) as a project grounded in research on the core elements of relational coordination (Gittell 2000) and designed to address the collaborative care needs of *both* mental health and pediatric primary care providers working in the PCMH-N. The goal of PIM-FIC was to responsively create tools for establishing and maintaining enhanced relationships and timely, efficient, and effective communication between children’s specialty mental health and pediatric primary care providers. The model was based on the premise that relationships and communication are the two connective elements upon which collaboration is based, and therefore the mechanisms of change by which collaboration can be enhanced. The project consisted of two phases. The first phase utilized surveys and key informant interviews to elicit from both mental health and pediatric providers information about current practices, needs, and preferences. In the second phase, researchers used this information to inform the development of relationship-building and communication-enhancing strategies and tools.

Current Study

The current study describes a preliminary field-test of PIM-FIC in two pairs of mental health and pediatric practice groups aimed at increasing interdisciplinary collaboration by introducing relationship- and communication-enhancing strategies among the providers. It was hypothesized that these strategies would result in the providers reporting increased collaboration, as measured by (1) increased rates of information exchange; (2) increased satisfaction with the rates of information exchange, specifically; (3) increased satisfaction with the level of interdisciplinary collaboration overall; and (4) increased expectations for shared care management. To our knowledge, this is the first time the use and effectiveness of collaborative relationship- and communication-enhancing strategies have been monitored and measured by both mental health and primary care providers concurrently.

Methods

Participants

Providers at two mental health (with 16 and 7 clinicians, respectively) and two pediatric primary care (with 6 and 10 PPCPs, respectively) practices located in Connecticut completed surveys prior to and following participation in the PIM-FIC project. The majority of

both mental health and pediatric providers were female (100 and 86 percent, respectively). Six (26 %) mental health providers responded to the surveys at both time points; two (33 %) were psychologists (PhD or PsyD), three (50 %) were licensed clinical social workers (LCSW), and one (17 %) was a master's level marriage and family therapist. The mean age of mental health providers was 48.83 years ($SD = 8.37$), and the mean years in practice was 14.83 ($SD = 6.37$). Seven (44 %) pediatric providers responded to the surveys at both time points; five (71 %) were MDs, one (14 %) was a DO, and one (14 %) was an APRN. The mean age of primary care providers was 42.29 ($SD = 6.47$) and the mean years in practice was 13.43 ($SD = 7.48$). Nine mental health and pediatric practitioners did not complete either survey. Those who completed only the pre- or post-project surveys ($n = 17$) did not differ significantly in professional background, age, or years in the practice from those who completed both interviews (data not shown here but available from the first author).

Procedures

The protocol for this study was approved by the University of Connecticut Health Center Institutional Review Board. None of the authors has any conflict of interest to declare with respect to publication of this manuscript. The first author takes responsibility for the integrity of the data and the accuracy of the data analysis.

The study employed an observational single-group cohort design utilizing a sample of convenience. The first phase of the study involved intensive information gathering. Researchers conducted key informant interviews with 12 mental health and 10 primary care providers and staff members at two pairs of geographically proximate pediatric mental health and medical practices to identify needs and preferences related to collaborative care. Interviews elicited preferred strategies for achieving timely, responsive, collaborative communication and treatment. Respondents also provided feedback on proposed relationship-building methods including joint trainings, continuing professional education sessions, case conferences, meetings and e-mail exchanges with the goal of establishing relationships and increasing knowledge about each other's areas of expertise and expectations. Researchers also surveyed the clinical providers at each practice to ascertain their current practices and attitudes, and distributed a questionnaire to parents in the practices to identify their experiences with, and preferences for, treatment coordination and communication amongst their children's providers (see Greene et al. 2015).

In the second phase of the study, results from the surveys and interviews informed the development of strategies and tools to foster collaboration across each pair of mental health and pediatric practice groups. An iterative process of consensus building guided the pairings in creating a six-month step-wise action plan to increase collaboration. Specific components of the plan fell into two categories: relationship-building activities and communication tools. Respondents completed a follow-up survey at the end of the six-month project period to reassess their communication and collaboration practices and attitudes.

Relationship-Building Strategies in the PIM-FIC

Participants' responses during Phase 1 interviews suggested that enhanced, mutual familiarity across disciplines would improve providers' ability to work together. Researchers then incorporated several relationship-building strategies into the project: (1) a meet and greet "kick-off" luncheon at the start of the project, (2) creation of a staff

directory that included a picture and contact information for each provider as well as the types of insurances accepted, (3) a series of mini trainings during which providers from one discipline led an informal lunch-time discussion on a topic of interest for their cross-discipline colleagues (e.g., mental health providers visited the pediatric office to address bullying, and at the mental health site a pediatrician conducted a presentation on conditions requiring a medical rule-out), and (4) implementation of a listserv that providers could use for ongoing, informal, patient non-specific consultation.

Communication Protocols in the PIM-FIC

Interviews solicited mental health and primary care providers' views about the type and frequency of information that would be most helpful. Research staff designed a streamlined protocol to guide the timing and content of future communication between the providers based on their responses. Because both groups identified time constraints as a barrier to effective communication, concise, easy-to-use, faxable forms were drafted to include desired data and clinical impressions. Where possible, check boxes were used to allow providers to document information to be communicated. Providers agreed upon an expected minimum level of information to be shared by each discipline, including: notification when a patient initiated behavioral health treatment, reason for referral by a pediatric provider accompanied by relevant history, regular status updates, and notification of significant clinical and/or environmental changes.

Survey Instrument

Research staff at the University of Connecticut Health Center developed and piloted the surveys for this project, based in part upon a survey developed by Pidano and colleagues (2011), with additions and revisions guided by published studies of mental health and primary care collaboration (Kainz 2002; Williams et al. 2005; Yuen et al. 1999). The survey captured providers' perceived satisfaction with current levels of communication and collaboration (rated on a 5-point scale ranging from "very dissatisfied" to "very satisfied"); perceived barriers to communication and collaboration (rated on a 4-point scale from "not at all a barrier" to "a large barrier"); and key markers of collaboration including: the frequency of referrals made or received between primary and mental health care providers in the past 6 months ("never," "rarely," "occasionally," or "frequently"), and the frequency and purpose (e.g., referral, follow-up care, case consultation) of phone or email contacts made or received between mental health and primary care providers in the past 6 months.

Statistical Analyses

Thirteen providers (33 % of the total number of participating providers) completed the survey both prior to and following the 6-month project. Inferential statistics were not used to test comparisons between baseline and post-project survey responses or differences between mental health and pediatric providers due to the small Ns and exploratory nature of the project. Instead, descriptive results highlight responses for survey items on which there were (a) relatively few (i.e., <33 %) or high levels of (>67 %) endorsements, or (b) an absolute difference of >20 % between groups at a single time point or within a group on the pre-test and post-test endorsement of item(s).

Results

Barriers to Communication

Prior to the project, mental health and pediatric providers rated potential barriers to effective communication. Survey results are presented in Table 1. Both professions cited time constraints as a barrier to communication. Mental health providers identified a need to better understand the information desired by PPCPs, and PPCPs identified failure to receive timely information from mental health providers as a barrier to collaboration. None of the providers noted concerns about stigma as a barrier to referral, and fewer than 33 % cited privacy concerns and lack of reimbursement as barriers to communication. Mental health and pediatric providers who completed only the pre-project survey did not differ in their ratings of potential barriers from providers who completed surveys at both time points (data available from the first author).

Rates of Information Exchange

Prior to and following the project, mental health and pediatric primary care professionals reported the rates at which they transferred information (Table 2) to the other provider. Baseline results were consistent with other accounts of communication between professions providing care in separate “silos” (Ross et al. 2011): all providers reported very little information exchange. Only 50 % of mental health providers and 29 % of pediatric providers reported at least occasionally sending or receiving clinical information at the outset of treatment (i.e., reason for referral, notification of the initiation of mental health treatment, or a mental health treatment plan). Both mental health and pediatric providers rated this information exchange as insufficient. Mental health and pediatric providers who completed only the pre-project survey did not differ in their ratings of information exchange from providers who completed surveys at both time points (data available from the first author).

Following the six-month project, mental health providers and PPCPs reported levels of information exchange that were higher both from the perspective of sending and receiving information. Mental health providers reported sending their medical colleagues written information following the project at a higher rate (83 %) as compared to baseline (50 %),

Table 1 Pre-project survey results: barriers to communication

	Percent identifying item as moderate or large barrier	
	MH providers (n = 6)	PPCP (n = 7)
Time constraints	100 %	86 %
Not receiving helpful information	n/a	57 %
Not receiving timely updates	n/a	71 %
Not knowing what type of information would be helpful	67 %	n/a
Not knowing frequency of updates wanted	33 %	n/a
Lack of reimbursement for communication	33 %	0 %
Patient privacy constraints	17 %	27 %

Table 2 Survey results: information exchange

	Pre-project (%)	Post-project (%)
Mental health care providers (n = 6)		
Notification of treatment is occasionally or frequently sent to the PPCP	50	83
Initial evaluation or treatment plan is occasionally or frequently sent to the PPCP	33	50
Mental health provider occasionally or frequently receives:		
<i>Reason for referral</i>	33	50
<i>Periodic update</i>	0	0
Level of information exchange is sufficient or somewhat sufficient	33	33
Pediatric primary care providers (n = 7)		
PPCP's reason for referral is occasionally or frequently sent to the mental health provider	29	100
PPCP occasionally or frequently receives:		
<i>Notification of treatment</i>	29	71
<i>Mental health evaluation</i>	14	57
<i>Periodic updates</i>	14	57
<i>Discharge summary</i>	14	71
Level of information exchange is sufficient or somewhat sufficient	14	71

and indicated that they received the PPCP's reason for referral more frequently than at baseline. Likewise, PPCPs reported an increase in all types of written documentation received from mental health providers, and 71 % of PPCPs rated this higher level of communication as sufficient post-project. A possible exception to this positive response by PPCPs was that two PPCPs who completed only the post-project survey rated the frequency of receiving mental health evaluations and updates and the overall exchange of information as insufficient.

However, mental health providers reported obtaining referral information occasionally or frequently from PPCPs at a rate that was lower (50 %) than that described by PPCPs as senders (100 %), and they continued to report after the project that they were not receiving periodic updates from PPCPs. Only 33 % of mental health providers rated the information received from PPCPs as sufficient following the project (equal to the percentage who rated information from PPCPs as insufficient before the project).

Satisfaction with Information Exchange and Inter-professional Collaboration

None of the providers were satisfied with inter-professional collaboration at baseline, whereas 67 % of the mental health providers and 86 % of the PPCPs were satisfied with the collaboration post-project (Table 3). Thirty-three percent of mental health providers and 29 % of PPCPs were satisfied with the inter-professional information exchange at baseline, and this remained at 33 % for the mental health providers post-project, but increased to 57 % of the PPCPs. Mental health providers who completed only the pre- or post-project survey did not differ in their ratings of satisfaction from providers who completed surveys at both time points; however, four pediatric providers who completed

Table 3 Survey results: satisfaction and expectations

	Pre-project (%)	Post-project (%)
Mental health care providers (n = 6)		
Satisfied or very satisfied with level of collaboration	0	67
Satisfied or very satisfied with amount of information currently being exchanged	33	33
Expectation for shared management of behavioral health care concerns	33	50
Pediatric primary care providers (n = 7)		
Satisfied or very satisfied with level of collaboration	0	86
Satisfied or very satisfied with amount of information currently being exchanged	29	57
Expectation for shared management of behavioral health care concerns	86	86

only baseline surveys reported slightly higher levels of satisfaction with collaboration, and two pediatric providers who completed only post-project surveys reported slightly lower levels of satisfaction with collaboration than did pediatric providers completing surveys at both time points (data available from the first author).

Expectations for Care

Table 3 also provides survey results of provider expectations for collaborative management of children's care. While only 33 % of mental health providers expected to share management of their patients' mental health problems, 86 % of PPCPs held this expectation prior to the project and continued to expect to share the care for their patient's mental health needs at post-project. There was a modest increase to 50 % of mental health providers expecting to share collaborative care at post-project. Mental health and pediatric providers who completed only the baseline or post-project surveys did not differ on these responses from those who completed both surveys (data available from the first author).

Discussion

This pilot project aimed at increasing collaboration between specialty mental health and pediatric primary care providers included the introduction of several relationship-building and communication-enhancing activities and tools over a six-month period. Participating practitioners' survey responses indicate that the quantity and quality of communication increased, as did satisfaction with overall collaboration. In fact, satisfaction levels following the project were consistent with those reported by primary care providers working within an integrated system (Gerdes et al. 2001), suggesting that it is not necessarily the physical proximity of providers, but the level of communication and relationship with interdisciplinary colleagues that is important. However, it also is noteworthy that mental health providers tended to express dissatisfaction with the inter-professional information exchange with PPCPs and had relatively low expectations for shared care management even after the project.

While the results of this study need to be replicated on a larger scale and the primary components of the pilot project further examined for their independent contributions as well as assessed for effects on patient outcomes, there are some interesting implications for child mental health providers. Specifically, these preliminary findings suggest that several easily implemented activities consistent with the tenets of relationship coordination and PCMH-N recommendations and standards may bridge the gap between specialty child mental health and pediatric providers, contributing to increases in both the level of information exchanged amongst providers and the satisfaction of the providers. The results offer a number of lessons learned about practical steps to improve communication amongst interdisciplinary providers and to create the infrastructure needed to support collaborative treatment of children's mental health within the PCMH-N model.

Lessons Learned

Efficiency is Key and Brief Written Feedback can be Effective

Mental health providers and physicians who find collaborative care burdensome are less likely to engage in it, and physicians who experience collaboration as burdensome are more reluctant to address patients' mental health issues (Gavin et al. 1998). At the outset of this study, providers' cited time constraints as the biggest barrier to communication. Therefore, this project included the design and implementation of a communication protocol and standardized forms to assist providers in sharing key information as efficiently as possible. Following the initial exchange of referral and treatment information, the communication protocol asked clinicians to send updates quarterly in the absence of significant changes (e.g., modifications to medications, level of acuity, or diagnoses), utilizing a one-page form designed for this purpose. The following recommendations address improving inter-professional communication efficiency: (1) Jointly determine key information to be shared and frequency of updates. For this project, key information identified by project participants include: physician referral question and child's history; diagnoses; treatment plans; medications; frequency of visits; and referrals to other providers. (2) Clearly define expectations for communication and follow-through with agreed upon time frames for written updates. (3) Judiciously use technology. Email systems and other electronic information exchanges that meet confidentiality requirements can expedite communication and will continue to become increasingly available. However, when current infrastructure constraints limit the use of electronic technology, employing faxes for routine updates can help to streamline communication between busy professionals, reserving the use of phone calls for urgent matters and pre-planned consultative discussions.

Organizational Infrastructure is Needed

Even efficient communication is time-consuming, especially in an environment of increased documentation demands, and specialty mental health practices are less likely than pediatric offices to have administrative staff or electronic records in place to aid communication. Therefore, organizational infrastructure facilitating collaboration is critical and makes it more likely to happen, including the implementation of office procedures to ensure exchange of information between the primary care practice and mental health specialists (Foy et al. 2010; Gavin et al. 1998). In this study, the forms were developed by the research team, and given to the practices to implement as they saw fit. No additional research team resources were provided to ensure their use (e.g., the team did not send

reminders). One mental health practice left the use of the forms up to the individual providers, and one mental health practice (with an administrative staff) provided clinicians with reminders when forms were due. Not surprisingly, the second practice was more likely to use the forms. This suggests that practitioner-informed models to facilitate interdisciplinary collaboration between child mental health providers working in specialty practices and pediatric practitioners may be feasible with a modest allocation of resources if the practices are willing to invest in fostering collaborative communication in a number of ways, including: (1) use of an automated tracking or tickler system, such as an electronic calendar reminder system to prompt busy clinicians when paperwork is due; (2) allot time for organization-sanctioned communication and collaboration; (3) advocate for payment for clinical care coordination.

Collaborative Care Rests on the Foundation of Relationships

To bridge the two types of practices, the project incorporated relationship-building components, fostering familiarity and understanding between providers. While improvements in relationships are difficult to measure, feedback following the project suggests that these aims were at least partially met. For example, a mental health participant reported that, “Having time face-to-face...takes some of the mystery out of who I am talking to... it is really okay that I’m leaving messages.” A pediatrician stated, “I definitely feel that there is more of a connection there for me now...I could call them [mental health practice colleagues] and say, ‘Hey, we’re seeing a lot of this [mental health problem], can you help us with it?’” On the other hand, when the professional-to-professional relationship is not established, pediatric practitioners may, unbeknownst to the mental health provider, want that communication and view the mental health provider as failing to be sufficiently collaborative. For example, this may have been the case with the two PPCPs who only completed the post-project surveys and, in contrast to PPCPs who completed both pre and post surveys, rated communication as insufficient and were dissatisfied with collaboration.

Increasing Mental Health Providers’ Focus on Interprofessional Collaboration is Critical

From the outset, the PPCPs in this study were very clear in their desire for, and appreciation of, routine communication from mental health providers. The counterpart was not true for the mental health clinicians, however. Perhaps one of the most significant benefits of this project was the shift in mental health providers’ expectations for communication and their increased awareness of the importance and benefits of involving pediatric primary care providers in monitoring and contributing to the clinical outcomes of ongoing mental health care. Whereas in interviews with mental health clinicians prior to the project, statements such as, “Unless there’s a reason medically, to be in touch with the pediatrician’s office, we do not routinely do that” were common, at the post-project interviews, they reported that the project, “raised everyone’s awareness of how important [regular inter-disciplinary communication] is,” and “opened up my eyes so much more to now wanting written feedback [from pediatricians].” In fact, these increased expectations may help to explain the lack of increase in mental health providers’ satisfaction levels in this study. Mental health clinicians who do not expect to co-manage children’s behavioral health concerns may be “satisfied” with little or no information from their pediatric colleagues. However, as they become more aware of the importance and benefits of involving pediatric primary care providers in sharing history and concerns and monitoring

the clinical outcomes of mental health care, the gaps or absences in communication become a source of potential dissatisfaction. Therefore, although the mental health providers reported receiving more information, because their expectations had increased this was not associated with a corresponding rise in their level of satisfaction.

Nevertheless, at the close of the study fully half of the mental health providers continued to express low expectations for shared care management, a finding that has not previously been identified in the extant literature. Yet expectations guide behavior, and thus this represents a significant barrier to interdisciplinary collaboration and communication. Shifting this expectation will be important to establishing effective collaborative relationships. Therefore, a goal of future research will be to gain a better understanding of the factors that influence providers' expectations and ultimately their decision whether or not to engage in collaborative care.

Concluding Comments

While the small number of practices included, the relatively low response rate, and the reliance on clinician self-reports limits generalizing from this exploratory study, the results support the need for, and importance of, specialty child mental health provider-PPCP relationships and communication. The results further provide direction for practical and easily implemented steps that freestanding practices in the PCMH-N can take to enhance collaborative care addressing children's mental health needs. Even strategies as seemingly minor as creating brief forms for exchanging information and sharing staff directories containing brief biographical information have the potential to improve both communication and satisfaction with collaboration. Technologically dependent strategies such as encrypted e-mails and customized listservs can further dismantle the communication barriers. Future research to determine if enhanced relationships and communication ultimately also result in better care and outcomes for the many youth who are in need of mental health services is critical.

Despite the growing movement in health care toward service integration, specialty mental health and pediatric primary care continue to be largely provided in separate "silos." In order for collaboration between specialty mental health and pediatric primary care practitioners to become the standard of care for referral and treatment of our nation's youth with mental health challenges, child mental health providers must proactively partner with pediatric practitioners to develop standardized processes for referral, communication, joint treatment planning and monitoring. Although competency recommendations and practice standards have been established for mental health providers working in primary care settings (e.g., American Psychological Association 2013; National Association of Social Workers 2005), they do not yet exist for mental health providers working in freestanding practices. Models of training and care as well as competency guidelines that support collaboration need to be delineated for specialty child mental health providers. The development and implementation of such guidelines is consistent with, and informed and incentivized by, the newly released NCQA Patient-Centered Connected Care Recognition program (National Committee for Quality Assurance 2015). Mental health clinics or practices providing outpatient consultation or treatment in the medical home neighborhood are now eligible for recognition if they meet specified standards, including the sharing of information with patients' primary care providers (National Committee for Quality Assurance 2015). In sum, overcoming the real-world barriers to achieving

collaborative care for children with mental health needs must be a priority for the field of child mental health.

Acknowledgments This publication was made possible by CTSA Grant Number UL1 TR000142 from the National Center for Advancing Translational Science (NCATS), a component of the National Institutes of Health (NIH), and from the Children’s Fund of Connecticut (CFC). Its contents are solely the responsibility of the authors and do not necessarily represent the official view of NIH or CFC. The authors wish to gratefully acknowledge the collaboration and support of the Child Health and Development Institute of Connecticut. We also wish to express our gratitude to the parents and staff of the four practices who volunteered their time and effort to participate in this study of collaborative care: Branford Counseling Center; Branford Pediatrics & Allergy; Bunk, Grueneberg and Associates; and Somerset Pediatrics.

References

- Alexander, C. L., Arnkoff, D. B., & Glass, C. R. (2010). Bringing psychotherapy to primary care: Innovations and challenges. *Clinical Psychology: Science & Practice*, 17, 191–214.
- American Academy of Pediatrics. (2009). The future of pediatrics: Mental health competencies for pediatric primary care. [Guideline]. *Pediatrics*, 124(1), 410–421. doi:10.1542/peds.2009-1061.
- American Academy of Pediatrics. (2010). Addressing mental health concerns in primary care: A clinician’s toolkit [CD/DVD]. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Pages/Addressing-Mental-Health-Concerns-in-Primary-Care-A-Clinicians-Toolkit.aspx>.
- American Academy of Pediatrics. (2012). Improving mental health services in primary care: Reducing administrative and financial barriers to access and collaboration. *Practice Management Online*. <http://www.aap.org/en-us/professional-resources/practice-support/financing-and-payment/Pages/Improving-Mental-Health-Services-in-Primary-Care-Reducing-Administrative-and-Financial-Barriers-to-Access-and-Collaboration.aspx>.
- American Academy of Pediatrics. (2014). Patient- and family-centered care coordination: A framework for integrating care for children and youth across multiple systems. *Pediatrics*, 133(5), e1451–e1460. doi:10.1542/peds.2014-0318.
- American College of Physicians. (2010). *The patient-centered medical home neighbor: The interface of the patient-centered medical home with specialty/subspecialty practices*. Philadelphia: Author.
- American Psychological Association. (2013). Competencies for psychology practice in primary care: Report of the interorganizational work group on competencies for primary care psychology practice. <http://www.apa.org/ed/resources/competencies-practice.pdf>.
- Beacham, A. O., Herbst, A., Streitwieser, T., Scheu, E., & Sieber, W. J. (2012). Primary care medical provider attitudes regarding mental health and behavioral medicine in integrated and non-integrated primary care practice settings. *Journal of Clinical Psychology in Medical Settings*, 19, 364–375.
- Bloom, B., Jones, L. I., & Freeman, G. (2013). *Summary health statistics for U.S. children: National Health Interview Survey, 2012 (DHHS Publication No. 2014–1586)*. Hayttsville, MD: National Center for Health Statistics.
- Brucker, P. S., & Shields, C. G. (2003). Collaboration between mental and medical healthcare providers in an integrated primary care medical setting. *Families, Systems, & Health*, 21(2), 181–191.
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60(8), 837–844.
- Fisher, E. S. (2008). Building a medical neighborhood for the medical home. *The New England Journal of Medicine*, 359, 1202–1205.
- Ford, J. D., Steinberg, K., Pidano, A., Honigfeld, L., & Meyers, J. (2006). *Behavioral health services in pediatric primary care: Meeting the needs in Connecticut*. Farmington, CT: Child Health and Development Institute of Connecticut.
- Foy, J. M., Kelleher, K. J., & Laraque, D. (2010). Enhancing pediatric mental health care: Strategies for preparing a primary care practice. *Pediatrics*, 125(Suppl 3), S87–108. doi:10.1542/peds.2010-0788E.
- Foy, J. M., & Perrin, E. (2010). Enhancing pediatric mental health care: Strategies for preparing a community. *Pediatrics*, 125, S75–S86. doi:10.1542/peds.2010-0778D.
- Gavin, L. A., Wagers, T. P., Leslie, B., Price, D. W., Thorland, W., & deGroot, C. S. (1998). Medical and mental healthcare providers’ attitudes about collaboration. *Families, Systems, & Health*, 16(1/2), 139–146.
- Gerdes, J. L., Yuen, E. J., Wood, G. C., & Frey, C. M. (2001). Assessing collaboration with mental health providers: The primary care perspective. *Families, Systems, & Health*, 19(4), 429–443.

- Gittell, J. H. (2000). Organizing work to support relational coordination. *The International Journal of Human Resource Management*, 11(3), 517–539. doi:10.1080/095851900339747.
- Gittell, J. H., Godfrey, M., & Thistlethwaite, J. (2013). Interprofessional collaborative practice and relational coordination: Improving healthcare through relationships. *Journal of Interprofessional Care*, 27, 210–213.
- Greene, C. A., Ford, J. D., Ward-Zimmerman, B., & Foster, D. (2015). Please break the silence: Parents' views on communication between pediatric primary care and mental health providers. *Families, Systems & Health*, 33(2), 155–159. doi:10.1037/fsh0000117.
- Howden, L. M., & Meyer, J. (2011). *Age and Sex Composition: 2010*. (C2010BR-03). Washington, DC: U.S. Census Bureau. <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>.
- Huang, X., & Rosenthal, M. B. (2014). Transforming specialty practice: The patient-centered medical neighborhood. *The New England Journal of Medicine*, 370, 1376–1379. doi:10.1056/NEJMp1315416.
- Jellinek, M. S. (2013). Universal mental health screening in pediatrics: Toward better knowing, treating, or referring. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(11), 1131–1133.
- Kainz, K. (2002). Barriers and enhancements to physician-psychologist collaboration. *Professional Psychology: Research and Practice*, 33(2), 169–175.
- Kessler, R., Stafford, D., & Messier, R. (2009). The problem of integrating behavioral health in the medical home and the questions it leads to. *Journal of Clinical Psychology in Medical Settings*, 16(1), 4–12. doi:10.1007/s10880-009-9146-y.
- Knowles, P. (2009). Collaborative communication between psychologists and primary care providers. *Journal of Clinical Psychology in Medical Settings*, 16, 72–76.
- Massa, I., Miller, B. F., & Kessler, R. (2012). Collaboration between NCQA Patient-Centered Medical Homes and specialty behavioral health and medical services. *Translational Behavioral Medicine*, 2, 332–336. doi:10.1007/s13142-012-0153-4.
- Miller, H. L., Hall, S. E., & Hunley, S. A. (2004). Value perceptions of integrative health care: A study of primary care physicians and professional clinical counselors. *Journal of Contemporary Psychotherapy*, 34(2), 117–124.
- Nash, J. M., Khatri, P., Cubic, B. A., & Baird, M. (2013). Essential competencies for psychologists in patient centered medical homes. *Professional Psychology: Research and Practice*, 44(5), 331–342. doi:10.1037/a0033106.
- National Association of Social Workers. (2005). NASW Standards for Social Work Practice in Health Care Settings. <http://www.naswdc.org/practice/default1210.asp?topic=standards>.
- National Committee for Quality Assurance. (2014). *Standards and Guidelines for NCQA's Patient-Centered Medical Home (PCMH) 2014*. Washington, D.C.: National Committee for Quality Assurance.
- National Committee for Quality Assurance. (2015). *2015 Patient-Centered Connected Care Standards and Guidelines*. Washington, D.C.: National Committee for Quality Assurance.
- Pfefferle, S. G., Gittell, J. H., Hodgkin, D., & Ritter, G. (2006). Pediatrician coordination of care for children with mental illnesses. *Medical Care*, 44(12), 1085–1091.
- Pham, H. H. (2010). Good neighbors: How will the patient-centered medical home relate to the rest of the health-care delivery system? *Journal of General Internal Medicine*, 25(6), 630–634.
- Pidano, A. E., Honigfeld, L., Bar-Halpern, M., & Vivian, J. E. (2014). Pediatric primary care providers' relationships with mental health care providers: Survey results. *Child & Youth Care Forum*, 43, 135–150. doi:10.1007/s10566-013-9229-7.
- Pidano, A. E., Kimmelblatt, C. A., & Neace, W. P. (2011a). Behavioral health in the pediatric primary care setting: Needs, barriers, and implications for psychologists. *Psychological Services*, 8(3), 151–165. doi:10.1037/a0019535.
- Pidano, A. E., Marcaly, K. H., Ihde, K. M., Kurowski, E. C., & Whitcomb, J. M. (2011). Connecticut's enhanced care clinic initiative: Early returns from pediatric-behavioral health partnerships. [Research Support, Non-U.S. Gov't]. *Families, Systems & Health*, 29(2), 138–143. doi:10.1037/a0023474.
- Pomerantz, A. S., Kearney, L. K., Wray, L. O., Post, E. P., & McCarthy, J. F. (2014). Mental health services in the medical home in the Department of Veterans Affairs: Factors for successful integration. *Psychological Services*, 11(3), 243–253.
- Ross, W. J., Chan, E., Harris, S. K., Goldman, S. J., & Rappaport, L. A. (2011). Pediatrician-psychiatrist collaboration to care for children with attention deficit hyperactivity disorder, depression, and anxiety. *Clinical Pediatrics*, 50(1), 37–43. doi:10.1177/0009922810379499.
- Rubin, K., Cornell, E., Feyissa, E. A., Macary, S., Chandhok, L., & Honigfeld, L. (2014). *Working together to meet children's health needs: Primary and specialty care co-management*. Farmington, CT: Child Health and Development Institute of Connecticut.
- Ruddy, N. B., Borresen, D. A., & Gunn, W. B., Jr. (2008). *The collaborative psychotherapist*. Washington, DC: American Psychological Association.

- Sarvet, B. D., & Wegner, L. (2010). Developing effective child psychiatry collaboration with primary care: Leadership and management strategies. *Child & Adolescent Psychiatric Clinics of North America*, *19*, 139–148.
- Stein, R. E. K., Horwitz, S. M., Storfer-Isser, A., Heneghan, A., Olson, L., & Hoagwood, K. E. (2008). Do pediatricians think they are responsible for identification and management of child mental health problems? Results of the AAP Periodic Survey. *Ambulatory Pediatrics*, *8*(1), 11–17.
- Stille, C. J., McLaughlin, T. J., Primack, W. A., Mazor, K. M., & Wasserman, R. C. (2006). Determinants and impact of generalist-specialist communication about pediatric outpatient referrals. *Pediatrics*, *118*(4), 1341–1349. doi:[10.1542/peds.2005-3010](https://doi.org/10.1542/peds.2005-3010).
- Taylor, E. F., Lake, T., Nysenbaum, J., Peterson, G., & Meyers, D. (2011). Coordinating care in the medical neighborhood: Critical components and available mechanisms. White Paper (Prepared by Mathematica Policy Research under Contract NO. HHS A290200900019IT02) *AHRQ Publication No. 11-0064*. Rockville, MD: Agency for Healthcare Research and Quality.
- Williams, J., Palmes, G., Klinepeter, K., Pulley, A., & Foy, J. M. (2005). Referral by pediatricians of children with behavioral health disorders. *Clinical Pediatrics*, *44*(4), 343–349. doi:[10.1177/000992280504400410](https://doi.org/10.1177/000992280504400410).
- Yuen, E. J., Gerdes, J. L., & Waldfogel, S. (1999). Linkages between primary care physicians and mental health specialists. *Families, Systems, & Health*, *17*(3), 295–307.