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Coordinating Mental Health Care Across Primary Care and Schools: ADHD as a Case Example

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Abstract

Although primary care practices and schools are major venues for the delivery of mental health services to children, these systems are disconnected, contributing to fragmentation in service delivery. This paper describes barriers to collaboration across the primary care and school systems, including administrative and fiscal pressures, conceptual and linguistic differences between healthcare and educational professionals, role restrictions among professionals, and privacy laws. Strategies for overcoming these barriers that can be applied in both primary care and school settings are described. The paper has a primary focus on children with ADHD, but the principles and strategies described are applicable to children with a range of mental health and health conditions.

Keywords

Primary Care; Schools; Mental Health; ADHD; Service Coordination

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Primary care practices and schools are major venues for the delivery of services to children and adolescents (hereafter, children) with mental health concerns, including attention-deficit/hyperactivity disorder (ADHD). Primary care providers (PCPs) and school professionals have complementary roles in providing services to children with mental health conditions. PCPs have a major role in screening for mental health conditions, educating families, determining the need for medication and other services, monitoring medication

effects and side effects, and coordinating care (Power, Mautone, Manz, Frye, & Blum, 2008; World Health Organization, 2001). School professionals serve an important function in identifying learning problems, describing the impact of mental health problems on school performance, and designing strategies to address the educational and psychosocial needs of students in the school setting.

Because of the complementary roles they serve, PCPs and school professionals can be a vital tandem in the lives of families coping with mental health conditions. For children with mental health problems, the services provided within primary care practices and schools may start with a focus on assisting families in initiating treatment as it is known that many families referred for mental health services never receive them (Power, Hughes, Helwig, Nissley-Tsiopinis, Mautone, & Lavin, 2010). Furthermore, it would be ideal for efforts within the primary care, school, and mental health systems to be synchronized to address the child's and family's complex needs (Power & Bradley-Klug, 2013).

Several models have been developed to promote collaboration across systems for children with mental health problems. The Systems of Care model was designed to provide a network of structures and processes operating across administrative entities to optimize access to services for children with serious mental health problems (Stroul & Friedman, 1986). This model is grounded in a core set of principles emphasizing the need for comprehensive and coordinated services along a continuum of care, with the delivery of services being provided in a manner that is responsive to the unique needs of the child and family (New Freedom Commission on Mental Health, 2003). The Systems of Care model emphasizes the coordination of services in the community, such as linking mental health systems with schools, and the need to build the capacity of community-based systems to serve the needs of children and families in an effective and efficient manner (Duchnowski, Kutash, & Friedman, 2002). Although this model has been highly influential, it has generally neglected to account for the role that the primary care health system serves in addressing the mental health needs of children.

The Medical Home model, which has been advanced by leaders in the American Academy of Pediatrics (AAP, 2002), and is consistent with models of primary care in other developed countries (Bindman, Forrest, Britt, Crampton, & Majeed, 2007), highlights the importance of coordinating services for children with special health care needs within the context of the primary care system. A medical home is characterized by an ongoing, caring relationship between the family and PCP in which the PCP communicates effectively with the child and family, provides care on a consistent basis when needed, directs families to specialized services when appropriate, and effectively coordinates all medical services provided for the child. Although this model was originally designed to address the needs of children with chronic illnesses, it has been expanded to include children with a broad range of mental health problems. This model emphasizes the critical role of professionals in the primary care system in communicating with families and assisting families in the coordination of care for children with special needs (AAP, 2002).

The Systems of Care and Medical Home models address many of the same core principles (Mandell, Guevara, & Pati, 2007). However, the Medical Home model, which is based in primary care, focuses primarily on collaboration with health-related providers and less with mental health professionals. A recent study found that although families of children with asthma reported fewer unmet health needs if they were receiving care in a medical home, families of children with ADHD reported the same number of unmet needs regardless of whether their child was in a primary care practice that provided a medical home (Toomey, Finkelstein, & Kuhlthau, 2008). The results of this study suggest that having a PCP who is

highly committed to assisting families in the coordination of care is not sufficient to help families of children with ADHD address most of their mental health needs.

These models highlight the importance of multiple systems of care and the challenges of coordination of efforts across systems. Unfortunately, communication across health and mental health systems typically is not the norm, resulting in care that may be fragmented and poorly coordinated for many children (Guevara et al., 2005). As a consequence, parents may be placed in the challenging position of coordinating care across systems, but often they do not have the resources to function well in this role. This paper describes barriers that may interfere with collaboration across systems of care. In addition, the paper identifies strategies that may be useful for reducing these barriers in coordinating care across systems. The principal focus of this paper is on children with ADHD, but the principles and strategies described are applicable to the broader range of children with mental health and health conditions.

Barriers to Collaboration

The section below describes the many barriers that pose significant challenges, and limit, collaboration across the primary care, school, and mental health systems.

Administrative and fiscal pressures

To generate revenue in the context of rising costs and decreased reimbursement, pressure to increase productivity levels for PCPs can severely limit time available for collaboration. Research indicates that the typical patient in the U.S. receives primary care for much less time per year than patients from other developed countries, such as New Zealand and Australia (Bindman et al., 2007). The allocated time typically is not sufficient to address the range of concerns that arise among children with chronic health conditions. Although billing codes that allow PCPs to account for time involved in coordination of care with school and mental health professionals have been developed, the codes often are not reimbursed by insurance companies (Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000). In addition, the fiscal pressures placed on PCPs can restrict their accessibility to the point that it is very challenging for school professionals to contact them. Similar pressures may decrease the time school professionals have available for collaboration with PCPs. For example, the passage of the No Child Left Behind Act (U.S. Department of Education, 2001) has raised expectations for accountability in school levels, increasing teaching requirements and demands for better student performance, that can limit the time and motivation for educators to collaborate. Further, billing regulations and administrative pressures can place significant limitations on the time that mental health professionals can devote to collaboration with PCPs.

Conceptual and linguistic differences

Health care providers, mental health professionals, and educators differ in their training and theoretical orientations. As a result, these professionals may encounter differences in the conceptual models, classification systems, and language they use (Leslie, Weckerly, Plemmons, Landsverk, & Eastman, 2004). Unfortunately, they rarely engage in coordinated educational experiences that would provide opportunities to develop a shared language. As a result, these professionals may have trouble communicating effectively with each other, which in some cases may lead to distrust toward individuals from other systems (Guevara, et al., 2005).

Differences in expectations

Educational and health providers may differ in the expectations they have for each other. For example, PCPs typically want educational information described to them in brief reports within which salient points are clearly conveyed, whereas educational professionals may be accustomed to preparing longer reports that provide a detailed justification for their conclusions (HaileMariam, Bradley-Johnson, & Johnson, 2002). Similarly, school-based mental health professionals often have the training and interest in collaborating with physicians in the titration and monitoring of medication for ADHD (Gureasko-Moore, DuPaul, & Power, 2005). However, PCPs may not be aware of how to access these services and school professionals may use scales or behavioral observation tools unfamiliar to the PCP.

Role restriction

Integrated care for children with ADHD that involves the combination of psychosocial, educational, and pharmacological interventions typically is the optimal approach to treatment. Unfortunately, systems-level issues often encourage professionals to narrowly define their roles in ways that inhibit the interdisciplinary care needed by children with ADHD and their families. For example, there is evidence that an increasing number of visits to PCPs for ADHD involve only prescribing medication (Leslie & Wolraich, 2007), and teachers report that PCPs' emphasis on academic testing prior to making a diagnosis of ADHD may lead to a lack of support for school-based intervention strategies that are critical to the care of children with ADHD (Guevara, et al., 2005).

Absence of a mechanism to coordinate care

The care of children with ADHD requires that interventions be integrated across the school, home, medical, and mental health systems (Power, Lavin, Mautone, & Blum, 2010). Each system that provides care for children typically has a mechanism to coordinate services. For example, primary care practices have charts and sign-out procedures for coordinating care among providers, and schools have multidisciplinary teams to manage communications among educators. However, in general there are no mechanisms for coordinating care provided across the primary health care, educational, and mental health systems. A further complication in large urban settings is that within each school, children may attend multiple primary care practices and each primary care practice may serve children from dozens of schools. This same complication can occur with mental health agencies. Each school and practice may have slightly different resources, evaluation paradigms, daily schedules, and preferred methods of communication making it difficult for school or medical personnel to have standardized expectations or communication strategies.

Laws that protect privacy

Government regulations, such as the Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA), generally require prior written authorization from families to facilitate sharing of information among providers from the medical and school systems (Bergren, 2004; Office of Civil Rights, 2008). HIPAA and FERPA have specific requirements about the information that must be in consent forms, so professionals asking parents to sign a release to obtain health or educational records should insure that the required information is included in authorization forms. Obtaining family authorization and forwarding this information to primary care practices and schools can be a complex, time consuming process that limits the ability of health, mental health, and educational providers to coordinate care.

Lack of continuity of care

Families often must cope with changes in the professionals who care for their children. For example, the child typically is assigned a new set of teachers each year, which can be particularly challenging at the middle school and high school levels when students are instructed by numerous teachers. Similarly, the child may switch pediatric medical or mental health providers due to changes in family insurance coverage or transitions in personnel within the practice. These changes can make it difficult for families to sustain strong relationships with care providers and for providers to develop and maintain collaborative relationships with professionals working in different systems (Guevara, et al., 2005). In addition, services based in schools and primary care are often staffed by trainees who turnover on an annual basis.

Under-resourced families and schools

Families situated in high poverty areas may have difficulty sustaining their connection to primary care and mental health systems. Conditions associated with poverty (e.g., family disruption, prevalence of violence) may serve as barriers to care for families and prevent them from maintaining a focus on the child's learning problems (Dishion & Stormshak, 2007). Similarly, schools in high poverty communities may be forced to cope with limited resources and stressful circumstances that can make it difficult for school professionals to become engaged with families and health providers in coordinated care.

Strategies for Coordinating Care in Primary Care Settings

Numerous approaches have been attempted to address the needs of families coping with mental health problems and promote interdisciplinary collaboration across systems within the context of primary care. Although this section highlights strategies developed primarily for children with ADHD, the approaches are highly applicable for individuals with a wide range of mental health conditions.

Resources for assessment and intervention

The American Academy of Pediatrics (AAP) has affirmed the critical role of PCPs in the assessment, treatment, and in some cases referral of children with ADHD as well as other mental health problems. To promote effective practice, the AAP has issued guidelines for assessment and intervention of ADHD (AAP, 2011). These guidelines emphasize the importance of collaborating with school professionals to assess ADHD and develop an effective educational plan. Following the publication of the guidelines for assessment and treatment in 2000–2001 and again in 2011, the AAP engaged in a partnership with health and mental health professionals to develop a resource toolkit, which is now in its second edition (http://www.nichq.org/resources/adhd_toolkit.html). This resource includes tools for assessing ADHD, functional impairment, and comorbid conditions; monitoring medication effectiveness and safety; educating parents; and offering brief behavioral interventions.

A number of additional resources have been developed for PCPs to assist children with ADHD. The AAP developed an on-line, interactive quality improvement module (www.eqipp.org) that meets the American Board of Pediatrics' maintenance of certification requirements (www.abp.org). The North Carolina Center for Healthcare Improvement partnered with AAP chapters to develop learning collaboratives to promote quality improvement related to the care of children with ADHD. The AAP also has prioritized the mental health needs of children and adolescents more broadly. Over the last few years, the AAP has sponsored a mental health task force to examine what types of tools are needed for pediatric clinicians to provide quality collaborative care and has published an extensive toolkit containing many screening instruments and handouts for families and professionals

(AAP, 2010). In addition, a number of tools have been developed through Bright Futures, a joint venture between the AAP and the Maternal and Child Health Bureau (MCHB; see www.brightfutures.aap.org). Although these guidelines have been highly useful, many challenges still exist. For example, PCPs often express concern about how to resolve discrepancies between parent and teacher reports on rating scales. Greater collaboration between school and health professionals is necessary to address this issue. Additional problems include: (a) limited knowledge and use of community resources; (b) lack of resources for educating youth and family about ADHD; and (c) limited resources to provide children and families ongoing emotional support (Leslie, et al., 2004). The challenging expectations placed upon PCPs to function as school advocates, mental health providers, and case managers with limited support staff also has been highlighted in the literature (Leslie, Stallone, Weckerly, McDaniel, & Monn, 2006).

Electronic health records

Electronic health records (EHRs) are an important advance in facilitating coordination of care. They have a number of advantages over traditional paper records in that clinicians working in different settings can access information simultaneously; information in the record is more easily and quickly retrieved; and data are more likely to be legible (Burton, Anderson, & Kues, 2004). Although these advantages are substantial for clinicians who share the same EHR system, lack of interoperability among EHR systems limits their utility in assisting with coordination of care for medical professionals working in different health systems or integrating care across health and school systems. Strategies for addressing some of these concerns are being developed. One promising strategy is to have a patient portal linked to an EHR whereby a patient (or parent) controls the information available in the portal and who has access to the record (Schnipper et al., 2008). Systems such as this could be developed that would allow parents, teachers, and health and mental health professionals to share information about the academic performance and behavior of a child with ADHD potentially improving the coordination of care. However, additional questions, such as who bears the cost of implementing and maintaining these systems and what is the legal liability for information entered into the system, need to be answered before EHRs are likely to have a major role in facilitating coordination of care.

Care manager approach

Several care coordination approaches have been developed for children with ADHD in the context of primary care. One approach is a community-initiated quality improvement project designed to foster implementation of the AAP guidelines for ADHD. Hallmarks of this approach are the development and distribution of educational materials for providers, parents, and teachers; use of a comprehensive, multi-informant approach to assessing ADHD; and deployment of an ADHD coordinator to assist with the collection and collation of assessment instruments (Leslie et al., 2004). An alternative approach has a specific focus on coordinating care between primary care practices and schools. This approach is unique in that it involves multiple stakeholders from primary care, schools, and community agencies in an iterative planning process to develop a set of strategies for coordinating the efforts of professionals across systems (Foy & Earls, 2005).

Another strategy for coordinating services relies upon practice-based nurses or social workers, referred to as care managers, to implement a multifaceted intervention to improve care coordination. This intervention was developed based on a collaborative care model for treating depression, which has consistently demonstrated effectiveness in the United States, and to some extent in other countries (Gilbody, Bower, Fletcher, Richards, & Sutton, 2006). This Care Manager model has been adapted for use with children with ADHD and includes multiple components: (a) a family-centered management plan that reflects the treatment

goals and preferences of families, (b) monthly monitoring of treatment progress, (c) family education, (d) PCP education, and (e) coordination of care with schools and mental health agencies (Guevara et al., 2009). The coordination of care component is conducted through monthly telephone or email contact between the care manager and the child's teacher and mental health therapist. A preliminary evaluation of the Care Manager Model was conducted in two urban primary care practices serving mostly African American children from low-income, single-parent families (Guevara et al., 2009). A registered nurse based in the primary care practice served as the care manager. Children in the study ($n = 34$) were 5 to 12 years of age and diagnosed with ADHD. Families served in one pediatric practice received the Care Manager program and those served in a similar practice comprised the control group, who received a brief family education program. Children in the Care Manager group demonstrated substantially fewer symptoms of ADHD and less impairment than those in the control group after approximately 6–9 months of treatment. Parents in the Care Manager group had much higher levels of medication acceptance than those in the comparison intervention. Further, ratings of program satisfaction for families receiving the Care Manager model were high. The findings suggest that an intervention program based on a Care Manager model may be acceptable and feasible to families, as well as effective in reducing ADHD symptoms and impairments commonly associated with this disorder. However, the feasibility of the model is a concern because most practices do not have a mechanism to pay for a care manager.

Co-location of Behavior Health in Primary Care

The Partnering to Achieve School Success (PASS) program was designed to provide comprehensive health and mental health services within the context of the primary care setting to children and families coping with ADHD (Power, Lavin et al., 2010). PASS was developed specifically for low-income, urban families who often face challenges becoming engaged in treatment and sustaining their involvement in services. An intervention team, consisting of the PCP, a psychologist, and a social work associate or patient navigator who serves as family advocate and care coordinator, works collaboratively to provide services. PASS consists of five components that are described in Table 1. The components received by each family are determined mutually by the family and intervention team based upon the goals and preferences of the family, the treatment history of the child, and existing evidence-based practices.

Piloting of the PASS intervention has demonstrated that the program is highly acceptable and feasible for families. Families are successful in accessing services and a high percentage of them receive the family therapy and family-school collaboration components. Given the problems that many families experience attending face-to-face sessions, services are often provided via telephone (Power, Lavin et al., 2010). A preliminary evaluation of the program compared the effectiveness of PASS in relation to a brief family education program provided over the course of approximately six months. Families receiving PASS were served in one large, urban pediatric practice, and families in the comparison group receiving a brief education program were served in a nearby practice with families having similar demographic characteristics. The results suggested that PASS is feasible to implement and a promising approach to reducing symptoms of ADHD and levels of functional impairment among children with ADHD (Guevara et al., 2009). However, although PASS is a promising model, it provides some components that may not be reimbursed by most health insurance providers (e.g., school consultation and therapy via telephone).

Training specialists to link systems of care

To promote interdisciplinary collaboration for children and youth with developmental and behavioral problems, the Department of Health and Human Services, Health Resources and

Services Administration, through the MCHB and Bureau of Health Professions (BHPr), has been funding training programs to prepare professionals to coordinate care across systems and professionals. Trainees in many disciplines, including pediatrics, psychiatry, psychology, nursing, nutrition, education, and social work participate in these programs. For example, MCHB has funded training programs to promote interdisciplinary collaboration and leadership development on behalf of children with neurodevelopmental disabilities (http://mchb.hrsa.gov/training/projects.asp?program=9). Similarly, BHPr has funded graduate psychology education programs to prepare professionals to collaborate across disciplines to address the complex needs of medically underserved children (http://bhpr.hrsa.gov/medicine-dentistry/07abstracts/gradpsyched.htm). In addition, several states are experimenting with providing mental health consultation to PCPs to assist with medication management and referral to mental health services (Connor et al., 2006).

Strategies for Coordinating Care in School Settings

The school is a highly suitable setting for locating services for children with mental health conditions. Schools provide access to a high percentage of children, and the services are easily accessed by families. Schools have existing resources for addressing children's health and mental health difficulties, including counselors, nurses, school psychologists, and social workers. Further, schools have existing mechanisms for coordinating the efforts of school-based professionals, including instructional support teams to provide evaluation and intervention services. In addition, schools can readily provide a wealth of information about child functioning in naturalistic settings and response to intervention. Numerous projects have been initiated to increase the capacity of schools to serve the needs of children with mental health conditions, including school-wide initiatives for prevention and intervention, family-school intervention approaches, and co-location of mental health services in schools. However, there have been few school-based efforts to systematically improve collaboration with primary care providers.

Teacher training programs

The importance of training teachers in the use of strategies to educate children with ADHD has been affirmed by experts around the world (Taylor et al., 2004). Excellent programs have been developed that are firmly based on current research related to this disorder. The national advocacy organization Children and Adults with Attention Deficit Disorders (ChADD, www.chadd.org) is an outstanding resource for evidence-based educational materials for teachers about how to work effectively with children who have ADHD. Preliminary evidence about the effectiveness of these programs has demonstrated that they may have some value. For example, in a recent study Jones and Chronis-Tuscano (2008) evaluated the effectiveness of a one-session teacher in-service program in relation to a wait-list control group. The in-service program conveyed evidence-based information about children with ADHD and incorporated strategies known to be effective in promoting adult learning. The in-service program was shown to be effective (low to moderate effect sizes) in improving teacher knowledge, but there was essentially no change in teacher-reported use of behavioral strategies.

The findings of this study support a conclusion that one-session, teacher in-service training may be a first step towards improving teacher implementation of behavioral strategies and improving child behavior; however, follow-up consultation likely is needed to produce meaningful changes in teacher implementation and child behavior. DuPaul and colleagues have developed teacher consultation strategies at the elementary and preschool levels that have been shown to be highly promising with regard to improving the academic performance of students with ADHD (DuPaul et al., 2006). Designating a school professional to serve as a resource for teachers in the management of ADHD is a promising

approach that has been recommended by experts in many nations (Taylor et al., 2004). There is essentially no research demonstrating how teacher in-service programs and teacher consultation services can be effective in improving collaboration across systems for addressing the needs of students with ADHD.

School-wide, multi-tier programming

Since the 1990s, there has been increasing emphasis on reforming schools to place greater emphasis on the prevention of behavioral and emotional problems. Efforts towards reform have emphasized approaches that can be applied for all students across school contexts. Students who do not respond sufficiently to universal strategies typically are identified for more intensive prevention efforts. The school-wide approach that has received the most attention in research and practice is Positive Behavior Support (PBS). PBS is a multi-tiered initiative that encompasses prevention efforts at the primary, secondary, and tertiary levels (see Sugai & Horner, 2006).

Applied to students with attention and behavior problems, a multi-tier model includes universal strategies applied in the classroom, lunchroom, and playground to promote academic engagement and skill development, behavior regulation, and social competence. For students who do not respond sufficiently to universal approaches, strategies applied in small groups and low-intensity academic and behavioral interventions (e.g., school-home daily report cards) could be applied. For the relatively few students who continue to have problems after primary and secondary prevention strategies are applied, more intensive approaches, such as application of a functional behavioral assessment in the context of behavioral consultation (DuPaul, et al., 2006) and family-school consultation (Sheridan & Kratochwill, 2008) may be indicated. Many students with ADHD may need pharmacological treatment in addition to behavioral intervention to achieve established goals. Pharmacological treatment is likely to be most effective when there are systematic efforts to coordinate communication between the school and primary care practice in assessing medication effects and side effects (Tresco, Lefler, & Power, 2010).

Intervention approaches linking family and school

Educational research has affirmed that parental involvement in education can have a substantial effect on students' performance in school (Christenson & Sheridan, 2001). Approaches to intervention that link the family and school have considerable value in treating children with ADHD and disruptive behavior disorders. Perhaps the most well-developed model of family-school intervention is conjoint behavioral consultation (CBC; Sheridan & Kratochwill, 2008). This approach is designed to connect the family and school systems to promote student competence and solve problems arising at school and home. The model places emphasis on building a strong partnership between parents and teachers. Within the context of this relationship, parents and teachers work collaboratively to strengthen student competencies and reduce problems. The clinician facilitating the consultation process guides parents and teachers through the stages of problem solving, including problem identification, problem analysis, plan implementation, and intervention evaluation. Although CBC focuses primarily on the family and school, it has been adapted to incorporate the health system as well. Recently, Sheridan et al. (2009) demonstrated how CBC can be applied to integrate the efforts of family, school professionals, and a developmental pediatrician in the care of children with ADHD and related problems. Also, Power et al. (2012) has incorporated CBC strategies in his multi-systemic intervention program, known as Family-School Success (FSS), to address the needs of children with ADHD.

Training specialists to link systems of care

A program designed specifically to prepare educational professionals for interdisciplinary collaboration across the health and school systems is the pediatric school psychology training initiative. This program represents a partnership between Lehigh University and The Children's Hospital of Philadelphia and has been funded by the Department of Education, Office of Special Education Programs since 1997 (Power, Shapiro, & DuPaul, 2003).

This program prepares students in a doctoral school psychology training program for careers focused on linking systems of care for children with or at risk for chronic health conditions. Students receive specialized training over the course of 4 years, including didactic training related to intervention for children with health disorders and prevention of health problems, and practicum training in school and healthcare settings. As part of this training, students learn strategies for program development and evaluation to prepare them for careers of leadership in the community. A recent survey of 20 graduates of this specialty training program (return rate of 17/20 = 85%) revealed that 53% are employed in schools and 35% in higher education. Of those who were employed at the time of the survey, 53% indicated that they engaged in at least weekly communications across the family, school, and health care systems in support of children with mental health needs (Shapiro, DuPaul, & Power, 2010).

Conclusions

Schools and primary care practices are the principal venues for the delivery of services to children with mental health problems. Each of these systems has multiple strengths and they have complementary roles in the provision of services to children with these conditions. Unfortunately, schools and primary care practices typically are poorly connected. Numerous barriers exist that limit the coordination of efforts between schools and primary care practices, including administrative and fiscal pressures that limit the time for collaboration; differences in expectations, culture, and language between educational and health professionals that make it difficult for them to communicate; privacy laws that may pose challenges for the exchange of information across systems; and the absence of organizational structures to facilitate communications between systems.

Strategies are being developed to promote inter-systemic collaboration. Within primary care practices, promulgation of the Medical Home model has been useful, but this model typically emphasizes the coordination of medical services; there is less emphasis on collaboration with schools and mental health agencies. Resources and toolkits have been helpful in guiding PCPs in the use of evidence-based strategies for children with mental health disorders, but these materials do not directly address the need for models of collaborative care that link primary care practices with schools. In this paper we described two programs (Care Manager Model, PASS Program) that currently are being piloted to address the need for inter-systemic collaboration.

Within schools, teacher in-service programs and consultation approaches have been developed to build the capacity of school professionals to address the needs of children with mental health problems and their families. More recently, multi-tier, whole-school models of prevention have been espoused. Although the development and implementation of multi-tier models is a significant advance in school service delivery, the emphasis is on school-based programs and not collaboration across systems including primary care.

In sum, there is a sizable gap between the need for collaborative care and the existence of models to promote inter-systemic partnerships. Further, there is a paucity of research to inform models of service delivery linking schools and primary care practices. In addition,

few professionals have been trained to work effectively in both systems and to foster inter-systemic partnerships. Although there are substantial barriers to collaboration, the need for partnership has become clear and models promoting collaborative care are beginning to emerge.

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Appendix: Key Components of the Partnering to Achieve School Success (PASS) model

Major Components	Description
Engagement	Clinician (re)engages family in process of intervention and monitors progress, barriers to care, and facilitators of therapy.
Brief Family Therapy	Clinician targets home-based behavioral goals and collaborates with family in implementing cognitive-behavioral interventions.
Family-School Collaboration	Clinician prepares school professionals and the family to work together, facilitates meetings between school professionals and the family, and provides feedback to the PCP concerning progress.
Crisis Intervention	Clinician provides immediate support and collaborates with social work professional to direct the family to appropriate resources.
Medication Management	Clinician provides education to family about medication options for the treatment of ADHD and collaborates with family, PCP, and school professionals to determine the optimal dose/medication.

Note: These components are described in more detail in Power, Lavin et al. (2010).