Systemic Barriers to the Care of Children and Adolescents with ADHD

INTRODUCTION

The American Academy of Pediatrics (AAP) strives to improve the quality of care provided by primary care clinicians (PCCs) through quality improvement initiatives including developing, promulgating, and regularly revising evidence-based clinical practice guidelines. The AAP has published a revision to its 2011 guideline on evaluating, diagnosing**,** and treating attention-deficit/hyperactivity disorder (ADHD) on the basis of the latest scientific evidence (see main article). This latest revision of the clinical practice guideline is accompanied by a process of care algorithm (PoCA [also found in the supplemental information]), which outlines the applicable diagnostic and treatment processes needed to implement the guidelines. This document, which is a companion to the guideline and PoCA, outlines common barriers that impede ADHD care and provides suggested strategies for clinicians, seeking to improve care for children and adolescents with ADHD, to work with other concerned public and private organizations, health care payers, government entities, state insurance regulators, and other stakeholders.

ADHD is the most common childhood neurobehavioral disorder in the United States and the second most commonly diagnosed childhood condition after asthma.[1] The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* criteria define 4 dimensions of ADHD:

1. ADHD primarily of the *Inattentive* presentation (ADHD/I) (314.00 [F90.0]);
2. ADHD primarily of the *Hyperactive-Impulsive* presentation (ADHD/HI) (314.01 [F90.1]); and
3. ADHD *Combined* presentation (ADHD/C) (314.01 [F90.2]).
4. ADHD *Other Specified*, and *Unspecified* ADHD (314.01 [F90.8])

National survey data from 2016 show that 9.4% of 2- to 17-year-old US children received an ADHD diagnosis during childhood, and 8.4% currently have ADHD.[2] Prevalence estimates from community-based samples are somewhat higher, ranging from 8.7% to 15.5%.[3,4] Most children with ADHD (67%) had at least 1 other comorbidity, and 18% had 3 or more comorbidities, such as mental health disorders and/or learning disorders. These comorbidities increase the complexity of the diagnostic and treatment processes.[5]

The majority of care for children and adolescents with ADHD is provided by the child's primary care clinician (PCC), particularly when the ADHD is uncomplicated in nature. In addition, families typically have a high degree of confidence and trust in pediatricians' ability to provide this professional care. Because of the high prevalence of ADHD in children and adolescents, it is essential that PCCs, particularly pediatricians, be able to diagnose, treat, and coordinate this care or identify an appropriate clinician who can provide this needed care. Yet, despite having a higher prevalence than other conditions that PCCs see and manage—such as urinary tract infections and sports injuries—ADHD is often viewed as different from other pediatric conditions and beyond primary care's purview. In addition, several barriers to care hamper effective and timely diagnosis and treatment for these children and adolescents and must be addressed and corrected to achieve optimum outcomes for these children.[6] These barriers are:

1. Limited access to care because of inadequate developmental-behavioral and mental health care training during residencies and other clinical training and shortages of consultant specialists and referral resources;
2. Inadequate payment for needed services and payer coverage limitations for needed

medications;
3. Challenges in practice organization and staffing; and
4. Fragmentation of care and resulting communication barriers.

Addressing these barriers from a clinical and policy standpoint will enhance clinicians' ability to provide high-quality care for children and adolescents who are being evaluated and/or treated for ADHD. Strategies for improvement in the delivery of care to patients with ADHD and their families are offered for consideration for practice and for advocacy.

BARRIERS TO HIGH-QUALITY CARE FOR CHILDREN AND ADOLESCENTS WITH ADHD

Multiple barriers exist in the primary medical care of children and adolescents that are impediments to excellent ADHD care.

Limited Access to Care Because of Inadequate Developmental-Behavioral and Mental Health Care Training During Pediatric Residency and Other Clinical Training Programs and Shortages of Consultant Specialists and Referral Resources

There is an overall lack of adequate pediatric residency and other training programs for pediatric clinicians on developmental-behavioral and mental health conditions, including ADHD. The current curriculum and the nature of pediatric training still focus on the diagnosis and treatment of inpatient and intensive care conditions—despite the fact that many primary care pediatricians spend less and less time providing these services, which are increasingly managed by pediatric hospitalists and intensive care specialists. Pediatric and family medicine residents do not receive sufficient training in the diagnosis and treatment of developmental-behavioral and mental health conditions, including ADHD, despite the high frequency in which they will encounter these conditions in their practices.[7,8]

In addition, many experienced pediatric clinicians believe that general pediatric and family medicine residencies do not fully ensure that clinicians who enter primary care practice have the organizational tools to develop, join, or function in medical home settings and address chronic developmental and behavioral conditions like ADHD.[7] The current funding of residency and other training programs for pediatric clinicians, and the needs of hospitals, tend to limit those aspects of training. The training challenges are subsequently not sufficiently addressed by practicing pediatric and family medicine practitioners, in part because of the limited number and varying quality of continuing medical education (CME) opportunities and quality improvement projects focused on medical home models and/or the chronic care of developmental and behavioral pediatric and mental health conditions.

The lack of training is compounded by the national shortage of child and adolescent psychiatrists and developmental-behavioral pediatricians: the United States has only 8300 child psychiatrists[9] and 662 developmental-behavioral pediatricians.[10] The additional training required for child psychiatry and developmental-behavioral pediatrics certification increases education time and costs, yet results in little or no return on this investment in terms of increased compensation for these specialists.[9] Given the high cost of medical school and the increasing educational debt incurred by graduating medical students, physicians lack a financial incentive to

add the extra years of training required for these specialties.[11] As a result, there are insufficient numbers of mental health professionals, including child psychiatrists and developmental-behavioral pediatricians, to serve as subspecialty referral options and/or provide PCCs with consultative support to comanage their patients effectively.

The specialist shortage is exacerbated by the geographically skewed distribution of extant child psychiatrists and developmental-behavioral pediatricians, who are concentrated in academic medical centers and urban environments. Almost three quarters (74%) of US counties have no child and adolescent psychiatrists; almost half (44%) do not even have any pediatricians.[12] As a result, many PCCs lack an adequate pool of pediatric behavioral and mental health specialists who can accept referrals to treat complicated pediatric ADHD patients and an adequate pool of behavioral therapists to provide evidence-based behavioral interventions. The result is that patients must often travel untenable distances and endure long waits to obtain these specialty services.

Suggested Strategies for Change to Address Limited Access to Care

Policy-Oriented Strategies for Change

- Promote changes in pediatric and family medicine residency curricula to devote more time to developmental, behavioral, learning, and mental health issues with focus on prevention, early detection, assessment, diagnosis, and treatment. Changes in the national and individual training program requirements and in funding of training should foster practitioners' understanding of the family perspective; promote communication skills, including motivational interviewing; and bolster understanding and readiness in the use of behavioral interventions and medication as treatment options for ADHD.
- Emphasize teaching and practice activities within general pediatric residencies and other clinical training, so pediatricians and other PCCs gain the skills and ability they need to function within a medical home setting.
- Support pediatric primary care mental health specialist (PMHS) certification for advanced practice registered nurses, through the Pediatric Nursing Certification Board to provide advanced practice care to help meet evidence-based needs of children or adolescents with ADHD.
- Encourage the development and maintenance of affordable programs to provide CME and other alternative post-training learning opportunities on behavioral and developmental health, including ADHD. These opportunities will help stakeholders—including PCCs, mental health clinicians, and educators—become more comfortable in providing such services within the medical home and/or educational settings.
- Develop, implement, and support collaborative care models that facilitate PCCs' rapid access to behavioral and mental health expertise and consultation. Examples include integration (such as collaborative care or colocation); on-call consultation; and support teams such as the Massachusetts Child Psychiatry Access Program,[13] the New York State Department of Mental Health's "Project Teach Initiative,"[14] and Project ECHO (Extension for Community Healthcare Outcomes), a collaborative model of medical education and care management that can be targeted to pediatric mental health.[15] In addition, federal funding had provided grants to18 states to develop Child Psychiatry Access Programs through HRSA's Pediatric Mental Health Care Access Program.[16,17] Promote incentives such as loan forgiveness to encourage

medical students to enter the fields of child and adolescent psychiatry and developmental and behavioral pediatrics, particularly for those who are willing to practice in underserved communities.

- Expand post-training opportunities to include postpediatric portal programs, which provide alternative ways to increase number of child and adolescent psychiatrists.

Inadequate Payment for Needed Services and Payer Coverage Limitations for Needed Medications

Although proper diagnostic and procedure codes currently exist for ADHD care in pediatrics, effective and adequate third-party payment is not guaranteed for any covered services.[18] Further, many payment mechanisms impede the delivery of comprehensive ADHD care. These impediments include restrictions to medication treatment choices such as step therapy, prior approval, narrow formularies, and frequent formulary changes. Some payers define ADHD as a "mental health problem" and implement a "carve out" health insurance benefit that bars PCCs from participation.[19] This designation results in denial of coverage for primary care ADHD services. Some payers have restrictive service and/or medication approval practices that prevent patients from receiving or continuing needed care and treatment. Examples include approval of only a limited number of specialist visits, limited ADHD medication options, mandatory step therapy, frequent formulary changes resulting in clinical destabilization, and disproportionally high out-of-pocket copays for mental health care or psychotropic medications.

Payments for mental health and cognitive services are frequently lower than equivalents (by relative value unit [RVU] measurement) paid for physical health care services, particularly those entailing specific procedures.[18] Longer and more frequent visits are often necessary to successfully address ADHD, yet time-based billing yields lower payment compared with multiple shorter visits. These difficulties financially limit a practice's ability to provide these needed services. Payments for evaluation and management (E/M) codes for chronic care are often insufficient to cover the staff and clinician time needed to provide adequate care. Furthermore, many payers deny payment for the use of rating scales, which are the currently recommended method for monitoring ADHD patients. The use of rating scales takes both the PCC's time and the practice's organizational resources. Arbitrary denial of payment is a disincentive to the provisions of this essential and appropriate service.

Finally, payers commonly decline to pay or provide inadequate payment for care coordination services. Yet, office staff and clinicians are asked to spend large amounts of uncompensated time on these activities, including communicating with parents, teachers, and other stakeholders. Proposed new practice structures such as accountable care organizations (ACOs) are predicated on value-based services and may provide new financial mechanisms to support expanded care coordination services. Originally implemented for Medicare, all-payer ACO models are under development in many states. To date, however, the specifics of these ACO models have not been delineated and their effectiveness has not yet been documented.[20]

The seemingly arbitrary and ever-changing standards for approval of services; the time-consuming nature of prior approval procedures; and restrictive, opaque pharmacy rules combine to create substantial barriers that result in many PCCs declining to care for children and adolescents with ADHD.[12] According to a recent AAP Periodic Survey of Fellows, 41% of

pediatricians reported that "inadequate reimbursement is a major barrier to providing mental health counseling."[18] Of note, 46% reported that they would be very interested in hiring mental health clinicians in their practice "if payment and financial resources were not an issue."[18]

Payers' practices regarding medication approval also create challenges for treating pediatric ADHD. In conflict with best practice or evidence-based guidelines, payers commonly favor 1 ADHD medication and refuse to approve others, even when the latter may be more appropriate for a specific patient. Decisions seem to be made on cost which at times can be quite variable. Certain drugs may be allowed only after review processes; others are refused for poorly delineated reasons. Reviewers of insurance denial appeals often lack pediatric experience and are unfamiliar with the effect of the patient's coexisting condition(s) or developmental stage on the medication choice. Step therapy protocols that require specific medications at treatment initiation may require patients to undergo time-consuming treatment failures before an effective therapy can be started. Changes to formularies may force medication changes on patients whose ADHD had been well-controlled, leading to morbidity or delays in finding alternative covered medications that might be equally effective in restoring clinical control.

Similarly, payers may inappropriately insist that a newer replacement drug be used in a patient whose ADHD has been well-controlled by another drug of the same or similar class. The assumption that generic psychoactive preparations are equal to brand-name compounds in efficacy and duration of action is not always accurate.[21] Although generic substitution is generally appropriate, a change in a patient's response may necessitate return to the nongeneric formulation. In addition, because of the variation in covered medications across insurance companies, when a family changes health plans, clinicians have to spend more time to clarify treatments and reduce family stress and their economic burden.

Suggested Strategies for Change to Address Inadequate Payment and Payer Coverage Limitations

Policy-Oriented Strategies

- Revise payment systems to reflect the time and cognitive effort required by primary care, developmental-behavioral, and mental health clinicians to diagnose, treat, and manage pediatric ADHD—and compensate these services at levels that incentivize and support their use.
- Support innovative partnerships between payers and clinicians to facilitate high-quality ADHD care. As new payment models are proposed, include input from practicing clinicians to inform insurance plans' understanding of the resources needed to provide comprehensive ADHD care.
- Require that payers' medical directors who review pediatric ADHD protocols and medication formularies either have pediatric expertise or seek such expertise before making decisions that affect the management of pediatric patients with ADHD.
- Advocate that health care payers' rules for approval of developmental-behavioral and mental health care services and medications is consistent with best practice recommendations based on scientific evidence such as the AAP ADHD guideline. Payers should not use arbitrary step-based medication approval practices or force changes to a patient's stable and effective medication plans because of cost-based formulary changes.

- Advocate for better monitoring by the US Food and Drug Administration (FDA) of ADHD medication generic formulations in order to verify their equivalency to brand-name preparations in terms of potency and delivery.
- Partner with CHADD (Children and Adults with Attention-Deficit/Hyperactivity Disorder) and other parent support groups to help advocate for positive changes in payers' rules; these organizations provide a strong voice from families who face the challenges on a day-to-day basis.

Challenges in Practice Organization

ADHD is a chronic condition. Comprehensive ADHD care requires additional clinician time for complex visits, consultation and communication with care team members, and extended staff time to coordinate delivery of chronic care. Children and adolescents with ADHD have a special health care condition and should be cared for in a manner similar to that of other children and youth with special health care needs.[22] Such care is ideally delivered by practices that are established as patient- and family-centered medical homes. Yet, the number of patient- and family-centered medical homes is insufficient to meet the needs of many children with ADHD and their families. Pediatricians and other PCCs who have not adopted a patient- and family-centered medical home model may benefit from the use of similar systems to facilitate ADHD management. For more information, see the recommendations and descriptions from the AAP and the American Academy of Family Medicine (AAFP) regarding medical homes.[22]

Caring for children and adolescents with ADHD requires practices to modify office systems to address their patients' mental health care needs. Specifically, practices need to be familiar with local area mental health referral options, where available, and communicate these options to families. Once a referral has been made, the office flow needs to support communication with other ADHD care team members.[23] Other team members, especially those in mental health, need to formally communicate with the referring clinician, in a bidirectional process.

Making a referral does not always mean that the patient is able to access care, however. Practices need to consider that many families face difficulties in following through with referrals for ADHD diagnosis and treatment. These difficulties may arise for a variety of reasons, including lack of insurance coverage, lengthy waitlists for mental health providers, transportation difficulties, reluctance to engage with an unfamiliar care system, cultural factors, and/or the perceived stigma of receiving mental health-specific services.[24-27]

Many of these barriers can be addressed by the integration of mental health services within primary care practices and other innovative collaborative care models. These models can help increase the opportunities for families to receive care in a familiar and accessible location, and provide a "warm handoff" of the patient into the mental health arena. The implementation of these models can be hindered by cost; collaboration with mental health agencies may be fruitful.

Another challenge is the difficulty in determining which mental health subspecialists use evidence-based treatments for ADHD. Pediatricians and other PCCs can increase the likelihood that families receive evidence-based services by establishing a referral network of clinicians who are known to use evidence-based practices and educating parents about effective psychosocial

treatments for children and adolescents to help them be wise consumers. It is also important to be cognizant of the fact that, for some families, accessing these services may present challenges, such as the need to take time off from work or cover any program costs.

Finding professionals who use evidence-based treatments is of the utmost importance, because exposure to non–evidence-based treatments has the potential to harm patients in several ways. First, the treatment is less likely to be effective and may be harmful (eg, adverse events can and do occur in psychosocial treatments.[28] Second, the effort and money spent on ineffective treatment interferes with the ability to meaningfully engage in evidence-based treatments. Finally, when a treatment does not yield benefits, families are likely to become disillusioned with psychosocial treatments generally, even those that are evidence-based, decreasing the likelihood of future engagement. Each of these harms may place the child at greater risk of problematic outcomes over time.

Suggested Strategies to Address Challenges in Practice Organization

Clinician-Focused Implementation Strategies

- Develop ADHD-specific office workflows, as detailed in the "preparing the practice" section of the PoCA (see supplemental information).
- Ensure that the practice is welcoming and inclusive to patients and families of all backgrounds and cultures.
- Enable office systems to support communication with parents, education professionals, and mental health specialists, possibly through electronic communication systems (discussed below).
- Consider office certification as a patient- and family-centered medical home.
- If certification as a patient- and family-centered medical home is not feasible, implement medical home policies and procedures including care conferences and management. Explore care management opportunities, including adequate resourcing and payment, with third-party payers.
- Identify and establish relationships with mental health consultation and referral sources in the community and within region, if available, and investigate integration of services as well as the resources to support them.
- Promote communication between ADHD care team members by integrating health and mental health services and using collaborative care model treatments when possible.
- Be aware of the community mental health crisis providers' referral processes, and be prepared to educate families about evidence-based psychosocial treatments for ADHD across the lifespan.

Policy-Oriented Suggested Strategies

- Encourage efforts to support the development and maintenance of patient- and family-centered medical homes or related systems to enable patients with chronic complex disorders to receive comprehensive care.
- Support streamlined, coordinated ADHD care across systems by providing incentives for the

integration of health and mental health services and collaborative care models.

Fragmentation of Care and Resulting Communication Barriers

Multiple team members provide care for children and adolescents with ADHD, including those in the fields of physical health, mental health, and education. Each of these systems has its own professional standards and terminologies, environments, and hierarchical systems. Moreover, they protect communication via different privacy rules: the Health Insurance Portability and Accountability Act (HIPAA)[29] for the physical and mental health systems and the Family Educational Rights and Privacy Act (FERPA)[30] for the education system. These factors complicate communication not only within but also across these fields. The lack of communication interferes with clinicians' abilities to make accurate diagnoses of ADHD and co-occurring conditions, monitor progress in symptom reduction when providing treatment, identify patient resources, and coordinate the most effective services for children and adolescents with ADHD.

Electronic systems can help address these communication barriers by facilitating asynchronous communication among stakeholders. This is particularly useful for disparate stakeholders—such as parents, teachers, and clinicians—who often cannot all be available simultaneously for a telephone or in-person conference. Electronic systems can also facilitate the timely completion and submission of standardized ADHD rating scales, which are the best tools to assess and treat the condition.[31] Because implementation of electronic systems lies partially within the PCC's control, additional information is provided below on the strengths and weaknesses of a variety of such systems, including telemedicine.

Stand-alone Software Platforms and Electronic Health Records

Stand-alone software platforms and electronic health records (EHRs) have the potential to improve communication and care coordination among ADHD care team members. Commercially available stand-alone software platforms typically use electronic survey interfaces (either web or mobile) to collect rating data from parents and teachers, use algorithms to score the data, and display the results cross-sectionally or longitudinally for the clinician's review. Advantages of stand-alone platforms include the fact that they are designed specifically for ADHD care and can be accessed via the Internet through computers and mobile devices. Once implemented, these user-friendly systems allow parents, teachers, and practitioners from multiple disciplines or practices to conveniently complete rating scales remotely. Stand-alone platforms also offer the ability to customize rating scales and their frequency of use for individual patients. Submitted data are stored automatically in a database, mitigating the transcription errors that are often associated with manual data entry. Data are available for clinical care, quality improvement, or research, including quality metrics.

A substantial downside to stand-alone ADHD care systems is the lack of data integration into EHRs. Practitioners must log into disparate systems for different facets of patient care: the stand-alone system to track ADHD symptoms, and the EHR to track medications records, visit notes, and patient or family phone calls. To achieve data accuracy in the 2 different systems, the practitioner must copy medication information from the EHR into the stand-alone system and ADHD symptom and adverse effect ratings from the stand-alone system into the EHR. In addition, stand-alone systems require clinicians to log in before each visit to review the relevant

ADHD care data. Patients may use a variety of ADHD stand-alone tracking systems, requiring the PCC to remember several accounts and passwords in addition to their own office and hospital EHR systems, creating an added burden that may reduce enthusiasm for such platforms. Finally, stand-alone systems typically charge fees to support the maintenance of servers, cybersecurity, and technical and customer support functionalities.

An issue over which the PCC has little control is the fact that other stakeholders may use stand-alone systems inconsistently. Parents (who may themselves have ADHD) must log in to the platform and complete the requisite ADHD rating scales. Teachers may be required to log in and complete the evaluation process, often for several students, on top of their other obligations. The fact that different pediatricians may use different systems, each with their own login and interface, adds to the activity's complexity, particularly for teachers who need to report on multiple students to a variety of PCCs.

EHRs for ADHD Management

EHRs can be adapted to improve the timely collection of parent and teacher ratings of ADHD symptoms, impairment, and medication adverse effects. Some EHRs use an electronic survey functionality or patient portal - similar to that provided by ADHD care stand-alone systems—to allow parents' access to online rating scales. A clear advantage of these EHR systems is that they increase the ability to access documentation about an individual patient's past treatment modalities and medications in the same place as information about his or her ADHD symptoms. These EHRs' functionality may facilitate other care-related activities, including evidence-based decision support, quality improvement efforts, and outcomes reporting.[32]

Despite these benefits, there are numerous limitations to managing ADHD care with EHRs. First, health care systems' confidentiality barriers often prevent teachers from entering ratings directly into the child's medical record. The large number and heterogeneity of EHR systems and their lack of interoperability are additional barriers to their use for ADHD care.[33] Even when institutions use the same vendor's EHR, exchanging respective ADHD documentation among a variety of clinicians and therapists is frequently impossible.[34] The inability to share information and the lack of interoperability often results in incomplete information in the EHR about a given patient's interventions, symptoms, impairments, and adverse effects over time. Systems for tracking and comparing these aspects of a patient's care are not standard for most EHR packages. The ability to construct templates that are congruent with a clinician's workflow may be limited by the EHR itself. ADHD functionality must often be custom-built for each organization—a cumbersome, expensive, and lengthy process—resulting in lost productivity, clinical effectiveness, and revenue.

General Issues with ADHD Electronic Tracking Systems

EHRs have been linked to increased clinician stress. For this reason, it is important to consider the potential for added burden when either stand-alone or EHR-embedded systems are used to facilitate ADHD care.[35] Although the use of electronic ADHD systems to monitor patients remotely may be advantageous, clinicians and practices may not be equipped or staffed

to manage the burden of additional clinical information arriving between visits (ie, intervisit data).

Clinicians must also consider the liability associated with potentially actionable information that families may report electronically without realizing the information might not be reviewed in real time. Examples of such liabilities include a severe medication adverse effect, free-text report of suicidal ideation, and sudden deterioration in ADHD symptoms and/or functioning. In addition, parents and teachers may receive numerous requests to complete rating scales, leading them to experience "survey fatigue" and ignore the requests to complete these scales. Conversely, they may forget how to use the system if they engage with it on an infrequent basis. Some parents or teachers may be uncomfortable using electronic systems and within the medical home might prefer paper rating scales, and others may not have ready access to electronic systems or the Internet.

Telemedicine for ADHD Management

Telemedicine is a new and rapidly growing technology that has the potential—when properly implemented within the medical home—to expand access to care and to improve clinicians' ability to communicate with schools, consultants, care management team members, and especially patients and parents.[36-38] Well-run telemedicine programs offer some promise as a way to deliver evidence-based psychosocial treatments, although few evidence-based programs have been tested via telemental health trials.[39,40] Telemedicine is one of the foundations of the new advanced medical home and offers advantages including:

- Offering communication opportunities (either face-to-face and synchronous as a conversation, or asynchronous as messaging), which can be prescheduled to minimize interruption of office flow.
- Enabling communication on a one-on-one basis or one-to-many basis (for conference situations).
- Replacing repeated office visits for patient follow-up and monitoring, which reduces time and the need for patients to travel to the PCC's office.
- Facilitating digital storage of the telemedicine episode and its incorporation into multiple EHR systems as part of the patient record.
- Enhancing cooperation among all parties in the evaluation and treatment processes.

Telemedicine has great potential but needs to be properly implemented and integrated into the practice workflow to achieve maximum effectiveness and flexibility. Although some new state insurance regulations mandate payment for telemedicine services, such mandates have not yet been implemented in all states, limiting telemedicine's utility. Finally, payment for services needs to include the added cost of equipment and staff to provide them.

Suggested Strategies to Address Fragmentation of Care and Resulting Communication Barriers

Clinician-Focused Implementation Strategies

- Ensure the practice is aware of, and in compliance with, HIPAA and FERPA policies, as well as confidentiality laws and cybersecurity safeguards that impact EHRs' communication with school personnel and parents.[41]
- Maintain open lines of communication with all team members involved in the patient's ADHD care within the practical limits of existing systems, time, and economic constraints. As noted, team members include teachers, other school personnel, clinicians, and mental health practitioners. This activity involves a team-based approach and agreeing on a communication method and process to track ADHD interventions, symptoms, impairments, and adverse effects over time. Communication can be accomplished through a variety of means, including electronic systems, face-to-face meetings, conference calls, emails, and/or faxes.
- Consider using electronic communication via stand-alone ADHD management systems and electronic portals, after evaluating EHR interoperability and other administrative considerations.
- Integrate electronic ADHD systems into the practice's clinical workflow: decide who will review the data and when, how actionable information will be flagged and triaged, how information and related decision-making will be documented in the medical record, etc.
- Set and clarify caregivers' expectations about the practice's review of information provided electronically versus actionable information that should be communicated directly by phone.
- Promote the implementation of telemedicine for ADHD management in states where payment for such services is established; ensure the telemedicine system chosen is patient centered, HIPAA and FERPA compliant, and practice enhancing.

Policy-Oriented Suggested Strategies

- Promote the development of mechanisms for online communication to enhance ADHD care collaboration, including electronic portals and stand-alone ADHD software systems, to serve as communication platforms for families, health professionals, mental health professionals, and educators. Ideally, these portals would be integrated with the most commonly used EHR systems.
- Advocate for regulations that mandate a common standard of interoperability for certified EHR systems. Interoperability facilitates the use of EHRs as a common repository of ADHD care information and communication platform for ADHD care team members.[41]
- Advocate for exceptions to HIPAA and FERPA regulations to allow more communication between education and health and mental health practitioners while maintaining privacy protections.
- Ensure that billing, coding, and payment systems provide adequate resources and time for clinicians to communicate with teachers and mental health clinicians, as discussed previously.
- Provide incentives for integration of health and mental health services, collaborative care models, and telemedicine to facilitate communication among ADHD care team members, including telemedicine services that cross state lines.
- Fund research in telehealth to learn more about who responds well to these approaches and whether telehealth is feasible for underserved populations.

CONCLUSION

Appropriate and comprehensive ADHD care requires a well-trained and adequately resourced multidisciplinary workforce, with office workflows that are organized to provide collaborative services that are consistent with a chronic care model and to promote communication among treatment team members.[42-45] Many barriers in the current health care system must be addressed to support this care.

First and foremost, the shortage of clinicians, such as child and adolescent psychiatrists and developmental-behavioral pediatricians, who provide consultation and referral ADHD care, must also be addressed. The shortages are driven by the lack of residency and other training programs for pediatric clinicians in the management of ADHD and other behavioral health issues; the lack of return on investment in the additional training and debt required to specialize in this area; and inadequate resourcing at all levels of ADHD care. The shortage is exacerbated by geographic maldistribution of practitioners and lack of adequate mental health training as a whole during residency and in CME projects. These challenges must be addressed on a system-wide level.

A significant review and change in the ADHD care payment for cognitive services is required to needed to ensure that practitioners are backed by appropriate resources that support the provision of high-quality ADHD care. The lack of adequate compensation for ADHD care is a major challenge to reaching children and adolescents with the care they need. Improved payment is a major need to encourage primary care clinicians to train in ADHD subspecialty care and incentivize child and adolescent psychiatry and developmental-behavioral pediatrics practitioners to provide ADHD care in the primary care setting, so the provision of such care does not result in financial hardship for the families or the practice. Improvement should also include changes to payer policies to improve compensation for care coordination services and mental health care.

As the pediatrician is often the first contact for a parent seeking help for a child with symptoms that may be caused by ADHD, barriers to payment need to be addressed before providing these time-consuming services. Some insurance plans direct all claims with a diagnosis reported by *International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)* codes F01-F99 to their mental and behavioral health benefits system. Because pediatricians are generally not included in networks for mental and behavioral health plans, this can create delays or denials of payment. This is not always the case, though, and with a little preventive footwork, practices can identify policy guidelines for plans that are commonly seen in the practice patient population.

The first step in identifying coverage for services to diagnose or treat ADHD is to determine what payment guidelines have been published by plans that contract with your practice. Many health plans post their payment guidelines on their Web sites, but even when publicly available, the documents do not always clearly address whether payment for primary care diagnosis and management of ADHD is covered. It may be necessary to send a written inquiry to provider relations and the medical director of a plan seeking clarification of what diagnoses and procedure codes should pass through the health benefit plan's adjudication system without denial or crossover to a mental health benefit plan. It is important to recognize that even

with documentation that the plan covers primary care services related to ADHD, claims adjudication is an automated process that may erroneously cause denials. Billing and payment reconciliation staff should always refer such denials for appeal.

Once plans that do and do not provide medical benefits for the diagnosis and treatment of ADHD have been identified, advocacy to the medical directors of those plans that do not recognize the role of the medical home in mental health care can be initiated. The AAP template letter, Increasing Access to Mental Health Care, is a resource for this purpose. Practices should also be prepared to offer advance notice to parents when their plan is likely to deny or pay out of network for services. A list of referral sources for mental and behavioral health is also helpful for parents whose financial limitations may require alternative choices and for patients who may require referral for additional evaluation.

For services rendered, identify the codes that represent covered diagnoses and services, and be sure that these codes are appropriately linked and reported on claims.

When ADHD is suspected but not yet diagnosed, symptoms such as attention and concentration deficit (R41.840) should be reported. Screening for ADHD in the absence of signs or symptoms may be reported with code Z13.4, encounter for screening for certain developmental disorders in childhood. *Current Procedural Terminology* (CPT) codes 96110 and 96112-96113 should be reported for developmental screening and testing services.

Services related to diagnosis and management of ADHD are more likely to be paid under the patient's medical benefits when codes reported are not those for psychiatric or behavioral health services. Reporting of evaluation and management (E/M) service codes based on face-to-face time of the visit when more than 50% of that time was spent in counseling or coordination of care will likely be more effective than use of codes such as 90791, psychiatric diagnostic evaluation. CPT E/M service guidelines define counseling as a discussion with a patient or family concerning one or more of the following areas:

- Diagnostic results, impressions, or recommended diagnostic studies
- Prognosis
- Risks and benefits of management (treatment) options
- Instructions for management (treatment) or follow-up
- Importance of compliance with chosen management (treatment) options
- Risk factor reduction
- Patient and family education

Finally, staff should track claim payment trends for services related to ADHD, including the number of claims requiring appeal and status of appeal determinations to inform future advocacy efforts and practice policy.

Many AAP chapters have developed pediatric councils that meet with payers on pediatric coding issues. Sharing your experiences with your chapter pediatric council will assist in its advocacy efforts. AAP members can also report carrier issues on the AAP Hassle Factor Form.

These system-wide barriers are challenging, if not impossible, for individual practitioners to address on their own. Practice organization and communication changes can be made, however, that have the potential to improve access to ADHD care. Clinicians and other practitioners can implement the office work-flow recommendations made in the "preparing the practice" section of the updated PoCA (see supplemental information). Implementing a patient- and family-centered medical home model, co-locating health and mental health services, and adopting collaborative care models can also help overcome communication barriers and minimize fragmentation of care. It is noted that these models must be adequately resourced to be effective.

Finally, practitioners can implement innovative communication and record-keeping solutions to overcome barriers to ADHD care. Potential solutions could include the use of EHRs, other electronic systems, and high-quality telemedicine to support enhanced communication and record-keeping on the part of myriad ADHD care team members. These solutions can also aid with monitoring treatment responses on the part of the child or adolescent with ADHD. Telemedicine also has the distinct benefit of compensating for the maldistribution of specialists and other clinicians who can treat pediatric ADHD.

Many stakeholders have a role in addressing the barriers that prevent children and adolescents from receiving needed evidenced-based treatment for ADHD. Pediatric councils, the national AAP, and state and local AAP chapters must be advocates for broad changes in training, continuing medical education, and payment policies to overcome the systemic challenges that hamper access to care. On an individual level, practitioners can effect change in their own practice systems and professional approaches and implement systems that address fragmentation of care and communication. Practitioners are important agents for change in ADHD care. The day-to-day interactions that practitioners have with patients, families, educators, payers, state insurance regulators, and others can foster comprehensive, contemporary, and effective care that becomes a pillar of advocacy and change.

ABBREVIATIONS

- AAP, American Academy of Pediatrics
- ACO, accountable care organization
- ADHD, attention-deficit/hyperactivity disorder
- CDC, Centers for Disease Control and Prevention
- CME, continuing medical education
- EHR, Electronic health records
- FERPA, Family Educational Rights and Privacy Act
- FDA, US Food and Drug Administration
- HIPAA, Health Insurance Portability and Accountability Act
- PCC, primary care clinicians
- PoCA, process of care algorithm

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