



# Guiding Principles for Team-Based Pediatric Care

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The American Academy of Pediatrics (AAP) recognizes that children's unique and ever-changing needs depend on a variety of support systems. Key components of effective support systems address the needs of the child and family in the context of their home and community and are dynamic so that they reflect, monitor, and respond to changes as the needs of the child and family change. The AAP believes that team-based care involving medical providers and community partners (eg, teachers and state agencies) is a crucial and necessary component of providing high-quality care to children and their families. Team-based care builds on the foundation of the medical home by reaching out to a potentially broad array of participants in the life of a child and incorporating them into the care provided. Importantly, the AAP believes that a high-functioning team includes children and their families as essential partners. The overall goal of team-based care is to enhance communication and cooperation among the varied medical, social, and educational partners in a child's life to better meet the global needs of children and their families, helping them to achieve their best potential. In support of the team-based approach, the AAP urges stakeholders to invest in infrastructure, education, and privacy-secured technology to meet the needs of children. This statement includes limited specific examples of potential team members, including health care providers and community partners, that are meant to be illustrative and in no way represent a complete or comprehensive listing of all team members who may be of importance for a specific child and family.

No single person or entity can address all the health needs of a child. Because most children lack decisional rights, they are a particularly vulnerable population; their needs are inextricably linked to those of their families and communities. Children depend on adults and a variety of support systems for their well-being and to access, obtain, and coordinate care.<sup>1,2</sup> Key components of effective support systems address

## abstract

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Drs Perrin, Edwards, Kressly, and Katkin reviewed and responded to questions and comments from reviewers; and all authors were responsible for all aspects of writing and editing the document.

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**To cite:** Katkin JP, Kressly SJ, Edwards AR, et al. Guiding Principles for Team-Based Pediatric Care. *Pediatrics*. 2017; 140(2):e20171489

the needs of the child and family in the context of their home and community and are dynamic so that they reflect, monitor, and respond to changes that occur during growth and development. Traditional health care models often fail to adequately address many issues affecting child health. For example, pediatricians often lack adequate time and/or support needed to coordinate with all of a child's caregivers in the management of children with medical complexity and those with more common chronic medical conditions, such as asthma, diabetes, obesity, or attention-deficit/hyperactivity disorder.<sup>3,4</sup> Coordinating feedback from caregivers, schools, dietitians and/or nutritionists, specialists, pharmacies, nursing agencies, vendors of durable medical equipment, and other home care agencies and counselors is regularly needed for many of these conditions.<sup>5</sup>

Team-based care for children is different from that for adults for 3 key reasons: (1) early environment and experiences have crucial effects on lifelong health, (2) resources targeted toward health promotion and disease prevention have significant societal benefits, and (3) pediatrics fundamentally incorporates the dynamic nature of childhood. Adverse childhood experiences and toxic stress<sup>6</sup> can lead to lifelong physical and mental health challenges and exacerbate chronic conditions. It is essential that children and families who have experienced such toxic stress be identified and supported so that the potential adverse effects on the child's health and development can be mitigated.<sup>7</sup> Team-based care can extend available resources and support children and families affected by adverse childhood experiences. Additionally, children's needs change as they develop. Compared with adults, children undergo rapid changes physiologically, emotionally, developmentally, and socially over

relatively short periods of time. The dynamic nature of infancy, childhood, adolescence, and early adulthood demands a team with the capacity for ongoing evolution timed to these developmental changes. For example, expert breastfeeding support may be a critical part of an infant's care team, and behavioral health expertise is imperative for assisting youth who are depressed or anxious. In early childhood, team collaboration with home-visiting or young family support programs may be important resources for families. Teenagers may derive benefits from community involvement to bolster the development of healthy relationships and social awareness. A recent statement from the American College of Obstetricians and Gynecologists describes team care in those settings,<sup>8</sup> and, recognizing insights from that statement, the American Academy of Pediatrics (AAP) strongly supports pediatric-specific models of team-based care.

It is unrealistic to assume that any one individual will have the time, resources, or knowledge to address the needs of every family. Team-based care for children aims to address the unique aspects of childhood, such as preventive care, health promotion, and health maintenance to promote long-term health, as well as child development and its influence on disease presentation and management.<sup>5</sup> Other unique concerns include health consequences from adversity, toxic stress, and social determinants, of which poverty is one of the most important critical determining factors,<sup>9</sup> and complex acute and chronic conditions, including mental health problems.<sup>10</sup> A team-based approach can facilitate navigation of a fragmented and changing health care financing system with associated gaps in care. Team-based pediatric care has the potential to meet these needs, improve outcomes for children and families, improve

population health, and begin to address health equity.<sup>1,4,8</sup>

## **TEAM-BASED CARE IN PEDIATRICS**

### **What is Team-Based Care?**

Team-based care is a health care model that endorses the partnership of children and families working together with one or more health care providers and other team members across multiple settings to identify, coordinate, and address shared goals that meet the needs of the whole child. Team-based care is considered a foundational element of the patient-centered medical home. The AAP conceptualized the medical home in 1967 and first defined it in a policy statement in 1992.<sup>11</sup> The medical home focuses on building a team of professionals responsible for coordinating a patient's care across the health care continuum and through the changing health care needs that occur from early infancy to adulthood. Ideally, primary care providers within the medical home offer preventive care and surveillance for potential emerging problems, as recommended by Bright Futures guidelines. The medical home typically can provide urgent care for most acute illnesses. The medical home staff awareness of more serious illnesses helps to coordinate smooth transitions between the office and emergency centers, subspecialists, or inpatient hospital units. The medical home also coordinates more complex care for children with temporary or permanent special needs. Team-based care is one of the most important tools used by effective medical homes to meet these goals.<sup>5</sup>

For some children, the team may simply comprise the primary care physician, the child, and the family. For others, the team may include a wide variety of participants, such as medical and surgical subspecialists, nurse practitioners, physician assistants, nurses, teachers, child care providers, child life specialists,

recreational leaders, state and community agencies, home visitors, housing providers, therapists, dietitians and/or nutritionists, care coordinators, social workers, foster care representatives, pharmacists, providers of durable medical equipment, home nursing care, other home health agencies, and medical-legal partnerships.<sup>1,5</sup> Finally, the team will transiently expand to include hospital-based physicians and allied health care providers for children who experience inpatient care, with particular attention to timely and accurate communications at admission and discharge.<sup>5</sup>

### **Review of Evidence for Pediatric Team-Based Care**

A literature search of PubMed that uses the search terms “team-based care,” “pediatric team-based care,” “team-based practice,” and “collaborative practice” revealed little formal and generalizable research on the effectiveness of team-based care in pediatrics and precluded a systematic assessment of the pediatric literature for this statement. In adults, the efficacy of team-based care has been demonstrated on a large scale, particularly for adults with chronic care needs. For example, for adults enrolled in an integrated health care system, team-based care was associated with higher quality of care, lower acute care utilization, and higher cost savings.<sup>11</sup> In children, despite a clear need for generalizable evidence-based practice in this area, single-center research reveals some efficacy on health maintenance, prevention of disease, acute illness management, and chronic disease management.<sup>12</sup> On the basis of information learned from programs serving children with cystic fibrosis or cancer and their families, multidisciplinary teams are essential in meeting the nursing, mental health, and social service needs of children and families; such teams are also essential in engaging

with educational professionals to help a child reenter school after a long hospital or home care experience.<sup>2,12–15</sup> Research is needed to document the value and improved outcomes of team-based care in pediatric populations, and the unique care needs of children must be incorporated into such studies.<sup>16</sup>

The goal of team-based care is to better meet the needs of children and families and help them achieve their best potential.

### **Team Composition and Leadership**

The literature describes 5 basic elements of a well-functioning team, including: (1) team leadership: the ability to coordinate team members’ activities, promote appropriate task distribution, evaluate effectiveness, and inspire high-level performance, (2) mutual performance monitoring: the ability to develop a shared understanding among team members regarding intentions, roles, and responsibilities so as to actively monitor one another’s performance for collective success, (3) back-up behavior: the ability to anticipate the needs of other team members and shift responsibilities during times of variable workload, (4) adaptability: the capability of team members to adjust their strategy for completing tasks on the basis of changing circumstances or feedback from the work environment, and (5) team orientation: the tendency to prioritize team goals over individual goals, encourage alternative perspectives, and show respect and regard for each team member.<sup>17</sup> For children with medical complexity,<sup>14</sup> effective team care requires mutual agreement and clarity among team members on such items as (1) whom the family should contact for what sorts of concerns, (2) who will order or refill various prescriptions or provide supportive justification (eg, letters of medical necessity) for medications, equipment, supplies, therapies, and home nursing care,

and (3) which team members update which portions of the (electronic) medical record.

Family-centered teams, by definition, include the child and family members as fundamental participants. Family team members will vary depending on the family structure and may include parents, stepparents, grandparents, guardians, other relatives, or foster families, and it is important to give them an active voice in the process. Providing appropriate information to the family and child, and facilitating shared decision-making are functions of the team. In a successful team, all team members (the child and family foremost) work together to identify and prioritize shared goals. The pediatric provider can then lead a team that includes all of the necessary stakeholders to identify and plan the best strategies to meet those shared goals. The role of each team member should be clear and well-defined, depending on the specific needs of the child and family. Leadership of the team can be conceptualized at 2 levels: administrative and operational and/or care-delivery-focused. A pediatrician (general pediatrician, pediatric medical subspecialist, or pediatric surgical subspecialist) is uniquely qualified, on the basis of training and expertise, to oversee the team, provide administrative oversight, and serve as a resource to promote optimal functioning while meeting the needs of the patient and family, given available resources.<sup>18</sup> From an operational viewpoint, other members with child and/or adolescent expertise may be the most appropriate team leaders to oversee and provide details of care delivery. New team members may require additional levels of support and training as they learn how the team works, and interprofessional education allows all team members to gain in knowledge and expertise over time.<sup>17</sup>

Pediatricians have the training and expertise to oversee care of the whole child and are ideally suited to lead the team.<sup>18</sup> However, in an optimal team, other team members are empowered to assume responsibility for targeted efforts and manage care delivery that is in their individual domain. The team member who is most qualified and able to meet shared goals directs the day-to-day planning, support, and delivery of care. Pediatrician input, oversight, and expertise should be used as extensively as warranted at any given time. In this way, the team, as a collaborative unit, is in an optimal position to address the needs of the child and family.

Pediatric medical subspecialists are essential team members for some children with complex conditions. In some cases, the subspecialist may be best suited to serve as the team's leader. For example, a child undergoing chemotherapy or a child with cystic fibrosis will be in frequent communication with his or her subspecialist, whose practice may appropriately serve as the medical home during some or all of his or her childhood.<sup>13,15</sup> A child with diabetes may require the endocrinology team to educate the school personnel about his or her condition. In other instances, the subspecialist and primary care provider or groups of subspecialists may manage the team, coordinating the engagement of many members as their expertise is needed.

If team-based care is thoughtfully implemented and fully supported, each team member's contribution to the overall well-being of the child is valued, which can address what some have described as the missing aim in the context of the Triple Aim: improved clinician experience.<sup>19</sup> Knowing that your contributions matter, having a relationship with the child and family, and having the ability to focus on what you do best form the basis for personal

satisfaction. When clinicians feel connected to their patients and receive personal satisfaction from their work, they are more engaged and are less subject to burn out. Highly engaged and satisfied members of the care team have a positive effect on patient care and outcomes.<sup>12,17</sup>

### **Team Communication and the Role of Technology**

Teams work by bringing together a group of people with varying skills and training who are jointly focused on improving the health care outcomes for children and families. Communication is the essential foundation of an effective team. Office-based teams can begin with a team "huddle" at the start of the work day to review the specific needs of each scheduled patient.<sup>17,20</sup> When all team members do not share the same physical space, technological supports can facilitate communication; these may be as simple as preparatory and follow-up e-mails or as sophisticated as real-time video conferencing. Telehealth, patient portals, secure text messaging, personal health records, sharing through health information exchanges, integration and exchange of electronic health records, OpenNotes, and other evolving technologies offer opportunities to facilitate communication. Technological innovations offer great promise to improve communication among all team members, including children and families, and have the potential to generate new forms of information sharing that are more effective than traditional models.<sup>21–26</sup> The most effective solution will be unique to each practice and patient and possibly to each visit. As long as the infrastructure is available, teams can be flexible about the structure of each contact and engage as many or as few team members as are necessary to meet the needs of the child and family on a given occasion. Communications should

be tailored to the understanding and needs of each team member, including the patient and family, and confidentiality should be respected.<sup>17</sup> The success of pediatric team-based care requires substantial improvements in the ability to communicate across multiple venues that are involved in a child's life. A key component of effective communication includes sharing of information among team members in a timely, accessible, and effective manner.

Significant philosophical, technical, legislative, and institutional barriers affect the implementation of improved communication technologies, and additional resources are needed to realize the true value of improved team communication through technology. There is a need for robust development and implementation of interoperability that respects the unique privacy concerns of children while allowing access to critical information in a format that is accessible to all team members.

Recent efforts to improve management of chronic conditions, especially among elderly populations, have greatly expanded the role of teams in clinical care, although recognition of the role of teams in pediatric care, especially for children with serious chronic conditions, goes back decades.<sup>27</sup> Both public and private payers, including Medicare and private insurers, have provided incentives for team care, recognizing their value in lowering the costs associated with complex chronic conditions and the overuse of hospital and emergency care. In part, the goal of these efforts is to promote the Triple Aim: better care, better health, and reduced cost of care.<sup>28</sup> The growing acceptance of the patient-centered medical home, based on the earlier AAP work in the family-centered medical home, has also led to new payment arrangements for team care. State



Medicaid agencies have also taken a lead in innovation models, with many now moving to accountable care arrangements, which address both social determinants of health and the value of multidisciplinary approaches to prevention and care improvement. Alternative or value-based payment models that have been proposed and piloted include pay-for-performance, bundled payment and/or episodes of care, patient-centered medical homes, shared savings, and capitation.<sup>29</sup>

The new payment arrangements recognize that teams and community partners can improve care, safety, and costs for patients with chronic conditions.<sup>30</sup> Recent efforts in developing accountable pediatric care organizations all include the use of teams.<sup>31</sup> In addition to the concepts drawn from experience with elderly patients, pediatric care also embraces the following concepts: (1) a commitment to preventive care, (2) supporting the role of family in child health and well-being, and (3) collaborating with community services, especially educational institutions, on children's health and developmental needs.<sup>27</sup> Furthermore, the integration of mental and behavioral health is an essential preventive component of caring for the whole child. Pediatricians often help families recognize and address mental health issues early, well before they have a specific diagnosis.<sup>30</sup>

To cover the costs of infrastructure and care coordination, practices may negotiate a fee-for-service rate increase or per-member, per-month payment in addition to standard fee-for-service payments. To date, these payments have not been fully realized in many states, nor do they reflect the true cost of infrastructure and care coordination. A number of state Medicaid programs have recognized the value of team care in several realms (eg, maternity services and asthma care), although

direct payment for those teams has still been limited. Overall, financial models to support team-based care have been designed primarily to reduce costs in adult care. Optimizing child health requires intentional and deliberate investment in a team-based approach to address family health, social determinants, social-emotional development, and educational achievement.<sup>32</sup> Future payment models will need to better address the building of health care teams in childhood populations. As Medicaid programs increasingly turn to managed care arrangements with value-based payments, there is an opportunity to advocate for incentives and payment arrangements that will support team-based care in pediatrics.

Accurate and transparent models of attribution are crucial as payment shifts from fee-for-service to value-based payment. When team members are part of different institutions or systems, it will be necessary in population planning and payment to attribute the patient to the appropriate varied team members in a way that reflects the entire team's contribution to and responsibility for cost and outcomes.

### **GUIDING PRINCIPLES FOR PEDIATRIC CARE TEAMS**

An ideal pediatric care team does the following:

1. Acknowledges that children and families are key team members and partners with children and families to identify and address their needs;
2. Recognizes that pediatricians are the ideal leaders of team-based care for children. The locus of leadership may shift over time, residing with the primary pediatric provider or the pediatric medical or surgical subspecialist, or it may be shared among them when appropriate. It also recognizes that the team's

composition and pediatrician leadership will change as the needs of the child and family change;

3. Assesses child and family needs and the availability of relevant resources and works to address gaps in the system that may limit optimal care of the child and family. It also establishes professional partnerships, community linkages, and collaborations to address the requirements of children and families with complex medical, developmental, mental health, and socioeconomic challenges;
4. Communicates in an effective and timely fashion among all members of the dynamic team, remembering that the child and family are at the center of all interactions;
5. Extends the foundation of the medical home by facilitating interactions and cooperation among primary care pediatricians and other participants involved in ongoing care of the child, including the family. Pediatric medical subspecialists, therapists, and other active participants in the child's care can help meet the goals of care established via shared decision-making and planning in the primary care or other setting(s); and
6. Incorporates the 5 key elements of a high-functioning team: shared goals, clear roles, mutual trust, effective communication, and measurable processes and outcomes.<sup>17</sup>

### **FUTURE DIRECTIONS**

The major investments that are needed to make effective team-based pediatric care accessible to all children and families are as follows:

1. Payment models are needed to support appropriate payment for implementation, ongoing

infrastructure, collaboration, and continuous improvement to sustain team-based care for children and families;

2. Medical school, residency training, and continuing medical education need to incorporate principles and practice of team-based care and development of team leadership skills for pediatricians. Pediatricians will need education, implementation toolkits, technical assistance, and infrastructure support to transform their practices;
3. Implementation of technology-enabled communication is needed to establish, support, and strengthen communication across the care team. Electronic platforms are needed to share medical records and key information in an accessible format so that all team members, including children and families, can communicate in real time,

while respecting issues of confidentiality;

4. Children and families should be confident that they are indeed at the center of each child's care team. Shared decision-making skills are key to strengthening collaboration among team members, physicians, and families; and
5. Communities need information and incentives to partner with pediatricians and others dedicated to the health of children in a more comprehensive and collaborative team-based approach to care. All stakeholders should examine how effectively they reach families and children who are in need of services and should identify and collaborate to close gaps in resources.

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#### ABBREVIATION

AAP: American Academy of Pediatrics

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**DOI:** <https://doi.org/10.1542/peds.2017-1489>

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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**FINANCIAL DISCLOSURE:** The authors have indicated they have no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** Dr Kressly has indicated that she is the Medical Director of Office Practicum, Pediatric Electronic Health Records; the other authors have indicated they have no potential conflicts of interest to disclose.

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*Pediatrics* originally published online July 24, 2017;

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