



Clinical Report—Physicians' Roles in Coordinating Care of Hospitalized Children

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KEY WORDS

care coordination, care transitions and family-centered care

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abstract

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The care of hospitalized children and adolescents has become increasingly complex and often involves multiple physicians beyond the traditional primary care pediatrician. Hospitalists, medical subspecialists, surgical specialists, and hospital attending physicians may all participate in the care of hospitalized children and youth. This report summarizes the responsibilities of the pediatrician and other involved physicians in ensuring that children receive coordinated and comprehensive medical care delivered within the context of their medical homes as inpatients, and that care is appropriately continued on an outpatient basis. *Pediatrics* 2010;126:829–832

BACKGROUND

Although an infrequent occurrence for most children and their families, hospitalization is a significant event in the life of a child and his or her family. Most children are hospitalized for an acute illness or injury. Children with disabilities are more likely to be hospitalized and experience 8 times as many hospital days as other children.¹ Care coordination is an important aspect of caring for children with special health care needs and has been emphasized by the American Academy of Pediatrics as part of the medical home concept.² Care coordination is essential for safe care and includes developing and guiding diagnostic and therapeutic plans with integration of input from the medical team, patients, and families toward the goal of discharging a healthier child back to his or her medical home.³

Patient and family satisfaction with the hospital experience is an important element of quality of care. Parents in 1 review, on average, were very satisfied with the overall care of their child; however, information shared with the child and coordination of care had the highest problem scores. In addition, problems with information provided to the parents correlated most strongly with overall negative perception of care received.⁴

As the care that is delivered to children on an outpatient basis becomes more sophisticated, illnesses that warrant hospitalization are becoming more complex and severe and often require specialty consultation(s). Although the primary care pediatrician may be the attending physician directly responsible for clinical management of the hospitalized child, this is becoming much less common.^{5,6} In community hospitals, pediatric hospitalists, medical subspecialists, and surgical specialists may be unavailable, and a physician whose primary practice is adult medicine may provide general, specialty, and/or surgical care and function as the attending physician for pediatric patients. Alternatively, a pediatric hospitalist, full-time teaching attending pediatrician, pediatric medical subspecialist, or

surgical specialist may be responsible for the supervision and care of the child. Coordination and oversight of care must be provided by the attending physician who is caring for the patient, regardless of whether that is the primary care pediatrician and/or other physicians as described above. The following functions are the essential components of this coordination and oversight role.

INITIAL ASSESSMENT

For any child who requires hospital admission, an initial assessment made before or at the time of hospitalization allows for the child to be admitted to the inpatient setting that is best suited to his or her specific problem(s). At times, authorization may be needed from the child's insurance carrier before admission. In addition, attention must be directed to the safest way for the child to travel to the hospital (family car, ambulance, or specialized pediatric transport). A safe transport plan is particularly important if the child's destination is distant. Referring and receiving physicians should work together to advocate and direct a timely, well-coordinated, and safe transfer.

A complete initial evaluation includes a history of the present illness; complete medical history; pain assessment; drug and food allergies; review of systems; review of immunizations; medication reconciliation; assessment of growth (including BMI), nutritional, developmental, educational, and emotional status; review of family and social history, including review of behavioral and environmental risk factors and cultural or ethnic issues; and a physical examination.⁷ The effects of the child's condition on his or her family and the effects of the family on the child's condition need to be evaluated to initiate family-centered care. These assessments may be performed just before or concurrent with hospitalization and routinely involve collabora-

tion with other health care professionals such as nursing staff, child life specialists, social workers, and others.

It is especially important that the child's medical history be obtained if the primary care pediatrician is not the attending physician. Hospitalists, medical subspecialists, and surgical specialists who care for hospitalized children must communicate with the child's primary care pediatrician for overall coordination of care. Pertinent previous health information must be available on admission for the inpatient health care team to review, including a list of prescribed medications and therapies. Access to this information prevents unnecessary duplication of previous diagnostic and therapeutic measures; reduces the risk of errors in medication dosing; allows primary care and hospital-based physicians to update the status of past conditions that may not be obvious on the current admission; provides an opportunity to address identified deficiencies while the child is hospitalized, such as catching up on immunizations; provides insight into psychosocial issues facing the patient and family; and facilitates monitoring of the child's growth and development. Inpatient and outpatient facilities must be able to provide and receive necessary medical records in a reliable, timely, safe, and confidential manner. An accessible electronic health record may provide more timely and accurate data. In some settings, equipment from home (eg, a home bilevel positive airway pressure [BIPAP] device, insulin pump, or specialized wheelchair) can be critical, even if only to bridge the gap in transition from home to hospital.

DURING THE HOSPITAL STAY

The attending physician integrates and coordinates the input of all physicians and other ancillary providers when multiple providers are involved in the

patient's care. Duties include directing the overall care of the child, coordinating input from consultants, confirming that the child and the family understand the information from all consultants, considering the options when consultants disagree, planning for discharge from the hospital, and efficiently using inpatient resources.

Family-centered care is linked to improved health outcomes⁸ and has been recommended by many key constituents for children's health care. Family-centered rounds is a system that emphasizes the essential role of the family in coordinating the care of hospitalized children.⁹ Communication with the patient, family, bedside nurse, and other members of the inpatient care team can improve coordination of the daily plan, which leads to fewer misunderstandings and more timely completion of the daily plan. In a non-teaching hospital, family-centered rounds can be as simple as rounding together with the nurse, patient, and family and trying to coordinate this time with the visit of other involved subspecialists and/or surgeons.

Increasing emphasis is being placed on ways to reduce medication errors.¹⁰ Children are more at risk for medication errors than adults, and the potential for harm is higher.^{11,12} Errors are likely to occur during transitions of care, including admission, handoffs from 1 team to another, and discharge. In academic medical centers, resident work-hour restrictions have led to increasing numbers of sign-outs, another time at which errors may occur.¹³ The process for handoffs and sign-outs should be standardized and include opportunities for verbal interchange and links to the hospital information system to ensure up-to-date and accurate information.

When the attending physician does not routinely care for pediatric patients, pediatric consultation can help with

the physiologic, pharmacologic, and psychosocial issues; discharge planning; and identifying and arranging for home care resources unique to younger and smaller patients. Hospitals are encouraged to set criteria for pediatric consultation, depending on local resources. Formal consultation is recommended for any hospitalized child with complex medical or psychosocial problems. Some hospitals have set age or weight criteria for mandatory consultation, such as age younger than 14 years or body weight less than 40 kg.

When physicians other than the primary care pediatrician participate in the care of the hospitalized child, the primary care pediatrician can help ensure continuity of care and help the family develop trust in providers who have no preexisting relationship with the family. As the hospitalization progresses, the primary care pediatrician can provide valuable insight into the patient's changing medical condition and the patient's and family's psychosocial status and response. For patients and families facing end-of-life issues, the involvement of the primary care pediatrician and community resources, such as pastoral care, is particularly valuable.

DISCHARGE PLANS AND COORDINATION

Preparation for discharge needs to begin at admission and engage the family at all stages. Discharge criteria are set at admission and reviewed at least daily by members of the team and the patient and family. When going home, an assessment of the child's needs should be made; plans should be formulated; medications should be reconciled, including clarifying that some medications may purposely be discontinued at the time of discharge; and appropriate training and education should be completed. Treatment plans

must be made in accordance with the child's developmental, educational, and emotional level and available resources. The continued involvement of the primary care pediatrician ensures that discharge planning is proceeding effectively. It improves the primary care pediatrician's understanding of the patient's hospital course to facilitate optimal transitional and ongoing outpatient care.¹⁴ Family members or guardians must be involved with formulation of the treatment plan, because they are ultimately responsible for decisions about the care their child receives.¹⁵

If treatment is not completed during hospitalization, appropriate outpatient management must be arranged. The attending physician, together with other members of the health care team and the family, is responsible for evaluating whether the outpatient treatment plan seems feasible for the child's family to undertake and modifying the plan if needed. At the time of discharge, a legible summary, including medications, appropriate follow-up, and assignment of care responsibilities, must be available to all personnel and institutions involved in the subsequent care of the child.¹⁶ Timely electronic reports should be available to ensure that a complete and legible record of events is provided. Laboratory, imaging, and consultative reports that are pending at the time of discharge should be identified, and the physician responsible for checking these results should be clearly specified. Referrals must be provided for all needed outpatient services, including a source of primary care if the child does not have a medical home. In such instances or when the primary care pediatrician was not directly involved in the child's hospitalization, the provider responsible for ongoing care should be contacted directly by the inpatient team to ensure

prompt initiation of outpatient care; ideally, this would occur at the time of discharge. All referrals for outpatient services should be arranged with providers who are familiar with the special needs of children.¹⁷

CONCLUSIONS

Most inpatient care represents an episodic incident of care and must be viewed and managed within the context of the child's medical home. To accomplish this requires ongoing communication between the primary care pediatrician and the hospital attending physician. Care coordination must include continual involvement of the family, timely legible communication between inpatient and outpatient physicians, meticulous handoffs at every transition, and clear delineation of the responsibilities of all involved physicians during the hospital stay and when the child returns home.

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