## Preparing From the Outside Looking In for Safely Transitioning Pediatric Inpatients to Home

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he transition of children from hospital to home introduces a unique set of challenges to patients and families who may not be well-versed in the healthcare system. In addition to juggling the stress and worry of a sick child, which can inhibit the ability to understand complicated discharge instructions prior to leaving the hospital, caregivers need to navigate the medical system to ensure continued recovery. The responsibility to fill and administer medications, arrange follow up appointments, and determine when to seek care if the child's condition changes are burdens we as healthcare providers expect caregivers to manage but may underestimate how frequently they are reliably completed.<sup>2-4</sup>

In this issue of the *Journal of Hospital Medicine*, the article by Rehm et al.<sup>5</sup> adds to the growing body of evidence highlighting challenges that caregivers of children face upon discharge from the hospital. The multicenter, retrospective study of post-discharge encounters for over 12,000 patients discharged from 4 children's hospitals aimed to evaluate the following: (1) various methods for hospital-initiated postdischarge contact of families, (2) the type and frequency of postdischarge issues, and (3) specific characteristics of pediatric patients most commonly affected by postdischarge issues.

Using standardized questions administered through telephone, text, or e-mail contact, postdischarge issues were identified in 25% of discharges across all hospitals. Notably, there was considerable variation of rates of postdischarge issues among hospitals (from 16% to 62.8%). The hospital with the highest rate of postdischarge issues identified had attending hospitalists calling families after discharge. Thus, postdischarge issues may be most easily identified by providers who are familiar with both the patient and the expected postdischarge care.

Often, postdischarge issues represented events that could be mitigated with intentional planning to better anticipate and address patient and family needs prior to discharge. The vast majority of postdischarge issues identified across all hospitals were related to appointments, accounting for 76.3% of post-

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discharge issues, which may be attributed to a variety of causes, from inadequate or unclear provider recommendations to difficulty scheduling the appointments. The most common medication postdischarge issue was difficulty filling prescriptions, accounting for 84.8% of the medication issues. "Other" postdischarge issues (12.7%) as reported by caregivers included challenges with understanding discharge instructions and concerns about changes in their child's clinical status. Forty percent of included patients had a chronic care condition. Older children, patients with more medication classes, shorter length of stay, and neuromuscular chronic care conditions had higher odds of postdischarge issues. Although a high proportion of postdischarge issues suggests a systemic problem addressing the needs of patients and families after hospital discharge, these data likely underestimate the magnitude of the problem; as such, the need for improvement may be higher.

Postdischarge challenges faced by families are not unique to pediatrics. Pediatric and adult medical patients face similar rates of challenges after hospital discharge.<sup>6,7</sup> In adults, the preventable nature of unexpected incidents, such as adverse drug events, occur most frequently.<sup>6</sup> The inability to keep appointments and troubleshoot problems by knowing who to contact after discharge also emerged in adult studies as factors that may lead to preventable readmissions.<sup>8</sup> Furthermore, a lack of direct, effective communication between inpatient and outpatient providers has been cited as a driving force behind poor care transitions.<sup>6,9</sup>

Given the prevalence of postdischarge issues after both pediatric and adult hospitalizations, how should hospitalists proceed? Physicians and health systems should explore approaches to better prepare caregivers, perhaps using models akin to the Seamless Transitions and (Re)admissions Network model of enhanced communication, care coordination, and family engagement.<sup>10</sup> Pediatric hospitalists can prepare children for discharge long before departure by delivering medications to patients prior to discharge,<sup>11,12</sup> providing discharge instructions that are clear and readable,<sup>13,14</sup> as well as utilizing admission-discharge teaching nurses,<sup>15</sup> inpatient care managers,<sup>16,17</sup> and pediatric nurse practitioners<sup>18</sup> to aid transition.

While a variety of interventions show promise in securing a successful transition to home from the hospitalist vantage point, a partnership with primary care physicians (PCPs) in our communities is paramount. Though the evidence linking gaps in primary care after discharge and readmission rates remain elusive, effective partnerships with PCPs are important for ensuring discharge plans are carried out, which may ultimately

lead to decreased rates of unanticipated adverse outcomes. Several adult studies note that no single intervention is likely to prevent issues after discharge, but interventions should include high-quality communication with and involvement of community partners. 9,19,20 In practice, providing a high-quality, reliable handoff can be difficult given competing priorities of busy outpatient clinic schedules and inpatient bed capacity concerns, necessitating efficient discharge practices. Some of these challenges are amenable to quality improvement efforts to improve discharge communication. 21 Innovative ideas include collaborating with PCPs earlier in the admission to design the care plan up front, including PCPs in weekly team meetings for patients with chronic care conditions, 16,17 and using telehealth to communicate with PCPs.

Ensuring a safe transition to home is our responsibility as hospitalists, but the solutions to doing so reliably require multifold interventions that build teams within hospitals, innovative outreach to those patients recently discharged to ensure their well-being and mitigate postdischarge issues and broad community programs—including greater access to primary care—to meet our urgent imperative.

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## References

- Solan LG, Beck AF, Brunswick SA, et al. The Family Perspective on Hospital to Home Transitions: A Qualitative Study. Pediatrics. 2015;136(6):e1539-1549.
- Misky GJ, Wald HL, Coleman EA. Post-hospitalization transitions: Examining the effects of timing of primary care provider follow-up. J Hosp Med. 2010;5(7):392-397.
- Yin HS, Johnson M, Mendelsohn AL, Abrams MA, Sanders LM, Dreyer BP. The health literacy of parents in the United States: a nationally representative study. *Pediatrics*. 2009;124 Suppl 3:S289-298.
- Glick AF, Farkas JS, Nicholson J, et al. Parental Management of Discharge Instructions: A Systematic Review. Pediatrics. 2017. [Epub ahead of print].

- Rehm KP, Brittan MS, Stephens JR, et al. Issues Identified by Post-Discharge Contact after Pediatric Hospitalization: A Multi-site Study. J Hosp Med. 2018;13(4):236-242.
- Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. Ann Intern Med. 2003;138(3):161-167.
- Hansen LO, Greenwald JL, Budnitz T, et al. Project BOOST: effectiveness of a multihospital effort to reduce rehospitalization. J Hosp Med. 2013;8(8):421-427.
- Auerbach AD, Kripalani S, Vasilevskis EE, et al. Preventability and Causes of Readmissions in a National Cohort of General Medicine Patients. JAMA Intern Med. 2016;176(4):484-493.
- Kripalani S, LeFevre F, Phillips CO, Williams MV, Basaviah P, Baker DW. Deficits in communication and information transfer between hospital-based and primary care physicians: implications for patient safety and continuity of care. JAMA. 2007;297(8):831-841.
- Auger KA, Simon TD, Cooperberg D, et al. Summary of STARNet: Seamless Transitions and (Re)admissions Network. *Pediatrics*. 2015;135(1):164-175.
- Hatoun J, Bair-Merritt M, Cabral H, Moses J. Increasing Medication Possession at Discharge for Patients With Asthma: The Meds-in-Hand Project. Pediatrics. 2016;137(3):e20150461.
- 12. White CM, Statile AM, White DL, et al. Using quality improvement to optimise paediatric discharge efficiency. *BMJ Qual Saf.* 2014;23(5):428-436.
- Unaka N, Statile A, Jerardi K, et al. Improving the Readability of Pediatric Hospital Medicine Discharge Instructions. J Hosp Med. 2017;12(7):551-557.
- Wu S, Tyler A, Logsdon T, et al. A Quality Improvement Collaborative to Improve the Discharge Process for Hospitalized Children. *Pediatrics*. 2016;138(2).
- Blankenship JS, Winslow SA. Admission-discharge-teaching nurses: bridging the gap in today's workforce. J Nurs Adm. 2003;33(1):11-13.
- White CM, Thomson JE, Statile AM, et al. Development of a New Care Model for Hospitalized Children With Medical Complexity. Hosp Pediatr. 2017;7(7):410-414.
- 17. Statile AM, Schondelmeyer AC, Thomson JE, et al. Improving Discharge Efficiency in Medically Complex Pediatric Patients. *Pediatrics*. 2016;138(2).
- Dunn K, Rogers J. Discharge Facilitation: An Innovative PNP Role. J Pediatr Health Care. 2016;30(5):499-505.
- Kripalani S, Jackson AT, Schnipper JL, Coleman EA. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. J Hosp Med. 2007;2(5):314-323.
- Scott AM, Li J, Oyewole-Eletu S, et al. Understanding Facilitators and Barriers to Care Transitions: Insights from Project ACHIEVE Site Visits. *Jt Comm J Qual Patient Saf.* 2017;43(9):433-447.
- Shen MW, Hershey D, Bergert L, Mallory L, Fisher ES, Cooperberg D. Pediatric hospitalists collaborate to improve timeliness of discharge communication. Hosp Pediatr. 2013;3(3):258-265.