Postdischarge Interventions to Prevent Pediatric Readmissions: Lost in Translation?

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Like it or not, the use of readmission rates to reflect the quality of hospital care has trickled down from the Medicare world to pediatrics.[1–3] The National Quality Forum, Agency for Healthcare Research and Quality, the Centers for Medicare and Medicaid Services, US News and World Report, and many states use readmission rates as the basis for quality measures or financial penalties.[4–10] Although the validity of this approach for pediatric hospitalizations is unclear, the negative impact readmissions can have on our patients and their families provides ample incentive for us to seek preventive interventions. But which interventions will actually translate into fewer readmissions?

Improved discharge planning, follow-up telephone calls, and home visits have been shown to reduce readmissions for some adult populations.[11–19] The importance of successful hospital-to-home transitions is well recognized,[18,20] and although readmission rates for children are much lower than for adults,[1,3,21,22] poor discharge planning and follow-up are potential causes for preventable pediatric readmissions.[23] Children with established medical homes seem to have fewer readmissions,[24] yet some patients with early postdischarge follow-up visits may be readmitted more often.[25,26]

Obtaining definitive data on specific interventions to reduce readmissions is challenging. However, in this issue of *Pediatrics*, Auger et al[27] have narrowed this knowledge gap with a meticulously designed randomized control trial of postdischarge home nursing visits. In their study, the authors randomly assigned 1500 children to either a single nurse-led home visit or no visit within 4 days of discharge. Outcome measures included 30-day unplanned emergency department visits and hospital readmissions and assessment of parental feelings and perceptions. In an intention-to-treat analysis, the authors found that overall hospital resource use actually increased in the intervention group (17.8% vs 14.0% in controls). Analyzing strict adherence to the study protocol revealed no statistical difference in health care use between groups. Postdischarge coping scores and time to return to "normal routine" were also similar between groups, although parents in the intervention group did recall more "red flags" at 14 days.

Although readers may conclude that home nursing visits lead to increased pediatric health care use, there may be caveats to these findings. The authors appropriately acknowledge that the nurses conducting the follow-up visits were different from those responsible for the discharge preparations and, thus, did not observe the patients' clinical status at discharge. Could this have led visiting nurses to recommend further care for more patients than nurses familiar with a child at discharge? Perhaps, and additional studies would be necessary to understand the impact of a different strategy. Alternatively, if the intervention patients were simply

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DOI: https://doi.org/10.1542/peds.2018-1190

Accepted for publication Apr 19, 2018

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

FINANCIAL DISCLOSURE: The author has indicated he has no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The author has indicated he has no potential conflicts of interest to disclose.

COMPANION PAPER: A companion to this article can be found online at www.pediatrics.org/cgi/doi/10.1542/peds.2017-3919.

To cite: Gay JC. Postdischarge Interventions to Prevent Pediatric Readmissions: Lost in Translation?. *Pediatrics.* 2018;142(1):e20181190

sicker than control patients, their need for medical attention in the immediate postdischarge period may have been greater. The authors' careful methodology to ensure equal severity of illness of both groups makes this unlikely.

At best, nurse-led follow-up visits were ineffective at decreasing postdischarge hospital resource use for the study population. Readers should note that 30-day readmission rates in the intervention (7.7%) and control (5.5%) groups were similar to the ~6.5% unplanned readmission rate reported for children[21,22]; thus, the study population likely represented a good cross section of inpatients with common medical conditions. In contrast, readmission rates for children with medical complexity (CMC) or multiple chronic conditions are more than twice the overall rates, and these readmissions may be more amenable to interventions.[21,28] Nurse-led home visits for CMC may identify postdischarge problems, potentially averting some readmissions,[29] and the use of home health nursing services may also reduce readmissions in this population.[30] Researchers conducting future studies of postdischarge home nursing visits may well consider CMC as another target population.

In this study, the intervention group used more hospital resources after discharge than control patients. If both groups had similar health care needs, then increased emergency visits and readmissions by the intervention group may not have been necessary to achieve the same clinical outcomes. Although the study was not designed to address this issue, the health outcomes of patients who do and do not use hospital services are equally important when determining the most cost-effective care. Further studies are needed to address this question.

Auger et al[27] deserve commendation for their approach to these important questions. Future studies of different patient groups and interventions should include similarly rigorous methods. I am also left with the notion that some readmissions may be prevented if we just find better ways to care for some patients in nonhospital settings. Personally, I remain skeptical about the value of readmission rates as quality measures for children's hospitals. But preventable readmissions should be prevented, not because it will help hospitals look better than their peers in the ratings or save them from financial penalties but because it's the best thing to do for patients and their families. While we're at it, we should probably extend this to all preventable admissions in the first place. So, let's keep at it, because our patients and their families deserve nothing less.

ABBREVIATION

CMC: children with medical complexity

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Pediatrics 2018;142;
DOI: 10.1542/peds.2018-1190 originally published online June 22, 2018;

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Pediatrics 2018;142;
DOI: 10.1542/peds.2018-1190 originally published online June 22, 2018;