

Overuse in Pediatrics: Time to “Pull the Trigger”?

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In this issue of *Hospital Pediatrics*, Narayanan et al¹ report that acquisition of serum magnesium levels, although commonplace, changes clinical management in only a small and predictable subset of hospitalized children (ie, those with oncologic abdominal surgery requiring total parenteral nutrition, solid organ transplant, and short bowel syndrome diagnoses). Serum magnesium levels ordered in other pediatric inpatient contexts are rarely helpful. Checking a simple magnesium level may not seem to have a profound financial impact initially, but the authors quickly point out that the cumulative financial burden is substantial.

The high frequency of unnecessary laboratory testing revealed here is a prime example of overuse in medical care and is likely applicable to myriad other laboratory, radiology, and ancillary services.² For hospitalized children, consider the repeat abdominal radiograph after a constipation clean out (do we really need radiographic evidence that the bowels are empty when the patient's stools are clear?), the posttransfusion hemoglobin, or the daily white blood cell count in patients with infections, as opposed to simple clinical monitoring. To identify areas of overuse in pediatrics, application of the trigger tool model may prove to be invaluable.

Trigger tools are readily identifiable occurrences in the medical record that signal a possible underlying adverse event and serve as a clue for reviewers to investigate the record more thoroughly. Trigger tool methodologies have shown promise in increasing detection of adverse events such as medication errors and procedural complications.³ An example of applying this approach to overuse could be a trigger alerting when the same laboratory is ordered more than once in a 24-hour period. Although this would obviously identify some cases in which the laboratory is clinically relevant (ie, frequent glucose checks in a patient with diabetic ketoacidosis), it would likely find many instances of unnecessary laboratory orders. Other examples of triggers identifying overuse could be ordering laboratories or radiology studies “daily” rather than “as needed,” ordering a rapid respiratory syncytial virus test on an infant with bronchiolitis, or drawing blood cultures in a patient already receiving antibiotics.

Pediatric hospitalists have experience with health care system change strategies that could reduce overuse of tests such as serum magnesium levels. The approach used by Narayanan et al¹ seems to lay the framework for developing trigger tools and decision support models to identify and prevent overuse. From a hospital

administration perspective, applying the trigger tool model to identify areas of possible overuse could generate compelling financial savings data. These data could be used to remove overused tests from standardized order sets altogether, or they could be used to drive decision support models to discourage frontline providers from ordering tests that rarely change clinical management.

Identifying areas of overuse such as laboratory draws or other means of diagnostic testing that are (1) unlikely to change management and (2) expensive might reduce unnecessary health care spending. This could result in a profound financial savings over time—dollars that could be reinvested into other areas of health care that could ultimately result in better outcomes for children.

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TELLING TIME

Poem by Ronald R. Louie, MD

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What could Tonio have known, straddling his mother's broad lap,
listening at our halting, and stuttering, then murmuring babble,
hearing the statistics and of treatments, that even, even his parents
could not comprehend; shifting from one leg to another, unfathomed,
watching the waters well up around him, then spill;

Of a future, for the first time foreseen,
far from the red-and-blue striped swingsets
and the ants and the pebbles at the playground;
far from the bright candy wrappers at the deli, and his mother's
silken neck, where he loved to rub his hot cheek?

Tonio turned, eyes wide, cried and clung a while,
the tears obscuring the flooding of our own fears.
Slowly the quietness of the small room returned.
He had spied the box of silly, tattered toys;
he wanted them, now, endearing just for the present,
silent of their own irrelevant past.

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