

Deimplementation in Bronchiolitis: How Low Can We Go?

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Achievable benchmarks of care (ABCs) provide a goal for deimplementation initiatives by defining attainable performance. ABCs have previously been defined for bronchiolitis.¹ It is unclear, however, whether these previously defined ABCs have an expiration date. Are ABCs a static benchmark, or do they require modification over time?

Bronchiolitis is an ideal target for deimplementation initiatives to reduce the use of low-value tests and treatments because no interventions improve its course.^{2,3} In this issue of *Pediatrics*, Ralston et al⁴ examine the evolution of ABCs for bronchiolitis over time using data from the Pediatric Health Information System (PHIS). Ralston et al⁴ calculated both ABCs and performance gaps for 6 nonrecommended tests and treatments for 2 cohorts of patients diagnosed with bronchiolitis: those evaluated in and discharged from the emergency department (ED) and those admitted as either inpatient or observation status. Children evaluated between 2006 and 2019 were included and divided into 2 time periods separated by the updated 2014 American Academy of Pediatrics bronchiolitis guideline. In the ED cohort, they found improvements in ABCs for chest radiography and bronchodilator use, whereas, in the admitted cohort, they found improvements in ABCs for chest radiography, viral testing, and antibiotic use. The authors also found performance gaps, defined as

the difference between the benchmark and median performance, to be largest for viral testing and bronchodilator use in both cohorts. The large performance gaps demonstrate that much of the cohort lags far behind optimal performers for these two measures.

The results of Ralston et al,⁴ although important, suffer from limitations in their approach and those inherent in their use of administrative data. The PHIS database represents only 20% of pediatric hospitalizations in the United States and is limited to hospitals with the resources to participate. It is not clear whether community hospitals warrant different ABCs. Additionally, given the lack of clinical details available through the PHIS, the authors could not distinguish whether testing at a referring institution affected disposition or, for patients requiring hospitalization, whether a particular test or treatment performed early in the visit was performed by the ED or inpatient team. With the amount of evidence showing no benefit of additional testing and treatments for bronchiolitis,² assessing the rationale behind a particular intervention and not just improvement efforts should be considered but cannot be with administrative data alone. For example, an imaging study performed at presentation versus with an unexpected clinical deterioration requires a different improvement target. The PHIS database includes the timing of tests

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and treatments by day. The study would have been strengthened if the authors had differentiated between tests obtained and treatments provided early versus late in the hospitalization.

When it comes to bronchiolitis, the initiatives to address its management, most of which fall under the category of medical overuse, are too numerous to count.⁵ From the American Academy of Pediatrics bronchiolitis guideline² to the American Board of Internal Medicine's Choosing Wisely campaign⁶ to the multitude of local and national quality improvement initiatives,^{3,5} it is disappointing that ongoing performance gaps exist. Part of the challenge comes from the difficulty inherent to deimplementation work⁷ and the variability in the clinical course of bronchiolitis. As clinicians, it can be difficult to minimize interventions because providing supportive care is often perceived as "doing nothing," which runs contrary to our desire to help.^{8,9} Additionally, simplification of quality improvement initiatives for bronchiolitis neglects the consideration of many other conditions presenting with respiratory distress in an infant (eg, myocarditis or sepsis) that often require diagnostic testing to differentiate them from bronchiolitis. One consideration to address such diagnostic challenges is to systematically approach the communication of contingency planning around diagnostic uncertainty so that providers can decide the ideal time, if any, to rule out a nonbronchiolitis etiology via testing.

Sharp declines in hospitalizations for bronchiolitis and other childhood respiratory illnesses have

occurred during the coronavirus disease 2019 pandemic.¹⁰ Clinicians, including trainees, have seen scant cases of respiratory illness during their core rotations, and although the decline in hospitalizations for viral respiratory infections is certainly good for children and their families, the return of bronchiolitis is likely to result in a steep learning curve. This curve includes what tests and treatments are considered low value (all of them) because their unfamiliarity with the clinical findings and management of bronchiolitis and its differentiation from other similarly presenting conditions may lead to increased use of nonrecommended tests and treatments.

Regardless of what the postpandemic future of bronchiolitis holds, Ralston et al⁴ found improvements in ABCs for not ordering several nonrecommended tests over the last decade. Despite this encouraging improvement, performance gaps remain, and the study by Ralston et al⁴ offers suggestions for further closing that gap. Perhaps more importantly, in their work, Ralston et al⁴ highlight the need to revisit ABCs over time as baseline performance improves.

ABBREVIATIONS

ABC: achievable benchmark of care
ED: emergency department
PHIS: Pediatric Health Information System

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