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## Realizing the Improvement Potential of the Value in Inpatient Pediatrics Network



The gap between evidence-based practice and current clinical care is seen across the spectrum of hospitalized pediatric patients.<sup>1,2</sup> The field of quality improvement (QI) was born out of this gap. QI promotes the use of improvement methodologies to both decrease variation and improve the delivery of high-quality care as measured by nationally endorsed benchmarks. Part and parcel to improvement methodologies is the dissemination of the local plan-do-study-act cycle and the importance of starting small in any implementation. In fact, the Institute for Healthcare Improvement's Prioritization Matrix recommends starting with at most a small-scale test for 9 of the 12 categories in their prioritization matrix evaluating readiness to make change and perceived benefit of change.<sup>3</sup> This focus on small-scale testing is a hallmark of QI and is undoubtedly a driver to the many local improvement initiatives that we find throughout clinical settings.

Although local improvements are encouraged to continue in multiple settings, the implementation of interventions found to be beneficial from local improvements across multiple sites is not as commonly seen. Dissemination of evidence-based interventions across diverse sites is a goal of multiple collaboratives, including the Value in Inpatient Pediatrics (VIP) network.<sup>4</sup>

The VIP is a collaborative network that resides within the American Academy of Pediatrics with the mission of improving care to pediatric inpatients by supporting implementation of clinical practice guidelines by hospitalists who might not otherwise have organizational resources to

conduct QI initiatives on their own.<sup>4</sup> Since its initiation, the VIP has supported 7 multisite collaboratives. The first was the Quality Collaborative for Improving Hospitalist Compliance with the AAP Bronchiolitis Guideline in 2013. The current active collaborative on Standardization of Fluids in Inpatient Settings is set to be completed in 2020.<sup>4</sup> Although the goal of these collaboratives has been to foster hospitalists' adoption of evidence-based practice outlined in published clinical practice guidelines, the structure of each of these collaboratives has varied. Elements that have been constant throughout the VIP collaboratives are the dissemination of a toolkit and a platform for data sharing. A toolkit is often a collection of best practice interventions identified by the evidence to support the change that is desired. This toolkit is generally sent electronically to sites that are involved in collaboratives for their individual evaluation and potential application. Data sharing across sites with the ability to benchmark is a strong lever for many collaboratives because it allows the measurement of both local and aggregate improvements over the timeline of the study on primary outcome metrics carefully determined by collaborative leadership.

One multisite collaborative, Pathways to Improve Pediatric Asthma Care (PIPA), used a multifactorial support structure: (1) A toolkit offering sites examples of pathways and order sets pertaining to 3 predefined core pathway interventions (asthma severity assessment tools for emergency department triage, order sets and pathways at emergency department triage to trigger administration of

See related article, p 100

PIPA Pathways to Improve Pediatric Asthma Care  
QI Quality improvement  
VIP Value in Inpatient Pediatrics

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systemic corticosteroids, criteria for ordering chest radiographs); (2) a mobile application to access the toolkit; (3) 6 educational seminars; (4) guidance and feedback on monthly data reports; (5) every other month collaborative phone calls set up for local site leads; (6) QI training; and (7) monthly QI mentor support for each site during their implementation window.<sup>5,6</sup> This multifaceted approach demonstrated significant growth in the network itself and held the study to a higher level of accountability.

So, how did this multifaceted approach work in driving the 81 sites that enrolled in PIPA? Although PIPA did show a significant improvement in their primary outcome at the aggregate level in the delivery of systemic corticosteroids in less than 60 minutes, they noted that only 43% of individual sites demonstrated statistical significance in any one of the predetermined outcomes. They further demonstrated that successful implementation of their 3 predefined core pathway interventions ranged from 50% to 94% among the sites. Additionally, a wide range of sites (28%-87%) integrated these same interventions into their electronic medical record. This begs the question, "What barriers are sites facing in implementing these core pathway interventions?"

Successful QI initiatives rely on the implementation of targeted solutions; QI initiatives may fail to reach targeted outcomes by jumping into solutions before fully understanding the problem. Although the literature often suggests some generalized solutions (pathways and electronic medical record enhancements), addressing the barriers to implementation of these pathways and electronic medical record enhancements is where the real improvement work rests.

The future success of subsequent VIP multisite collaboratives would benefit from bringing QI mentors to each site well before the implementation phase. This would allow for robust barrier assessments and resultant targeted solutions

(ie, local key driver diagrams). The addition of this strengthened pre-implementation support would position future VIP collaboratives to further close the gap between evidence-based practice and current clinical care. ■

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