

## Apnea of Prematurity—A Quality Improvement Project That Worked

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In a recently released issue of *Pediatrics* ([10.1542/peds.2019-0861](https://doi.org/10.1542/peds.2019-0861)), Dr. Katherine Coughlin and colleagues describe a Quality Improvement (QI) project in their Neonatal Intensive Care Nursery that aimed to standardize the number of “event-free” days to discharge for premature infants with apnea of prematurity.

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In a recently released issue of *Pediatrics*([10.1542/peds.2019-0861](https://doi.org/10.1542/peds.2019-0861)), Dr. Katherine Coughlin and colleagues describe a Quality Improvement (QI) project in their Neonatal Intensive Care Nursery that aimed to standardize the number of “event-free” days to discharge for premature infants with apnea of prematurity. The authors walk us through their project in a way that all readers can understand. If you are unsure what exactly is involved in QI work, this article will definitely increase your knowledge, and perhaps inspire you to learn more or to do a QI project in your own clinical setting.

The clinical issue that this QI project tackled related to “significant events” due to apnea of prematurity among infants born at less than 36 weeks’ gestation. What events should be considered significant, which events should be documented, and how many “event-free days” should infants experience for a safe discharge home? The authors honestly share the nursing, resident and attending physician frustration that existed prior to the project due to variability in practice, which trickled down as confusion for families regarding the timing of their infants’ planned discharge home.

The Methods section does an admirable job of explaining to the reader each of the essential steps. The QI team was composed of multiple stakeholders including nurses and physicians (parents were not included, and the authors acknowledge this as a limitation). Their SMART (Specific, Measurable, Applicable, Realistic, and Timely) aim was to standardize time to discharge after the last documented cardiorespiratory event at 5 days for infants born <36 weeks’ gestation by June 2018. The team began by surveying staff to understand the problem better, and collecting baseline data. Their next steps included literature review, creating well-defined consensus-based working definitions for “clinically significant” events, and engaging colleagues via clinical conferences. PDSA (plan, do, study, act) cycles to make and test small improvements and changes then began. The project’s “balancing measure,” which is a metric that is tracked to make sure that any improvement in one area is not negatively impacting another area, was length of stay beyond 36 weeks

corrected age because the authors sought to make sure that the new standardized “apnea event watch” would not prolong hospital stay.

The QI project in fact succeeded: “significant event” documentation improved, and time to discharge home achieved the SMART aim goal (mean of 4.8 days from last event to discharge). The authors transparently discuss the limitations and challenges of the work, and bring us up to date on plans for the “Spread Phase,” which is when successful ideas are expanded and implemented on a larger scale. Whether you are more focused on process or content, this Quality Improvement article is an excellent read!

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