Rapid Evidence Adoption to Improve Health Outcomes

Patrick H. Conway, MD, MSc, Centers for Medicare & Medicaid Services

November 2, 2012

The translation of new evidence into reliable practice typically takes years and sometimes decades. For interventions with a strong evidence base for improving outcomes, the absence of a reliable evidence implementation capacity means that the health system regularly and systematically fails to produce better outcomes due to lack of rapid, reliable implementation of evidence-based practices.

Cincinnati Children’s Hospital Medical Center focused on transforming the evidence adoption paradigm by scanning for new evidence with low uptake (e.g., less than 10 percent) and implementing high-reliability interventions to rapidly increase evidence adoption to greater than 90 percent within 6 months. First, we established a “horizon scanning” process for reviewing major journals and systematic reviews for new evidence. We then identified evidence adoption targets based on criteria such as current rate of evidence use, prevalence of condition, and estimated health impact. Once a target was identified, an improvement team was formed, which used the model for improvement to outline key drivers and tested interventions in rapid cycle.

Even in its early stages, the Cincinnati Children’s system rapidly improved adoption for three evidence-based interventions from less than 10 percent to greater than 99 percent in less than 120 days. A primary driver of adoption was changing system defaults, such as changing the electronic health record (EHR) to default to the evidence-based intervention and include the rationale based on a best-evidence statement adopted by Cincinnati Children’s. Another driver was real-time identification and mitigation of potential failures. Specifically, the EHR was scanned and if an evidence-based intervention was not given to an eligible patient, the attending and resident on the team would be notified. Third, engaging all members of the health care team in efforts to drive adoption, including nurses and pharmacists, fostered success. Finally, engagement of patients via shared decision-making tools in understanding the evidence and making informed choices improved adoption rates.

Figure 1 shows an intervention project involving lactobacillus (LGG) for children with acute gastroenteritis (AGE), a common reason for hospital admission. This is just one example of the rapid evidence adoption model that is being scaled successfully at Cincinnati Children’s.

The model is also in the planning stages to be tested across many hospitals in a pediatric research network. Some of the key questions to be answered in scaling are the impact of system contextual factors, personnel training, level of quality-improvement investment needed, and type of intervention.
The need to rapidly apply evidence reliably is common across conditions and health systems.

Rapid evidence adoption and system change is one of the key challenges of transforming our health system to achieve better outcomes. If scaled nationally, this rapid evidence adoption model would likely result in thousands of lives saved as well as better health outcomes at lower costs.

Patrick Conway is the Chief Medical Officer at the Centers for Medicare & Medicaid Services and the former Director of Hospital Medicine and Director of Rapid Evidence Adoption in the Anderson Center at Cincinnati Children’s Hospital Medical Center.

In this piece, Patrick Conway’s discussion of Cincinnati Children’s approach to rapid evidence adoption and system change touches on several issues and lessons central to the delivery of care that is effective, efficient, and continuously improving, including the importance of:

- A clearly defined vision and process for identifying and implementing new evidence;
- Utilization of electronic health records as the foundation for implementing interventions and monitoring their outcomes;
- Swift identification of and response to potential errors or unforeseen outcomes of new interventions;
- Engagement of all members of the care team alongside patients and families in understanding the evidence and making informed choices.

Information on the IOM’s Learning Health System work may be found at www.iom.edu/learninghealthsystem.