
Abstract:

There is an urgent need to improve the quality of health care delivery in emergency department (ED) settings. Given that nearly 27% of ED patients are children, 92% of which are seen in non-children's hospitals; the responsibility to improve the quality of emergency care for children applies to all systems, hospitals, EDs, and providers. In this article, we present an acute care model to frame quality improvement work in emergency care. This model will allow all EDs, not just children's hospital EDs, to adopt a common language and improve 4 integrated components of acute care: segmentation, diagnostic accuracy, therapeutic reliability, and disposition. Importantly for EDs, the acute care model can be used to improve ED flow. Furthermore, the model is supported by 4 critical competencies that enable the model to be used as a tool for improving acute care delivery. These include segmentation of patients, appropriate and rigorous use of evidence, reliable care systems, and leadership that encourages a culture of improvement.

Keywords:

acute care model; therapeutic reliability; diagnostic accuracy; standardization; segmentation; evidence-based medicine

*Department of Pediatrics, Division of Emergency Medicine, Cincinnati Children's Hospital Medical Center, Cincinnati, OH; †James M. Anderson Center for Health Systems Excellence, Cincinnati Children's Hospital Medical Center, Cincinnati, OH; ‡University of Cincinnati College of Medicine, Cincinnati Children's Hospital Medical Center, Cincinnati, OH.
Reprints requests and correspondence: Evaline Alessandrini, MD, MSCE, Cincinnati

The Acute Care Model: A New Framework for Quality Care in Emergency Medicine

Srikant Iyer, MD, MPH*†‡,
Scott Reeves, MD*‡,
Kartik Varadarajan, MPH†,
Evaline Alessandrini, MD, MSCE*†‡

The quality of ambulatory care delivered to children in the United States is far from perfect. A 2007 study published in the *New England Journal of Medicine* found that children receive only 41% of recommended preventive care, 53% of chronic care, and 67% of acute care.¹ The emergency department (ED) offers no exception from the occurrence of this imperfect care, because there has been documentation of significant variation in the quality of care provided to children in EDs.²⁻⁷ Punctuated by the 2006 Institute of Medicine (IOM) report, "The Future of Emergency Care," it is evident that emergency medical systems are highly fragmented and still face many obstacles to ensure delivery of high quality health care.⁸⁻¹⁰

To address serious shortcomings related to pediatric emergency care (PEC), the "Emergency Care for Children: Growing Pains" component of the IOM report recommends that the delivery of care should be built on a strong foundation, in which emergency care is based on scientific evidence, data are collected so

Children's Hospital Medical Center, 3333
Burnet Avenue, MLC 7014, Cincinnati, OH
45229.

evaline.alessandrini@cchmc.org

1522-8401/\$ - see front matter

© 2011 Elsevier Inc. All rights reserved.

clinicians can learn from past experience, and system performance is monitored to ensure quality.¹⁰ To date, much of the research on PEC has been descriptive, but the need for critical evaluation of the various components of PEC has been increasingly recognized.^{11,12} Among the areas in need of evaluation are the effectiveness and quality of emergency care, optimal resource allocation and utilization, and cost-effectiveness of PEC and its components.¹²

Unlike chronic disease with its associated chronic care model, a model for acute care does not exist. Such a model could be helpful in suggesting strategies to improve health care quality and outcomes in patients with acute illness and injuries. Effective interventions would target specific components of the model. With an accepted model and common language, challenges with organizing these components into an integrated system of acute illness care could be overcome. With approximately 24 million children seeking emergency care in US EDs and 20% of children in the United States having at least 1 ED visit each year, we propose an acute care model that may provide a unifying framework on which to base ongoing work in improving the quality of emergency care for children.^{13,14}

FOUNDATION FOR THE PROPOSED MODEL

Inconsistent and unreliable processes are associated with unintended and unwanted variation in care delivery and may result in patient outcomes that are less than optimal.¹⁵ Although often attributed to a lack of effort or diligent work, this variation more likely represents problems at the system level. Reducing unintended variation through standardization is a useful strategy when redesigning systems to improve care delivery. In fact, much of the recent emphasis on improvement in medicine has focused on improving the reliability of care delivery through standardization. The result has been the dissemination of clinical guidelines and/or protocols for the treatment of varied clinical conditions and diseases.¹⁶

Varying disease process, illness severity, urgency of medical need, and an overburdened emergency medical services (EMS) system contribute to the complexity of the ED system of care.⁹ Standardization achieved through the use of evidence-based medicine has been especially useful in improving care delivery in ED settings. With standardized care, process components are known ahead of time and may be embedded in the form of guidelines or protocols to reduce care provider decision-making variability. In other words, uncertainty around the optimal treatment for patients is resolved during the design of the process. Benchmarks for the times to definitive therapy for clinical conditions, such as pneumonia and myocardial infarction with ST-segment elevation, and the development of guidelines and/or protocols for the treatment of acute asthma and acute pain represent our efforts to use standardization to improve care delivery.¹⁷⁻²⁰ When the clinical condition or disease process is readily recognizable, there is face validity in the use of standardization to improve emergency care.

However, some patients present to EDs with clinical signs and symptoms not readily ascribable to an apparent disease process. These patients with undifferentiated illness require decision making based on information gained through serial examinations, ancillary testing, and responses to applied therapies, that is, the uncertainty around the medical illness resolves as care progresses. As the evaluation and management of these patients are not based on a readily apparent clinical disease, and instead focused on arriving at the correct diagnosis, standardization alone may be insufficient to improve care among these patients. The care for these patients must be customized to an extent based on the iterative decisions made through their ED course.

The service challenge for emergency medicine is to provide both standard and custom types of care within the same physical environment. This challenge was discussed by Bohmer²¹ in 2005, and the impact of these differences on operations management, process design, and patient flow was described. In a standard process, the focus is on reliable and accurate execution of predefined steps, but the focus of a customized process is on maximizing the availability of necessary resources. Bohmer suggested 4 approaches to blending standard and custom care processes (Figure 1).

When considering these approaches as a foundation for our theoretical framework, the "separate and accommodate" option was best suited for satisfying the needs of an ED responsible for unplanned acute care. This approach does not exclude any

Download English Version:

<https://daneshyari.com/en/article/3235994>

Download Persian Version:

<https://daneshyari.com/article/3235994>

[Daneshyari.com](https://daneshyari.com)