

Rapid Response Teams: Reducing Risk, Saving Lives

On average, only 17% of patients in the United States survive an in-hospital cardiac arrest, yet many exhibit measurable signs of clinical deterioration preceding the event.¹ Those signs can provide a key to preventing or reducing the rate of cardiac arrests through the use of Rapid Response Teams (RRTs)—designated teams of clinicians who identify high-risk patients, respond to acute deterioration in patient condition, and bring critical care expertise to the bedside before patients decline into a critical state. Now in use around the world, RRTs have been shown to dramatically reduce the rate of cardiac arrests, related adverse outcomes, and length of stay in hospital intensive care units (ICUs). Recognizing the value of RRTs, GNYHA and the United Hospital Fund (UHF) have begun to implement a Rapid Response Team Collaborative to promote the use of RRTs in hospitals as part of their ongoing quality improvement initiative. This issue of *Health Care News In-Depth* looks at the rationale for and development of RRTs, results of some existing RRTs, and the background and goals of the GNYHA/UHF RRT Collaborative.

Rapid Response Teams (RRTs), also known as medical emergency teams, are teams of clinicians who identify and treat high-risk patients *before* they become critical. Implemented both nationally and internationally with great success, the use of RRTs has been shown to decrease rates of cardiopulmonary arrests and acute myocardial infarctions (AMIs). Austin Hospital in Australia, for example—one of the first institutions to test the effectiveness of RRTs—demonstrated decreased rates of mortality and cardiac arrest, and decreases in the relative risks of respiratory failure, stroke, severe sepsis, and acute renal failure of 74–88%.² The University of Pittsburgh Medical Center/Presbyterian Hospital, one of the first hospitals in the United States to institute the RRT model, reported a 17% decrease in cardiopulmonary arrests after implementing RRTs, and other institutions have observed similar successes, one with a 26% decrease in in-hospital AMIs and improvement in survival

from 13–24% in patients having inpatient AMIs.³ Implementation of RRTs at other hospitals has yielded similar results, with a decrease in cardiac arrests and deaths as well as a reduction in ICU length of stay.⁴

In 2004, the Institute for Healthcare Improvement (IHI) selected RRTs as one of

six interventions in its *100,000 Lives Campaign*, an initiative to engage U.S. hospitals in a commitment to improve the quality of care and reduce unnecessary deaths. In addition to IHI, several organizations, including the Association of American Medical Colleges and the Institute for Clinical Systems

Improvement, have developed protocols, data collection tools, and methods to monitor effectiveness in support of implementing RRTs. While standardized protocols for implementing RRTs exist, each hospital must determine the exact method for initiating these teams based on its specific needs.

The GNYHA/UHF RRT Collaborative

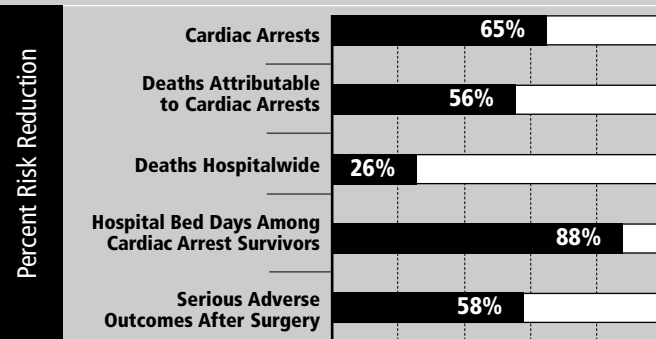
In late June 2006, GNYHA and UHF sent a letter to the Chief Executive Officers of GNYHA member hospitals describing the requirements for participating in a Rapid Response Team Collaborative and asking them to indicate their interest. The

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"An Ounce of Prevention..." Use of RRTs Saves Lives

A controlled before-and-after trial conducted at Melbourne's Austin and Repatriation Medical Centre found that the introduction of a medical emergency team—or Rapid Response Team—was associated with dramatic risk reductions for cardiac arrest, related deaths, and other adverse outcomes. ■

Reduced Risk Reduction With the Use of Medical Emergency Teams



Source: R. Bellomo, D. Goldsmith, et al., "Prospective Controlled Trial of Effect of Medical Emergency Team on Postoperative Morbidity and Mortality Rates," *Critical Care Medicine* 32, no. 4 (April 2004): 916–21.

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Rapid Response Teams: Reducing Risk, Saving Lives *continued from front*

RRT Collaborative follows the highly successful GNYHA/UHF Central Line–Associated Bloodstream Infections (CLABs) Collaborative, which was implemented in May 2005 to reduce CLABs in hospital ICUs through evidence-based interventions. As of April 2006, three-fourths of the 38 participating hospital teams had reduced or eliminated CLABs, resulting in an overall reduction, on average, of 70%. The RRT Collaborative will build on the strategies identified by the CLABs Collaborative for achieving success and sustaining quality improvement over the long term.

Like the CLABs Collaborative, the RRT Collaborative will focus on targeted improvements in patient safety and quality through the use of standardized clinical protocols by interdisciplinary teams. This initiative will also involve several additional requirements beyond those of the CLABs Collaborative.

KEY ELEMENTS OF PARTICIPATION: Hospital teams participating in the RRT Collaborative will designate one or more RRTs and collect baseline data; participate in educational meetings and scheduled conference calls; plan, design, and implement “Plan-Do-Study-Act” improvement cycles—a process to test change on a small scale before making major changes—to meet the targeted performance measures; and provide monthly reports and share information with the Collaborative. Hospital teams will also provide senior administrative, physician, and nursing leaders to conduct “leadership problem-solving rounds” and a “culture of safety” survey, as described below.

Culture of Safety. In its 1999 report, *To Err is Human: Building a Safer Health System*, the Institute of Medicine recommended that hospital patient safety initiatives include a change in focus from a “culture of blame” to a “culture of safety.” The Joint Commission on Accreditation of Healthcare Organizations

has also emphasized a culture of safety in its latest leadership standards. Effective methods for measuring and monitoring this culture of safety include leadership problem-solving rounds and survey instruments, which RRT Collaborative teams will be required to conduct.

• **Leadership Problem-Solving Rounds.** As part of the RRT Collaborative, senior hospital leaders will visit clinical areas on a regular basis to talk with staff about safety issues in order to increase safety awareness, demonstrate organizational commitment to a positive safety culture, encourage incident reporting, and collect and act on information obtained from staff.

• **Surveys.** Most surveys that assess the culture of safety measure leadership, policies and procedures, staffing, team communication, and reporting. The two leading surveys in the field are the *Hospital Survey on Patient Safety Culture*, developed by the Agency for Healthcare Research and Quality, with 51 items that measure staff perceptions of patient safety in their work area and about patient safety hospitalwide, and the *Safety Attitudes Questionnaire*, developed by researchers at the University of Texas, which contains 30 questions and measures safety and teamwork climate, perceptions of management, stress recognition, job satisfaction, and working conditions. Participants in the RRT Collaborative teams will adapt or use one or both of those surveys to measure the culture of safety in their hospitals.

THE ROLE OF GNYHA AND UHF: GNYHA and UHF staff will provide ongoing programmatic and technical support in addition to conducting programs that will help hospitals enhance their clinical, ancillary, and administrative staff’s knowledge of the RRT protocols; plan and implement all RRT Collaborative meet-

When Should the Rapid Response Team Be Called?

- Staff member concerned or worried about the patient
- Family member concerned or worried about the patient
- Acute change in heart rate (<40 or >130 beats per minute)
- Acute change in systolic blood pressure (<90 mm/Hg)
- Acute change in respiratory rate (<8 or >24 breaths per minute) or threatened airway
- Acute change in blood oxygen saturation (SpO₂ <90% despite oxygen)
- Fractional inspired oxygen (FiO₂) of 50% or greater
- Acute change in mental status (delirium, confusion, etc.)
- Acute significant bleeding

ings and conference calls; establish effective models for strengthening quality and patient safety; provide information on best practices and organizational process improvements related to implementing RRTs and improving the culture of safety; identify and work with experts in the field to assist the Collaborative teams; offer electronic communication venues for shared learning, assessing progress, and providing feedback to teams between meetings; and devise strategies for building effective teams. The participants will work with GNYHA and UHF to identify which aspects of existing RRT models are most effective among hospitals in the Greater New York region.

Up & Coming

GNYHA and UHF are forming a **Critical Care Leadership Network** to improve communication and quality of care among critical care providers in the New York region. The Network will be a valuable asset to hospitals participating in the GNYHA/UHF RRT Collaborative as protocols are developed and implemented. ■

To learn more about the GNYHA/UHF RRT Collaborative or the Critical Care Leadership Network, contact Terri Straub at GNYHA at (212) 506-5403 or straub@gnyha.org, or Rachel Block at UHF at (212) 494-0757 or rblock@uhfnyc.org.

Quality Improvement Collaboratives

A quality improvement collaborative is a systematic approach to improving health care quality in which organizations and professionals form interdisciplinary teams, test and measure practice innovations, and share their experiences to accelerate learning and the adoption of best practices. The teams meet during face-to-face learning sessions and regular conference calls that offer expert clinical resources, as well as discussions about improvement strategies and monitoring progress. Monthly collection, analysis, and reporting of relevant data, and a Web site containing key resources and best practices, are also key elements in a collaborative. ■