

## Creating Healthy Work Environments 2019

### Improving Rapid Response Team Utilization in an Academic Medical Center

**Sara E. Niebuhr, BSN, RN, CCRN**

*Adult Patient Care Services, University of Texas Medical Branch, Galveston, TX, USA*

*Odette Y. Comeau, DNP, RN, CNS, CCRN*

*Nursing Service, University of Texas Medical Branch @ Galveston, Galveston, TX, USA*

**Background:** Failure to rescue (FTR) is an important global health concern for hospitalized patients. One systematic review reported incidences ranging from 8% to 16.9%, and delayed escalation occurred up to 47% of the time. The duration of delay ranged from 1 to 56 hours, and mortality increased with delays compared with no delay. Three factors important to escalation of care were described as identification of patient deterioration, rapid communication to senior colleague(s), and prompt response and interventions (Johnston, et al., 2015). One international prospective cohort study of adult postoperative patients in 474 hospitals in 27 countries (n=44,814) found a 2.8% overall FTR. In this same study, 5% of patients developed 2 or more complications, and 28% who did not survive were not admitted to a critical care unit at any time during their hospitalization. Study authors found that outcomes were similar in low and middle income countries; however, variability existed among individual hospitals. Of note, hospitals with the highest complication rates did not necessarily have higher FTR. The authors call for improved treatment and response for patients who develop complications, and advocate FTR as an important quality measure for health care globally (Ahmad et al., 2017; The International Surgical Outcomes Study Group, 2016).

Rapid response systems or teams have been deployed in many hospitals with the goals of preventing intensive care unit transfer, cardiac arrest, and/or death (Agency for Healthcare Research and Quality, n.d.). One study demonstrated a 35% reduction in FTR after implementing a standardized rapid response system (Chen, et al., 2016). Challenges may exist with escalation of care and the deployment of rapid response teams, however. This may be due to a variety of system or culture barriers, or differences in perception. Study findings by Stollendorf (2016) highlight the variation in perceptions of rapid response teams when comparing nurse leaders, rapid response team members, and rapid response team users. Examples of barriers to RRT utilization include fear of hierarchy, intimidation, or criticism (Johnston et al., 2016). In one study in which staff from 40 acute care areas in a large hospital were surveyed, staff reported reluctance to activate the team if the patient's vital signs were normal. A perceived barrier in this study was also fear of criticism (Douglas, et al., 2016). In another qualitative study, activating the rapid response team was influenced by whether the patient was exhibiting subtle versus abrupt changes, as well as informal social rules: hierarchy and fear of criticism (Braaten, 2015).

**Description:** An opportunity for improvement was identified in an academic medical center in Southeast Texas in the prompt identification of patients experiencing adverse events with concurrent activation of the medical-surgical rapid response team (RRT). Anecdotal reports of patients deteriorating for multiple hours before requesting additional help was concerning. As an example, one patient with severe hypoglycemia experienced a delay in escalation for many hours. In retrospective reviews of cardiopulmonary arrest events, instances of failure to rescue were also noted.

An adult critical care bedside clinician (also a member of the rapid response team) partnered with the adult critical care Clinical Nurse Specialist to implement a plan to improve rapid response team utilization. The strategy was frequent communication to medical-surgical bedside clinicians in the form of a regular newsletter. This project's intent was to educate nurses, and raise awareness regarding the importance of activating the rapid response team early and often. Additionally- the newsletter was designed to be short in length (quick/easy to read), colorful, and visually interesting.

In the fall of 2016, the first newsletter was published and disseminated electronically to all inpatient nurses. The newsletter features several sections. The first section of each publication is titled "Spotlight".

Topics are rotated each month. One example is a brief overview of a disease or condition, such as heart disease and kidney disease. One frequent spotlight topic is the introduction of new staff when they become members of the rapid response team. The background of the individual is reviewed, as well as their professional and personal interests. A photo is included for visual recognition. This topic was deemed important in order to “humanize” individual responders in an effort to “demystify” the rapid response team system.

Case reports are also a routine feature in the newsletter. These reports are summaries of actual rapid response calls. They are discussed and summarized to help educate staff on examples of scenarios to request additional assistance for patients. Some reports highlight the importance of bedside nurses who used their clinical instincts with subtle changes, in order to encourage future similar calls. Detailed patient information is de-identified to address regulatory concerns related to privacy. A third section of the newsletter is titled “Cranium Challenge” and consists of a quiz with few questions to challenge bedside nurses on different aspects of patient care. Examples include signs and symptoms and pathophysiologic changes associated with disease conditions, and anticipated effects of medications. Answers to the quiz questions are at the bottom of the newsletter for immediate validation and/or learning.

Finally, each newsletter contains repetitive information and instructions. These include criteria for activation, instructions on how to activate the team, and who to contact for non-urgent questions or additional information. The presence of this information in each newsletter is intended to increase awareness and as a frequent reminder.

**Evaluation:** Over a 2 year period before and after the implementation of the newsletter, rapid response activation calls in the academic medical center increased by 31 percent. Failure to rescue findings in retrospective code reviews are now infrequent. These findings are an encouraging trend in an effort to increase utilization of the rapid response team and improve outcomes.

**Implications:** The success and simplicity of this approach has far-reaching implications for reproducibility. Nurses working in hospitals locally, regionally, and worldwide, can share innovative best practices and play an instrumental role in improving prompt identification of adverse patient events, rapid response team utilization, and ultimately patient outcomes. Finally, this project is congruent with the conference theme *Innovating Healthy Clinical and Academic Environments: Optimizing Patient Outcomes and Professional Well-Being*.

---

**Title:**

Improving Rapid Response Team Utilization in an Academic Medical Center

**Keywords:**

Failure to Rescue, Rapid Response Team Utilization and Rapid Response Teams

**References:**

Ahmad, T., Bouwman, R., Grigoras, I., Aldecoa, C., Hofer, C., Hoeft, A.,...Pearse, R. (2017). Use of failure-to-rescue to identify international variation in postoperative care in low-, middle- and high-income countries: A 7-day cohort study of elective surgery. *British Journal of Anaesthesia*, 119(2), 258-266.

Agency for Healthcare Research and Quality. (n.d.) *Rapid response Systems*. Retrieved from <https://psnet.ahrq.gov/primers/primer/4/rapid-response-systems>.

Braaten, J. (2015). Hospital system barriers to rapid response team activation: A cognitive work analysis. *American Journal of Nursing*, 115(2), 22- 32.

Chen, J., Ou, L., Flabouris, A., Hillman, K., Bellomo, R., & Parr, M. (2016). Impact of a standardized rapid response system on outcomes in a large healthcare jurisdiction, *Resuscitation*, 107, 47-56.

Douglas, C., Osborne, S., Windsor, C., Fox, R., Booker, C., Jones, L., & Gardner, G. (2015). Nursing and medical perceptions of a hospital rapid response system. New process but same old game? *Journal of Nursing Care Quality*, 31(2), E1-E10.

Johnston, M., Arora, S., King, D., Bouras, G., Almouadaris, A., Davis, R., & Darzi, A. (2015). A systematic review to identify the factors that affect failure to rescue and escalation of care in surgery. *Surgery*, 157, 752-763.

Stollendorf, D. P. (2016). Rapid Response Teams are perceived: a qualitative study and comparison of the perceptions of nurse leaders, team members, and team end-users. *The American Journal of Nursing*, 116(3), 38–47.

The International Surgical Outcomes Study Group. (2016). Global patient outcomes after elective surgery: Prospective cohort study in 27 low-, middle-and high-income countries. *British Journal of Anaesthesia*, 117(5), 601-609.

### **Abstract Summary:**

This abstract will discuss failure to rescue and its impact globally. Rapid response teams and their impact on failure to rescue are described, as are barriers to utilization. A project implementation in an academic medical center is reviewed, including rationale, implementation, and outcomes. Implications of this project are identified.

### **Content Outline:**

#### I. Failure to Rescue

##### A. Incidence

##### B. Delayed Escalation

1. Duration
2. Impact on Mortality

##### C. Global Quality Measure

#### II. Rapid Response Teams

##### A. Goals

##### B. Impact on Failure to Rescue

##### C. Barriers to Activation

#### III. Project

##### A. Description

##### B. Implementation

#### IV. Project Evaluation

#### V. Global Implications

First Primary Presenting Author

**Primary Presenting Author**

Sara E. Niebuhr, BSN, RN, CCRN

University of Texas Medical Branch

Adult Patient Care Services

Nurse Clinician IV

Galveston TX

USA

**Professional Experience:** Sara Niebuhr is an adult critical care bedside nurse with 10 years of experience in nursing. She began her career as an associate degree nurse, and subsequently furthered her education with a bachelor's degree. Her experiences in nursing include medical-surgical, telemetry, and critical care. In addition to her role as a bedside nurse, she serves on the institution's rapid response and code teams.

**Author Summary:** Sara Niebuhr is an adult critical care bedside nurse with 10 years of experience in nursing. She began her career as an associate degree nurse, and subsequently furthered her education with a bachelor's degree. Her experiences in nursing include medical-surgical, telemetry, and critical care. In addition to her role as a bedside nurse, she serves on the institution's rapid response and code teams.

Second Secondary Presenting Author

**Corresponding Secondary Presenting Author**

Odette Y. Comeau, DNP, RN, CNS, CCRN

University of Texas Medical Branch @ Galveston

Nursing Service

Clinical Nurse Specialist

Galveston TX

USA

**Professional Experience:** Odette Comeau is an adult critical care clinical nurse specialist (CNS) with 34 years of experience in nursing. She began her career as an associate degree nurse. Over the course of her career, she furthered her education with bachelors and masters degrees. She completed her doctorate of nursing practice in 2015. Her experiences in nursing have varied and include bedside clinician, program manager, administrative roles, and education. Her current role as a CNS is multifaceted and includes responsibility for the emergency response teams (code and rapid response), patient care practice and outcomes, evidence-based practice, policies and standards, and the professional development of staff.

**Author Summary:** Odette Comeau is an adult critical care clinical nurse specialist (CNS) with 34 years of experience in nursing. Her experiences in nursing have varied and include bedside clinician, program manager, administrative roles, and education. Her current role as a CNS is multifaceted and includes responsibility for the emergency response teams (code and rapid response), patient care practice and outcomes, evidence-based practice, policies and standards, and the professional development of staff.