Implementing a Rapid Response Team
Management of Health Service Organizations
Professor Driscoll
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I. Introduction

What is past is prologue,” Shakespeare wisely writes in The Tempest. Emerging from an extended nap at the wheel in 2000, physicians finally looked up from their traditional “professional” organizational model to see tremendous innovations in organizational theory and design were leading the charge to control overuse, underuse and misuse of U.S. healthcare systems capacity in clinical practice (IHI, 1998). Better late than never, the Institute of Medicine released a revolutionary publication, To Err Is Human (Kohn, Corrigan & Donaldson, 2000). It had been 14 years since the National Demonstration Project on Quality Improvement in Health Care was launched by the federal government in 1986. It had been10 years since a Joint Commission physician diagnosed the American Medical Association with a collective case of “Mural Graphic Dyslexia” which he defined as an inability to “read the handwriting on the wall” (Patterson, 1990, p 105) and nine years since the Institute for Healthcare Improvement (IHI) had formed.

Ongoing stakeholder battles and shifting dominance between the traditional vertically oriented healthcare organizational models of professional, bureaucratic and industrial methods (Graham, 1995) had failed to significantly improve the quality of American healthcare since Avedis Donabedian published “Evaluating the Quality of Medical Care” in 1966. Crossing the Quality Chasm in 2001 followed To Err Is Human and marked a confluence of federal, private sector and professional stakeholder awareness of a need for immediate action. The IHI 100,000 Lives Campaign (IHI, 2004) then burst onto the scene facilitated by Ostroff’s competitive values model (1998).

Patients were suffering, costs were soaring and the U.S. was falling further behind other developed countries in quality outcomes. Although American physicians, hospital administrators, payers, employees, patient and families agreed that access to timely, skilled clinical intervention for hospitalized patients was critical to saving 100,000 lives, the objectives of one interest group interfered with another (Kochan, Huber and Cummings, 1975). To reconcile individual operative goals related to profit and control within the group consensus on mission (Ostroff, 1999) a coalition of stakeholders used the prospector strategy (Miles and Snow, 1978) within the competing values model (Walton and Dawson, 2001) to identify Rapid Response Teams (RRT) as a competitive design element for today’s technology, contingencies and organizational cultures that integrates diverse concepts of effectiveness. Initially developed in Australia
(McCabe, 2007), traditional RRT were groups of experienced nurses and hospital employees that nurses, patients and families can call on when a patient’s condition worsens according to the Robert Wood Johnson Foundation.

Utilizing the Breakthrough Series College techniques (2002) an IHI collaborative of stakeholders determined that RRT:

- Accommodated U.S. healthcare sector conflicts related to differentiation, task interdependence and limited resources (Daft, 2007).
- Cost effectively facilitated rapid response to changes in condition (Ostroff, 1998)
- Buffered the impact of increasing numbers of inexperienced acute care nurses as educational institutions ramped up to meet demand (Patterson, 1990)
- Circumvented physician entrenchment as a barrier (Ostroff, 1998)
- Complied with bureaucratic regulations (NQF, 2006)
- Provided flexible and quick to response to customer needs (Daft, 2007)
- Counterbalanced the traditional vertical structure in U.S. healthcare organizations (Ostroff, 1998)

In 2002 Kaiser Permanente joined forces with IHI and focused on “patient safety”. Over the next two years a Breakthrough Collaborative developed the 100,000 Lives Campaign and identified Rapid Response Teams as a part of their plan aiming for 2000 hospital participants. RRT were quickly adopted and data on their effectiveness began rolling in. Dallas area hospitals soon began to fall in line instituting their own version of RRT.

II. Presbyterian Hospital of Plano

Presbyterian Hospital of Plano is a 368 private bed, not for profit facility that serves the communities of Dallas and Collin Counties (Texas Health Resources, 2008). It has been in operation since 1991 and its rapid response team (named the Critical Assessment Team) was implemented in 2006. The decision to implement a rapid response team was based on the hospital recognizing research performed by the Institute for Healthcare Improvement (IHI) and the American Association of Critical Care Nurses indicating that a failure to recognize symptoms and a failure to rescue were common causes of “out of ICU cardiac and respiratory arrests” (W. Brock, M.D. personal communication, July 9, 2008). The research was presented to hospital administration and planning was begun. The development team consisted of the code blue committee, the director of nursing, a representative from the department of education, the
medical directors of the intensive care unit and the emergency room, as well as the chief of medicine (T. Wyatt, R.N., personal communication, July 9, 2008).

The planning and development of the team consisted of deciding who should be on the team, how the staff would be educated, and how it should be monitored. The decision was made to include a critical care nurse (normally the charge nurse), a respiratory therapist (also a team leader), and the direct bedside nurse. The decision to use these three was based on the charge ICU nurse and the respiratory therapist team leader not having an actual patient assignment that would need to be covered and the bedside nurse having the most up to date information on the patient (T. Wyatt, R.N., personal communication, July 9, 2008). The ICU nurse and respiratory therapist are both required to possess critical thinking skills, ICU and ER skill sets, and the knowledge of ICU protocols for treatments (W. Brock, M.D., personal communication, July 9, 2008). In this way as well, no funding would be required for any additional staff positions. However, funding for team member education as well as education on what the Critical Assessment Team’s function and responsibilities were for the general staff came out of the education department (T. Wyatt, R.N., personal communication, July 9, 2008). Education originally required three months and was mandatory for all staff; however, with the team not being used as often as anticipated, remnants of the original implementation education still exist (W. Brock, M.D., personal communication, July 9, 2008).

Monitoring has shown that a decrease in “out of unit codes” has taken place and the hospital has set goals to further decrease these numbers as well as improve the incidence of recognizing the early warning signs of trouble and activation of the team (W. Brock, M.D., personal communication, July 9, 2008). Hospital staff is receptive to the idea of the team and its goals including the team members themselves. The largest area in need of improvement is in the area of advertisement. The Chief Quality Officer believes that the team would be utilized more and further decrease out of unit codes if the following conditions were met: education to the med-surg areas that this is a no blame environment and that advance assessment skills can be obtained; additional education throughout the hospital on what the largest clinical diagnoses are to watch out for; overhead paging of CAT activations to further advertise its presence; and the institution of a real-time process of feedback for review (W. Brock, M.D., personal communication, July 9, 2008).
III. Parkland Medical Center

Parkland Hospital is the county hospital of Dallas County, Texas. It was founded in 1894 and the current hospital was opened in 1954 with licensure for nine hundred and sixty eight beds. It is the primary teaching hospital for The University of Texas Southwestern Medical Center. It maintains a level one trauma center, level three neonatal intensive care unit and is the second largest regional burn center in the United States. It accommodates the busiest maternity unit in the country and the second busiest in the world (“Parkland Health & Hospital System”, 2008).

Parkland’s management predicted that the Joint Commission on the Accreditation of Healthcare Organization (JCAHO) would mandate a patient safety goal of limiting the number of cardiac arrests outside of the intensive care unit. The plan was to implement a rapid response team and have it functional before the Joint Commission directive. Parkland Hospital took the initiative to implement a rapid response team in two thousand and six. The original focus was to assist the nurses on the telemetry floor when a patient’s condition changed.

The initial team, consisting of four nurses from the cardiopulmonary intensive care unit, was requested by management to help implement the new initiative. These were seasoned nurses that already held the position of charge nurse in the unit. The four nurses agreed to work twelve hour shifts, two working days and two working nights. This schedule gave the team twenty four hours a day, seven days a week coverage. During the initial implementation they continued to maintain their duties in the unit. This initial rapid response team focused only on the telemetry floors. Management instructed the nurses on the new roles and expanded the roles as the process evolved. The initial formal didactic education was minimal secondary to the increased skill levels of the charge nurses. The team has been an evolution of ideas helping to expand functions and create efficiencies. The skill sets management focuses on to recruit team members are leadership, an exceptional critical care knowledge base, effective problem solving skills, assertiveness and a strong teaching ability. The initial time frame to start the program was around two months. Flyers were created for marketing within the hospital and in-services were held for the education of the units.

The rapid response team utilized a multitude of resources for structuring the criteria or triggers for a response. A large influence on the criteria came from the University Health System Consortium. An alpha numeric pager has always been the means of communication
from the units to the rapid response team. The communication process was standardized with the framework known as SBAR, situation-background-assessment-recommendation (Simmonds, 2005).

With the success of the rapid response team, the role of the cardiopulmonary charge nurse changed. With each extra unit covered by the rapid response team, the volume of calls increased. Management budgeted for the charge nurse not to take a patient assignment in the unit. This would allow the time needed to respond to the rapid response team calls and assist with other responsibilities in the unit. To provide seamless teamwork, a co-charge nurse was implemented. The co-charge nurse’s duties mock the duties of the charge nurse in her absence. The team now covers the entire hospital with the exception of the emergency room, operating rooms and the nurseries. The neonatal intensive care unit has its own response team. The team has also added a member of the respiratory staff to respond to all calls.

At the early stages of the rapid response team, and prior to, the reporting mechanism was poor. There have been many challenges to tracking the team’s effectiveness. The team now utilizes the American Heart Association’s database, the National Registry of Cardio Pulmonary Resuscitation, to track data of resuscitation efforts (Potts, 2008). This information generates reports utilized to evaluate and track the team’s efficiency.

The management overseeing the team utilizes a two-way communication system. They are informed of improvements from the team’s analysis of the calls and triggers and the units give constructive criticism on the team’s response. This information is utilized for educational opportunities for team members and unit nurses and staff. To this date, no members of the team have been reprimanded or replaced for performance issues.

The initial budget was minimal to start the team. At the onset, no supplies were purchased or staff hired. There is now a bag of basic supplies taken to all calls. The supplies consists of electrocardiogram leads, blood pressure cuffs, an oxygen saturation measuring devise, endotracheal tubes and other basics. The supplies are restocked from the unit in which the team responded. A team manager has also been hired to track performance and facilitate in calls when needed. At the beginning, the rapid response team was budgeted out of the cardiopulmonary intensive care unit’s budget. The team was responsible for the unit to be over on patient to nurse ratio once the charge nurse refrained from taking an assignment in the unit. This overage was addressed in subsequent budgets and a rapid response team budget has been created.
IV. Las Colinas Medical Center

Las Colinas Medical Center is a 100 bed facility located in the heart of Irving, Texas. It is a for profit facility serving Dallas, Denton and Tarrant Counties (Las Colinas Medical Center, 2006). It has been in operation since 1997 and the rapid response team was implemented in 2006. The decision to implement the rapid response team was based on the Institute for Health Improvements 100,000 lives campaign. The goal was to save 100,000 lives by June 2006. One of the IHI's methods to reach their goal was to institute rapid response teams in order to prevent deaths in patients outside the Intensive Care Units. The development committee consisted of the Chief Nursing Officer, Nursing Leadership Committee, Code Blue Committee, Clinical Educator, and the Emergency Department Medical Director (S. Ikeler, personal communication, July 9, 2008). Las Colinas Medical Center is unique in that it is made up of a second rapid response team specifically for the Neonatal Unit. Decisions for this rapid response team were made by the Neonatal Medical Director and OB/GYN Chairman.

It was decided that based on their critical care expertise at the bedside that the rapid response team would consist of the Emergency Department Charge Nurse as lead, Respiratory Therapist, Administrative Supervisor and the patient's nurse (Las Colinas Medical Center, 2006). At the beginning of each shift the department director was responsible for appointing a staff person from their department to respond to rapid responses. The Emergency Department Charge Nurse was selected as the team lead based on their critical thinking skills (G. Fullerton, personal communication, July 3, 2008). As the lead they are responsible for instituting the American Heart Association Chain of Survival Guidelines including: oxygen administration, insertion of oral or nasopharyngeal airways, suction airway, initiate non-invasive positive pressure ventilation with ambu bag, initiate IV, obtain twelve lead EKG and continuous cardiac monitoring, and initiate BLS/ACLS (Las Colinas Medical Center, 2006). Education is provided through corresponding departments. Education is updated at least annually in skills fairs. Several criteria were outlined for activating the team consisting of acute changes in heart rate, systolic blood pressure and respiratory rate. The responsible nurse may also activate the rapid response team if their patient exhibits changes in level of consciousness, acute change in oxygen saturation, acute blood loss, signs of acute stroke, repeated seizures or any other symptoms that give concern (Las Colinas Medical Center, 2008). In the event that the Rapid Response team is paged the responsible nurse will provide a status report, make medical records available and
assist in caring for the patient. The criteria for activating the team were based on the change in
the patient’s status and the need for interventions that were greater than the area of expertise of
the nurse providing care (C. Lawson, personal communication, July 7, 2008).

In order to monitor the effectiveness of the Rapid Response Team an SBAR tool is filled
out for each activation. The form is then forwarded to the Code Blue Committee Chair in order
to be audited. If a problem exists it is addressed with the appropriate parties. Records indicate
that few if any out of E.R. /I.C.U. codes have occurred since the implementation of the Rapid
Response Team (S. Ikeler, personal communication, July 9, 2008). Areas for improvement
include the need for increased education due to a low volume of actual calls and staff turnover.
Education can be improved through increased mock drills and increasing skills fairs. For 2008
Las Colinas Medical Center plans to add family participation to allow family to remain in the
room while the Rapid Response Team acts. 2008 policy changes will also include increased
education for staff related to the Rapid Response Team (S. Ikeler, personal communication, July
9, 2008).

V. Denton Regional Medical Center

Denton Regional Medical Center is located in Denton, Texas; it has 200 beds. It is a for
profit facility that serves the communities of Denton, Wise, Cooke, and Montague Counties
(Denton Regional Medical Center, 2008). The idea of developing a Rapid Response Team was
envisioned for DRMC in December 2005. Kathleen Williams, head of the education department,
was getting her masters degree from the University of Texas at Tyler. She used the
implementation and development of the RRT for DRMC as her Master’s thesis. She based the
need for a RRT on the Institute for Healthcare Improvement’s recommendation released in June
of 2005. The literature review she used was mainly based on studies done in Australia since the
RRT system had been more popular in this country prior to 2005; this review found that similar
teams improved patient outcomes. A pilot test was started in the second week in April 2006. The
Progressive Care Unit was the location of the pilot test. The pilot ran until the end of May 2006,
at this time the RRT was implemented house wide (Williams, 2006).

The concept of the RRT was presented to the medical executive board in December 2005.
From this group a sub-committee of physicians was formed, this group worked on the criteria
and guidelines for implementation of the RRT program. They developed an order set for use by
the RRT. The members of the community of physicians agreed on the protocol in January 2006.
A multidisciplinary RRT Committee was developed that included the assistant chief of staff, director of quality, director of emergency services, director of critical care services, director of education, respiratory therapy and house supervisor. This group was created to determine the makeup and education of the RRT members and nursing staff. This group set a deadline for April 2006 for the initiation of the RRT. They met weekly from January to April (Williams, 2006).

The committee decided the makeup of the RRT would include an ICU nurse, ER nurse, Respiratory Therapist, and House Supervisor. It would be available 24 hours a day, 7 days a week. The charge nurses from the ICU and ER and the charge respiratory therapist would be the members for the shift from their respective groups. These members were selected on their ability to think critically, they are ACLS certified and comfortable in high stress situations (Williams, 2006).

In order to develop implementation and education house wide Kurt Lewin’s theory of planned change was utilized to ensure a smooth transition. The budget for the development and implementation of the RRT came out of the general budget not from any specific department. House wide education was initiated during the last couple weeks of March by a computer based instruction. The members of the RRT team received specific education and training. Flyers and slogans were developed and distributed to staff and physicians near the end of March 2006. An initial goal of a 20% reduction in mortality was set. Factors that were identified that could be possible causes of not reaching this goal included: lack of education, lack of empowerment of the nursing staff, issues with training, and the culture of the facility (Williams, 2006).

The criteria for initiating the RRT are believing that something is wrong, and/or recognition of a change in vitals outside established criteria. The nurse can dial 22 or call the operator to initiate a Rapid Response, the RR is called overhead and room number stated. The team members are expected to arrive within 5 minutes. During the response the team members are not usually taking care of patients therefore their duties are usually not hampered during the response. There is a form, similar to a code form that is filled out following the code to explain the details, solution, and outcome. The Committee meets biweekly to review the responses. The outcomes of the RRT are reviewed annually by the RRT Committee then reported to the Code Blue Committee and the Performance Improvement Physician Safety Oversight Committee; these two then make recommendations to the administrative team (Williams, 2006).
The key challenges to developing an RRT were numerous. First, administrative approval and support had to be obtained. Second, the physicians had to be brought on board for initiating the implementation and support. Thirdly, the staff had to be educated, prepared, and supported for their participation. Finally, a method to evaluate the effectiveness and response of the RRT program had to be developed and initiated (Williams, 2006).

VI. Conclusion

Rapid response teams have been effective at decreasing out of ICU respiratory and cardiac arrests throughout the world. The planning and implementation of these teams continues to take place throughout the United States including the communities of the Dallas Fort Worth Metroplex. Planning and commitment from a multi-disciplinary team is essential to balance out the evidence based practices with the culture of hospital. The teams that have been the most successful are composed of team members who possess critical thinking skills and ICU/ER skill sets. They are also more effective when the bedside nurse is involved and is given the opportunity to learn from the experience of the team. Monitoring of outcomes as well as participating in an immediate feedback loop in a non-accusatory culture also appears to be beneficial. Continuous public presence and ongoing education for all staff will need to be continued in order to facilitate improved outcomes for all hospitals that choose to participate in the Rapid Response Initiative.
VII. References


Fullerton, G (2008, July 3). Director of Emergency Department, Las Colinas Medical Center. (L. Bumpas, Interviewer).


Ikeler, S (2008, July 9). Chief Nursing Officer, Las Colinas Medical Center. (L. Bumpas, Interviewer).


VIII. Appendix A: Interview Questions

1. What were the deciding factors in choosing to implement a Rapid Response Team?
2. How were the Rapid Response Team members selected?
3. How were the Rapid Response Team members educated on their functions?
4. What kind of skills did the team members need to have?
5. How were the criteria for activating the Rapid Response Team decided upon and what were concerns regarding methods to activate?
6. Was the communication process standardized with the SBAR?
7. How were the normal duties of Rapid Response Team Members covered when they were activated?
8. What kind of reporting mechanism is used to examine effectiveness of the Rapid Response Team?
9. What happens to members who do not perform adequately?
10. Whose budget did the Rapid Response Team come out of?
11. What was the total start up funding?
12. How long did the team take to implement?