Critical events such as cardiac, respiratory and neurological events are common and serious complications among hospitalized patients. Despite advances in the treatment for cardiac arrest, only 17% of patients survive to discharge (Naeem and Montenegro 2005). Further, 64–80% of patients who experience cardiac arrest show identifiable signs of deterioration six to eight hours prior to their arrest (Franklin and Matthew 1994; Schein et al. 1990). Rapid Response Teams (RRTs) (also known as medical emergency teams and critical care outreach teams) are rapidly becoming an important patient safety strategy in the prevention of death in patients who are progressively failing outside of intensive care units. RRTs are composed of critical care registered nurses, physicians and/or registered respiratory therapists and can be summoned to assist with the care of an acutely ill patient before a critical event occurs. The team can begin treatment immediately, initiate a transfer to

Abstract
Rapid response teams (RRT) are an important safety strategy in the prevention of deaths in patients who are progressively failing outside of the intensive care unit. The goal is to intervene before a critical event occurs. Effective teamwork and communication skills are frequently cited as critical success factors in the implementation of these teams. However, there is very little literature that clearly provides an education strategy for the development of these skills. Training in simulation labs offers an opportunity to assess and build on current team skills; however, this approach does not address how to meet the gaps in team communication and relationship skill management. At Hamilton Health Sciences (HHS) a two-day program was developed in collaboration with the RRT Team Leads, Organizational Effectiveness and Patient Safety Leaders. Participants reflected on their conflict management styles and considered how their personality traits may contribute to team function. Communication and relationship theories were reviewed and applied in simulated sessions in the relative safety of off-site team sessions. The overwhelming positive response to this training has been demonstrated in the incredible success of these teams from the perspective of the satisfaction surveys of the care units that call the team, and in the multi-phased team evaluation of their application to practice. These sessions offer a useful approach to the development of the soft skills required for successful RRT implementation.

Communication and Relationship Skills for Rapid Response Teams at Hamilton Health Sciences

Karen Cziraki, Janie Lucas, Toni Rogers, Laura Page, Rosanne Zimmerman, Lois Ann Hauer, Charlotte Daniels and Susan Gregoroff

Teamwork and Communication
a higher level of care or communicate a treatment plan to the patient’s most responsible physician. Studies have shown that this approach results in fewer cardiac arrests, increased survival rates for those who have a cardiac arrest and shorter lengths of stay post-arrest both in the intensive care unit and in the hospital overall (Bellomo et al. 2003).

**Successful critical care** outreach teams focus considerable energy on creating a collaborative culture that supports anyone who requests their help.

Hospitals in Australia and the United Kingdom have adopted this patient safety strategy. In Canada, in May 2006, the Ontario Ministry of Health and Long-Term Care (MOHLTC) provided funding for CCOTs at 22 sites. In addition, MOHLTC funded four pediatric pilot sites. Hamilton Health Sciences (HHS) received funding to provide 24/7 services at Hamilton General Hospital and McMaster Children’s Hospital. Known as the RACE (rapid assessment of critical events) team at the Hamilton General Site and PACE (pediatric assessment of critical events) team at the Children’s Hospital, the teams are composed of a critical care registered nurse, a registered respiratory therapist and a physician. Registered nurses and registered respiratory therapists underwent a rigorous selection process and educational program prior to working on the RACE and PACE teams.

Significant clinical skills training including simulation laboratory experiences were provided to all team members. However, it was recognized at the outset that effective team communication and relationship skills are as important as critical care skills and would be crucial success factors in the implementation of these teams. Successful CCOTs focus considerable energy on creating a collaborative culture that supports anyone who requests their help (Institute for Healthcare Improvement 2006), and they recognize that optimal care delivery is dependent on the ability of team members to work and communicate effectively together (Mistry et al. 2006). There is, however, a paucity of literature that clearly provides education strategies for the development of these skills.

Training in simulation laboratories offers an opportunity to assess and build on current team skills, but it does not address how to meet the gaps in team communication and relationship skills and knowledge. The final step to prepare RACE and PACE team members to be effective in their roles was participation in a two-day communication and relationship skills workshop.

**Inclusive Design Approach**
A collaborative and systems approach was required to design an effective workshop that met the requirements from various perspectives (Barbazette 2001; Cranton 1992; Dzik-Juasz 2006; Furjanic and Trotman 2000). Once the project teams decided to implement a workshop, a working group was established. The sessions were designed, developed and implemented internally by the HHS Organizational Effectiveness team (quality, organizational development and patient safety specialists) in collaboration with the RACE/PACE team leads. The structure of the design team created synergy, collaboration and the alignment of content with process expertise. This ensured a systems perspective for the overall design of the workshop. Two-day action learning workshops were held during November 2006 for 29 PACE and RACE team members to enhance the interpersonal and communication skills required to be an effective member of the teams. The workshops provided participants with necessary

![Figure 1. Factors influencing communications](image-url)
knowledge and skills and allowed them to apply the information obtained through practical scenarios in the areas of communication and relationship management.

An inclusive participative process was used that ensured the working group continuously communicated with the PACE and RACE Steering Committees and Senior Leadership team. By extending the development of the program content to a wider group within the organization, the workshop content was enriched and the buy-in for conducting the program within the organization was positively influenced (Barbazette 2001; Furjanic and Trotman 2000). The team communication workshop was created using a five-phase process: analysis, design, development, implementation and evaluation (Barbazette 2001; Furjanic and Trotman 2000). Overall, the inclusive design approach assisted in producing an effective workshop that met the needs of the project teams, healthcare professionals within the teams and, ultimately, patients.

Complexities at the professional, organizational, team, personal and patient levels can create conflicting priorities and communication challenges.

Workshop Content
According to Hill (1996), technical competence in the workplace is not enough. Success also depends on interpersonal skills and the ability to develop effective work relationships with key individuals. Today’s healthcare environment consists of complexities related to systems, processes, culture and behaviours. These complexities influence communication and relationships, which, in turn, can impact quality of care and of the workplace.

Figure 1 identifies the factors that influence communication between the interrelated team members, including the patient and family members, PACE and RACE team members and other HHS team members.

Healthcare teams face many kinds of communication challenges on a day-to-day basis. Complexities at the professional, organizational, team, personal and patient levels can create conflicting priorities and communication challenges. Patient safety literature identifies that communication and teamwork affect quality and safety and are responsible for a large percentage of sentinel events (Leonard et al. 2004). The content of the HHS workshop predominantly consisted of self-awareness activities related to personal style and communication skills. Theories, concepts and applications for effective team communication with a focus on communication approaches, team interaction and relationship management were included (Figure 2).

When considering the content for the workshop, a systems approach consisting of the process, task and people factors for teams provided the foundational framework (Table 1).

Various learning approaches were used to enhance the learner’s ability to remember the content and apply the newly acquired information and skills within day-to-day activities (Barbazette 2001; Cranton 1992; Dzik-Juasz 2006; Farbstein 2003; Furjanic and Trotman 2000). An action learning approach was employed so that participants could explore and examine behaviours and actions to enhance performance levels (Dzik-Juasz 2006; Kieren and Kalliath 2005). The use of lecturettes, case simulations, group exercises and discussions, feedback opportunities and a behavioural style inventory, Personality Dimensions – True Colors, fostered an open and participative learning environment. Participants were given time to interact and share knowledge, which enhanced the learning and experience.

By combining the content for each team and various learning approaches, a workshop was created that provided both behavioural and technical applications to support the PACE and RACE roles. Best practices, a standardized approach, user-friendly applications, participant learning styles and HHS values were principles used during the creation of the content and materials for the workshop.

Level 1 and 2 Training Evaluations
Level 1 and 2 training evaluations were conducted to capture
the participants’ reactions to the training sessions and the learning that was acquired over the two-day period. Level 1 evaluations measured the reaction of the students, that is, what they thought and felt about the training. Level 2 evaluations measured the students’ learning, that is, the resulting increase in knowledge or capability (Kirkpatrick 1994). A summary of level 1 and 2 training evaluations indicated that participants felt the workshop reaffirmed the importance of effective communication skills, teamwork and conflict-resolution skills in the provision of quality patient care. Participants gained an understanding of personal styles and the SBAR (Situation-Background-Assessment-Recommendation) approach for effective, structured communication, and they learned new communication and conflict-resolution techniques, including how to communicate assertively. They identified an increased self-awareness in relation to listening, body language, tone and being less judgmental. Overall, the evaluations indicated that the participants found that the sessions were informative, were relevant to practice, helped to build confidence and met learning needs with respect to communication.

Best practices, a standardized approach, user-friendly applications, participant learning styles and HHS values were principles used in the workshop.

Level 3 Evaluation: Transfer of Learning to Behaviour

In May 2007, all PACE and RACE team members completed a level 3 training evaluation. The level 3 evaluation measured the extent to which the students applied the learning and changed their behaviours (Kirkpatrick 1994). Participants were asked if they were applying the skills they acquired from the team communication and relationship workshops within their PACE or RACE role. This six-month evaluation consisted of quantitative and qualitative components. Responses were collated and summarized. Response rates were 100% for both the PACE and RACE teams. Participants were asked to respond to 11 items and indicate the level of frequency and effectiveness they have had with each item since participating in the training program. Participants were asked to use a scale to rate the 11 items; the scale ranged from 1 = not at all, to 5 = greatly. Participants asked themselves, “Overall, how much did the team communications workshop improve my performance in the role of PACE/RACE?” Average response rates were 3.9 for the PACE team and 3.7 for the RACE team. Three major themes were identified when participants were asked to complete the following sentence: “As a result of participating in the team communication workshop, I have been able to …”:

1. use SBAR effectively. Participants demonstrated an understanding of the importance of using SBAR as a consistent and concise approach for communication between team members and physicians. They indicated that they were applying SBAR during verbal and written communications.
2. improve my communication skills. Participants indicated that they had an increased self-awareness in relation to active listening, body language and tone of voice. They also noted that they had become more assertive and less aggressive with their approach when interacting with others.
3. gain insight into behaviour of self and others. Participants have learned to recognize individual personal styles in themselves and others. They understand these styles, individual preferences and temperament types and the impact that personal style has within the workplace and within teams. Many stated that, as a result, they appreciate others’ differences and have

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<th>Table 1. Factors of the workshop’s foundational framework</th>
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<td><strong>Process Factors</strong></td>
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<td>• The functions and elements of high-performance teams</td>
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<td>• Complexities and challenges of healthcare teams</td>
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<td>• Communication principles and effective techniques; e.g., internal and external factors influencing listening, critical language, cycle of assertion, SBAR communication techniques, situational analysis, safety briefings, team debriefing</td>
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<td>• Conflict resolution and relationship management practices and strategies</td>
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HHS = Hamilton Health Sciences; PACE = pediatric assessment of critical events; RACE = rapid assessment of critical events; SBAR = Situation-Background-Assessment-Recommendation.
been able to adapt appropriate communication styles and improve interpersonal relations.

Satisfaction Survey
To further affirm that communication on the RACE and PACE teams is effective and helps promote the provision of safe and optimum care for patients, a satisfaction survey for end-users (care unit staff) was developed. The results to date for both the RACE and PACE teams specifically related to communication and relationship management have been overwhelmingly positive. Care unit staff reported that the team members are approachable, take the time to answer questions, share their knowledge and communicate clearly regarding next steps and monitoring. It is also clear from these evaluations that care unit staff believe the teams have made a positive contribution to patient care and outcomes. It is important to note, however, that this method of evaluation has some limitations. A full assessment of the intervention would also require a study of the changes in team behaviour in practice, through observation or a case-control design.

Lessons Learned
As a result of this experience, five key lessons were learned that others should consider when designing a workshop to assist with team communications within the healthcare environment. First, it is important to understand the behavioural perspectives that influence team dynamics and the performance levels of the team for patient care (Gordon 2002; Katzenback and Smith 1993; Leonard et al. 2004). Second, the use of case simulations builds an individual’s awareness of his or her communication patterns and provides a structured opportunity to practise and obtain feedback. This allows the learner to observe communication from a distance and then safely participate and test more effective ways to talk and behave (Farbstein 2003). Evidence of the benefits of case simulations was displayed throughout the interactive exercises.

The third lesson learned pertained to the challenges when translating lecture material to hands-on simulations. Time and effort need to be taken to do this effectively so that the case studies provide real-life examples for the participants to relate to and learn from. Fourth, one must consider the importance of standardized processes and practices. Since a number of disciplines are critical for the optimal care of patients, there exists a challenge in coordinating and communicating under stress (Small et al. 1999). The employment of standardized tools and behavioural approaches during the workshop can greatly enhance safety within the workplace, for these tools can effectively bridge the differences in communication style and practices between nurses, physicians and others (Leonard et al. 2004), thereby improving the teams’ effectiveness.

Finally, we learned that individual performance is not sufficient to achieve optimum safety and good team functioning. There is a need to enhance individuals’ and teams’ communication skills to establish effective teams and to contribute to safer patient care. Teams need to be provided with the behavioural awareness and skill development necessary for success in addition to procedural and technical skills. Simply identifying gaps in communication and teamwork is not enough – it is essential to address them in a structured approach.

Recommendations, Next Steps and Sustainability
The HHS Organizational Effectiveness team designed and implemented an effective structured action learning approach to address gaps in communication and team-based skills. The workshops were an effective strategy to meet these critical success factors for CCOTs. The care unit satisfaction survey results indicate that team members have consistently demonstrated effective communication and relationship management skills and have been perceived as approachable and friendly. Further work is needed to refine communication practices using the SBAR format for verbal and written communications. A RACE/PACE communication forum has been established to address ways to standardize communication practices including SBAR across all HHS sites.

PACE and RACE team members appreciated the opportunity to share experiences and learn from each other during the combined workshops. Opportunities for ongoing learning and sharing between the two teams will be explored. One idea is to revisit and build on the learning that occurred during the workshops as a regular component of the quarterly educational review process for the teams. Our critical care physician partners were unable to participate in the two-day workshops. However, preliminary discussions are under way to offer a repeat workshop to new team members that will include the PACE and RACE physicians.

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