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Disaster management: Communication up, across, and down

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Disaster preparation and response are critical functions of nursing leadership within healthcare organizations. Planning and implementing evacuation exercises present an excellent opportunity to practice the leadership skills needed in actual disasters. In the following case study, the National Preparedness Leadership Initiative's (NPLI) meta-leadership model was used as the guiding framework for developing and implementing an evacuation exercise focused on the safe evacuation of neonates. The exercise involved staff participants, hospital leadership, evaluators, and simulation and disaster experts. Key components of this framework include strategies for communicating up, across, and down.¹

Child evacuation preparedness

In the United States last year alone, there were 45 federally declared major disasters that caused widespread destruction, resulting in morbidity and mortality of citizens.² The U.S. Department of Homeland Security reports that children constitute 25% of those most at risk and requiring special care during emergencies, with fragile neonates located in neonatal ICUs (NICUs) being one of the most vulnerable groups.³ Moreover, neonates are a substantial population; according to the Center for Prevention of Preterm Birth, approximately 12% of pregnancies in the United States result in premature deliveries every year.⁴

Recent natural disasters have challenged our systems for safely evacuating neonates. For example, during Hurricane Katrina, the large-scale evacuation of 26 NICU patients from Ochsner Medical Center (OMC) in Jefferson, La., required 2 days of effort. This hospital had a well-established crisis response team and a definitive chain of command and responsibilities. Along with OMC, the Children's Hospital of New Orleans (CHNOLA) also evacuated during Hurricane Katrina. Critically ill patients from the pediatric ICU were

included in the vertical evacuation (movement down floors) of patients. In a discussion of the lessons learned from these evacuation events, a CHNOLA physician who was present at the evacuation admitted, “There was no uniform method for evacuating patients, particularly critical ill ones.”⁵ He now recommends that emergency preparedness plans be practical, updated regularly, and provide for a complete evacuation of the facility.

Established in 2010, the National Commission on Children and Disasters made its goal to improve emergency response for children. The commission’s final report identifies several unique needs of children that must be addressed in a focused national effort for emergency preparedness response planning.⁶ One of the high-priority areas emphasized by this commission is the unique needs of critically ill neonates and children, and the necessity for specialized evacuation and transport planning for these patients in the event of an emergency.

Meta-leadership framework

The NPLI is a collaboration of the Harvard School of Public Health’s Division of Policy Translation and Leadership Development and the Harvard Kennedy School’s Center for Public Leadership. The group’s mission is to improve preparedness and response leadership, resulting in protection of people whose lives and well-being are affected by crisis. Through the NPLI’s work of researching and observing leaders in disaster environments, it’s developed the meta-leadership framework and practice method.¹ The framework provides guidance and tools to prepare leaders to act and direct others in emergencies.

According to the CDC Foundation, “When disaster strikes, meta-leaders reach across organizations and sectors to build cross-cutting strategies to protect the safety of their families, businesses, and communities. They exchange information, share resources, and coordinate systems and personnel. They use their influence and connections to guide a cooperative course of action.”⁷ Central to the meta-leadership model is the concept of connectivity. Decisions and actions aren’t made in a vacuum. It’s important for the meta-leader to be connected and communicate up, across, and down.

Communicating “up” includes formal supervisors, but may also include political officials and others. Communicating “across” refers to peers and other divisions or departments

within the organization. And communicating “down” pertains to the base and those employees and staff members who are within the leader’s influence. Within the situation, it’s also essential to know the stakeholders, what’s happening, and critical choice points.¹

The situation

The neonatal disaster evacuation exercise was designed and implemented on a 59-bed NICU that provides level IV care for the most critical neonates at a large Mid-western children’s hospital. The exercise was part of a larger evacuation training program supported through an Agency for Healthcare Research and Quality grant titled Effects of Virtual Reality Simulation on Worker Emergency Evacuation of Neonates.

The 60-minute evacuation exercise consisted of 13 teams of four to six staff members, including physicians, nurses, respiratory therapists, and other support personnel. Each team was tasked with a vertical evacuation of three simulated neonates down four flights of stairs. Two of the infants required ventilator support, and wireless high-fidelity manikins provided real-time data on the effectiveness of manual ventilator support. During the exercise, the incident commander at the unit level was the charge nurse who received directions from the exercise coordinator on the size of the event and need for evacuation. Staffing was at the expected level for the neonates described in the scenario: one staff member for the stable neonate, two to move the ventilated infant, and three to move the oscillator neonate. A total of 70 staff members consented to participate.

Before the exercise, evaluators participated in two training sessions to review the evaluation documents and expectations for each group. Two evaluators were assigned to each group throughout the evacuation process. After completion of the exercise, each group participated in a debriefing session to discuss exercise highlights, lessons learned, performance improvement opportunities, and initial data from infant simulators.

Communicating up

The involvement of senior leadership is essential to the success of a large-scale evacuation exercise. It’s the meta-leader’s role to ensure that senior leaders are informed and understand the benefits associated with the experience. Unit-level nurse leaders, an assistant vice president from patient services, a disaster preparedness specialist, and an attending physician from the emergency medicine division worked together on exercise development. For the development phase of this multiphased study, the role of these individuals was to get senior leader buy-in, keep key stakeholders informed, remove barriers, inform decision making, and allocate resources for the exercise.

An example of how this group leveraged their established collaboration with senior leaders occurred when the initial planned evacuation exercises had to be cancelled due to high census. Because senior leaders were actively involved with the planning, they understood the importance of rescheduling quickly to ensure active participation of enrolled subjects. Strategic decisions were executed to establish alternative dates and secure protected patient overflow space. The new drill dates were disseminated via the hospital’s intranet and the

daily operations briefing for all hospital leaders. Several senior leaders came to the unit during the drills to observe and show their support.

Communicating across

As part of the approach to disaster response, an organizational chart specific to the hospital was developed before the exercise. (See Figure 1.) Within this chart, stakeholders are segmented into seven categories: leadership, safety and security, communications (internal/external), patient care, resources and assets, staff support, and utilities.⁸ The chart further outlines the categories and specific departments within the medical center that are engaged in the exercise. In addition, it provides a valuable visual reference for exercise planners as they communicate across to colleagues in other departments.

For this exercise, the planners specifically engaged staff members from the NICU, respiratory care, emergency preparedness, protective services, marketing and communications, and occupational safety and environmental health. Engaging these departments early and often in exercise development ensures that common and shared goals can be developed. Collaboration among each of these departments is imperative to conducting a successful, informative exercise with continuity between what's planned and implemented.

Exercise development must also include communication with patients and families. At minimum, this involves providing appropriate and timely information to patients and families that includes the time and date of the exercise, some description of the exercise, and reassurance of patient safety during the exercise. Moreover, information should be available in writing, easily explained by staff, and in multiple languages based on the patient population. This process of establishing and maintaining communication with patients and families during exercises enhances the ability of the hospital to do the same during real events.

Engaging outside agencies early in exercise development helps strengthen existing relationships with community partners. Local fire and police agencies welcomed the opportunity for their staff to participate and experience emergency operations within the hospital setting. They walked evacuation routes, reviewed hospital and departmental emergency plans, and liaised with possible corresponders in a no-fault, controlled setting. This experience helped prepare community partners for potential future disaster evaluation events within the hospital.

Communicating down

The base is critical to exercise implementation. Scheduling staff members to participate in the exercise was a monumental task. Staff members who were working a shift during the exercise had assignment coverage provided by experienced NICU staff, which allowed for appropriate assignment handoffs. Staff members who weren't working a shift during the exercise self-scheduled for a time that was convenient for them via a sign-up list, which increased participation. Communication with staff was predominantly through e-mail, and a research coordinator was onsite to answer questions or concerns.

Before the start of the exercise, participants received a prebriefing. The information conveyed included the nature of the event, the status of patients, the resources that were available, and the expected roles participants would perform during the exercise. Following the exercise, the participants were involved in debriefing to discuss what went well, opportunities for improvement, and how the information from the exercise could be used to improve practice. The results of the debriefing were shared with unit leadership, the hospital emergency manager, and other research team members. Feedback from the debriefing was used to improve future exercises and training.

Rise to the challenge

Although the exercise went well and as planned, it did pose some challenges. Due to the average daily census, it was necessary to explore alternate patient sites to avoid interruptions to patient flow. However, on the first scheduled dates of the exercise, there was a record high hospital census that eliminated patient overflow options, precluding the implementation of the exercise on these dates. Utilizing the meta-leadership framework enabled closed-loop communication between stakeholders to determine the best dates to reschedule based on average census during various times of the year. Although cancellation was a difficult situation, the critical choice to reschedule provided the opportunity to review and improve communication and planning for the second scheduled exercise.

We also gleaned information to enhance the next series of exercises. By allowing staff members to self-schedule, the staff mix for each exercise wasn't identical. For example, one group was primarily respiratory therapists, whereas other groups had no respiratory therapist. Feedback during the debriefing was that there needed to be a better mix of staff available for each cohort. In future exercises, the groups will be better composed to represent the actual staff anticipated during an event. In addition, areas in which staff training needed to be reinforced were identified. Management of I.V. fluids was less than optimal in the majority of the patient evacuations, with confusion on which medications should be continued and how they should be transported. Positive pressure ventilation on the stairway was also problematic for staff. These areas were addressed with further training.

Be prepared

Use of the meta-leadership model served as an effective framework for the planning and implementation of functional disaster exercises, ensuring communication with appropriate entities both within and outside of the hospital. Efficiency and effectiveness were optimized with this organized approach; departmental leadership became comfortable with each other, understood priorities, and managed expectations.

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Figure 1: Pediatric hospital incident command structure