


DISASTER PREPAREDNESS:

Neonatal Intensive Care Unit Infant Evacuation


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Conflict of Interest

I have no financial relationships to discuss, and I will not discuss off label use and/or investigational use in my presentation.

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Objectives

By the end of this training, participants will be able to:

1. Assess their knowledge of roles and responsibilities related to NICU evacuation.
2. Evaluate their existing emergency evacuation protocol, including equipment and supplies.
3. Identify possible areas and opportunities for improvement in NICU evacuation communication, resources, and training.

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Problem Statement

Not for profit 377-bed hospital w/ 12-bed NICU

- Well defined Emergency Operations Plan (EOP)
 - What are the expectations of the disaster plan response?
- Basic NICU evacuation departmental policy
 - What are the roles & responsibilities?
 - What kind of equipment is available?

Goal: Improve processes for safe & efficient NICU evacuation


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Background


October 29, 2012:
Hurricane Sandy descended upon Manhattan

- NYU Langone Medical Center evacuates 21 infants




August 29, 2005:
New Orleans devastated by Hurricane Katrina


- Evacuation of 16 infants from Memorial Medical Center




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Hurricane Harvey



August 24 & 25, 2017:
Ten NICU infants evacuated from Driscoll Children's Hospital in Corpus Christi



August 31, 2017:
Extensive flooding in Beaumont requires airlifting of 14 infants from Baptist Hospitals of Southeast Texas

PROVIDENCE
Health & Services
Southern California



September 8, 2017:
An 8.2 earthquake centered near Chiapas devastates several states in Mexico


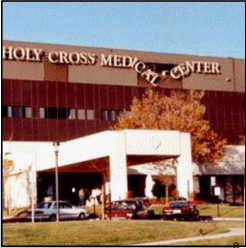


September 10, 2017:
Hurricane Irma: Hospitals must decide – evacuate vs. shelter-in-place

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Why Disaster Preparedness?


1971 Sylmar Earthquake **1994 Northridge Earthquake**

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Unit-Specific Planning: EOP & Policy

- Review hospital EOP
 - What it is
 - General plan
 - Outlines “general” staff roles & responsibilities
 - What it is **not**
 - Detailed policy & procedure for any unit, staff, and/or patients



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- ✓ Don't look for EOP Manual
- ✓ Grab Code Triage envelope
- ✓ Fill out appropriate forms



- ✓ Keep in contact w/ Command Center

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Unit Specific Planning: Education

- Educate staff
 - Mean age of 46.5 years (SD 10.6)
 - Mean years in neonatal nursing of 13.8 (SD 9.5)
 - Female (92.3%)
 - White (61.5%)
 - No training on hire (96.2%)
 - No annual training (88.5%)
 - Training at other hospital: Yes (42.3%), No (57.7%)

Figure 1. Years Worked in PHC NICU

Figure 2. Highest Nursing Degree

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Knowledge

- Low baseline knowledge on EOP, policy, roles & responsibilities
- **Significant increase** in knowledge of evacuation policy

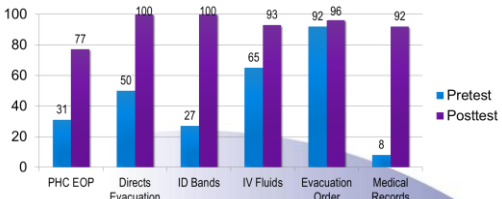
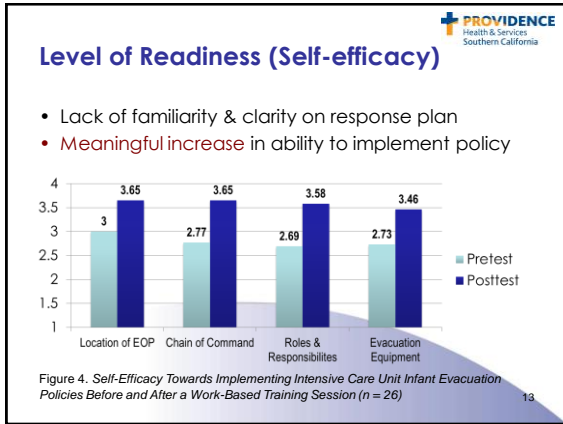


Figure 3. Knowledge of Intensive Care Unit Infant Evacuation Policies Before and After a Work-Based Training Session (n = 26)



Unit Specific Planning: Equipment Use

3. Evaluate supplies & equipment

- Essentials
 - Ambu bags, O₂
 - Fluids & Meds
 - Hypothermia
 - Communication
- Quick, easy access
- Staff required
- Documentation

Where's Our Stuff?

Unit Specific Planning

4. Identify roles & responsibilities

- Physician Unit Leader
- NICU Administrative Leader
- NICU Team Leader
- Bedside NICU RN
- Respiratory Care Practitioner
- Unit Clerk

Consider creating Job Cards, Call Tree, Code Triage Envelope & other tools

Unit Specific Planning

5. Develop an unit-specific disaster planning committee

- Policy development
- Equipment lists
- Liaison to in-hospital & out-of-hospital committees
- Facilitate education & training of staff & providers (PRACTICE, PRACTICE, PRACTICE)

Barriers/Facilitators

- Homogeneous sample
- Internal organizational timelines/approval processes
- Component inclusion into EOP
- Curriculum structure
- Hospital & Regional Administration
- “Back-to-basics” approach
- TJC Emergency Management Standards
- AAP, AWHONN, NANN

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EBP Resources

- *American Academy of Pediatrics Clinical Report: Disaster Preparedness in Neonatal Intensive Care Units* (Barfield et al. 2017)
- *AWHONN Emergency Preparedness and Disaster Response Core Competency Set* (Jorgenson et al. 2010)
- *California Association of Neonatologists Neonatal Disaster Preparedness Toolkit* (Carbine et al. 2015)
- *Illinois Emergency Medical Services for Children NICU Evacuation Guidelines* (IEMSC, 2009 & 2013)
- *Loma Linda University Children’s Hospital Pediatric/Neonatal Disaster Reference Guide* (LUUCH, 2013)
- *The Joint Commission 2017 Hospital Accreditation Standards: Emergency Management* (TJC, 2017)

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