Maelstrom Medicine: Providing Telemedical-Based Care During Hurricane Florence

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Deputy Medical Director Wake County EMS System
Questions

• Can telemedicine preserve EMS System resources during emergency response efforts?

• Can you utilize telemedicine during shelter operations as part of a disaster response?
ETHAN Houston Fire Department

ETHAN Project
Emergency TeleHealth and Navigation
City Of Houston, TX Fire Department

connected by
verizon

WAKE COUNTY
Telehealth-Enabled Emergency Medical Services Program Reduces Ambulance Transport to Urban Emergency Departments

Langabeer JR 2nd, Gonzalez M, Alqusairi D, Champagne-Langabeer T, Jackson A, Mikhail J, Persse D

• The HFD initiated the Emergency Telehealth and Navigation program in 2014
  • 56% absolute reduction in ambulance transports to the ED
  • EMS productivity (median time EMS notification to unit back in service) was 44 minutes faster for the ETHAN group (39 vs. 83 minutes)
  • No statistically significant differences in mortality or patient satisfaction
Emergency Triage, Treat, and Transport (ET3) Model

Feb 14, 2019 | Ambulances, Ambulatory surgical centers, Innovation models, Quality

Emergency Triage, Treat, and Transport (ET3) Model
Role of Telehealth in the Medical Response to Disasters?
• Administrative data from a private telemedicine vendor the 30 days following Hurricanes Harvey and Irma

• 2057 telemedicine visits provided to Harvey (69.0%) and Irma (31.3%)
  • 63% were first-time users of telemedicine
  • Acute respiratory illnesses (31.3%) most common diagnosis
  • 1 week post-event - Chronic conditions, counseling, refills, and injuries were more common
  • Physicians located outside of the affected states responded to 52.6% of visits
NC CRES PLAN

• 700 page document that outlines in detail the States plan for evacuation and sheltering for the coastal counties
• Counties designated as the first to receive residents determined that they were not capable of supporting the plan
HOUSTON
WE HAVE A PROBLEM...
Shelter Operations

- Three Raleigh shelters receive multiple unannounced school buses of evacuees from Eastern North Carolina
- Many with healthcare needs
  - (oxygen dependent, chronic conditions)
- Limited mobility patients
- Requests from shelters for equipment, supplies and medical assistance including 911 calls
Shelter Population

30% of the population in the shelters were patients with complex medical problems
Hurricane Florence
Shelter Medical Branch Structure
September 14, 2018

Shelter Manager

Medical Branch
DD, SC or DC

Triage
Assigned EMS Unit

Report to DOC

Urgent

Non-Emergent

Preventative

Transport
Call DOC for Destination
Enter Web EOC

Subject Line:
Shelter Name
Hyphen
Medical Transport

Rely MD
Complete ESO as assistant
with term Rely MD in narrative

• Download Rely MD app from App Store
• Click the “coupon” button
• Enter EVACUATED (all caps) to waive fees

Determine Needs
Work with on-site logs
and available resources

EOC
Contact EOC on direct lines to
request any needed resources

WAKE COUNTY
Top Conditions

- Upper Respiratory Illnesses
- Medication Refills
- Mental Health
- Chronic Medical Problems
- Musculoskeletal Problems
95 tele-health consults related to Hurricane
60 from shelters (med refills)
Average Wait Time to See a Provider
5.7 minutes
Average Consultation Length
7.1 minutes

“The diversion rate from the ED of those who said they would have gone was 83%”

Rely MD
Take Home Points - Telemedicine

• Preserves capacity for the local healthcare system

• Underutilized in disaster response including shelter ops
  • Direct-to-Consumer
  • Provider-to-Provider
  • Virtual surge capacity

• Telemedicine was a valuable resource that helped manage patients and protect EMS System resources during Hurricane Florence
Click & Point – Yearning for Learning: Advances in Tele-Education

David French, MD, FACEP, FAEMS
Medical Director, Charleston County EMS
Financial disclosures

• Dr. French – none to report
Simulation

• Proven teaching method in medicine
• Limited access to equipment, experts
• Meeting ongoing operational needs
• Expensive
Simulation

- Use of distance simulation
- Swap learners and facilitators
- Focus on decision-making
- Increase access and reduce cost
- Not a replacement for full simulation training
Needs

• Partners
  • Education
  • Simulation
  • State and local
• Laerdal equipment
• LMS
• Facilitators/coordinators
Intervention

- Pre-test
- Recap lecture (~20 minutes)
- Welcome & overview
- Scenarios
  - Increasing difficulty
  - 2-person teams
- Debrief between and after scenarios
- Post-test
Initial Findings

- Difficult airway scenarios
- 22 complete datasets
- 63% improved on test
  - Average +10%
- Better intervention time
- Improved confidence
- High training satisfaction

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Initial Findings

**Simulation**

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**Videoconferencing**

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Going Forward

• Train via laptop, desktop
• Additional scenarios
• More partnerships
  • EMS agencies
  • Multidisciplinary
• State training mandates
• Non-EMS programs
Contact

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