

Hospital Characteristics and the Adoption of New Emergency Preparedness (EP) Systems, Technology, or Practices

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Research Objectives

- To examine NIMS implementation at all surveyed hospitals.
- To determine if, controlling for staffed bed size, EP funding, and geography:
 - emergency patient tracking systems,
 - mobile command centers,
 - documented crisis communication plans
 are correlated with:
 - Number of departments represented on a hospital's EP committee;
 - Number and types of mutual aid agreements a hospital has with other agencies for EP;
 - Number of times a hospital EP committee meets during the year;
 - Hospital bed size;
 - Whether the hospital has a designated emergency planner;
 - Chronic staffing shortages;
 - Medicaid net revenue;
 - Participation in outside emergency preparedness committees;
 - Amount of uncompensated care;
 - Number and choice of staff departments that have received EP training over the past year.

In the aftermath of Hurricane Katrina, the Northeast Blackout, & September 11th, ideas about EP practices evolved dramatically. The National Incident Management System (NIMS) was developed in 2004 to create standardized emergency systems across the country. All hospitals that receive federal preparedness and response grants must reach NIMS compliance by September 30, 2008, yet hospitals are adopting new practices at varying rates. We seek to determine what hospital characteristics affect adoption of new systems, technology, & practices.

Study Design

The NPHHI 2006-2007 Emergency Preparedness Study design includes a telephone survey consisting of 16 sections & 152 questions. The survey covered a range of topics from personal protective equipment to EP funding. These one-to-three-hour-long structured interviews were conducted with 60 NAPH member hospitals between December 2006 and April 2007. NAPH member hospitals provide health care services for all patients, including the uninsured and underinsured, regardless of ability to pay. Located mostly in urban areas, NAPH member hospitals provide many essential community-wide services, such as primary care, trauma care, and neonatal intensive care.

Conclusions/Policy Relevance

- Mutual aid agreements are an important mechanism for coordinating community response among multiple agencies and helps hospitals handle crises with external assistance.
- Having a designated hospital EP coordinator may be a critical factor in preparing hospitals for the most likely emergency scenarios.
- Evidence suggests that allocating federal funding for EP staffing needs, rather than solely for equipment, may be indicated.
- More research needs to be done to understand the connection between emergency preparedness and Medicaid reimbursement.

Principal Findings

NIMS Compliance

- 92% of NAPH member hospitals are working toward NIMS compliance.
- The only unifying characteristic of the hospitals not working on NIMS compliance: none have a designated EP staff position.

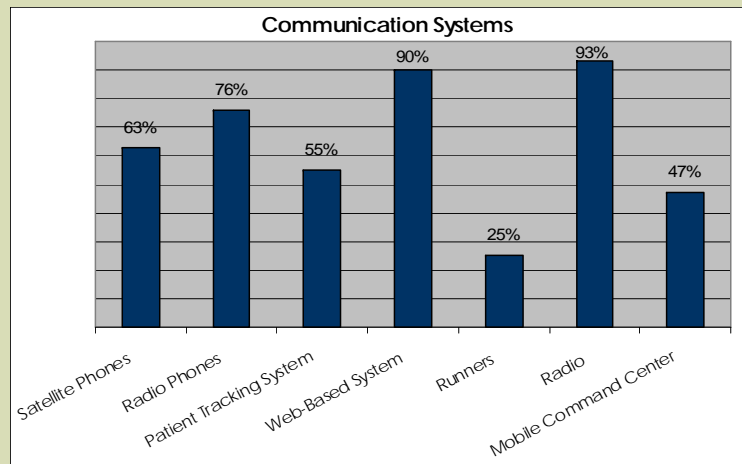
Mutual Aid Agreements

- 82% of NAPH member hospitals have a mutual aid or cooperative assistance agreement with an outside agency.
- 65% of NAPH member hospitals have a mutual aid agreement with a regional planning group.
- 62% of NAPH member hospitals have a mutual aid agreement with a local hospital planning group.

Communications

When holding staffed bed size, estimated EP spending, and geography constant:

- Hospitals that have a mutual aid agreement with a local hospital group are almost 6 times more likely to have a documented crisis communication plan;
- Hospitals that receive more than the average amount of Medicaid revenue are 10 times more likely to have a patient tracking system during an emergency;
- Hospitals that have a mutual aid agreement with a regional emergency planning group are almost 6 times more likely to have a mobile command center;
- Hospitals with a designated emergency planner staff member are nearly 6 times more likely to have satellite phones.



Hospital has a mobile command center				
Variables	B-coefficients	Significance	Odds Ratio	95% Confidence Interval
Staffed bed size	-0.69	0.248	0.501	(.155, 1.619)
Estimated emergency preparedness spending	0.17	0.773	1.185	(.374, 3.751)
Hospital in Gulf Region or not	-0.513	0.466	0.599	(.151, 2.375)
Hospital has a mutual aid agreement with a regional group.	1.766	0.011	5.845	(1.490, 22.921)
Constant	-1.064	0.128	0.345	

Hospital has a documented crisis communication plan				
Variables	B-coefficients	Significance	Odds Ratio	95% Confidence Interval
Staffed bed size	1.543	0.046	4.677	(1.029, 21.248)
Estimated emergency preparedness spending	0.814	0.267	2.257	(.536, 9.5)
Hospital in NE or not	-0.303	0.776	0.738	(.092, 5.947)
Hospital has a mutual aid agreement in a local hospital group	1.76	0.014	5.813	(1.424, 23.732)
Constant	-0.927	0.162	0.396	