



Management[®]

The monthly update on Emergency Department Management

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Are you ready for anthrax, or worse? You must revamp your bioterrorism plan

Bioterrorism is a reality: You can't afford weak spots in your plan

Patients coming to your ED thinking they have the symptoms of anthrax. Large numbers of people panicking and calling 911, fearing they've been exposed to a biological agent. Decontaminating patients who report possible exposure as a routine part of your staff's daily practice.

Until recently, these scenarios were only part of your disaster drills, but they have become a reality for most EDs. It's imperative that your disaster plan be "simple and doable" to address bioterrorism effectively, urges **Neill S. Oster, MD, FACEP**, director of disaster emergency medical services at Mount Sinai School of Medicine — Elmhurst Hospital Center in New York.

"You need to be ready for mass numbers of patients who may show up," he underscores. "You must exercise the plan, practice real scenarios, critique them immediately, and do it again. That is the way disaster preparedness gets better."

A recent study of 22 rural and eight urban hospitals suggests that EDs are not prepared for mass casualties caused by bioterrorism. Only one hospital had stockpiled any medications, and 26 of the hospitals said they could only handle between 10 and 50 casualties at once.¹

When an employee of Manhattan Eye, Ear, and Throat Hospital died on Oct. 31 from inhalation anthrax, it was a wake-up call for many hospitals that there was no time to waste. However, no sources of anthrax or additional contamination were found in the facility or among the staff.

Executive Summary

A study has shown that EDs are unprepared to handle mass casualties of bioterrorism, and plans must be revamped.

- Alternate care and triage areas must be selected in advance and may include parking lots and hallways between buildings.
- Care for contaminated patients in areas that can be abandoned, so regular patient care areas are not disrupted.
- Have a system in place to decontaminate patients before they enter the ED.

With disaster plans and decontamination procedures under the microscope, ED managers are “much better prepared now than a month ago,” according to Oster.

“It’s not all doom and gloom, I think we are getting there,” he says. “Previously, most of us thought the risk of a biological or chemical event was zero, or near zero. Now people are out there getting educated.” (See story with 10 steps to prepare for bioterrorism, right.)

Here are areas your bioterrorism plan must address:

- **Alternate places to care for patients.**

Alternate care and triage sites often are overlooked in disaster plans, according to **Robert Suter, DO, FACEP**, president of Texas Emergency Physicians, an ED physician practice group based in Dallas.

“These sites should be identified or created in advance,” he says. “Very few EDs are physically set up to absorb and process contaminated patients, let alone return to business as usual quickly.”

Suter recommends selecting sites with clean-up in mind. “You do not want to contaminate an area that is critical to the future function of the hospital,” he says.

Choose areas that you can “abandon” for prolonged clean-up, as you return to caring for your usual patient population, Suter explains. He points to the following locations as potential care sites for contaminated patients: breezeways, tents in the parking lot, and connecting hallways between buildings.

“These can be torn down and taken to a hazardous landfill afterward,” he points out.

You need alternate areas for triage and treatment inside and outside your hospital, Oster advises. He recommends acquiring halogen lamps for external nighttime triage. “That way, contaminated patients don’t have to come into the hospital if they’re not sick,” he says. “They can be seen outside.”

However, patients treated outside need to be given the same quality of care that they would get inside the ED, Oster cautions. Your external triage facility also must provide protection from rain or snow, he adds.

When considering alternate care sites, you should brainstorm with community organizations, says **Sue C. Felt, RN, MS, MPH, CIC**, associate hospital epidemiologist and infection control coordinator at San Francisco General Hospital. “Due to the high probability that the ED will be overwhelmed, your plans may need to include gymnasiums and churches,” she explains.

Your plan also must address significant numbers of deceased, says Felt. “In some mock disaster drills, refrigerated trucks have been used,” she notes.

- **Mass casualties.**

“Look at your plan and see if it really addresses the issue of 300 to 500 people showing up all at once,” Oster advises.

10 steps to handle a bioterrorism attack

There are 10 critical steps to ensure your ED is prepared for a bioterrorism attack, according to **Sue C. Felt, RN, MS, MPH, CIC**, associate hospital epidemiologist and infection control coordinator at San Francisco General Hospital. They are as follows:

1. Maintain an index of suspicion.

“In otherwise healthy persons, some associations are very suggestive, especially when seen in clusters, high numbers, or unusual presentations,” says Felt.

2. Protect yourself and your patients.

“Use appropriate personal protective equipment, and consider prophylaxis such as vaccines or appropriate antibiotics,” suggests Felt.

3. Adequately assess the patient.

“Pay special attention to respiratory and nervous systems, skin, and hematologic and vascular status,” says Felt.

4. Decontaminate as appropriate.

5. Establish a diagnosis.

“Think epidemiologically as well as clinically,” says Felt.

6. Render prompt treatment.

7. Provide good infection control.

8. Alert the proper authorities.

“This almost always means a first call to the public health department,” Felt advises.

9. Assist in epidemiologic investigations. This includes counting cases, making comparisons, and developing hypotheses, says Felt.

10. Share bioterrorist planning, knowledge, and teaching with others in the community, especially first responders. ■

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Ask yourself, can my facility handle that? "If not, assess how many you can handle safely," Oster says. "Then make arrangements to get up to those kinds of numbers."

In most hospitals, there are shortages of beds for critical patients, says Oster. "To be ready for 500 patients requiring care, some thinking outside the box has to be done," he says.

Oster recommends asking the following questions:

- How can you safely discharge patients from the hospital sooner than planned?
- How should follow-up be handled so these patients don't fall through the cracks?
- How can you ensure that patients who have been discharged early get home safely?

• **Stockpile of medications.**

Consider stockpiling certain antidotes and medications, with the goal of being able to treat your entire hospital population for several days, Oster suggests.

"My institution has 5,000 people around the clock. You better believe that if something happens on the first floor, everyone on the 10th floor is going to want treatment, too," he says. "We just saw that happen at NBC — people who weren't even close to the event got treated." After an envelope containing anthrax was sent to NBC News headquarters in New York City, more than 600 employees were tested and given preventive medical treatment.

First, determine your current supply of major antidotes for chemical agents and atropine stores for biological agents, says Oster. (*Editor's note: For a Chemical/Biological Agent Checklist, go to the web site: www.aha.org/Emergency/Readiness/MaDisasterB1003.asp.)*

"You need to find out how much you have on hand, and develop a plan to acquire more as needed," he explains.

For rural EDs, have the department of health buy and stockpile medications for several hospitals within the county, Oster suggests.

He also recommends taking an inventory of ventilators, including how many more units can be obtained if needed. "The federal government can help, but they'll be there 12 hours later. Can you make a call and get them sent from another facility?" he asks. "If it's a statewide event, that is not likely, and you may have to go outside the state."

• **Personal protective equipment (PPE).**

All ED staff must be trained in PPE, urges Suter. That includes awareness, threat recognition, assessment of the level of the threat, and response needed, he adds.

"PPE needs to be worn by all personnel, at the level relevant for their job," he says. "The current situation has not really changed things. The basics are the same."

For biological agents, universal precautions are sufficient, says Oster. "If it's something spread by droplet, you need some type of face shield with eye protection," he says. "It is the recommendation of CDC from 20 years ago with HIV, and there is no reason we can't deal with anthrax the same exact way."

But when it comes to chemical agents, the situation is completely different, says Oster. He points to the 1991 Tokyo incident when 5,500 people came to EDs, some of them contaminated with sarin gas.

"Had they done external decontamination of these people, the first responders would have been OK," he says. "They got contaminated because the patients were off-gassing inside the institution, and they never should have entered the building with clothing on. We should learn from that event."

Sources/Resources

For more information about bioterrorism preparation, contact:

- **Sue C. Felt**, RN, MS, MPH, CIC, Infection Control, San Francisco General Hospital, 1001 Potrero Ave., Building 100, Room 301, San Francisco, CA 94110. Telephone: (415) 206-5466. E-mail: sue@epi-center.ucsf.edu.
- **Neill S. Oster**, MD, Mount Sinai School of Medicine/Elmhurst Hospital Center, Department of Emergency Medicine, 79-01 Broadway, Elmhurst, NY 11373. Telephone: (718) 334-3050. Fax: (718) 334-3015. E-mail: noster@att.net.
- **Robert Suter**, DO, FACEP, Texas Emergency Physicians, 5926 Saint Marks Circle, Dallas, TX 75230-4048. Telephone: (214) 306-2029. Fax: (214) 739-0658. E-mail: TexEPs@aol.com.

The Association for Professionals in Infection Control and the Centers for Disease Control and Prevention have developed a free sample bioterrorism plan: *Bioterrorism Readiness Plan: A Template for Healthcare Facilities*. The document can be downloaded at www.cdc.gov/ncidod/hip/Bio/13apr99APIC-CDCBioterrorism.PDF.

The American Hospital Association has several resources for disaster preparation on its web site (www.aha.org). Resources include a chemical and bioterrorism preparedness checklist and a report on *Hospital Preparedness for Mass Casualties*. To access either document, click on "Disaster Readiness." Under "Readiness Resources," click on "Hospital Readiness Response and Recovery Resources." To access *Readiness Bulletin: What to Tell Your Community About Anthrax*, click on "Disaster Readiness"; then scroll down in the "What's New" section.

Viral hemorrhagic fevers require contact precautions, pneumonic plague and tularemia require droplet precautions, and smallpox mandates immediate isolation and airborne precautions, summarizes Felt.

Training of staff should include reminders of the importance of hand washing, and staff should be provided with gloves, gowns, masks, and eye/face coverings, says Felt.

“Standard precautions, should, of course, be used for all patients at all times,” she underscores.

Reference

1. Treat KN, Williams JM, Furbee PM, et al. Hospital preparedness for weapons of mass destruction incidents: An initial assessment. *Ann Emerg Med* 2001; 38:562-565. ■



Site offers resources for emotional trauma

Do you have resources to help patients and staff members who are emotionally traumatized? The Trauma Information Pages web site (www.trauma-pages.com) has become especially relevant recently, acknowledges its developer, **David Baldwin**, PhD, a Eugene, OR-based psychologist specializing in post-traumatic stress disorder (PTSD).

He points to a “small but growing” section of links pertaining to the aftermath of terrorism. (Click on “Disaster Handouts and Links” and scroll down to “Specific Man-made Disasters.”)

“This was added shortly after the Sept. 11 attacks. I expect to add additional links on bioterrorism in the coming weeks as the site is updated,” he says.

The site’s primary focus is emotional trauma, including PTSD. “Terrorism can trigger PTSD-like responses in some affected individuals,” he explains.

In 1994, Baldwin began collecting addresses of interesting web sites relating to emotional trauma and psychology. “When I first began working on the web site, it included those, a narrative about emotional trauma, research-related web resources, and links for survivors and victims,” he says.

When the federal building at Oklahoma City was bombed, Baldwin added disaster information to the site. This includes several disaster mental health handouts

Source

For more information on the Trauma Information Pages web site, contact:

- **David Baldwin**, PhD, PO Box 11143, Eugene, OR 97440-3343. Telephone: (541) 686-2598. E-mail: dvb@trauma-pages.com.

he’d collected while working with the American Red Cross after the 1994 Northridge, CA, earthquake.

The site went on-line the following year and now includes dozens of full-text articles on trauma, patient handouts, disaster materials, and a search engine. A free e-mail service notifies users of site updates. “I maintain the site regularly and usually add new material every month or so,” Baldwin says.

Materials are grouped in categories for adults, families, and disaster workers. Topics include emotional health of victims, critical incident stress information sheets, and warning signs of stress.

The more you know about emotional reactions to traumatic events, the better prepared you are to help both patients and staff, says Baldwin. “This might be as simple as a gentle touch, or saying ‘you survived’ to an accident victim in shock who may not fully realize this, or explaining that a patient’s physical trembling may be a good sign of emotional and physiological discharge.”

Greater familiarity with signs of emotional or shock trauma also can help you monitor your own emotional and physical reactions to difficult cases, says Baldwin.

“Secondary trauma is an important issue for ED staff vicariously exposed to patients’ emotional suffering and distress,” he says. ■

Use this proven system for disaster communications

On Sept. 11, ED staff sat waiting for hours for patients who never came — a wait partially caused by poor communication from the disaster sites at the World Trade Center and the Pentagon. Cell phones and land lines often did not work. Frantic staff were forced to get information by listening to police radios and television reports, so rumors were flying.

Is communication a “weak link” in your disaster plan? Now is the time to find out — while it still can be corrected during disaster drills.

At St. John NorthEast Community Hospital in Detroit, the protocol for institutional communications during a disaster is included in the disaster response policy and the Hospital Emergency Incident Command System (HEICS) policy. (See **HEICS policy, inserted in this issue.**)

“The HEICS policy improves communication during a disaster situation in several ways,” according to **Scott Berkseth**, CPP, CHPA, the hospital’s director of safety and security. (See **sidebar on methods of communication to use during a disaster, p. 138.**)

The HEICS system uses a logical management structure, defined responsibilities, and clear reporting channels to help you communicate with outside emergency responders, says Berkseth.

The HEICS system automatically goes into effect whenever a disaster situation occurs, whether it’s a drill or actual event, he explains. “The HEICS system is spelled out in a flow-chart fashion for each disaster situation,” says Berkseth.

The hospital’s HEICS program, developed by Berkseth, includes a policy, flow charts used for particular disaster situations, and job action sheets.

HEICS system is “benchmark”

Dan Hanfling, MD, FACEP, chair of the disaster preparedness committee at Inova Fairfax Hospital in Falls Church, VA, points to the HEICS system as a “benchmark best practice” to adopt immediately.

“This is really where EDs ought to be heading, in terms of disaster planning and preparedness,” he says.

Here are benefits of the HEICS system:

- **The language is the same as that used by other first responders.**

HEICS uses common terminology that is consistent with wording used by firefighters, police officers, and other emergency responders, explains Berkseth.

Executive Summary

The Hospital Emergency Incident Command System (HEICS) system uses a logical management structure, defined responsibilities, and clear reporting channels to help the hospital communicate with outside emergency responders.

- The system is considered a benchmark for EDs to implement as an integral part of your disaster plan.
- Flow charts and job action sheets are used to clearly define responsibilities of individuals.
- The system uses the same terminology as other first responders, so communication is easier.

Sources

For more information on improving communications during a disaster, contact:

- **Scott Berkseth**, CPP, CHPA, Safety/Security, St. John NorthEast Community Hospital, 4777 E. Outer Drive, Detroit, MI 48234. Telephone: (313) 369-5812. Fax: (313) 369-5830. E-mail: Scott.Berkseth@stjohn.org.
- **Dan Hanfling**, MD, FACEP, Inova Fairfax Hospital, Department of Emergency Medicine, 3300 Gallows Road, Falls Church, VA 22042-3000. Telephone: (703) 698-3002. Fax: (703) 698-2893.

“Common nomenclature helps to unify the hospital with other emergency responders,” he says.

- **There is compliance with accreditation standards.**

The system complies with new disaster planning standards, such as mitigation, preparedness, response, and recovery, required by the Joint Commission on Accreditation of Healthcare Organizations, says Berkseth.

- **Other responders know whom to contact.**

At the World Trade Center and Pentagon disaster sites, there was a poorly functioning incident command system, so EDs had no idea of how many patients to expect.

The HEICS ensures that police, fire, and other emergency providers know how the hospital’s emergency response is structured, says Berkseth.

“They can interact with the appropriate hospital personnel in a disaster situation,” he explains.

- **Hospital staff know to whom to report.**

The HEICS program provides a “structural” approach to communications within the hospital, says Berkseth.

“The roles and responsibilities of all staff are clearly detailed in flow charts and job action sheets,” he says. (See **ICS Organizational Structure for Hazardous Material Response and Job Action Sheet for Emergency Incident Commander, both inserted in this issue.**)

During a mass casualty situation, HEICS provides the ED physician with a clearly defined communication process, he explains.

“This assures the ED physician, who assumes the role as the incident commander under the HEICS program, that processes are in place to meet all the needs and demands that the situation poses,” says Berkseth.

The ED physician has a formalized chain of command and communications with all clinical areas throughout the hospital, including critical care,

telemetry, medical/surgical, surgery, pathology, radiology, pharmacy, and cardiology, says Berkseth. In addition, HEICS provides the physician with that same level of communication from nonclinical areas, such as social services, spiritual care, psychiatry, human resources, security, and plant operations, he adds.

- **Additional resources can be obtained quickly.**

The system expedites the acquisition of additional resources as needed, says Berkseth. "This may be in the form of a request to obtain additional medical equipment, supplies, beds, medications, or staffing that are not available on site."

This process is streamlined by expediting communications with the key individuals who make decisions regarding the purchase or acquisition of these resources, says Berkseth.

"This is usually one of the weaker areas of the communication process, and it can slow down your response during a disaster," he adds. ■

Here are options for communicating

On Sept. 11, ED staff desperate to communicate with colleagues and family members found that cell phones and land-based lines didn't work. Others experienced that situation even in cities thousands of miles from the disaster sites.

When disaster strikes, you'll need as many options for communication as possible, according to **Dennis Swick**, RN, CEN, EMT-P, EMS coordinator for emergency services at Columbus (OH) Children's Hospital.

Here are several ways to communicate with hospital departments, staff, and other facilities during a disaster, and pros and cons for each:

- **Cellular phones.**

Many facilities choose cellular phones as a backup system in case the traditional phone system is non-operational, both for communication with outside facilities, as well as intrafacility uses, notes Swick.

"This system is adequate for a local failure of phone service," he says. "However, when this occurs as a result of a disaster or crisis situation, cell phone capabilities are either off-line due to the disaster, or the system is used beyond its capacity and subsequently goes off-line."

This occurred in the hours following the terrorist attacks in New York City and Washington, DC, reports Swick.

"This effect reached far beyond these cities, however," he adds. "In my home of Columbus, OH, cellular

Sources/Resources

For more information on communication during a disaster, contact:

- **Dennis Swick**, RN, CEN, EMT-P, Emergency Services, Children's Hospital Emergency Services, EMS Program, 700 Children's Drive, Columbus, OH 43205. Telephone: (614) 722-4350. Fax: (614) 722-6890. E-mail: SwickD@chi.osu.edu.

The American Radio Relay League (ARRL) is the national association for amateur radio and will put health care personnel in contact with local emergency coordinators of the ARES (Amateur Radio Emergency Service).

Contact:

- American Radio Relay League, 225 Main St., Newington, CT 06111-1494. Telephone: (860) 594-0200. Fax: (860) 594-0259. E-mail: hq@arrl.org. Web: www.arrl.org.

service was disrupted as many people attempted to call friends and family."

To compound the problem during a disaster, the media often use cellular phones for computer modems and uplinks that can tie up a system for hours, adds Swick.

- **Paging systems.**

Swick notes that paging systems are affected the same way as cellular phones. "It is extremely common for hospitals to contact key personnel by means of a paging system," he says. "But for the same reasons stated above, a paging system would quickly become unreliable."

- **Two-way radio.**

Communication between the scene and the ED is typically done via cell phone or two-way radio, says Swick. "While two-way radio communication may be more reliable, it is not invulnerable," he notes. "This system can also be overused, causing communication to be difficult."

- **Truncated system.**

Some large metropolitan areas use a radio system called a truncated system, notes Swick. "This system is very convenient during routine times, because each hospital, each sector of the city, and in some cases each vehicle can have a defined channel," he explains.

This decreases traffic on any one channel and is more difficult for nonrescuers to scan and listen in, says Swick.

"The disadvantage is that this system is similar to cell phone technology and is computer-driven, so it carries similar vulnerabilities," he adds.

- **Amateur radios.**

One innovative solution to the problem of communicating from the disaster site to the hospital is the use of amateur radios, says Swick.

“For example, the city of Columbus has included members of the Central Ohio Amateur Radio Operator’s Association in its city disaster plan,” he reports. This group has a standing relationship with the Central Ohio chapter of the American Red Cross, says Swick.

“In the event of a disaster, this group assigns designated [amateur radio operators] to respond,” he explains. “One goes to each ED in the area, and one to three personnel go to the scene, depending on need.”

Then, using their own amateur radios with their own power source, on frequencies that are typically much less busy, they communicate with each other in conjunction with the on-scene incident commander, says Swick.

“They can inform a hospital when patients are en route, and hospital EDs can communicate with each other,” he says. “This system results in 12-15 people who tend to know each other talking to each other on

familiar terms, rather than countless EMS crews calling hospitals, and hospital radios being answered by a variety of personnel with varying levels of radio familiarity.” (For information on amateur radio operators in your area, see source box, p. 138.)

- **The media.**

If all else fails, Swick suggests asking the media to put out messages, such as asking staff to report to work early or to consider coming in if they are scheduled to be off. (For more information about how to communicate with media during a disaster, see sidebar, below.)

“The news media typically are scrambling to get any statement at all and will usually make such an announcement in exchange for the smallest statement,” he says.

Swick gives the following example: “XYZ Hospital assures us they are doing all they can to prepare to handle the potential situation. To do this, they are asking evening shift nursing staff to try to come to work one or two hours early.”

However, Swick notes that you may encounter resistance. “Some media agencies take the stance of

Assess how you convey information during a crisis

Before a disaster hits, ask yourself these questions about your ability to communicate:

- **Do we have an institution-wide commitment to communicate effectively and openly during times of crisis?**

If your answer is no, then you may want to rethink your policies during these turbulent times when all audiences demand and expect immediate communication. If your answer is yes, then you need to ask:

- **Do I have a separate crisis communication plan in place?**

Who is on the team? Your top communication professional should be part of the planning process, and every crisis should have a separate communication team to handle the information demands of internal and external audiences.

- **Can my plan be implemented within 60 minutes or less? (Thirty minutes or less would be even better.)**

The sooner and more effectively we begin to communicate, the greater the opportunity to affect the reputation of the institution positively.

- **Do I have an off-site alternative location for a crisis response? Does every member of the response team have at least an abbreviated copy of the plan**

- and crucial notification and recall lists at home or in the car?**

Once a crisis occurs, everything moves quickly. The better your preparation, the more time you and your team will have to deal with the unique characteristics of this particular crisis.

- **In time of crisis, are procedures in place to completely document every aspect of my organization’s response?**

- **Am I responding quickly, openly, informatively, and fairly to media, as well as internal and other key audiences?**

Openness does not mean that you have to tell everything. It does mean that you have to speak, and that what you say must be confirmed, accurate information. Today, “no comment” will be construed in the most negative way.

- **Have we centralized the information flow?**

- **Have we created mechanisms and processes that will direct media and others to a central source of information where accurate information is being gathered and released? Are we using such tools as our web site, specialized hotlines, e-mail, and other targeted communication to reach specific audiences and for them to reach us? ■**

Source: *A Crisis Communication Primer for Hospital CEOs*, Society for Healthcare Strategy and Market Development, American Hospital Association, Chicago.

‘what’s in it for us?’ while others are very willing to help,” he says. To prevent inconsistent messages, he advises cultivating relationships with members of the local media in advance.

Getting the word out via news reports also can prevent staff from showing up at the disaster site, he adds.

“The natural thought is ‘I can help out at the scene,’ when the truth is that EMS providers and the fire and police departments have protocols and training for such situations,” Swick says. “Often the immediate scene area poses several hazards that hospital-based employees are simply not trained to handle.” ■

Boost bottom line with research nurse

Would you like to hire a full-time nurse who can ensure that quality research projects are conducted in your ED — with no additional expense to your already-overstretched budget? If so, consider hiring a research nurse.

“Some of these nurses are very good at scaring up funds, whether through philanthropic foundations or educational funds within an institution,” says **Edward A. Panacek, MD, MPH, FACEP**, professor of emergency medicine at University of California — Davis Medical Center in Sacramento. “You may be surprised at how much salary support they can generate on their own by being creative and [applying] for grants.”

Many hospitals fund ED research nurse positions entirely with money from pharmaceutical companies, says **Debbie Travers, RN, MSN**, former research assistant professor for the department of emergency medicine at the University of North Carolina and current ED triage nurse at the University of North Carolina Hospital, both based in Chapel Hill.

“The pharmaceutical companies like it because they

can work with dedicated research staff on compliance checks and training,” she says. “The hospitals like it because they get the funding from the drug company to do it right.”

Panacek estimates that about 50% of the research money brought in goes directly to support the salary of the ED research nurse. “That usually is sufficient, if you have multiple trials going on and they are overlapping, to fund that research nurse position full-time,” he says.

The rest of the funds are used for salary support, institutional overhead, and supporting other research activities, he says.

“It’s not at all uncommon these days to have people doing clinical trials research purely as a source of additional income and not necessarily for the academic reason of publication,” reports Panacek, who has employed clinical research nurses for 14 years. (See **story on reasons to hire a research nurse, p. 141.**)

Here are some of the benefits of having a full-time research nurse in the ED:

- **Residents are assisted with research projects.**

At University of Louisville (KY) Hospital, ED residents are required to complete a research project.

“I assist each resident with the protocol, methods, and data collection,” says **Ashlee McCulloch, RN, CCRC**, research nurse for the department of emergency medicine. “These projects are not usually money makers, but are a necessity for the department.”

Without the assistance, the residents would have difficulty fulfilling the requirement, says McCulloch, who is a certified clinical research coordinator. “In the past, prior to nurse involvement, the projects were just case reviews and chart reviews,” she says. “Very little ‘real’ research was being done.”

- **Funds are obtained for clinical trials.**

The nurse acts as a liaison between the company and the hospital, McCulloch explains.

“There is money to be made, but time commitment from the nurse and principal investigator is a must,” she says.

If you have a pharmaceutical research clinical trial going on, it is very time-consuming, says McCulloch. “It usually involves 24-hour availability. The research nurse is the secretary, the receptionist, the nurse, the patient advocate, the principal investigator’s right hand, and the study coordinator,” she explains.

Still, the position can definitely pay for itself, says McCulloch. At University of Louisville, clinical research trials are an important source of ED revenue, she reports.

- **Other tasks are done by the research nurse.**

McCulloch does many tasks other than research. “I do protocols, continuous quality improvement, payroll,

Executive Summary

The salary of a full-time research nurse can be supported with funds from industry-sponsored clinical trials.

- ED nurses and physicians may be too busy with clinical tasks to undertake research projects.
- A dedicated research staff member can improve the quality of research.
- Research nurses also can assist staff with projects and handle patient follow-up.

research committee, patient follow-up, and much more," she says. (See **Job Description for Clinical Research Assistant** inserted in this issue, and see **story on job description for research nurse, below.**)

• **ED staff are free to care for patients.**

Dedicated research staff have time to explain the study to the patient and answer questions about consent for participation, says Travers. "This leaves the front-line clinicians to do patient care and be the patient advocates," she explains.

It's difficult to complete any research without dedicated staff, says Travers.

"Data collection by nurses and physicians who are working shifts is hard," she says. "They are busy with their first priority, which is patient care."

It's also better to have the same staff person collect all the data, rather than all the ED staff collecting it, according to Travers. "There is better inter-rater reliability," she says, "and who better than a master's prepared nurse with research training and experience?" ■

Job description for ED research nurse

Here is the position summary for the ED research nurse at the department of emergency medicine at the University of Louisville (KY):

- Coordinate national multicenter clinical drug trials awarded to the Department of Emergency Medicine.
- Conduct and organize data collection and analysis activities for other ongoing departmental research. Maintain any registries for the department.
- Must work independently, without direct supervision.
- Meet regularly with research director and principal investigators regarding research and clinical issues.
- Must have more than four years experience in the area.
- Develop protocols and general conduct of drug study.
- Resolve clinical problems and adverse effects.
- Serve as liaison and communication with researchers in other sites concerning a wide range of clinical issues.
- Discuss the scope and purpose of project.
- Obtain informed consent, when required, and follow up with patients and facility until hospitalization and treatment are completed.
- Assist in comprehensive data collection and analysis activities for related research projects. ■

Sources

For more information about the benefits of a research nurse, contact:

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Should you hire a research nurse?

Are you considering hiring a research nurse? Here are items to consider for a variety of ED scenarios, according to **Edward A. Panacek**, MD, MPH, FACEP, professor of emergency medicine at University of California — Davis Medical Center in Sacramento:

• **If you perform industry-sponsored clinical trials:**

It's virtually impossible to perform industry-sponsored clinical trials without having a full-time clinical nurse to assist with identification and enrollment of patients, and completion of the case report forms, says Panacek.

"You need someone who knows their way around the medical record, who can draw labs, and obtain clinical information from the patient," he explains.

Industry funds much more biomedical research in academic centers than all federal sources combined, says Panacek. "Industry-sponsored clinical research is a huge research area, and it's only going to grow," he predicts.

• **If your research is funded by other sources:**

Even if your research is funded by other sources, Panacek still advises having a research nurse if you're doing any research in the ED. "If that research is funded from grants or philanthropic foundations, then you have a funding source to carry the salary of that nurse," he says. "It would be difficult to attract those funds or complete that research without a research nurse."

• **If your research is not funded by any source:**

Is it worth funding a research nurse out of a tight ED budget? "Then the question gets tougher," says Panacek.

However, he notes that conducting good clinical research is similar to conducting good quality assurance. "So one way of approaching this is using the research nurse to do patient follow-up and data collection," he says. "If done properly, it essentially becomes quality research because it's done in an investigative way and structured properly."

Panecek adds that paramedics also should be considered if your budget won't permit a full-time research nurse. "Many paramedics are interested in getting off the night shifts on ambulances and having a more stable life," he notes.

Panecek reports that the next position he funds probably will be a paramedic. "Paramedics can do many of the things that a clinical research nurse does, and their salary is two-thirds, or maybe even half that of a nurse," he says. ■

EMTALA Q & A

[Editor's note: If you have a question about the Emergency Medical Treatment and Active Labor Act (EMTALA) that you'd like answered, contact Staci Kusterbeck, Editor, ED Management. Telephone: (631) 425-9760. Fax: (631) 271-1603. E-mail: StaciKusterbeck@aol.com.]

Question: Is it acceptable for a satellite ED to transfer a patient to the main ED if the patient needs a surgical consult? Or must there be an accepting physician and a direct admission? Even if there is an accepting physician, can the patient be transferred to the ED?

Answer: This is state-specific, and some states do not favor ED-to-ED transfers, says **Stephen Frew, JD**, president of the Rockford, IL-based Frew Consulting Group, which specializes in EMTALA compliance.

"EMTALA does not specify, and allows hospitals to design their own acceptance flow, subject to state law," he explains.

However, transfers from the satellite to the main campus for specialist consultations are appropriate because the satellite doesn't have the capabilities to provide them, according to **Jonathan D. Lawrence, MD, JD**, an ED physician and medical staff risk management liaison at St. Mary Medical Center in Long Beach, CA.

"Remember, EMTALA does not prohibit ED-to-ED transfers," he says. The commonly accepted notion that ED-to-ED transfers are forbidden comes from the Centers for Medicare and Medicaid Services' (CMS)

reimbursement rules that will not pay for two ED workups in one day, he explains.

"It may be totally appropriate for the continued MSE [medical screening exam] to take place physically in the ED of the receiving hospital," says Lawrence. The accepting physician doesn't necessarily have to be the physician who admits the patient, should that become necessary, he adds.

Question: We often have patients from area nursing homes brought to the main campus for evaluation. These patients are often noncommunicative, and their attending physician is a physician at our satellite campus. Our Department of Health has cited us for transferring patients from the main campus to the satellite campus to the care of their attending, stating that it is a transfer to a lower level of care and therefore not permitted under EMTALA. Once it is determined that an emergency medical condition that would require the services of the main campus does not exist, would the transfer be OK?

Answer: EMTALA requires the hospital with the patient to provide all diagnostic and stabilizing care (including admissions and surgeries) within their capabilities, says Lawrence.

Therefore, transfer to a lower level of care would not be appropriate under EMTALA, and physician preference or continuity of care are not adequate transfer justifications under EMTALA, he explains. "These are legally unstable patients with emergency medical conditions ... even if some physician says they are 'stable' medically," he adds.

The idea of higher and lower levels of care has caused much confusion among physicians, administrators, and enforcers alike, says Lawrence. "One needs to differentiate between transfers for the [MSE], and transfers once an emergency medical condition has been identified."

If a transfer is being made for the MSE, it is clear that a transfer must be to a facility with a higher level of capability, says Lawrence. "If the satellite has not determined that an emergency medical condition exists, having exhausted its capabilities, a transfer to the main campus is appropriate whether or not the patient has been stabilized," he says.

Under such circumstances, a transfer the other way — from the main campus to the satellite — clearly would be inappropriate, says Lawrence. "However, once the emergency medical condition has been identified and the patient stabilized, the patient may certainly be transferred to a facility with less, though still appropriate, capabilities," he says.

An unresponsive patient should not be put at risk of transfer — an inherently destabilizing situation in the best of conditions — and subjected to an ambulance trip to go back to his or her own doctor, says Frew.

"The physician does not own them," he adds. "The

Sources

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main hospital must provide all necessary care under EMTALA, and patient request will not work.”

It would be almost impossible to justify the benefits as outweighing the risks, says Frew. “And it would be almost impossible to structure an adequate statement of risks that would still get a family to approve the movement.”

In the case where no one is available to request the return (except the physician), it would be impossible to structure movement of the patient back to the rural setting, notes Frew. “I am not surprised that someone cited this practice,” he adds. “The hospital has been very lucky so far that it has not had serious litigation and malpractice losses from such a practice.” ■

CE/CME objectives

After reading this issue of *ED Management*, the continuing education participant should be able to:

1. Identify three things a bioterrorism plan should include. (See “Are you ready for anthrax, or worse? You must revamp your bioterrorism plan.”)
2. Cite three ways to assess your bioterrorism preparedness. (See “10 steps to handle bioterrorism attacks.”)
3. Name two benefits of the HEICS system. (See “Use this proven system for disaster communications.”)
4. List three ways to communicate with staff and other hospitals during a disaster if land-based lines are not functioning. (See “Here are options for communicating.”)
5. Name two benefits of having a full-time research nurse in the ED. (See “Boost bottom line with research nurse.”)
6. Explain how to comply with EMTALA when transferring a patient from a satellite ED to a main ED. (See “EMTALA Q&A.”). ■

CE/CME questions

13. What were findings of a study published in *Annals of Emergency Medicine* regarding preparation

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Editorial Questions

For questions or comments, call Joy Daughtery Dickinson, (229) 377-8044.

for bioterrorism?

- A. Urban hospitals were prepared, but rural hospitals were not.
- B. Most hospitals thought they were prepared for mass casualties caused by bioterrorism.
- C. Most hospitals had stockpiled medications.
- D. The majority of hospitals said they did not feel ready for more than 50 casualties at once.

14. If you suspect an outbreak, what organization should you contact immediately in most cases, according to Sue C. Felt, RN, MS, MPH, CIC, associate

hospital epidemiologist and infection control coordinator at San Francisco General Hospital?

- A. the public health department
- B. your hospital's risk management department
- C. the Centers for Disease Control and Prevention
- D. law enforcement agencies

15. Which of the following is true regarding a HEICS system for communication?

- A. Separate terminology is used for the ED and other first responders.
- B. The system is used by hospitals, but not other first responders.
- C. During a mass casualty situation, the ED physician has a formalized chain of command with all clinical areas hospitalwide.
- D. The acquisition of additional resources is not addressed.

16. Which of the following methods of communication is the least likely to become overused and unreliable during a disaster, according to Dennis Swick, RN, CEN, EMT-P, EMS coordinator for emergency services at Columbus Children's Hospital?

- A. cell phones
- B. land-based lines
- C. paging systems
- D. amateur radios

17. Which of the following is true regarding ED research nurses, says Edward A. Panacek, MD, MPH, FACEP, professor of emergency medicine at University of California — Davis Medical Center in Sacramento?

- A. There are increasing problems in obtaining funds for research.
- B. Many hospitals fund research nurse salaries with funds from industry-sponsored clinical trials.
- C. Clinical trials research should not be conducted solely as a source of additional income.
- D. Research nurse positions cannot be supported entirely with research money.

18. To comply with EMTALA, how should transfers from a satellite ED to a main ED be handled, according to Jonathan D. Lawrence, MD, JD, an ED physician and medical staff risk management liaison at St. Mary Medical Center?

- A. Patients should never be transferred from the satellite ED, unless the patient specifically requests the transfer.
- B. Patients should not be transferred even if a specialty consultation is needed, because ED-to-ED transfers are prohibited under EMTALA.
- C. In some cases, the medical screening examina-

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tion may be completed in the ED of the receiving hospital after the patient is transferred.

D. The accepting physician must be the individual who admits the patient if needed. ■

BIOTERRORISM WATCH

Preparing for and responding to biological, chemical and nuclear disasters

Flu or anthrax? First inhalational cases yield clues for clinicians to make the critical call

Use case history, blood work, X-rays, rapid tests

There is a postal worker in your emergency department (ED) with flulike symptoms.

That once insignificant observation about occupation and illness now triggers a detailed algorithm created by the Centers for Disease Control and Prevention (CDC) in Atlanta. (See algorithm, p. 2.) Is it flu or inhalational anthrax? Whether a realistic question or not, it is what many of your incoming patients may be asking — particularly if another wave of anthrax scares coincides with a nasty influenza season. Many of the initial symptoms are similar, but investigators dealing with the first inhalational anthrax cases have gleaned out key indicators that will help clinicians make the call.

“It is important to take a careful history from the [patients] when they present,” says **Julie Gerberding**, MD, acting deputy director of CDC’s National Center for Infectious Diseases. “If the [patients are] mail handlers in a professional environment — where they’re dealing with large amounts of mail that is not their own — then the index of suspicion should be raised and more testing should be done to be sure there aren’t additional clues to suggest that it is not a common viral infection.”

Using the first 10 cases of inhalational anthrax as a baseline patient profile, the CDC reports that the median age of the patients was 56 years (range: 43-73 years), and seven were men.¹

The incubation period from the time of exposure to onset of symptoms when known (seven cases) was seven days (range: five to 11 days).

The initial illness in the patients included fever (nine) and/or sweats/chills (six). Severe fatigue or malaise was present in eight, and minimal or nonproductive cough in nine. One had blood-tinged sputum. Eight patients reported chest discomfort or pleuritic pain. Abdominal pain or nausea or vomiting occurred in five, and five reported chest heaviness. Other symptoms included shortness of breath (seven), headache (five), myalgias (four), and sore throat (two). The mortality rate was 40% for the 10 patients, much lower than historical data indicated. Indeed, one of the critical reasons to recognize inhalational anthrax early is that it is far more treatable than originally thought.

The CDC gathered comparative data on the symptoms and signs of anthrax and influenza, finding, for example, that only 20% of the anthrax patients reported sore throat.² Flu sufferers report a sore throat in 64% to 84% of cases. Likewise, 80% of the anthrax cases reported symptoms of nausea and vomiting. That symptom is reported in only 12% of flu cases. Shortness of breath appears to be another key distinguishing symptom, affecting 80% of the anthrax patients but seen in only 6% of flu patients.

“One of the other clues that we are noticing is that the patients with inhalation anthrax actually do not have nasal congestion or a runny nose,”

(Continued on page 3)

This supplement was prepared by Gary Evans, editor of *Hospital Infection Control*. Telephone: (706) 742-2515. E-mail: gary.evans@ahcpub.com.

Clinical Evaluation of People with Possible Inhalational Anthrax

Source: Centers for Disease Control and Prevention. Update: Investigation of bioterrorism-related anthrax and interim guidelines for clinical evaluation of persons with possible anthrax. *MMWR* 2001; 50:945.

Gerberding says. “They don’t have the symptoms of an upper-respiratory tract infection. They have a more systemic chest presentation, and that may be another distinguishing characteristic.”

Another finding on initial blood work is that none of the inhalational anthrax patients had a low white blood cell count (WBC) or lymphocytosis when initially evaluated. Given that, CDC officials note that future suspect cases with low WBC counts may have viral infections such as influenza. Chest X-rays were abnormal in all patients, but in two an initial reading was interpreted as within normal limits. Mediastinal changes including mediastinal widening were noted in all eight patients who had CT scans. Mediastinal widening may be subtle, and careful review of the chest radiograph by a radiologist may be necessary, the CDC advises.

Complementing the CDC’s effort, are the observations of the few clinicians who have actually seen inhalational anthrax cases come into their hospital systems. Two inhalational anthrax cases, both of which survived, were admitted to the Inova Healthcare System in Fairfax, VA (near Washington, DC).

“Clinically, I think the history of the people who presented here is useful,” says **Allan J. Morrison Jr.**, MD, MSc, FACP, health care epidemiologist for the Inova system. “They stutter-stepped toward their pulmonary symptoms. That had some mild symptoms and then they were sort of ‘meta-stable.’ They were not relentlessly progressing. Then they progressed with symptoms more aggressively. Whereas with influenza — in our experience — once you start to get sick, it just keeps on progressing with very high fevers, chills, muscle aches, and pains. As a consequence, we feel there should be a good way to differentiate the two.”

Since anthrax is a realistic concern in the Washington, DC, area, what about the aforementioned scenario of symptomatic postal workers in the ED?

“We would take a very aggressive history, not only of occupation but physically where they have been,” Morrison says. “If they are symptomatic and have been in or work around a ‘hot zone’ — a location from which anthrax has either been cultured environmentally or patients have come from there — we will err on the side of being very aggressive about working up anthrax. By that I mean chest X-rays, chemistry profile, [etc.]”

In addition, the hospital system pushed early flu vaccination programs for staff and the surrounding community. “We want to move toward

herd immunity,” he says. “We are also working with our local hospitals to make sure that they have access to the rapid influenza tests. So for diagnosis — for obvious reasons — it is very helpful to make that distinction early.”

One such rapid test is ZstatFlu (ZymeTX Inc., Oklahoma City), which the company claims can yield a diagnosis of influenza A or B some 20 minutes after a throat swab. The test detects neuraminidase, an influenza viral enzyme. However, Gerberding cautions clinicians not to rely solely on such tests. Rather, they should use the results of tests in combination with the patient history and clinical presentation, she says.

“So it is a constellation of history, clinical findings, and laboratory tests,” she says. “Hopefully, when we get these all together, we’ll be able to at least reduce the anxiety among some people and help clinicians diagnose those patients who really do require the antibiotic treatment. What we don’t want to have happen is for everybody coming in with the flu to get an antibiotic because that undermines a whole other set of public health issues relating to antimicrobial resistance and proper management of influenza.”

Even the vaccinated can still have flu

Complicating the issue is the fact that the flu vaccine efficacy can vary annually, but is usually 70% to 90% protective, says **Keiji Fukuda**, MD, a medical epidemiologist in the CDC influenza branch. Thus, depending on how well the vaccine matches the circulating strain, a certain portion of flu patients will tell clinicians they have been immunized. But in addition to vaccine breakthrough infections, there is a plethora of other viral and respiratory pathogens that will be creating similar symptoms, he says. In a somewhat sobering reminder — given that at this writing, the total anthrax cases remained in the double digits — Fukuda notes that a typical flu season will send 114,000 people to the hospital and 20,000 to their graves.

“There has been an awful lot of attention on the [anthrax] cases, but the bottom line is that there have been few cases, and these cases generally have occurred in a limited number of communities within a limited number of groups,” he says. “And so the epidemiologic message is that anthrax really has not been diagnosed in most parts of the country, whereas we expect to see millions and millions of flu cases all over the place.”

If facilities are faced with an onslaught of patients with respiratory illness there are several measures they can take, he notes. Those include:

- Reduce or eliminate elective surgery.
- Relax staff-to-patient ratios within the limits of your licensing agency.
- Emphasize immunizing staff so more staff are available.
- Identify ways to bring in extra staff to help out with the patients.
- Set up walk-in flu clinics to triage the patients.

Reference

1. Centers for Disease Control and Prevention. Update: Investigation of bioterrorism-related anthrax and interim guidelines for clinical evaluation of persons with possible anthrax. *MMWR* 2001; 50:941-948.

2. Centers for Disease Control and Prevention. Consideration for distinguishing influenza-like illness from inhalational anthrax. *MMWR* 2001; 50:984-986. ■

CDC moving quickly on smallpox front

Immunizations, training, vaccine dilution studied

Though officially stating it has no knowledge of any impending use of smallpox as a bioweapon, the Centers for Disease Control and Prevention (CDC) is scrambling with conspicuous speed to be ready for just such an event.

CDC workers from a variety of specialties are not only receiving smallpox vaccinations, they are being trained to give them to others using the old bifurcated needle scarification technique. And, even as creation of a new vaccine is fast-tracked, researchers are trying to determine if the current stockpile of 15.4 million doses can be expanded fivefold by simply diluting the vaccine.

Based on such actions, it is fair to say the agency is at least highly suspicious that the known stocks of smallpox virus are not safely ensconced in their official repositories in Russia and the United States.

"CDC is putting together a number of teams, which will probably total [more than] 100 employees, that could be quickly dispatched in a moment's notice to assist state and local health departments and frontline clinicians investigate suspect cases of smallpox," **Tom Skinner**, a

spokesman for the CDC, tells *Bioterrorism Watch*.

"They are Epidemic Intelligence Service (EIS) officers, laboratorians, and others. Part of this includes vaccinating them against smallpox," he explains.

But while confirming that the CDC teams are being trained to administer the vaccine, Skinner would not specify who would be vaccinated following a smallpox bioterror event. "We have a smallpox readiness plan," he says. "Issues around vaccination are covered in that plan. That plan is being finalized. It is considered an operational plan. If we have a case tomorrow, it could be implemented. It covers who should be vaccinated and when."

The general consensus among bioterrorism experts is that those exposed would be vaccinated because the vaccine can prevent infection and possibly death even if given several days out. Likewise, health care workers and their family members would want vaccine if they were expected to care for the infected. Some aspect of quarantine would no doubt come into play because, unlike anthrax, it will be critical to separate the first smallpox cases and their contacts from the susceptible population.

Another aspect of CDC preparations includes the smallpox vaccine dilution study, which is being headed up by **Sharon E. Frey**, MD, associate professor of infectious diseases and immunology at Saint Louis University School of Medicine.

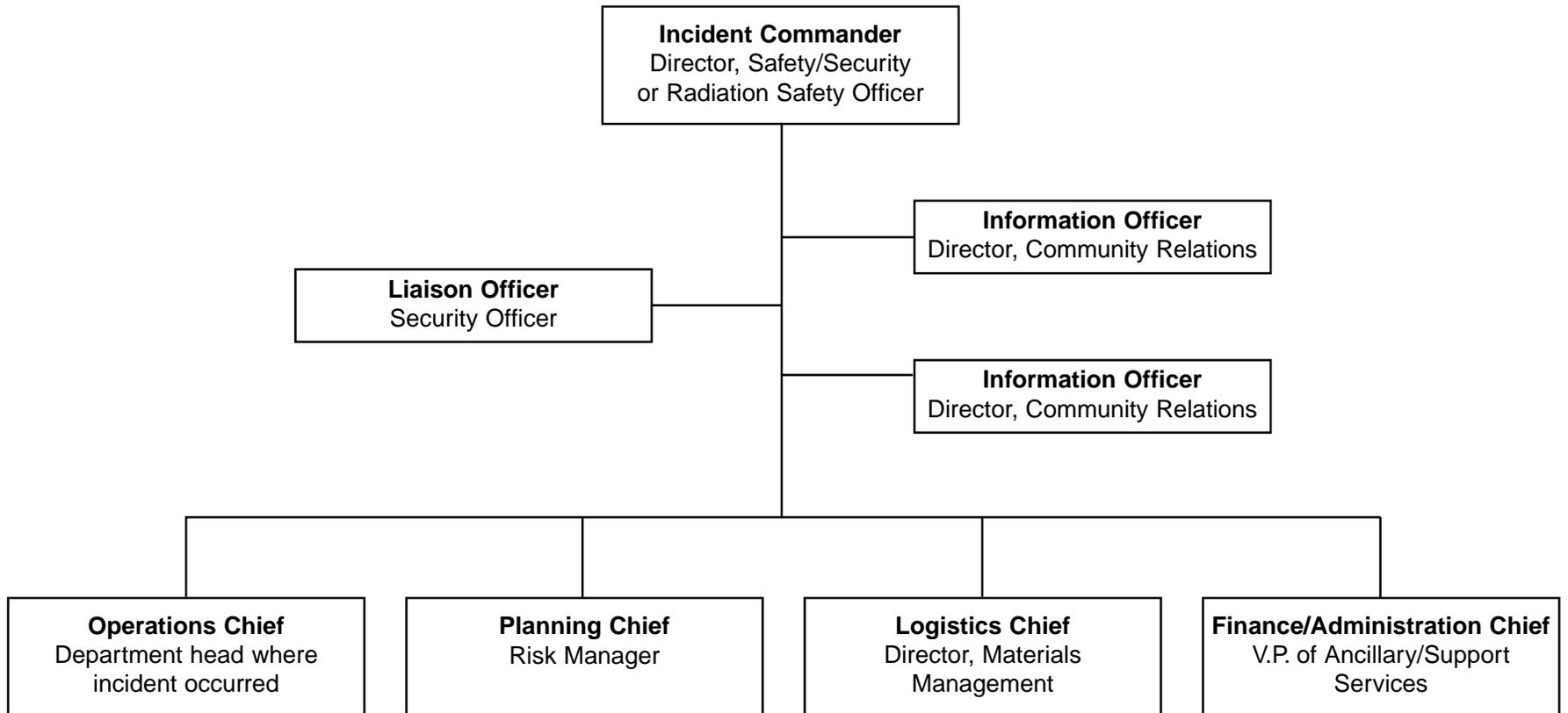
The vaccine, known as Dryvax, is no longer produced, but there are 15.4 million doses left. Frey and colleagues are looking at dilution studies that could maintain vaccine efficacy while increasing the available stock by millions of doses. In a study last year, Frey tried a one to 10 vaccine dilution, which would create a stockpile of more than 150 million doses. However, the resulting vaccine had only a 70% effective rate.

"The undiluted vaccine has about a 95% take rate," she tells *BW*. "It is not perfect, but we would like to be as close to that as we could be."

The new study will include a one to five dilution, which should show greater efficacy while increasing the stockpile to more than 75 million doses.

"We are looking at a 'take' rate for the vaccine, in other words how many people actually develop a typical lesion and whether they have a strong neutralizing antibody response to the vaccine," Frey says. "We know that the vaccine is still good. We actually titered the vaccine and it is very similar to its original titer," she adds. ■

St. John NorthEast Community Hospital Incident Command System Organizational Structure for Hazardous Material Response



Source: St. John NorthEast Community Hospital, Detroit.

Emergency Incident Commander

Mission: Organize and direct Emergency Operations Center (EOC). Give overall direction for hospital operations and if needed, authorize evacuation.

Immediate

- ___ Initiate the Hospital Emergency Incident Command System by assuming role of Emergency Incident Commander.
- ___ Put on position identification vest.
- ___ Announce a status/action plan meeting of all Section Chiefs and Medical Staff Director to be held immediately upon and/or notification of incident.
- ___ Assign someone as Documentation Recorder/Aide.
- ___ Receive status report and discuss an initial action plan with Section Chiefs and Medical Staff Director. Determine appropriate level of service during immediate aftermath.
- ___ Receive initial facility damage survey report from Logistics Chief, if applicable, evaluate the need for evacuation.
- ___ Obtain patient census and status from Planning Section Chief. Emphasize proactive actions within the Planning Section. Call for a hospitalwide projection report for 4, 8, 24, and 48 hours from time of incident onset. Adjust projections as necessary.
- ___ Authorize a patient prioritization assessment for the purposes of designating appropriate early discharge, if additional beds are needed.
- ___ Ensure that contact and resource information has been established with outside agencies through the Liaison Officer.

Intermediate

- ___ Authorize resources as needed or requested by Section Chiefs.
- ___ Designate routine briefings with Section Chiefs to receive status reports and update the action plan regarding the continuance and termination of the action plan.
- ___ Communicate status to Chairperson of the Hospital Board of Trustees or the designee.
- ___ Consult with Section Chiefs on needs for staff, physician, and volunteer responder food and shelter. Consider needs for dependents. Authorize plan of action.

Extended

- ___ Approve media releases submitted by Community Relations.
- ___ Observe all staff, volunteers, and patients for signs of stress and inappropriate behavior. Report concerns to Psychological Support Unit Leader. Provide for staff rest periods and relief.
- ___ Other concerns:

Source: St. John NorthEast Community Hospital, Detroit.

St. John NorthEast Community Hospital Policy and Procedure Manual

Manual Section Administration
Date May 2001

HOSPITAL EMERGENCY INCIDENT COMMAND SYSTEM (HEICS)

PURPOSE:

The purpose of this plan is to align and model the hospital's Institutional Disaster Plan requirements with those of the National Fire Protection Association (NFPA) standards and procedures for emergency response and protocol in health care facilities.

This plan will act to define and describe the elements of the incident management system HEICS that will be used to manage all emergency situations/incidents that may occur or are likely to occur at NorthEast Community Hospital.

POLICY:

The Hospital Emergency Incident Command System (HEICS) is an emergency management system that employs a logical management structure, defined responsibilities, clear reporting channels, and a common nomenclature to help unify the hospital with other emergency responders. The HEICS ensures that police, fire, and other emergency providers know how the hospital's emergency response is structured so that they can interact with and/or allow for transfer of command with the appropriate hospital personnel in an emergency and/or disaster situation.

PROCEDURE:

The Hospital Emergency Incident Command System will be implemented when the hospital activates the Code Yellow Institutional Disaster Plan.

I. GENERAL DISASTER RESPONSE PROTOCOL

A. Definitions

1. **Incident Commander (IC)** -- Person on the scene at the time of the emergency situation. The command will be passed upward to the most senior person until the designated IC arrives.
2. **Command Staff** -- Individuals that will assist the IC when needed. Depending on the size and nature of the emergency situation, the IC can handle the responsibilities of the command staff.
3. **Emergency Operations Center (EOC)** -- Center that is activated to provide support to the IC in managing the emergency situations. Location will be away from the emergency situation.
4. **Command Post** -- Location that is established in close proximity to the emergency situation.
5. **General Staff** -- Individuals assigned to assist, advise, obtain personnel/supplies and finance necessary to complete the established goals of the emergency situation.

B. Provisions

1. Designated individuals from the following departments will assume the role of Incident Commander during the following emergency situations:
 - **Code Red:** Security or Fire Response Team member
 - **Code Yellow (External Mass Casualty or Haz-Mat):** ER Physician
 - **Code Yellow (Internal):**
 - Utility Failure: Plant Operations
 - Civil Disturbance (Code Orange): Security
 - Abduction/Hostage: Security
 - Hazardous Material: Safety Director or Radiation Safety Officer
 - **Code Gray:** Security
 - **Workplace Violence:** Security
2. If command staff is required, representatives from the following departments shall be assigned:
 - **Information Officer:** Community Relations
 - **Liaison Officer:** Security
 - **Safety Officer:** Director of Safety/Security
3. The 4th Floor Administration Boardroom will be used if activation of the EOC is necessary.
4. The IC will establish the Command Post location. Location will be given at the time of the emergency situation or as soon as possible after activation of the plan.
5. The general staff, if required, will complete the below listed functions. With the exception of Operations, the general staff will report to the EOC.
 - **Operations:** Person most knowledgeable about the emergency situation. Provides information to the IC on how to manage the emergency situation. The operations person is the key driver of the emergency response. Individual will be appointed based on the nature of the emergency situation. (i.e., Mass Casualty: ED Physician; Utility Failure: Plant Operations; Code Red: Fire Response Team Leader)
 - **Planning:** Person that implements the goals established by the IC and the Operations Officer. This person also identifies any problems that may be encountered in trying to accomplish the goals of the emergency situation. (i.e., limitation of equipment, limitation of medication, regulatory requirements, supplies required, etc.)
 - **Logistics:** Person that obtains supplies, equipment, people, lodging, food, etc. Whatever is required to accomplish the goals of the emergency response.
 - **Finance/Administration:** Person that approves a request that requires additional funds or equipment not in the facility.

II. MASS CASUALTY/MAJOR INCIDENT RESPONSE PROTOCOL

In the event of a major emergency response and/or disaster incident, staff will follow the protocol as outlined, detailed, and described in the Hospital Emergency Incident Command System Organizational Chart and Job Action Sheets. This will include incidents in which there is significant structural damage to the building and/or there are mass casualties, or where there is an incident occurring within the community in which there are mass casualties being transported to and/or arriving at the hospital.

Source: St. John NorthEast Community Hospital, Detroit.

Job Description for Clinical Research Assistant

The responsibilities and qualifications of the individual eligible for the above named position can be separated into three broad categories: patient recruitment, data acquisition, and organizational skills. An elaboration of each category appears below:

- **Patient recruitment.**

One of the many crucial components of a successful program is efficient patient enrollment and follow-up. It is imperative that an individual hired for this position already have a strong foundational knowledge base in general pharmacology and pathophysiology. All of the contracts now being performed have complex inclusion and exclusion criteria for patient eligibility regarding concurrent drug therapy, stage of disease, other co-existing disease, and laboratory abnormalities. The successful candidate is expected to be able to apply his/her previous experience immediately in these areas, because the delayed acquisition of these skills would jeopardize the success of the program.

Additionally, interpersonal communication with patients and other health care personnel is an essential portion of patient recruitment activities. The coordination of testing and isolation of potential research patients from other departments within University Hospitals require that the candidate have a working knowledge of the entire health care system.

The successful candidate should have an appreciation for the importance of clinical drug research and appreciate the intricacies of professional relationships with patients and other health care personnel when recruiting subjects for these activities.

The candidate is expected to isolate potential research patients (in person or by telephone) and prepare them for informed consent by the principal investigators.

- **Procedures and data acquisition.**

The major procedures that are to be performed include, but are not limited to: electrocardiograms, pressure measurements, and blood drawing. Though all of these procedures are technical, the candidates should be able to recognize those situations in which the investigators would be contacted. This ability will require at least some prior experience performing these exact tests or analogous medical experience. The basic understanding of general pharmacology and pathophysiology alluded to in the patient recruitment section is also applicable to this section. The administration of any new drug presents the possibility of side effects. A foundation understanding of physiology and pharmacology is necessary when interacting with patients to try and screen out potential drug-induced problems that require investigator attention.

- **Organizational skills.**

The successful translation of applied clinical research from what appears on paper to eventual reality and useful information requires the efforts of one who is diligent and organized. The proper recording of exact events as they actually occur is germane to the scientific method; needless to say, it is germane also to the Food and Drug Administration. The correct interpretation and recording of clinical information for this research program is essential. Additionally, the ability to work independently and be self-directed is paramount. Records also must be organized, filed, and stored in a systematic fashion that facilitates information retrieval and presentation. The individual also will be responsible for organizing and facilitation, in close collaboration with the investigators, any study-related site visits or audits.

- **Miscellaneous.**

As time permits, the position also may require involvement in the following:

1. Facility with a personal computer (PC) for the purposes of word processing and graphics generation.
2. Familiarity with medical slide processing, using the PC interface.
3. Performing research-related literature searches. Collating and organizing appropriate articles for a given research project.
4. Assistance with getting clinical research protocols through the institutional review board and other approval processes.

Summary

The directors of the clinical research program believe that the most appropriate candidate for the above-described position is a physician's assistant, nurse practitioner, or an RN, BSN (MSN preferred). Experience in critical care or emergency medicine is necessary. Prior experience with clinical research also is very desirable.

Source: University of California -- Davis Medical Center, Sacramento, CA.

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