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**IT WASN'T RAINING WHEN NOAH BUILT THE ARK:  
DISASTER PREPAREDNESS FOR HOSPITALS AND MEDICAL LIBRARIANS  
POST SEPTEMBER 11**

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**ABSTRACT.** In the wake of the tragic events of September 11, there is an awareness of the critical role of health professionals in disaster response. Hospitals in particular are one important component of the public health system. How prepared are hospitals and medical librarians for a biochemical terrorist event? What does the Internet offer health professionals for readiness for disasters? All hospitals are required by the Joint Commission on Accreditation of Healthcare Organization (JCAHO) to have an emergency management plan, and states' licensure regulations often require a hospital's disaster plan to be comprehensive and filed with a state agency. Thinking the unthinkable, it is prudent for hospitals to strengthen and update their plans for a biochemical terrorist event. This article provides core disaster preparedness information resources updated since September 11 and available on the Internet to assist a hospital. Likewise, medical librarians need to be prepared to respond to the emergency information needs of patrons during such an event and the requests that are often unique, urgent, and sustained. Here too, a library "plan" and Internet resources are good starting points. When the disaster strikes, it's too late to start searching for the authoritative resources; they need to be ready and at your fingertips. Using a "Checklist for Medical Librarians: An Algorithm for Disaster Information Preparedness," a medical librarian can assure readiness and offer resources and services that are coordinated and instantaneous.

**Keywords.** Disaster preparedness, disaster response, disasters, hospitals, Internet

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## ***INTRODUCTION***

Disasters, by their very nature are unpredictable, calamitous, and difficult to conceptualize because they are outside the scope of most experience and thus inherently difficult to anticipate for planning purposes. Posing unique problems, disasters are unlike routine emergencies with their standard procedures and protocols. Complacency and apathy often exist on all levels regarding hospital disaster preparedness programs and though short-lived periods of high profile attention follow a disaster such as September 11, the will and where-with-all to review and improve readiness may be lost if a repeat event is deemed improbable or economic resources unavailable. To further compound the illusion, completion of a written hospital disaster plan is equated to readiness and called the “paper plan” syndrome.<sup>1</sup> What would Noah have asked or changed about the Ark with the hindsight of 40 days of rain at sea?

Perhaps a similar opportunity exists today to ask and answer such questions using Internet resources and ultimately prepare health professionals for new disaster realities. Disaster preparedness is receiving special attention by hospital administrators, health professionals, policy officials, congressman, and the general public following the terrorist events. This scrutiny offers an improved understanding of the hospital’s integral role and resource needs during a disaster. In the wake of the anthrax attacks, hospitals and health professionals faced a disaster of different proportions, from the countless worried well needing medical information to the long lines of potential anthrax infected individuals for Cipro or nasal swab testing.<sup>2</sup>

### ***Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Disaster Planning Standards***

Health care personnel at hospitals, long-term care facilities, and behavioral health facilities should be aware of the environment of care standards that cover disasters. In January 2001, the JCAHO revised EC.1.4, the standard to develop an emergency management plan, to include the need to “address four phases of emergency management activities: mitigation, preparedness, response, and recovery.”<sup>3</sup> Standard EC.2.4 requires plan implementation and EC.2.9.1 plan execution with emergency management drills. Based on the events of September 11, JCAHO further states that emergency management and preparedness will be a key survey area for 2002 with a focus on Hazard Vulnerability Assessments (HVA’s), involvement of the community in emergency planning and drills, cooperative communication and planning with area health organizations and the health facility’s command structure scalability for response to disasters of all magnitudes.<sup>4</sup> What else must hospitals be aware of and comply with to be ready?

### ***State and Federal***

States’ hospital licensing regulations would require a hospital disaster plan as well as periodic practice drills.<sup>4</sup> In a disaster, state emergency operations plans and the federal response plan may go into effect, and state police, the FBI, and other federal, state, and local emergency management officials play lead or vital roles. Knowing the state and federal process and laws, what entities are involved and their roles, responsibilities, and resources are essential for hospital planning.

Links to learn more about federal organizations and offices with Homeland Security related missions are found on The ANSER Institute for Homeland Security Web page for *Federal Organizations* <<http://www.homelandsecurity.org/fedorg.cfm>>. State links can be found from each states’ official Web site or from a quick list created by FEMA’s Global

Emergency Management System Web page called *State Emergency Management Agencies (U.S.A.)* <<http://www.app1.fema.gov/gems/>>. States are not at the same level of terrorism preparedness, and more can be learned from the unique survey results published in October 2001 called *Trends in State Terrorism Preparedness: A Report by the National Emergency Management Association (NEMA)*

<[http://www.nemaweb.org/Trends\\_in\\_Terrorism\\_Preparedness/Index.htm](http://www.nemaweb.org/Trends_in_Terrorism_Preparedness/Index.htm)>. NEMA represents the states' emergency management directors responsible to their governors for disaster preparedness, including acts of terrorism. Integrated efforts, close cooperation, and cross-organizational coordination and communication are needed by all entities involved, especially hospitals. A handy Web page called *Federal Statutes Relevant to Emergency Management* <[http://www.state.nj.us/njoem/law\\_fedlaws.html](http://www.state.nj.us/njoem/law_fedlaws.html)> is a quick list to federal laws and regulations and the Code of Federal Regulations.

### ***Changing Reality, New Lessons to Learn***

Current events that were once unimaginable, coupled by ongoing threats, have changed the dimensions of a hospital's disaster plan from an imaginative exercise to a profound *reality*, one with new-found *urgency*, demanding full attention for a plan's updating and scrutiny. Following September 11, lessons were learned by hospitals on the front lines, by disaster planning officials and others, and new ideas have entered the public consciousness. Health professionals need to access and use this new information to reshape their preparedness for all future events including biological, chemical and nuclear disasters, or warfare such as those involving "dirty" bombs, anthrax, smallpox, plague, brucellosis, botulism, tularemia, Q-fever, viral hemorrhagic fevers, Tabun, Sarin, GF, VX, blistering blood, or pulmonary chemical agents to name just a few.<sup>6,7</sup>

Sometimes failures in planning are due to not knowing the right questions to ask and understanding why they are so important.<sup>8</sup> Other missteps and miscalculations with the bioterror attacks may have precise important lessons for hospitals, too early to glean.<sup>9</sup> There are authoritative resources on the Internet that can assist in updating disaster planning, some evolving even as this is being published. Importantly, Web resources can assist in redesigning disaster plans to face new and real threats, in understanding the questions to ask, and in remaining up-to-date with the new conclusions being drawn, with the science being rewritten, and with the new lessons terrorism teaches.

To illustrate the changing nature of disaster planning, prophetically, on September 8, Inova Fairfax Hospital in northern Virginia held a mock terrorist attack with a scenario of 160 victims. One month later, Inova Fairfax treated two real victims for anthrax inhalation, postal workers who showed up in the emergency room one day apart. No part of the rehearsal resembled a real attack.<sup>10</sup>

### ***Fact and Fiction: When Worlds Collide***

The movie *Dante's Peak* featured a bucolic community nestled in the Cascade Mountains as the town council heard about the potential disaster while experts downplayed the risk, and when the community later learns the true nature of the local threat, it's too late. A volcano erupts and the town's disaster plan remains on the meeting table under debris from earthquakes and volcanic ash. The movie is eerily prescient and a reminder about complacency, the biggest impediment to disaster planning.

Post September 11, truth can be as strange as, or far more real than, fiction. Expecting 5,000 casualties after the collapse of World Trade Center towers one and two, New York and New Jersey hospitals stood "down" from emergency status after 48 hours, when the second wave of massive casualties (sadly) never materialized.<sup>11</sup> Nasal swabs, of

no clinical use for anthrax diagnosis, nevertheless became part of the confused public health message.<sup>12</sup> Medical libraries needing Web access found unprecedented Internet traffic and/or inoperable telephone lines, making a paper copy of vital Web document desired but inaccessible or difficult at best. In the words of Bruce Lawlor, Major General, Joint Task Force Civil Support, “The consequences of WMD [weapons of mass destruction] are so terrible that we cannot afford to think of it as improbable.”<sup>13</sup>

### **DEFINITIONS**

Part of disaster preparedness is understanding the unusual nomenclature of disasters and response as well as those of the myriad coordinating agencies at the local, state, and federal level, i.e., the who, what and where. Even medical experts differ on definitions of mass casualty incidents, and common disaster terminology is important in planning and researching resources. NBC is a good example of the many acronyms used in this field, and is commonly substituted for the phrase “nuclear, biologic chemical.”

#### ***Potential Injury Creating Event (PICE) Nomenclature***

The Potential Injury Creating Event (PICE) nomenclature is taught at emergency planning seminars<sup>14</sup> and identifies common aspects of a disaster and the functional impact of any type of emergency. It is an especially valuable tool in planning for disaster mitigation<sup>15</sup> and considers status of event, resources, geography, and stage. For example, a large-scale earthquake in PICE nomenclature is evolving, paralytic, national, stage III.<sup>16</sup> The PICE system is referenced beginning with the 2001 revisions to the JCAHO standard EC.1.4<sup>17</sup> and additional information on PICE can be found at eMedicine <<http://www.emedicine.com/emerg/topic718.htm>>.

#### ***Disaster Terms, Abbreviations, and Acronyms***

Terms, abbreviations, and acronyms such as MCIs, NBC, WMD, mitigation, incident command center, planned improvisation, critical incident stress management, as well as CBIRTs, NPS, CHAIN, USAMRIID are just to name a few. Knowing and using this disaster nomenclature and related terms is key to expanding and targeting database and Web searches in this field. Unfortunately, no one source covers all the terms health professionals will encounter preparing for a disaster, especially ones involving terrorism, due to the multidisciplinary aspects of the topic. The following are Internet reference texts and guides for the topics and fields of disasters, health administration, the military, weapons of mass destruction, September 11 buzz words, and medicine and should cover most needs.

*The Department of Defense Dictionary of Military and Associated Terms*, a PDF document at <[http://www.dtic.mil/doctrine/jel/new\\_pubs/jp1\\_02.pdf](http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf)>, has more than 600 pages of terms and covers those used in bioterrorism and weapons mass destruction. Supplement this with medical sources from the National Library of Medicine’s MEDLINEplus Web site including the *adam Health Illustrated Encyclopedia* <<http://www.nlm.nih.gov/medlineplus/encyclopedia.html>> as well as NLM’s links to many online medical dictionaries and glossaries at <<http://www.nlm.nih.gov/medlineplus/dictionaries.html>>. Other medical associations offer bioterrorism glossaries too numerous to mention and can be found with an advanced search on Google <<http://www.google.com>> using terms as follows: glossary, nomenclature, dictionary, terms, terminology, and definitions with bioterror as a stem word in the search.

Terrorism and homeland security are important aspects of hospital disaster planning with numerous abbreviations and buzzwords as well as some controversy over definitions.<sup>18</sup> Some general terminology guides are as follows. Steve Buttry’s *NewsLab Resources Buzz*

*Words And Catch Phrases: A Glossary for Our Changing World*

<<http://www.newslab.org/terror gloss-1.htm#list>> was originally created for training purposes and was expanded to cover issues dominating news coverage since September 11, extensively covering terrorism. Two other very extensive glossaries are available. The Monterey Institute's Center for Nonproliferation Studies offers a glossary from its primer *WMD 411* <[http://www.nti.org/f\\_wmd411/gloss.html](http://www.nti.org/f_wmd411/gloss.html)>. The NBC-MED Web site from the Office of the Surgeon General <<http://www.nbc-med.org/others/Default.html>> covers nuclear, biologic, and chemical terms.

A specialized authoritative online dictionary for health administration useful for disaster plans is *Slee's Health Care Terms eEdition* <<http://www.tringa.com/index.php?submit=HCT>>, currently in beta test. Released in October 2001, this 4th edition has more than 6,700 defined terms with links and hierarchical groupings for browsing purposes.

For example, *Slee's* defines a "disaster preparedness plan" as  
 [TYPESETTING NOTE: line above is beginning of paragraph; all lines indented below are part of a quotation]

A formal plan for coping with a disaster. An accredited hospital is expected to have both an external disaster plan and an internal disaster plan. Often such plans have basic elements relating to any kind of disaster and dealing with such items as emergency communication, alerting of police and fire departments, mobilization of off-duty personnel, and the like. The basic plan also has supplements for various kinds of disasters; for example, a nuclear disaster would call for different procedures than a flood or a tornado. It is expected that the written plan will periodically be tested and modified on the basis of disaster drills.<sup>19</sup>

***Comprehending the Incomprehensible: Lessons Learned, Questions to Ask***

The JCAHO article, "What the Survey Process Expects of Your Organization," <<http://www.jcinc.com/subscribers/perspectives.asp?durki=1006&site=10&return=1122>>, provides countless probing questions hospitals can use for a greater focus on planning. While a hospital is not required to begin a totally new plan in light of recent terrorism, the questions ensure that the plan applies on many different scales, including terrorism.<sup>20</sup> A series of articles called *Lessons Learned* in the December 2001 *Joint Commission Perspectives*

<<http://www.jcinc.com/subscribers/perspectives.asp?durki=1010&site=10&return=1122>> shares invaluable insights from more than twenty hospitals and organizations responding to September 11. The series includes considerations for managing people and resources effectively, scope of plans, command centers, relationships with other health care organizations and community agencies, self-sufficiency and independence, regional response, backup communications, staging areas, triage, volunteers and resources, decontamination checklists, caring for your own, and mental health needs. The AHA offers a Web area called *Lessons Learned From the Field*

<<http://www.aha.org/Emergency/Lessons/LessonsIndex.asp>> that provides online resources describing integrated community-wide approaches and experience-based reviews from real disasters including Aum Shinrikyo, September 11, Oklahoma City bombing, Houston floods, Florida fires, the 1998 northeastern great ice storm, and Hurricane Floyd, as well as scenario-based exercises including Dark Winter, anthrax, and Yersinia pestis aerosol. These frank and real observations offer the new "normal" for the new planning.

***Education and Training***

Without education to update knowledge and practice skills, effective planning is not possible. Education goes hand in glove with all readiness activities. Some useful Web sites for training opportunities are described here, although readers should also look at all the other Web sites mentioned throughout this article, since most also offer education and training resources as well. The variety of Internet-based educational offerings and resources to assist health professionals include Web-based online learning courses, audioconferences, Webcasts, PowerPoint presentations, and Web page listings of seminars, symposia, and conferences.

In the private arena, DigiScript <<http://bioterrorism.digiscript.com/>>, a commercial Web site, is offering free access to several of its commercial educational presentations, including *Responding to Disaster*, *CDC Clinical Laboratory Response to Bioterrorism*, and *Questions and Answers and ASCP/CAP Bioterrorism Panel* in the *Bioterrorism Learning Center*. A fairly large calendar of education and training offered by other organizations is provided by the AHA on their disaster readiness Web area at <<http://www.aha.org/Emergency/Education/EducationIndex.asp>>. The Public Health Foundation offers a distance learning clearinghouse called TrainingFinder.org at <<http://www.trainingfinder.org/>> that has more than 400 courses and 50 listed with its bioterrorism/emergency preparedness category.

Federally, FEMA's *Compendium of Weapons of Mass Destruction Courses: Sponsored by the Federal Government*, a 160-page PDF document, details federally sponsored NBC (nuclear biologic and chemical) courses from the DOD, DOE, DHHS, FEMA, CSEPP, EMI, NFA, EPA, DOJ, OJP, FBI, and the FBI for training of state and local emergency responders in a "train-the-trainer" design, which can then be tailored locally. See also FEMA's Incident Command System (ICS) self-study online course at <<http://www.fema.gov/emi/is195.htm>> that is recognized as an effective system for managing emergencies and one that several states have adopted as their standard for emergency management.

Also, the CDC's network of Centers for Public Health Preparedness <<http://www.phppo.cdc.gov/owpp/centersforPHP.asp>> is a national system for competency-based training for public health professionals and links numerous training partners throughout the U.S., many offering online courses. The CDC training page <<http://www.bt.cdc.gov/Training/index.asp>> provides PowerPoint slides, Webcasts, and lists of video and satellite broadcasts about bioterrorism. Some CDC education is produced with the University of North Carolina (UNC) School of Public Health on their Web site called *Public Health Grand Rounds: Bioterrorism Implications for Public Health* at <<http://www.publichealthgrandrounds.unc.edu/bioterrorism/resources.htm>>. The UNC November 2001 Web page update <<http://www.publichealthgrandrounds.unc.edu/bioterrorism/resources.htm>> includes all CDC and UNC Webcasts on this topic.

On the military side, the U.S. Army Medical Research Institute for Chemical Defense (USAMRICD) Web page, called "Medical Management of Chemical and Biological Casualties" <<http://ccc.apgea.army.mil/default.asp>>, has links to archives of Web casts and details about training video series and manuals available for purchase. The U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID) education page <<http://www.usamriid.army.mil/education/index.html>> provides training for biological attacks.

Locally, hospitals may have online presentations or useful documents like an incident command model. Sleuth through your state's hospital Web sites. Although there are Web directories like HospitalWeb, each state hospital association's hospitals directory

will provide the most authoritative and comprehensive source of hospital Web links for their state. A directory of links to state hospital associations is at AHA <<http://www.aha.org/resource/links.asp#2>>. Most of these state associations will offer disaster preparedness and bioterrorism resources as well, many state-specific. One excellent example of a local hospital education program using streaming video is from the Saint Barnabas Health Care System, Livingston, N.J., called *Disaster Preparedness*, by Stuart B. Weiss, MD <<http://www.sbhcs.com/news/disaster.html>>. National associations also provide training; an example is the American College of Healthcare Executives (ACHE) education page <<http://www.ache.org/education.cfm>> highlighting its February seminar, “When Disaster Strikes: The Role of the Hospital.”

Those wanting to delve further afield or into more specific areas may use, for example, an online Primer on WMD at <[http://www.nti.org/f\\_wmd411/f\\_index.html](http://www.nti.org/f_wmd411/f_index.html)> from the Center for Nonproliferation Studies or its other learning resources at <<http://www.cns.miis.edu/cns/edu/index.htm>> or the NLM’s Interactive Health Tutorials <<http://www.nlm.nih.gov/medlineplus/tutorials.html>>, which includes an Anthrax tutorial.

### ***CORE RESOURCES***

Key resources for hospital disaster planning, readiness, and training are obvious and not so obvious. Start with those highlighted here and subscribe to the news services listed to keep current as new resources are published. The key resources listed in this article are from voluntary organizations and associations and the federal government. There is no one standard for designing a written hospital disaster plan; however, there are guidelines well-recognized within the field as authoritative, current, and of high quality, some with input from the hospital industry.

#### ***Hospital-Specific National Associations***

##### **Joint Commission on Accreditation of Healthcare Organizations (JCAHO)**

<<http://www.jcaho.org/>>

The JCAHO Web site offers online purchase of new books, audiocassettes, and other resources for emergency management at <<http://www.jcrinc.com/subscribers/perspectives.asp?durki=1122>> and access to JCAHO emergency preparedness consultation and custom education services at <<http://www.jcrinc.com/generic.asp?durki=1023>>. A key resource is the December 2001 issue of *Joint Commission Perspectives*, free online as a special 24-page issue of the organization’s newsletter, covering emergency management in the new millennium. It can be downloaded in its entirety at <<http://www.jcrinc.com/subscribers/images/pubs/pdfs/12-01%20persp.pdf>> or selective articles read online. Like a mini-manual with post September 11 information, it covers the JCAHO standards as a starting point for preparedness, analyzing vulnerability to hazards, and adapting FMECA (failure mode, effect and criticality analysis) for this purpose. It has a complete reprint of the revised *Environment of Care Standards EC.1.4*, from the *Comprehensive Accreditation Manual for Hospitals (CAMH)*. Articles cover development of education programs, preparing for a mass casualty event, emergency and media management checklists, and internal and external crisis communications.

##### **American Hospital Association (AHA)**

<<http://www.aha.org/index.asp>>

The AHA offers an extensive special Web area updated regularly called “Disaster Readiness” <<http://www.aha.org/Emergency/EmIndex.asp>> with some information offered

to AHA members only, password protected. Online resources include news, testimony, advisories, links, and contact information for academic, professional, government, and private organizations, and hotlines. Within the “Resources” area of “Disaster Readiness,” three major Web pages offer core online information. The first page, “Government Roles and Planning” <<http://www.aha.org/Emergency/Resources/GovernmentRoles.asp>>, covers federal, state, and local resources. The second Web page, “Hospital Readiness, Response, Recovery and Outreach” <<http://www.aha.org/Emergency/Resources/HospitalReady.asp>>, offers these four titled topics as well as operational resources including checklists, sample plans from hospitals and states, and media and community relations guides. It includes links to regional and state emergency management agencies via a handy chart. An important document included here is the *Hospital Preparedness for Mass Casualties* <<http://www.ahapolicyforum.org/policyresources/MOdisaster.asp>>, a final report of the AHA, Office of Emergency Preparedness of the U.S. and the U.S. Department of Health and Human Services. Another important title is the *Mass Casualty Disaster Plan Checklist: A Template for Healthcare Facilities* by APIC and the Center for the Study of Bioterrorism & Emerging Infections. This sixteen-page Word download has no direct URL and is accessible by scrolling down to the title at <<http://www.aha.org/Emergency/Resources/HospitalReady.asp>>. The third section of the “Resources” area within “Disaster Readiness” is “Guidance for Health Professionals” <<http://www.ahapolicyforum.org/policyresources/MOdisaster.asp>> with clinical management, diagnosis and treatment, mental health, and laboratory resources. Together, these online resources provide an excellent starting point for evaluating disaster readiness or revising current planning efforts. These AHA selected links, with annotations, pull many core resources together in one central location.

**Association for Professionals in Infection Control and Epidemiology, Inc. (APIC)**  
<<http://www.apic.org/>>

One of the most important model resources every hospital should have is the *Bioterrorism Readiness Plan: A Template for Healthcare Facilities* created by the APIC Bioterrorism Task Force and the CDC Hospital Infection Program Bioterrorism Working Group. On APIC it is at <<http://www.apic.org/educ/readinow.html>> or alternatively the CDC at <<http://www.cdc.gov/ncidod/hip/Bio/13apr99APIC-CDCBioterrorism.PDF>>. This template outlines the steps for response to the most likely biological agents and provides information on the unique characteristics, specific recommendations, management, and follow-up for each. It has an overview of infection control activities, laboratory policy and public inquiry, citations to scientific literature, and useful appendices including contact information for all the FBI field offices, state departments of health and public health directors, and other important telephone numbers. The chapter on bioterrorism from the 2000 edition of the *APIC Text of Infection Control and Epidemiology* <<http://www.apic.org/bioterror/chapter124.pdf>> is available for free download. Other bioterrorism and readiness resources can be downloaded for free, although they are not easy to find. See also more than fifteen pages of APIC’s “Bioterrorism Resources” <<http://www.apic.org/bioterror/>> covering economic impact, management and treatment, readiness planning, scenarios, reference materials, vaccination, and resources for each biologic warfare agent.

***Additional Associations and Organizations***

There are countless associations and organizations that offer information about disaster preparedness, bioterrorism, and homeland security. Readers are encouraged to

check their state or national professional or trade association as well as state, county, or regional medical societies of the AMA at <<http://www.ama-assn.org/ama/pub/article/3958-3926.html>>, the schools of medicine at the Association of American Medical Colleges (AAMC) at <<http://www.aamc.org/meded/medschls/start.htm>>, the schools of public health from the American Public Health Association (APHA) at <[http://www.apha.org/public\\_health/schools.htm](http://www.apha.org/public_health/schools.htm)>, or APHA's state public health associations at <[http://www.apha.org/state\\_local/](http://www.apha.org/state_local/)>. They all undoubtedly have coverage of this topic to one degree or another, from one critical report or presentation to major Web pages. The following listings highlight a few useful groups for information for hospitals and medical librarians.

### **The Association of State and Territorial Health Officials (ASTHO)**

<<http://www.astho.org/>>

This site offers a "Bioterrorism and Health Alert Network" page <<http://www.astho.org/phiip/bioterrorism.html>>, and *e-Health*, the association's monthly newsletter <<http://www.astho.org/phiip/newsletters.html>>. containing extensive links for preparedness, planning, and disease surveillance.

### **American Medical Association Disaster Preparedness and Medical Response**

<<http://www.ama-assn.org/ama/pub/category/6206.html>>

National, state, and physician resources, news, coping with disasters, and free full-text access to *JAMA* articles are available on this topic. An *Index of Bioterrorism Resources* <<http://www.ama-assn.org/ama/pub/category/6671.html>> is an extensive subject index.

### **Infectious Diseases Society of America (ISDA)**

<<http://www.idsociety.org/>>

ISDA represents physicians, scientists, and other health care professionals who specialize in infectious diseases. The Web site provides a comprehensive "Anthrax Update" <[http://www.idsociety.org/NewsRoom/FYI\\_AnthraxUpdate\\_11-28-01.htm](http://www.idsociety.org/NewsRoom/FYI_AnthraxUpdate_11-28-01.htm)> using all major scientific sources including the Sverdlovsk outbreak. Its "Bioterrorism Preparedness" page <[http://www.idsociety.org/PA/PS&P/BT\\_Preparedness\\_10-2-01.htm](http://www.idsociety.org/PA/PS&P/BT_Preparedness_10-2-01.htm)> extensively answers questions on the topic for infectious disease professionals and offers links to the scholarly literature in *JAMA* on anthrax, smallpox, plague, tularemia, and botulism, along with articles about confronting biological weapons in ISDA's journal, *Clinical Infectious Diseases (CID)*.

### **Canada. Defense Research Establishment Suffield (DRES)**

<<http://www.dres.dnd.ca/>>

DRES is Canada's main military defense science and technology asset that conducts research to defend against chemical and biological warfare agents. It published a new core scientific research study in September 2001 important for hospitals, offering new science regarding anthrax titled *Risk Assessment of Anthrax Threat Letters* by B. Kournikakis et al., technical report DRES TR-2001-048 <[http://www.dres.dnd.ca/Meetings/FirstResponders/tr01-048\\_annex.pdf](http://www.dres.dnd.ca/Meetings/FirstResponders/tr01-048_annex.pdf)>. The report states, "DRES undertook a series of experiments to determine the extent of the hazard. In the experiments, envelopes containing *Bacillus globigii* spores (a stimulant for anthrax) were opened in a mock mail room/office environment. The data measured on the dispersion

of the spores were used to estimate if letters containing anthrax spores posed a significant health risk.” The risk was catastrophic and previously unknown.<sup>23</sup>

### **The National Emergency Management Association (NEMA)**

**<<http://nemaweb.org/index.cfm>>**

NEMA serves state emergency management directors with a Web site of white papers, reports, and news about policy, operations, and strategy. It offers the *HGMP Database* of all disasters searchable by state, disaster, and project types and reports economic costs, year and description.

### ***Federal Government Resources***

There are a myriad of government statutes, regulations, and agencies with roles and responsibilities for disasters, preparedness, emergency response, or terrorism and are all-important to hospitals for access to standards, regulations, and current information. The following is a selection of core starting points for federal agencies with an emphasis on areas for preparedness and response; many include standards and regulations.

### **Centers for Disease Control and Prevention (CDC)**

**<<http://www.cdc.gov>>**

The CDC site is enormous and finding key areas may be a challenge; nonetheless, content offered is extensive and timely. It’s useful to start with the *CDC Prevention Guidelines System* <<http://www.phppo.cdc.gov/CDCRecommends/AboutV.asp>>. This is a compendium for quick access to the full set of CDC’s guidelines from a single point, regardless of where they were originally published.

Next, go to the CDC Public Health Emergency Preparedness & Response site <<http://www.bt.cdc.gov/>> and then visit the link for its “Preparation and Planning” page <<http://www.bt.cdc.gov/Planning/index.asp>> for its coverage of national plans and strategies, state and local-level information and plans, health care facilities, legal, and planning issues including quarantines and contacts for preparation and planning. It includes links to other related CDC main sections. The CDC “Emergency Response” page <<http://www.bt.cdc.gov/EmContact/index.asp>> provides emergency notification procedures for state and local officials and health care providers, along with a 24-hour contact number.

For laboratories, the CDC offers two areas. One, the “Lab Information” pages <<http://www.bt.cdc.gov/LabIssues/index.asp>>, offers overviews, testing, and presumptive agent identification, biosafety, shipping specimens, regulations and training. The “Lab & Health Professionals” pages <<http://www.bt.cdc.gov/HealthProfessionals/index.asp>> provide agents and threats, news and investigations, and preparation and planning. The PowerPoint presentation at <<http://www.phppo.cdc.gov/nltn/pdf/LRN99.pdf>> describes the Laboratory Response Network for Bioterrorism (LRN) and each type of laboratory, how to access the State Public Health Laboratory, the Centers for Disease Control and Prevention, and the FBI to refer or report suspected agents.

The CDC’s National Immunization Program “Smallpox” home page <<http://www.cdc.gov/nip/smallpox/>> provides the *Interim Smallpox Guidelines and Response Plan* <<http://www.bt.cdc.gov/DocumentsApp/Smallpox/RPG/index.asp>> and Web pages for health care providers at <<http://www.cdc.gov/nip/smallpox/Providers.htm>> offering evaluation, training, and resources. The National Pharmaceutical Stockpile Web page <<http://www.cdc.gov/nceh/nps/default.htm>> is part of CDC’s National Center for Environmental Health. The NPS ensures the availability and rapid deployment of life-saving pharmaceuticals, antidotes, other medical supplies, and equipment necessary to

combat the nerve agents, biological pathogens, and chemical agents and is ready immediately when needed. This page provides a complete overview for hospitals. The CDC's National Electronic Disease Surveillance System <[http://www.cdc.gov/od/hissb/act\\_int.htm](http://www.cdc.gov/od/hissb/act_int.htm)> will allow the public health community to respond more quickly to public health threats before they are epidemics by electronically integrating over 100 CDC surveillance systems. This Web page describes the system under development and links to key documents.

Last but not least, the CDC Web site for the *Morbidity and Mortality Weekly Report (MMWR)* <<http://www.cdc.gov/mmwr/>> offers the latest guidance on biologic warfare agents such as anthrax.

### **U.S. Department of Health and Human Services, Office of Emergency Preparedness (HHS/OEP) and the National Disaster Medical System (NDMS)**

<<http://ndms.dhhs.gov>>

The HHS/OEP is the lead agency within the Federal Response Plan that manages and coordinates federal health, medical, and health related social services and recovery for major emergencies and federally declared disasters. OEP also directs the National Disaster Medical System (NDMS) <<http://ndms.dhhs.gov/NDMS/ndms.html>>, a partnership between HHS, the Department of Defense (DOD), the Department of Veterans Affairs (VA), FEMA, state and local governments, private businesses, and civilian volunteers. Their roles are to coordinate federal health and medical response to terrorist acts involving WMD. OEP manages the Metropolitan Medical Response System (MMRS) <<http://www.mmrs.hhs.gov/Index.cfm>> that includes more than 70 cities with systems in place working to develop coordinated response (fire, police, EMS, hospital, public health,) to WMD incidents. A map with names of each MMRS is located at <<http://www.mmrs.hhs.gov/Pub/About/ProDesc.cfm>>. The Web site provides a searchable database of documents developed by all participants browseable by category that includes emergency medical services, hospital operations, laboratories, and mental health services. A concise guide to the HHS role for disasters and terrorism and the NDMS can be found at <<http://www.hhs.gov/news/press/2001pres/01fsemergencyresponse.html>>.

### **National Library of Medicine (NLM)**

<<http://www.nlm.nih.gov>>

The PubMed database <<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>> is the key source for searches of the journal literature in the health care field. PubMed is searchable with text words as well as controlled vocabulary called MeSH (Medical Subject Headings). Key MeSH terms are disasters, disaster planning, natural disasters, bioterrorism (entered in 2001), biological warfare, chemical warfare, nuclear warfare, chemical warfare agents. Use the MeSH browser <<http://www.ncbi.nlm.nih.gov/entrez/meshbrowser.cgi>> to find more vocabulary for specific types of disasters and chemical warfare agents.

Much of the NLM Web site focuses on clinicians and consumers. However, some of this general information is of use for preparedness and medical library services to patients and the community. Key Web pages for this purpose are from MEDLINEplus, "Biological and Chemical Weapons" <<http://www.nlm.nih.gov/medlineplus/biologicalandchemicalweapons.html>> and "Disasters and Emergency Preparedness" <<http://www.nlm.nih.gov/medlineplus/disastersandemergencypreparedness.html>>. For the professional, two of NLM's Specialized Information Services (SIS) Web pages are "Biological Warfare" <<http://sis.nlm.nih.gov/Tox/biologicalwarfare.htm>> and SIS

“Chemical Warfare Agents” <<http://sis.nlm.nih.gov/Tox/ChemWar.html>>. The latter includes PubMed links to select journal literature and a TOXLINE search for review articles about chemical warfare agents, likewise with PubMed article links.

The Toxicology and Environmental Health Web portal <<http://sis.nlm.nih.gov/Tox/ToxMain.html>> offers TOXNET (Toxicology Data Network) access at <<http://toxnet.nlm.nih.gov/>>, toxicology tutorials, publications, PowerPoint lecture guides, news, and training events. TOXNET is a cluster of eleven databases for four main areas covering facts on toxicity and hazards, the toxicology literature, toxic releases and chemical nomenclature and structures. The literature areas cover biochemical, pharmacological, physiological, and toxicological effects of drugs and other chemicals.

### **Occupational Safety & Health Administration (OSHA)**

<<http://www.osha.gov/>>

Hospitals need to comply with OSHA regulations, and warfare agents involved in a disaster pose special concerns. Information includes *Protecting the Worksite Against Terrorism: Anthrax* <<http://www.osha.gov/bioterrorism/anthrax/index.html>>, *Occupational Exposure to Anthrax OSHA's FAQs* <<http://www.osha.gov/bioterrorism/anthrax/faqs.html>>, and *Risk Reduction Matrix* <<http://www.osha.gov/bioterrorism/anthrax/matrix/index.html>>. The HAZWOPER Web page <<http://www.osha-slc.gov/html/faq-hazwoper.html>> covers the *Hazardous Waste Operations and Emergency Response Standard*, its training requirements for hospital staff and reference interpretation, and compliance for physicians, nurses, hospital, and medical personnel. A core text, *Hospitals and Community Emergency Response: What You Need to Know*, is online at <<http://www.osha-slc.gov/Publications/OSHA3152/osha3152.html>> and covers planning, standards, legal requirements, and guidance for what to include in a hospital disaster plan.

### **Federal Emergency Management Agency (FEMA)**

<<http://www.fema.gov/>>

In 1979, President Carter established FEMA after the Three Mile Island Nuclear Generating Station incident, and in 1980 amendments to the Civil Defense Act mandated the agency to work with state and local governments to assist in setting up emergency management programs.<sup>21</sup> The FEMA site thus offers important information for the local planner and includes an “Emergency Managers” page <<http://www.fema.gov/emanagers/>> with useful guidance, links, and national situation updates. To learn how FEMA works on the state and local level for understanding coordination and communication within the context of hospital disaster planning, use its text, *State and Local Guide (SLG) 101: Guide for All-Hazard Emergency Operations Planning* <<http://www.fema.gov/pte/gaheop.htm>>. See chapter 5 for planning guidance for health and medical functions and revised chapter 6 for terrorism. All chapters are available as PDF documents. For a directory of FEMA regional and area offices see <<http://www.fema.gov/about/regoff.htm>>.

### **Food and Drug Administration (FDA)**

<<http://www.fda.gov/oc/opacom/hottopics/bioterrorism.html>>

The FDA site is an authoritative source for anthrax drug treatment, anthrax vaccine, and drug preparedness, the latter under its public health initiatives section. Consumer information is also provided, useful for a hospital's community health and outreach with topics such as bogus bioterrorism products, the difference between anthrax and the flu, how

to handle suspicious letters, and should you buy Cipro or other antibiotics. All are ready to print and make available to the public.

### **Environmental Protection Agency (EPA)**

**<<http://www.epa.gov/>>**

At the EPA site a key page is “Emergencies” <http://www.epa.gov/eftpages/emergencies.html>. From here additional topics can be viewed for counterterrorism, emergency preparedness, emergency response, and others. EPA has a Chemical Emergency Prevention and Preparedness office and Web site at <http://www.epa.gov/swercepp/index.html> offering Web topical pages for prevention, preparedness, response, and counterterrorism that includes the Emergency Planning and Community Right-to-Know Act as well as links to sources of chemical data.

### **Agency for Toxic Substances and Disease Registry (ASTDR)**

**<<http://www.atsdr.cdc.gov/mmg.html>>**

This Web site offers guidelines called *Medical Management Guidelines for Acute Chemical Exposures* to aid emergency care professionals and is also useful for disaster planning. It covers all aspects of patient management including decontamination, protection, communication, and transportation.

### **Office for Domestic Preparedness**

**<<http://www.ojp.usdoj.gov/odp/>>**

As part of the U.S. Department of Justice, the ODP provides resources of interest for readiness. The PDF of the text *Critical Incident Protocol: A Public Private Partnership, 2000* by Michigan State University <http://www.ojp.usdoj.gov/odp/docs/cip.pdf> is not a checklist but a set of protocols for community planning for emergencies whether of minor or WMD scale and covers mitigation, recovery, lessons learned, best practices, and exercises. For health professionals, it useful for understanding how to develop partnerships and how disasters affect the community that the hospital serves.

### **Office of Homeland Security**

**<<http://www.whitehouse.gov/homeland/>>**

For a national perspective, this Web site of the White House describes the mission and activities of this office and links to the Executive Order for its establishment. Presently, its value is in the links it offers for federal information and current news on terrorism.

### **National Domestic Preparedness Office (NDPO)**

**<<http://www.ndpo.gov/>>**

Within the Federal Bureau of Investigation, the NDPO is a clearinghouse for information and assistance with weapons of mass destruction and covers medical and health responders. Its health and medical services program <http://www.ndpo.gov/services.htm> provides articles, training aids, and research information for the emergency response community. Another resource is *The Beacon* <http://www.ndpo.gov/beacon.htm>, a newsletter by and for emergency responders.

### **Department of Transportation (DOT) Office of Hazardous Materials Safety**

**<<http://hazmat.dot.gov/>>**

The Web site provides more than twenty topics linked via colorful HAZMAT signs easy to overlook as simple graphics. Importantly, it offers extensive guidelines for transporting anthrax and anthrax-contaminated objects and materials at [http://hazmat.dot.gov/guide\\_anthrax.htm](http://hazmat.dot.gov/guide_anthrax.htm).

### **National Guideline Clearinghouse™ (NGC)**

<http://www.guideline.gov>

The National Guideline Clearinghouse is sponsored by the U.S. Agency for Healthcare Research and Quality. There is a series of evidence-based guidelines on anthrax and other biological agents within this site at <http://www.guideline.gov/STATIC/bio.asp?view=bio>.

### **United States General Accounting Office. Special Collections: Terrorism**

<http://www.gao.gov/terrorism.html>

This is a comprehensive listing of more than 100 GAO reports on this topic, updated daily. It includes numerous reports on medical readiness, preparedness, and bioterrorism.

### **United States Department of State. Response to Terrorism**

<http://usinfo.state.gov/topical/pol/terror/>

This comprehensive Web site covers national policy, is available in six languages, includes key documents and in depth subject reviews, and lists the designated terrorist organizations. It provides “The Network of Terrorism”

<http://usinfo.state.gov/products/pubs/netterror.htm>, which is a factual summary of what is known about the terrorist attacks of September 11 and their connection to Osama bin Laden and his al Qaida terrorist network and is very helpful to dispel or confirm rumors.

### ***State Government Resources***

Valuable resources and local homeland security information are located on state government sites. One example is the *Hospital Emergency Incident Command System (HEICS)*, developed by the San Mateo County (CA) Department of Health, and a key resource for disaster readiness, recommended by the AHA as an “effective disaster readiness tool.”<sup>22</sup> It can be downloaded in several formats at

<http://www.emsa.cahwnet.gov/dms2/download.htm>. A quick chart of all state emergency management agencies can be found on AHA’s *Other Operational Resources*

<http://www.aha.org/Emergency/Resources/HospitalReady.asp#Operational>. Also, ASTHO’s *State/Territorial Links* page <http://www.astho.org/state.html> links to all departments of health. HAL, the Health Agency Locator

<http://www.statepublichealth.org/index.php> from StatePublicHealth.org is sponsored by ASTHO and the National Governors Association. HAL is a comprehensive series of several online directories and public health hotlines.

### ***Military***

There are several books that hospitals should have readily available to be prepared for any terrorist event. First is *Medical Management of Biological Casualties Handbook*, fourth edition, February 2001, available at

<http://www.usamriid.army.mil/education/bluebook.html> with choices of several formats, including PDF, PALM OS, and Word. Second is the *Textbook of Military Medicine: Medical Aspects of Chemical & Biological Warfare*

[http://ccc.apgea.army.mil/reference\\_materials/textbook/HTML\\_Restricted/index.htm](http://ccc.apgea.army.mil/reference_materials/textbook/HTML_Restricted/index.htm). A

third volume is *The Medical Management of Chemical Casualties Handbook*, third edition, 1999

<[http://ccc.apgea.army.mil/reference\\_materials/handbooks/RedHandbook/001TitlePage.htm](http://ccc.apgea.army.mil/reference_materials/handbooks/RedHandbook/001TitlePage.htm)>; and finally, *The Medical Management of Radiological Casualties*, first edition, December 1999 <<http://www.afri.usuhs.mil/www/outreach/pdf/radiologicalhandbooksp99-2.pdf>>. The Medical NBC Online Information Server (NBC-MED) <<http://www.nbc-med.org/others/Default.html>> is invaluable and offers extensive medical resources, training, and news.

### ***Private, Academic, or Think Tanks***

#### **GovStar Disaster and Emergency Management Web Resources**

<<http://govstar.com/>>

GovStar is run by the Tahoe Internet Corporation as a public service information portal for federal, state, and local governmental information and public risk management. This one portal for disaster and emergencies covers nine areas as follows: terrorism, biochemicals, cyber crimes, disaster management, emergency management, emergency medical, hazardous materials, natural hazards and security, a discussion forum, and document library.

#### **Center for Civilian Biodefense Strategies, Johns Hopkins University**

<<http://www.hopkins-biodefense.org/index.html>>

This site is sponsored by the Alfred P. Sloan Foundation and the Robert Wood Johnson Foundation. Its purpose is to build a knowledge base and foster planning and preparation for response to possible bioterrorist attacks. Resources offered include biologic agent information, a library, and news. An example of resources is the article published online, by Thomas A. Glass and Monica Schoch-Spana, "Bioterrorism and the People: How to Vaccinate a City against Panic," *Clinical Infectious Diseases* 34 (2002): 217-223. It offers five guidelines for increasing the involvement of the public at <<http://www.journals.uchicago.edu/CID/journal/issues/v34n2/011333/011333.html>>.

#### **Center for Nonproliferation Studies Monterey Institute of International Studies**

<<http://www.cns.miis.edu/>>

This is the world's largest non-governmental organization devoted to combating the spread of WMD with an expansive selection of resources on public policy as well as operational insights for readiness including a library, databases, books, testimony, and Web reports to name a few. It can be browsed by geographic region or topic, with the latter including terrorism, biological, chemical, and nuclear.

#### **Center for the Study of Bioterrorism and Emerging Infections, Saint Louis University School of Public Health**

<<http://bioterrorism.slu.edu/>>

This site offers case studies, bibliographies, fact sheets, and much more. It includes annotated Internet links for professional association resources at <<http://bioterrorism.slu.edu/internet/professional.htm>> and academic resources for bioterrorism at <<http://bioterrorism.slu.edu/internet/academic.htm>>.

#### **The National Academies: Terrorism and Security Collection**

<<http://www.nap.edu/terror/index.html>>

The Academies site <<http://www.nationalacademies.org>> includes the Institute of Medicine. This special collection links 26 recent books about the science and policy issues surrounding terrorism and security; which can be read and searched online for free at <<http://www.nap.edu/terror/index.html>>. It includes the titles *Chemical and Biological Terrorism: Research and Development to Improve Civilian Medical Response*, *Fluid Resuscitation: State of the Science for Treating Combat Casualties and Civilian Injuries*, and *Firepower in the Lab*. The “Medicine and Public Health” topic page <<http://books.nap.edu/v3/makepage.phtml?val1=subject&val2=ms>> includes more online books related to disasters, preparedness, and bioterrorism.

### **ANSER Institute for Homeland Security**

<<http://www.homelandsecurity.org/>>

This nonprofit public services research institute partners with other nonprofits and academic institutions. ANSER has no formal relationship with the federal government or the White House Office of Homeland Security. It is an excellent comprehensive resource for public policy, research and news, training courses, legislation, links, briefings, and reports. It has a unique “Notable Quotes” Web area <<http://www.homelandsecurity.org/quotes/quote.cfm>> for extensive quotations from public, private, military, government, and congressional sources useful for presentations. The “Homeland Security State and Local Resources” page <<http://www.homelandsecurity.org/bulletin/statepages.htm>> notes new activities at this level with links to sources.

### **World Health Organization (WHO)**

<<http://www.who.int/home-page/>>

WHO covers fourteen infectious diseases and warfare agents worldwide and reports on outbreaks and biosafety. Its “Communicable Disease Surveillance and Response” (CDSR) site <<http://www.who.int/emc/questions.htm>> answers frequently asked questions about the deliberate use of chemical and biological weapons. The “Health Aspects of Biological and Chemical Weapons” page <[http://www.who.int/emc/deliberate\\_epi.html](http://www.who.int/emc/deliberate_epi.html)> provides all the WHO reports published on this topic.

### **The Terrorism Research Center**

<<http://www.terrorism.com/index.shtml>>

This site is the next generation of terrorism analysis, used by the media and an independent organization without a particular political slant. It provides general terrorism news, analysis, counterterrorism resources, training, consultation, profiles of terrorist groups, a calendar of significant dates related to terrorism, travel advisories, and extensive Internet links.

### ***News Services, Electronic Newsletters, Journals***

#### **AHA NewsNow.com**

<<http://www.ahanews.com>>

This is a free daily online newsletter (*AHA News* is a paper weekly companion piece). It is a comprehensive source of hospital and health care new stories including disaster preparedness and bioterrorism. To register, go to <<http://www.ahanews.com/asp/getnewnow.asp>> and view the current edition at <<http://www.ahanews.com/default.asp>>.

**Web Extra: Disaster Readiness**

<<http://www.hhnmag.com>>

Many of the articles on disaster readiness from five of AHA's magazines are available at no charge and include *Hospitals and Health Networks*, *Materials Management in Health Care*, *Trustee* and *Health Forum*  
<<http://www.hhnmag.com/asp/ArticleDisplay.asp?PubID=1&ArticleID=15984>>.

**AMNews American Medical Association**

<<http://www.ama-assn.org/public/journals/amnews>>

This newspaper, called *American Medical News* in its paper format and *AMNews* for the electronic version, offers ongoing coverage of September 11, the medical response, how the aftermath is affecting health care, biothreats, and preparedness. All of the articles appear on its "Special Coverage" Web page in the topic "Terrorism in America"  
<<http://www.ama-assn.org/public/journals/amnews/amnspecial.htm#terror>>.

***Southern Medical Journal***

<<http://www.sma.org/smj/fulltext.htm>>

The full-text article archive covers 1996 through 2001. See the June 1997 issue for a core reference: Sadayoshi Ohbu et al. "Sarin Poisoning on Tokyo Subway," *Southern Medical Journal* 90(6) at <<http://www.sma.org/smj/97juntoc.htm>>. It describes the terrorist incident, classifying the injured, laboratory data, hospital deployment, post-incident symptoms, secondary contamination at hospital, discussion, and references.

**NewScientist.com Hot Topics: Bioterrorism and Bioweapons Special Report**

<<http://www.newscientist.com/hottopics/bioterrorism/>>

This is the Web site of the magazine *NewScientist*. It pulls into one location all the news articles it has published with links on the topic. It also offers a weekly *New Scientist Newsletter* outlining key stories from the print edition and *the New Scientist Compendium*, a quarterly round up of the humorous top stories, offering a break from the disaster and bioterror topics.

**EIIP Virtual Forum - *Emergency Partner Posting Newsletter***

<<http://www.emforum.org/eiip/news.htm>>

**and the EIIP Mail Lists**

<<http://www.emforum.org/vforum/maillist.htm>>

The monthly newsletter covers the world of emergency management and disaster response with updates on activities and services available through the Emergency Information Infrastructure Partnership (EIIP) Virtual Forum  
<<http://www.emforum.org/index.html>>. It offers a current list of seminars, conferences, and training events from participants, electronic sources, and articles. There are several listservs, and those of interest to hospitals include *CFP* for community preparedness and *Forum*, covering all phases and sectors involved with disasters.

***The Journal of Homeland Security***

<<http://www.homelandsecurity.org/journal/>>

Published weekly with an electronic e-mail alert by ANSER, this journal is consistently of high quality and offers substantive interviews with key individuals in the field, book reviews, science and technology, and original articles.

### **Homeland Security Newsletter**

<[http://www.homelandsecurity.org/journal/HLDBulletin/dsp\\_BulletinForm.cfm](http://www.homelandsecurity.org/journal/HLDBulletin/dsp_BulletinForm.cfm)>

Published weekly by ANSER, this newsletter uses an e-mail alert service to update the reader to new items on the ANSER Institute Web site. The current bulletin is at <[http://www.homelandsecurity.org/bulletin/current\\_bulletin.htm](http://www.homelandsecurity.org/bulletin/current_bulletin.htm)>.

### **TRC Real News**

This free electronic news clipping service for the major newspapers provides links to stories specifically on bioterrorism, homeland security, and related topics. To register, go to <<http://www.terrorism.com/mail/subscribe.asp>>.

### ***ALGORITHM FOR DISASTER INFORMATION PREPAREDNESS: CHECKLIST FOR MEDICAL LIBRARIANS***

This algorithm offers basic steps to assure a medical library is prepared to support the information needs of clinicians and patients in the event of a biochemical attack or disaster. It should be supplemented and revised initially and regularly based on your local needs, the emergency response plan of your health facility, and any special facility plans for biochemical terrorism.

### ***Secure Clinical Resources for Bioterrorism, Mass Casualties and Disasters***

A medical librarian should use Internet and Web resources provided here to assist the parent health care facility adequately prepare and remain up-to-date with the ever-changing field. Additionally, the medical librarian should also plan for the clinical information needs and resources during a disaster or a terrorist event using bioterrorism resources mentioned in this special issue of *Internet Reference Services Quarterly*. See also the clinical resources from the December 5, 2001 seminar, *Thinking the Unthinkable ~ Biochemical Terrorism and Disasters: Resources for Medical Librarians* <<http://www.njha.com/njresponse/biopresent.asp>>, sponsored by the New Jersey Hospital Association and the Middle Atlantic Region of the National Network/Libraries of Medicine. All of the seminar's PowerPoint presentations and handouts by the speakers from the CDC, NLM and USAMRICD are online and contain active Web links and thus become concise authoritative mini-manuals to clinical information resources for these topics. With all of this information the librarian can then apply this knowledge, reviewing this checklist and developing a written plan.

### ***Boolean Algorithm of Key Concepts of Medical Library Preparedness***

For summary purposes, this algorithm can be expressed as a Boolean search statement as follows and considers these main disaster planning components: (Planned Improvisation + Training + Documentation) ADJ (Communication + Coordination) </> Readiness  $\cong$  Implementation.

### ***Planned Improvisation***

Remember, in these unprecedented times, this checklist is solely a starting point for further development of a comprehensive local plan for a medical library's information preparedness for biochemical disasters. Importantly, when implemented, disaster planning, whether for a library or a hospital, needs to use planned improvisation. This is the ability to improvise in a planned and coordinated manner for any one of a series of biochemical events, based on the written established medical library information response plan, allowing

coherent action regardless of the type or scale of disaster, since not all can be predicted and documented.

### ***The Checklist, Carpe Diem***

With hindsight, it is apparent why Noah built the Ark before the flood! The *Checklist* shown as the Appendix was created based on actual experiences during two weeks of library services beginning with the events of September 11, in disaster-mode. This checklist is offered to help medical librarians before another disaster or terrorist attack; it will be periodically updated at <<http://www.njha.com/njresponse/pdf/bio-NJHAhandout.pdf>> and suggestions for this purpose can be made to the author. The *Checklist* is reprinted with the permission of the New Jersey Hospital Association.

### **CONCLUSION**

To conclude, this quote by D.A. Henderson, Director, Johns Hopkins Center for Civilian Defense sums up the importance of learning these resources, of hospital disaster preparedness and the necessity for the checklist. Take action, knowing the storm ahead.

Specialists in infectious diseases thus constitute the front line of defense. The rapidity with which they and emergency room personnel reach a proper diagnosis and the speed with which they apply preventive and therapeutic measures could spell the difference between thousands and perhaps tens of thousands of casualties. Indeed, the survival of physicians and health-care staff caring for the patients may be at stake. However, today few have ever seen so much as a single case of smallpox, plague, or anthrax, or, for that matter, would recall the characteristics of such cases.<sup>24</sup>

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### **NOTES**

1. Erik Auf der Heide, "Designing a Disaster Plan: Important Questions," *Plant Technology and Safety Management Series* PTSM no. 3, (1994): 12, 14.
2. American Hospital Association, "What to Tell Your Community About Anthrax," *Readiness Bulletin* (October 19, 2001). Available: <<http://www.aha.org/Emergency/Readiness/RbAlertB1018.asp>>.
3. Joint Commission on Accreditation of Healthcare Organizations, "Standards Revisions for 2001 EC.1.4 Emergency Management." Available: <[http://www.jcaho.org/standards\\_frm.html](http://www.jcaho.org/standards_frm.html)>.
4. Joint Commission on Accreditation of Healthcare Organizations, "Surveyors to Focus on Emergency Management, Staffing Effectiveness," *JCAHOnline* (January 2002). Available: <[http://www.jcaho.org/tip/j\\_online0102.html](http://www.jcaho.org/tip/j_online0102.html)>.
5. N.J.A.C. 8:43G-5.16.
6. National Library of Medicine, "Specialized Information Services: Biological Warfare." Available: <<http://sis.nlm.nih.gov/Tox/biologicalwarfare.htm>>.
7. National Library of Medicine, "Specialized Information Services: Chemical Warfare Agents." Available: <<http://sis.nlm.nih.gov/Tox/ChemWar.html>>.
8. Op Cit. Erik Auf der Heide: 7.
9. Lawrence K. Altman and Gina Kolata, "Anthrax Missteps Offer Guide to Fight Next Bioterror Battle," *The New York Times* 151(51,990):1.
10. Ibid.

11. New Jersey Hospital Association, "Emergency Assistance Update September 12, 2001 11:30 a.m." Available: <<http://www.njha.com/njresponse/njresponse.html>>.
12. New Jersey Hospital Association, New Jersey Department of Health and Senior Services and the Medical Society of New Jersey, "Ten Things You Should Know About Anthrax," November 16, 2001. Available: <<http://www.njha.com/njresponse/pdf/AnthraxFacts.pdf>>.
13. The ANSER Institute for Homeland Security, "Notable Quotes," January 24, 2001. Available: <<http://www.homelandsecurity.org/quotes/quote.cfm?Authorid=42>>.
14. The 6th Annual Emergency Medical Preparedness Symposium, September 11-13, 2001, Holiday Inn, Albany, N.Y. Available: <<http://www.va.gov/visns/visn02/emp/emergency/emereprep2001.pdf>>.
15. Jerry L. Mothershead, "Introduction to Disaster Planning: The Scope and Nature of the Problem," *eMedicine Journal* 2, no. 7 (July 2, 2001). Available: <<http://www.emedicine.com/emerg/topic718.htm>>.
16. Kristi L. Koenig. "Describing Disasters: A New Nomenclature," *Plant Technology and Safety Management Series* PTSM no. 3, (1994): 19.
17. Joint Commission on Accreditation of Healthcare Organizations. "Standards Revisions for 2001 EC.1.4 Emergency Management." Available: <[http://www.jcaho.org/standards\\_frm.html](http://www.jcaho.org/standards_frm.html)>.
18. The ANSER Institute for Homeland Security, "Executive Summary," in *Homeland Security: Balancing a National Strategy Prevention & Deterrence*, (February 11, 2000). Available: <<http://www.homelandsecurity.org/FRExecSum.cfm>>.
19. Slee's *Health Care Terms eEdition*, 4th edition. Saint Paul, MN: Tringa Press, October 2001. Available: <<http://www.tringa.com/index.php>>.
20. "What the Survey Process Expects of Your Organization," *Joint Commission Perspectives* 21, no. 12 (December 2001): 6. Available: <<http://www.jcrinc.com/subscribers/perspectives.asp?durki=1006&site=10&return=1122>>.
21. N.J. Office of Emergency Management, "Press Room: Emergency Management in New Jersey A Historical Perspective." Available: <[http://www.state.nj.us/njoem/press\\_emhistory.html](http://www.state.nj.us/njoem/press_emhistory.html)>.
22. "Hospital Association Recommends HEICS for Disaster Readiness," *Healthcare Security and Disaster Alert* 1, no. 1 (December 2001): 12.
23. Lawrence K. Altman and Gina Kolata, op. cit.
24. D.A. Henderson, "Bioterrorism as a Public Health Threat," *Emerging Infectious Diseases*, 4, no. 3 (July-September 1998). Available: <<http://www.cdc.gov/ncidod/eid/vol4no3/hendrsn.htm>>

## APPENDIX

### Algorithm for Disaster Information Preparedness: Checklist for Medical Librarians – Revised 12/21/01

#### *Personal*

##### **Assure personal safety and disaster readiness**

- Family planning and communications.
- Access preparedness information from the American Red Cross  
<<http://www.redcross.org/services/disaster/beprepared/>> and FEMA  
<<http://www.fema.gov/dizprepare.htm>> Web sites.
- Charge your cell phone regularly.
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- \_\_\_\_\_

#### *Professional*

##### **Assumptions**

- Facility is part of what local or regional public health system for disaster response, what support does this provide?
- How ready is the facility for biochemical disasters, status of facility-wide planning efforts?
- What support does the medical library have for information preparedness, what additional information may be needed in this regard?

- What is the information system's disaster and contingency plan and how does this impact your system-based resources and services? Consider these implications in areas that follow.

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### **Chain of Command**

- Review facility's emergency response plan, your role.
- Who is your facility's designated disaster preparedness and/or bioterrorism key emergency contact(s)? Can you define core teams you need to be aware of?
- Identify lines of authority and key individuals for disasters and biochemical incidents, document.
- Create e-mail groups and paper lists of chains/contacts/teams.
- Consider primary, secondary and tertiary communication groups for communication of library resources, actions and services both within and external of medical library.

- Is key staff aware of your home and cell phone numbers?

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### **Needs/Resources/Services**

- Assess local information needs for biochemical information
  - Textbooks, journals

- Research sources, databases
- Multimedia
- News services
- Graphics: Pictures, Photographs, Radiographs etc.
- Translation Services
- Training on information sources
- Resources for PALM or other PDA formats.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- Inventory existing locally owned information resources for biochemical disasters.
- Inventory existing Web-accessible information resources for biochemical disasters.
- Identify budget or secure additional funding needed.
- Determine priorities, select new resources needed for purchase.
- Intranet access for library's biochemical disaster resources or other local information access .
- Establish new services as required; consider an internal library listserv for staff specifically for this purpose.
- Establish information triage plan for biochemical disaster and non-biochemical disaster information needs, plan back-up staffing as needed.
- Do you have a “buddy system” in place in the event local electronic resources are inaccessible?
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- \_\_\_\_\_
- \_\_\_\_\_

***Training***

- Assess professional training needs of yourself and library staff.
- Budget for and attend library-training programs.
- Assess/create training syllabus for clinician's use of biochemical disaster information resources.
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***Documentation***

- Identify and document local, state and national contacts 24-hour emergency information**
- Document all items listed on checklist as part of medical library's information preparedness plan, in both electronic and print formats.
- Print key intranet resources and bookmarks in paper and diskette backup (i.e. non-servers).
- Locate plan, intranet resources and bookmarks in three places, with at least one location not local.
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- Annually review and revise plan.

### ***Communication***

- Establish need for plan with executive or manager to whom library director reports;** communicate final plan priorities.
- Create plan's legitimacy with potential users via agreement for need of plan; draft plan for their review and approval.
- Clearly communicate with library staff the plan, library staffs' priorities, responsibilities and lines of authority during a biochemical disaster.
- Share your information readiness plan with key groups listed in "chain of command."
- Market biochemical information resource, training, services and access to users.
- Determine best method to periodically inform/remind users of information resources for biochemical disasters.
- Communicate via listservs as needed or create/use new listserv service specifically for this purpose.
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### ***Coordination***

- Coordinate information preparedness activities with key biochemical disaster staff as needed.
- Determine in advance what actions and activities of the medical library need coordination with key staff during a biochemical disaster.
- If coordination meetings occur during a biochemical disaster response, provide the latest printed materials as needed at each meeting.

- Post biochemical disaster incident; provide summary of medical library response and support.
- Coordinate activities with the library's local, regional or state consortia as needed.
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### **Miscellaneous - During Biochemical Disaster**

- Determine key authoritative, high quality updated Web site or contact for *local* information on specific disaster event and communicate to key staff. This will differ for each event and should be evaluated as event occurs. Change as needed.
- Remember the human element and adjust accordingly; don't underestimate the traumatic and stressful responses that occur by everyone. Acknowledge emotions without judgment.
- Remember telephones and Internet access may be disabled temporarily or occasionally.
- As needed, establish medical library as formal or informal response for verification of information rumors or hoaxes using standard information skills.
- Determine library staffing needed during biochemical disaster.
- Determine if triage plan for information requests is needed and implement, communicate with users if plan is or is not in effect.
- Create one filing area for all library records and ready reference for biochemical disaster requests, especially if routine reshelving, etc., needs to be suspended for the duration of the disaster.