

**RT111 Laboratory Operation During a Major Disaster:  
How Prepared Are You?**

Thomas L. Williams, MD, FCAP  
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<b>Slide 1:</b>	<p>Thomas William, M.D., FCAP; anatomic and clinical pathologist; subspecialty boarded, chemical pathology. Current positions include:</p> <ul style="list-style-type: none"> <li>• Medical Director, The Pathology Center at Methodist Hospital, a 350 bed hospital in central Omaha, NE</li> <li>• Director, Chemistry Sections, Methodist and Children’s Hospital laboratories. Children’s is a neighboring, 100 bed pediatric hospital</li> </ul> <p>Background in disaster planning:</p> <ul style="list-style-type: none"> <li>• OMMRS (Omaha Metropolitan Medical Response System): 5 years planning Co-Chair: Communications Subcommittee Co-Chair: Laboratory/Infection Control/Public Health Subcommittee Member: Mass Fatalities Planning, Communications Recruiting and Training, Steering and Chairs Subcommittees/Committees</li> <li>• Nebraska Bioterrorism Advisory and Hospital Preparedness / Planning Committee, Nebraska Medical Association Bioterrorism Task Force</li> <li>• CAP Bioterrorism Task Force</li> <li>• Previous Volunteer Medical Advisor, Red Cross Disaster Health Services (Heartland Chapter, Omaha)</li> <li>• Ad hoc Smallpox Vaccination Advisory Committee (Douglas Co. Health Department)</li> <li>• Co Chair, Methodist Health System Emergency Planning Committee</li> <li>• Co-Chair, Methodist Health System Mass Fatalities Planning Committee</li> <li>• Co-author, CLSI (NCCLS) document: X4-R, “Planning for Challenges to Clinical Laboratory Operations During a Disaster; A Report”.</li> <li>• Ham operator X 40 years: WX0L</li> </ul>
<b>Slide 2:</b>	<ul style="list-style-type: none"> <li>• This presentation focuses on non-analytic challenges your laboratory may face during a large-scale disaster within your community. “Disaster”, synonymous with “incident”, or “event” includes natural, accidental, and terrorist causes.</li> <li>• Why X4-R and this presentation? Lack of information in the literature presenting logistical preparedness challenges with a laboratory focus.</li> <li>• Caveat: This is a brief presentation. I am a knowledgeable professional, not an expert. You can’t get it all here in an hour, or all from me.</li> </ul>
<b>Slide 3:</b>	<p>Probably the most frequently encountered dictum in the area of disaster planning is, <b>“ALL DISASTERS ARE LOCAL”</b>. For the first 36 to 72 hours you and your community are on your own. Lives will be saved or lost, initial responses will be competent or not, based upon what planning and plans, and what degree of integration has been achieved between first responders, health care facilities, emergency planners, and public health.</p>
<b>Slide 4:</b>	<p>Outline:</p> <ul style="list-style-type: none"> <li>• The format follows that of CLSI (formerly NCCLS) document X4-R.</li> <li>• Progresses from the community inward to you.</li> <li>• A very brief tour through 5 challenges.</li> <li>• Summary of the public health role, and what MMRS (Metropolitan Medical Response System) is.</li> <li>• What you can do to assess, initiate, or continue your disaster planning.</li> </ul>

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<b>Slide 5:</b>	<p><b>Terrorism</b> is defined as, “The unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. (FEMA)”. It is important to understand that the global “look and feel”, or in other words the way an incident unfolds, is dependent upon the agent and its method of deployment. Covert and Overt are very different experiences.</p> <p>Key points: We are most familiar with “<b>overt</b>” incidents, such as 9/11. Covert incidents can be as bad or worse: classical example is bioterroristic agent release.</p> <ul style="list-style-type: none"><li>• <b>Covert</b> incident: a disaster in “slow motion,” evolves over hours to days from detection to effect. Can be hard to detect early.</li><li>• Laboratory is essentially a first responder.</li><li>• Large populations may be affected, with many more worried well (people who falsely believe they have been exposed to a pathogen, and present for care, in large numbers).</li><li>• Medical care, behavioral health, decontamination, public health integration, mass prophylaxis or vaccinations are issues.</li></ul>
<b>Slide 6:</b>	<p>Laboratories exist within</p> <ul style="list-style-type: none"><li>• Facilities (often hospitals)</li></ul> <p>Which exist within</p> <ul style="list-style-type: none"><li>• Communities.</li></ul> <p>What facilities and communities do in response to a disaster will impact your laboratory operation, your personnel, and you. Planning can help. It is useful to:</p> <ul style="list-style-type: none"><li>• Basically understand what the generic community response and emergency agencies involved are.</li><li>• Basically understand what the generic hospital response and emergency plans are. Even better to know your own plans, stakeholders, and planners/leaders.</li></ul>
<b>Slide 7:</b>	<p>In a disaster, your community’s disaster plan, contained in a local emergency operation plan (<b>LEOP</b>) will be activated, generally accompanied by centralizing command and control authority within an emergency operations center (<b>EOC</b>) affiliated with your local emergency management agency (<b>EMA</b>). Preexisting memoranda of understanding (<b>MOU</b>) will be implemented to marshal community responses to: (e.g.) share resources, expand care for large numbers of casualties, secure damaged and protected assets, restrict travel, and use alternate means to maintain communications. In addition to the disaster itself if these community responses catch you unprepared or unaware, they will complicate your ability to effectively operate your laboratory. There may be requests to share supplies, share personnel, serve as a cohorted facility caring for a particular type of agent, or disruption of extra-facility services, and mobilization of patients. You may need to use alternate types of communications systems or equipment.</p>
<b>Slide 8:</b>	<p>In a disaster your facility’s disaster plan, increasingly based upon an incident command system (<b>ICS, IMS</b>) model, will be activated. See Hospital Incident Command System (<b>HICS</b>), and <b>JCAHO</b> Hospital Accreditation Standards, E.C. (Environment of Care) 2.10, 4.10, 4.20, 7.30, 7.40. In addition to the disaster itself, these responses will interfere with ordinary laboratory operations. Hospital responses may include localization of command at a central site, lockdown with restricted badge dependent entry, triage, decontamination activities, alternate assignment of staff, restricted traffic flows, police perimeter and security, use of alternate communications systems, and patient transfers via NDMS (National Disaster Medical System). “Chain of custody” (<b>COC</b>), is a sequential, simple record of all personnel, secure sites, and transfer dates/times between same.</p>

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<b>Slide 9:</b>	THE BOTTOM LINE.
<b>Slide 10:</b>	<b>COMMUNICATIONS</b> Communications failures are oft cited as the premier incident complication. <ul style="list-style-type: none"><li>• 9/11, Hurricane Andrew 1992, Seattle Earthquake 2001.</li><li>• TOPOFF 2: Chicago and Seattle "...marred by communications problems...." ...the city and federal officials lacked an 'efficient emergency communications infrastructure'..." Criticized: "Emergency communications [in] Chicago relied heavily on regular telephone lines and fax machines." (From New York Times, December 2003)</li><li>• Best to simply plan for failure of ordinary (daily) telephone line based services. These include public telephones and cell phones, as well as faxes and paging systems routed via public telephone lines.</li><li>• Reasons: physical damage or (more commonly) simple overload.</li></ul> Definitions for purposes of this discussion: <ul style="list-style-type: none"><li>• "Tactical": referring to communications indirectly supporting ordering and reporting. Examples: control of phlebotomy operations; moment by moment direction of personnel; direction of specimen transportation; ancillary inquiries about test or patient conditions; communications with a frozen section suite.</li><li>• "Operational": communications directly involved with ordering and reporting. Examples: initiation and transfer of test orders from floor to lab, or from site to site; reporting and transfer of results from laboratory to intended site of receipt.</li><li>• These can be assessed and reviewed separately as: regional or community level challenges, between health system (hospital) challenges, and within health system (hospital) challenges.</li></ul>
<b>Slide 11:</b>	Community: Tactical <ul style="list-style-type: none"><li>• Use for communicating between health systems, with public health, with disaster organizations (Red Cross, Salvation Army, E.O.C.), regional blood center, alternate care sites.</li><li>• Primary function: moment-by-moment communications across the community, permitting integration of the movement of materiel and personnel, towards an effective response.</li></ul> Definition: Alternate Care Site—non-hospital facilities, such as nursing homes, converted to patient care during an incident, commonly following pre-existing agreements (MOUs).
<b>Slide 12:</b>	Main points: <ul style="list-style-type: none"><li>• Systems routed via public telephone lines are vulnerable (see slide 10)</li><li>• Within health system or hospital, phones may be anticipated to remain functioning. Consult with your facility or health system.</li><li>• Paging may remain functional, if health system or facility owns its own transmitter and paging system. Consult with your facility or health system.</li></ul>
<b>Slide 13:</b>	EXAMPLE: Community Communications in metro Omaha (Nebraska) /Council Bluffs (Iowa), an area approximating 800,000 population. These sites were selected as critical to integrating the community public health and medical response. The Personnel Processing Point is a selected central site for registering and badging incoming volunteer and other workers, immediately after any incident. Other sites including vaccination, and RSS (Receipt Staging and Storage) for the Strategic National Stockpile will be managed with portable radio systems. The "Strategic National Stockpile" represents federally cached medical and pharmaceutical supplies which can be deployed immediately to a disaster site to supplement local resources in the care of large numbers of affected persons.

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<p><b>Slide 14:</b></p>	<p>Radios installed at permanent sites (see slide 13 for sites)</p> <ul style="list-style-type: none"> <li>• MMRS and HRSA funds</li> <li>• Amateur radio FM voice 144 MHz, 220 MHz, and 440 MHz: Amateur Radio Emergency Service. Installations completed.</li> <li>• Amateur radio digital communications (packet radio); installation in process</li> <li>• General Mobile Radio Service REACT supplements</li> <li>• 800 MHz public service trunked system (Douglas County); deployment and training in process (2007).</li> </ul> <p>How to use the “complete” (see next slide) system:</p> <ul style="list-style-type: none"> <li>• Written messages, using a message form, transferred to radio site for relay as directed.</li> <li>• Incoming messages, in writing.</li> <li>• Digital messages, sent, printed.</li> <li>• Direct verbal communications via a voice system.</li> <li>• HIPAA considerations should be considered.</li> <li>• Encryption, variable levels, is an option by packet and 800 MHz.</li> <li>• The system pictured has been tested in two metro area wide drills and works very well.</li> </ul>
<p><b>Slide 15:</b></p>	<p>Comments:</p> <ul style="list-style-type: none"> <li>• Separate Committee plans and oversees operator recruiting, training, and curriculum development.</li> <li>• Trained radio operators are an important asset for ensuring efficient communications.</li> <li>• In our facility, the radios are located one floor down, basically beneath the laboratory.</li> <li>• Types of messages: general incident situation and community updates, request for supplies and personnel, patient transportation updates, public health announcements to area facilities, wireless transmission of pre-programmed forms from site to site pending.</li> </ul>
<p><b>Slide 16:</b></p>	<p>EXAMPLE: Methodist Health System’s approach to assessing and planning for within health system tactical communications during a disaster. Consult with facility / health system experts knowledgeable about your information technology, phone, paging, and emergency communications systems.</p>
<p><b>Slide 17:</b></p>	<p>Methodist Pathology Center’s approach to assessing our operational communications systems for disaster. “Laboratory Information System” (LIS), “Hospital Information System” (HIS).</p> <ul style="list-style-type: none"> <li>• Main questions to ask.</li> <li>• Look primarily for routing dependency upon public telephone lines.</li> </ul>
<p><b>Slide 18:</b></p>	<p>EXAMPLE: Methodist Pathology Center’s approach to assessment for disaster operational communications.</p> <ul style="list-style-type: none"> <li>• Methodist provides transfusion services for Children’s Hospital.</li> <li>• There is no Methodist / Children’s LIS interface.</li> <li>• “AP/CP” refers to anatomic / clinical pathology operations.</li> <li>• Good web access exists at both Methodist and Children’s: but many on-line computers are not on or near emergency power.</li> <li>• Within health system information technology and system to reference laboratory links are considered failure resistant.</li> </ul>
<p><b>Slide 19:</b></p>	<p>EXAMPLE: Methodist Pathology Center’s plan for operational communications during a disaster.</p> <ul style="list-style-type: none"> <li>• Certain assumptions rely upon input of expertise from information technology and communications specialists.</li> <li>• We are placing some reliance upon internet function.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Selected routine operations will be deferred, suspended, or reduced to critical need.</li> <li>• Consider HIPPA / PHI in using backup communications systems.</li> <li>• We plan to attempt to abide by HIPPA, but default from it, using the most secure available system, in the event of criticality of information transfer.</li> </ul>
<b>Slide 20:</b>	<p><b>MASS FATALITIES</b></p> <ul style="list-style-type: none"> <li>• A major disaster is very likely to qualify as a mass fatalities incident.</li> <li>• People who are untrained in mass fatalities operations will usually seriously misjudge (overestimate) the number of fatalities, which are needed to inflict serious challenges to situation management. For example, large well-prepared cities cite from 15 to 20 or 30 deaths as initiating their community mass fatalities plan.</li> <li>• Fatalities may occur primarily at a single location (overt terrorist incident or accident), or at dispersed sites (covert terrorist incident).</li> <li>• If you work in a hospital laboratory, which oversees morgue operations, you may be involved, especially if you are a pathologist, pathologist assistant, morgue assistant, laboratory manager or director.</li> <li>• <b>KEY POINT:</b> The problem is not the remains (deceased person)! There are much greater challenges and issues (See next slide).</li> </ul>
<b>Slide 21:</b>	<p>The main priorities if you are involved in working with a mass fatalities incident:</p> <ul style="list-style-type: none"> <li>• The families of the victims: respect, dignity, counseling, privacy, security.</li> <li>• Physical and psychological care and safety of personnel.</li> </ul> <p>Requires interdisciplinary planning, in advance: for the facility/health system, and for the community.</p> <ul style="list-style-type: none"> <li>• The local coroner or medical examiner is always in charge.</li> <li>• If there is a terrorist or criminal act, the FBI is the lead agency.</li> <li>• Incoming investigators and assets will let the community do as much as they are capable of doing.</li> <li>• Communities and entities involved can incur serious un-reimbursed costs if they are unprepared to track them.</li> </ul>
<b>Slide 22:</b>	<p>The community mass fatalities plan:</p> <ul style="list-style-type: none"> <li>• A good community mass fatalities plan can help keep you out of the action.</li> <li>• Unfortunately, the majority of communities have not yet developed one.</li> <li>• You can look in your community's LEOP and see what is there. Sometimes, the LEOP is "on line". The right side of this slide (first three bullet points) shows attributes of a good plan.</li> <li>• <b>DMORT</b> is "Disaster Mortuary Operations Response Team". Deploys to assist (usually) in federally declared disasters. They can assist with remains identification, embalming, personnel effects, and family counseling. Remains are released to local funeral directors. DMORT may not arrive immediately (if deployed), and does not alleviate the need for a good community plan.</li> <li>• <b>EXAMPLE:</b> Omaha planners have undergone training (IMFC), and have a good plan in final draft, with stakeholders on board.</li> </ul>
<b>Slide 23:</b>	<p><b>EXAMPLE:</b> Methodist Hospital Mass Fatalities Plan.</p> <ul style="list-style-type: none"> <li>• Committee membership and tasks underway are listed.</li> <li>• Status: In development process as this talk is being prepared.</li> <li>• An ultimate goal is development of a plan for management of dispersed fatalities that integrates with a community mass fatalities plan.</li> </ul> <p>Resources:</p> <ul style="list-style-type: none"> <li>• <b>International Mass Fatalities Center.</b> Provides training, on site, for communities in preparing for a mass fatalities incident, along with support and follow-up afterwards. Personal experience: excellent course, instructors, and curriculum. Much of the content of this section is used by permission, International Mass Fatalities Center, Peter Teahen, President.</li> </ul>

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	<ul style="list-style-type: none"> <li>• National Association of Medical Examiners. Has a sample mass fatalities plan on their web site.</li> <li>• American Hospital Association Policy Statement: see referenced website.</li> <li>• Disaster Mortuary Operations Response Team has a web site that provides training and information about their resources and activities.</li> </ul>
<b>Slide 24:</b>	<p><b>ELECTRICAL POWER FAILURE</b> This is our Core Laboratory. Everything here is on back up emergency power. Except...environmental support systems... Our Core Laboratory room temperature predictably goes to 85 degrees F in 15 minutes with public power loss. ☹ Portable fans (big ones) and portable air conditioning are a must, and even with these, we cannot get the temperature below 80 degrees F.</p>
<b>Slide 25:</b>	<p>EXAMPLE: Emergency Power Audit: Answers the question... What do you have when ALL the public power fails? Our facility was built in 1968, expanded subsequently. We found...</p> <ul style="list-style-type: none"> <li>• Rare hot plugs were found not "hot." One of them supported our Blood Bank information system (several years ago).</li> <li>• Lighting very limited to absent in "non-critical" sites: morgue, hallways, histology lab, offices, and bathrooms. One area found to have no emergency overhead lighting was the central specimen control area. This room had been remodeled from a non-critical care function and emergency lighting was not incorporated.</li> <li>• Morgue body cooler was not supported.</li> <li>• Some incubators (microbiology) were not supported.</li> <li>• Auto-flush systems are all battery powered.</li> <li>• Most Internet capable PC's are not on emergency power.</li> </ul>
<b>Slide 26:</b>	<p>Take home message: if / when you encounter a complete power interruption in your laboratory:</p> <ul style="list-style-type: none"> <li>• Take advantage</li> <li>• Take notes</li> <li>• Take action</li> </ul> <p>Solutions can be very simple and you can do them, or solutions may require cooperation of facility personnel.</p>
<b>Slide 27:</b>	<p><b>COMMUNITY TRANSPORTATION</b> During a major disaster, affected parts of your community may or may not be recognizable, or safe. Routine courier services may be disrupted due to physical disruption of routes, employee abandonment due to the incident, acute demands, or security perimeters, leading to considerations of backup transportation systems. Government and public service transportation resources such as the national guard or law enforcement are unlikely to be available. Trained, communications equipped personnel are the best to go, but may not be available.</p>
<b>Slide 28:</b>	<p>If transportation is affected by you or your facility, advanced communication with community emergency operations personnel may help plan routing and avoidance of physical and security barriers, and mitigate risk. Prudent things to consider include, can you: actually drive or get there physically; maintain communications en-route; cross likely security perimeters with your available ID; protect yourself from / avoid hazards indigenous to the incident, keep safe, and get back. Remember, a cell phone may not be worth much.</p>
<b>Slide 29:</b>	<p>Laboratory specimens are routinely transported nationally by commercial air carrier. Security constraints may limit access and availability of usual airfreight resources during</p>

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	<p>a local or national incident. General aviation (meaning “private” aircraft) portions of airfield and small general aviation airfields may be more accessible. Private and corporate aircraft may provide transportation options. The <b>Civil Air Patrol</b> was permitted to fly immediately after 9/11, and is congressionally chartered as the Air Force Auxiliary to provide assistance to local agencies during emergencies. CAP can transport cargo, medical supplies, and blood. Their organization maintains 61000 volunteers, in 52 wings, and 1700 communities. CAP also has extensive communications capabilities. The community level organization is a “squadron”. CAP is customarily included within disaster plans (LEOP) of larger communities. See: <a href="http://www.caphq.org">www.caphq.org</a></p>
<p><b>Slide 30:</b></p>	<p><b>PEOPLE IN DISASTERS</b>  A few brief words about a very large topic and challenge: people and disasters. Terrorism is the most pathogenic psychologically of any disaster. Educational resources are plentiful nationally, and may be usefully supplemented by local community and facility presentations and updates about plans and preparations directly affecting the target audience. Potential sources include state, county, and community emergency planners, behavior health, and public health; facility security and safety, emergency department and infection control personnel and physicians, local experts (if present) and community or state / regional consortia. (In Nebraska, the Nebraska Center for Bioterrorism Education provides programs and speakers, as does the Omaha Metropolitan Medical Response System). Recruiting staff for involvement in response teams, such as decontamination teams, vaccination teams, and emergency radio operations (all examples of Metro Omaha activities) supplements education with action and a sense of personal ability to mitigate and manage a disaster. The <b>Hospital Emergency Incident Command System</b>, now entering its Fourth Edition, is being widely adopted and provides a standardized, scalable response, with specific job descriptions, befitting incidents of different size. The HEICS manual and updated organizational chart can be viewed at their web site: <a href="http://www.emsa.ca.gov/dms2/heics_main.asp">www.emsa.ca.gov/dms2/heics_main.asp</a>. CISM or “<b>Critical Incident Stress Management</b>” is a product of the International Critical Incident Stress Foundation (<a href="http://www.icisf.org">www.icisf.org</a>), and provides a structured approach for helping people prepare for, deal with, and recover from stressful events. CISM has been widely adopted by the law enforcement and fire / rescue community, and is well known within the behavioral health community and increasingly, emergency departments. CISM trained personnel may work in your emergency room, if your laboratory resides in an acute care hospital, and may be able to assist in an incident if needed. It should be noted that Joint Commission on Accreditation of Health Care Organizations requires hospitals to address mitigation, preparedness, response, and recovery, including many of the topics included in this presentation.</p>
<p><b>Slide 31:</b></p>	<p>During a major incident, attention to the emotional needs and status of your staff and your self is critical. The following slide, “Emotional Phases of Disaster” provides an overall view of the expected disaster worker “experience”. No one, even experienced professionals, is immune. A common disaster related stress experience has been identified under the term “<b>Post Traumatic Stress Disorder</b>,” or “PTSD” which can be reviewed via the National Center for Post Traumatic Stress Disorder (<a href="http://www.ncptsd.org">www.ncptsd.org</a>). Fortunately, health care facilities have trained personnel who can help assist the emotional and spiritual needs of staff during an incident.</p>
<p><b>Slide 32:</b></p>	<p>“<b>Emotional Phases of Disaster</b>”  I have found this slide useful in considering the challenges of working through a major incident. Experienced disaster workers have testified personally of the value of these conceptual phases. (Reference: International Mass Fatalities Center).</p>
<p><b>Slide 33:</b></p>	<p><b>PUBLIC HEALTH AND MMRS</b>  Clinical laboratory professionals often have little contact with <b>public health</b> professionals during daily laboratory operations. In the event of, for example, an infectious bioterroristic</p>

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incident, or a naturally occurring influenza pandemic, public health departments and personnel would play a lead role. These have many facets, including but not limited to: planning mass prophylaxis or vaccination, epidemiological investigation of potential widespread or novel diseases (aided by the Laboratory Response Network), notification of health care professionals and institutions of emerging diseases or situations of immanent public safety concern, distribution of pre-scripted or appropriately crafted messages to diverse populations and cultures, isolation and quarantine of affected persons, operation and direction of disbursements of medications or vaccinations, and cooperating in the assurance of environmental surety.

**MMRS is the Metropolitan Medical Response System**, authorized by the Nunn-Lugar-Domenici Amendment to the National Defense Authorization Act for FY 1997, resulted in funding for 124 MMRS jurisdictions, which are:

Alabama—Birmingham, Mobile, Montgomery; Huntsville  
Alaska—Anchorage, Southeast Alaska  
Arkansas—Little Rock  
Arizona—Phoenix, Tucson, Mesa, Glendale  
California—Los Angeles, San Francisco, San Diego, San Jose,  
Long Beach, Oakland, Sacramento, Fresno, Santa Ana, Anaheim,  
Riverside, Glendale, Huntington Beach, Stockton, Bakersfield,  
Fremont, Modesto, San Bernardino  
Colorado—Denver, Aurora, Colorado Springs  
Connecticut—Hartford  
Florida—Miami, Jacksonville, Tampa, St. Petersburg, Hialeah,  
Ft. Lauderdale, Orlando  
Georgia—Columbus, Atlanta  
Hawaii—Honolulu  
Indiana—Indianapolis, Ft. Wayne  
Iowa—Des Moines  
Kansas—Wichita, Kansas City  
Kentucky—Louisville, Lexington, Fayette  
Louisiana—New Orleans, Baton Rouge, Shreveport, Jefferson Parrish  
Maine—(State wide as part of Northern New England MMRS)  
Maryland—Baltimore,  
Massachusetts—Boston, Springfield, Worcester  
Michigan—Detroit, Grand Rapids, Warren  
Minnesota—Minneapolis, ST. Paul  
Mississippi—Jackson  
Missouri—Kansas City, St. Louis  
Nebraska—Omaha, Lincoln  
Nevada—Las Vegas  
New Hampshire—(State Wide as part of Northern New England MMRS)  
New Mexico—Albuquerque  
New Jersey—Newark, Jersey City  
New York—New York City, Buffalo, Rochester, Yonkers, Syracuse  
North Carolina—Charlotte, Raleigh, Greensboro, Columbia  
Ohio—Columbus, Cleveland, Cincinnati, Toledo, Akron, Dayton  
Oklahoma—Oklahoma City, Tulsa  
Oregon—Portland  
Pennsylvania—Philadelphia, Allegheny County  
Rhode Island—Providence  
South Carolina—Columbia  
Tennessee—Memphis, Nashville, Chattanooga, Knoxville  
Texas—Houston, Dallas, San Antonio, El Paso, Austin, Fort Worth,  
Arlington, Corpus Christi, Garland, Lubbock, Amarillo, Irving, Southern  
Rio Grande

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	<p>Utah—Salt Lake City  Vermont—(State wide as part of Northern New England MMRS)  Virginia—Virginia Beach, Norfolk, Richmond, Chesapeake,  Newport News, Arlington County  Washington—Seattle, Spokane, Tacoma  Wisconsin—Milwaukee, Madison  Washington DC remains in Metropolitan Medical Strike Team status</p> <p>If you live in one of these cities, your community has already received federally contracted funds to strengthen medical response capabilities to a weapons of mass destruction incident. While communities have approached planning and use of these funds differently, the content of this presentation exemplifies some of the planning efforts in metro Omaha/Council Bluffs and characterize our community's efforts to complete selected "deliverables" which all MMRS cities are responsible to address. Potential contacts for further information about local planning for you could include: your community's MMRS coordinator (if such exists), your local or state emergency management agency staff or director, local or state health department staff or director, coroner or medical examiner serving your jurisdiction, mental/behavioral health, local police community relations, local elected officials, and your facility's security, safety, administration or emergency department.</p>
<p><b>Slide 34:</b></p>	<p><b>ASSESSING YOUR PLANS</b></p> <p>The intent of this presentation and CLSI X4-R is to attempt to view the bigger picture of non-analytic challenges of a major disaster through the eyes of clinical laboratory professionals. And to embellish those issues which seem of particular concern to "us".</p> <p>It is not unlikely that you are pondering what's actually being done in your community and facility to mitigate and respond to a large local disaster. There are myriad serious challenges to community and health care leadership today, and committed planning for disaster operations is often, if not usually, overshadowed by more immediate and certain concerns. Conversely, it is also difficult to adequately communicate good planning efforts to everyone. The planning effort (including examples in this presentation) for metro Omaha / Council Bluffs has been driven largely by health care, but such a planning model is very unusual, if not unique. There may be considerable, or little, communication between community emergency planners and health care facilities, depending upon the approach to emergency planning employed in your community.</p> <p>Thus, it is perfectly proper to ask questions of facility and community planners, and even get involved. And if you show interest, you may become extensively involved (personal reflection).</p> <p><b>Looking for: organized activity, structure, what's been done?</b></p> <p>Within your laboratory. For the record, we do not have a standing laboratory planning committee dedicated in any way to "disaster planning." We do consider challenges to disaster operations within our pre-existing operational and management organizational structure. Two of our pathologists have received smallpox vaccinations, some laboratory staff have been volunteers for the Methodist Hospital Decontamination Team, and we have laboratory personnel engaged in active participation in state, community, and hospital committees directly or indirectly engaged in disaster planning.</p> <p>At your facility, what committees and personnel are working disaster related issues? Safety and security personnel, infection control personnel, emergency department, pharmacy, laboratory leadership, and administration are likely participants. And related committees. At the facility level, there should be evidence of disaster planning, in the form of plans, planning, involved personnel, and equipment. The activities there can be reviewed and discussed with participants, and compared with examples in this</p>

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presentation or with items in CLSI X4-R. The specific plans will differ, but planning for the generic challenges should be ongoing. Because a successful response to a large-scale disaster necessitates a coordinated community-wide effort, the facility response plans should integrate with, or planners have knowledge of, the community response plan. Some planning concerns of particular interest to laboratory and pathology department leadership are noted immediately below. These may be referred to in facility emergency plans and/or the LEOP.

It is most important to be sure that the facility emergency plans and LEOP does not stipulate disaster activities for you or your facility that you are unaware of, and may object to. (Such "surprises" in un-reviewed emergency operations plans are not unusual).

The community emergency operations plan can be found in the Local Emergency Operations Plan (LEOP), which resides at your local Emergency Management Agency (EMA). Your LEOP may be available on line.

Facility emergency plan and LEOP contents of particular interest to laboratory and facility leadership would include, ascertaining the existence and sufficiency of plans for the following:

- Response to a mass fatalities incident
- Maintaining healthcare communications in the event of collapse of the public telephone system
- Directing integrated resource sharing (supplies and/or staff)
- Receiving and credentialing incoming volunteer professionals during an emergency
- Public health interactions with health care (including laboratory)
- Hospital cohorting, for selected diseases
- Supporting transportation of medical supplies during a disaster
- Behavioral health support for affected persons (victims and staff)
- Law enforcement plans assuring facility security by during an incident
- Protection of public and health care workers during bio-hazardous incidents (community and facility level), including availability of therapies for chemical agents of terrorism
- Memoranda of understanding pertaining to alternate care facilities and their support

Not all communities' LEOP will address all of these issues. Again, what is useful is to note, what is addressed (or not), and what, if any, your potential role in the response plan is stipulated to be (and are you aware of and comfortable with this role).

**Is active planning continuing?**

Beyond plans, who are the people who are continuing to meet and plan? Who is meeting in the same room, and are they interdisciplinary in representation? Sample interdisciplinary representation at the facility and community level could include persons representing: facility, public health, emergency management, local law enforcement / EMS, and local elected officials or their representatives; with other representatives incorporated as details or specific problems arise. Ongoing active planning is better than big plans on shelves.

Our community's and facilities' experience has been that disaster planning is never "done." There are continuing challenges of sustaining and maintaining equipment, training, agreements and personnel; expansion of current personnel and equipment resources as plan defects are found and new equipment or procedures become implemented; and maintaining liaison with facility departments and community / state agencies involved.

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	<p><b>Laboratory and facility awareness and involvement?</b> The topics of this presentation are germane to leadership introspection about facility and community planning activities and knowledge.</p> <p>In my opinion, THE hallmark of active and dynamic community and facility plan development is active networking of the major stakeholders' representatives. This ideally means individuals who are or represent the major players (entities at the community level, and departments /sections at the facility and laboratory level) interactively meeting and planning together. Thus, the existence of facility and community representatives who can "off the top" name and describe the major agencies, entities, personnel, and plans, and their general respective responsibilities for selected incidents, is an exceedingly positive finding. These individuals possess a general understanding of what their own roles are (and are not), as well as what other departments, entities' and agencies' roles are (and are not), and can train their colleagues and assist with facility and laboratory plan development.</p>
<p><b>Slide 35:</b></p>	<p>Note: the checklist items here, partly modified from CLSI X4-R, should be considered as guidelines for preparedness enhancement, not as mandatory accomplishments.</p> <p>These represent a self explanatory set of checklist questions which touch upon the challenges presented today.</p> <p>In summary, while much education has been properly offered to assist the clinical laboratory community in preparing for the analytic challenges of disaster, especially of bioterroristic origin, comparatively little attention has seemed directed to preparing for the non-analytic (logistical) challenges which may compromise or cripple laboratory operations. These challenges are not insubstantial. However, advanced planning can mitigate their effects and speed recovery of the laboratory and its personnel from a crisis experience.</p> <p>I may be contacted by email at Tom.Williams@nmhs.org if you have further questions.</p> <p>Please remember this is a broad topic, and we have only surveyed it briefly today. Much of the content offered today consisted of examples of what has been done in our community and facility. It is up to you, your laboratory, facility, and community to work together to develop your own unique emergency response plans. We have learned that preparedness is never done, and there remain many disaster planning related issues and problems which we are continuing to collaboratively address in our own community, facility, and laboratory.</p> <p style="text-align: center;">"Planning is essential. Plans are optional." <b>Winston Churchill</b></p>

**References, Acknowledgements, Resources**

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