Hospital and Healthcare Systems

Surge Capacity

Donna Barbisch, CRNA, MPH, DHA
Global Deterrence Alternatives
Barbisch@earthlink.net

June 3, 2003
Critical need for healthcare expansion capability

- Immediate need
  - Capability to provide xx% expansion if an event occurs today

- Long-term need for synchronized and sustainable regional application
  - Requires solutions designed to work in future years
    (These could be entirely different solutions)
Today’s hospital “system” is analogous to independent fire stations that do not have agreements with others for multiple alarm fires

– No broad incident command structure
  – The Hospital Emergency Incident Command System (HEICS) is a good start for facilities, but it is internal to the facility

– No unified command

No universal organized process exists to connect the disparate elements of the healthcare system to emergency management
Surge Capacity

Surge capacity* – the ability to expand care capabilities in response to prolonged demand

“Surge capacity encompasses potential patient beds; available space in which patients may be triaged, managed, vaccinated, decontaminated, or simply located; available personnel of all types; necessary medications, supplies and equipment; and even the legal capacity to deliver health care under situations which exceed authorized capacity.”

Flexible Medical Response to BW Terrorism

Scale of Attack (no. of casualties)

- 1,000,000 (+)
- 100,000
- 10,000
- 1,000
- 100 (-)

Scale of Medical Response

- Fully activate Federal / National Response Plan
- Evacuate Non-BW Patients Out of Area
- Activate State and Mutual Aid Resources and Volunteers
- Area Hospitals - Emergency Questions
- Area Hospitals - Normal Operations

Concepts under review or development
- NDMS*
- Citizens Corps
- Home Care
- Isolation & Quarantine

*NDMS: National Disaster Medical System
Surge Capacity

Additional Requirements in “Healthcare”:

- Broad Incident Management Structure
- Communication Systems
- Non-hospital care
  - Physician and clinic capability
  - Home health
  - Hospice
- Preventive Medicine
- Laboratory
- Stress Management
- Mortuary Affairs
- Veterinary
- Transportation
Options

Expand through a planned “Degradation of Care”

- Develop protocols addressing emergency standard of care procedures
- Add beds to existing facilities
- Convert existing buildings to temporary hospitals
- Build temporary facilities
- Mobile facilities- expand in place or deploy to incident site
The Path

District wide:

- Define Requirements
- Assess Capabilities and Capacity
- Identify priorities
- Implement programs

“We cannot guarantee that a bioterrorist act will never be committed against …but we can be sure that anyone contemplating such an attack will know we are prepared to meet it. That we have the infrastructure in place to quickly and effectively turn back the threat of an epidemic, plague or any other kind of biomedical disaster any would-be terrorist would throw at us.

Tommy Thompson, Secretary, US Department of Health and Human Services, 11 July 2002

Region/Nation wide:

- Synchronize plans
- Identify gaps
- Collaborative solutions
DC Concept

- Provide regionally deployable immediate surge capacity to the region

- Utilize incident management system to synchronize existing healthcare resources with unified command and traditional emergency management

- Establish maintenance and logistics support agreements with federal partners located in region

- Optimize personnel support options through contingency contracting and volunteer corps

- Initiate mission area analysis to provide strategy to task framework with defined objectives and measurable outcomes

- Develop immediate and long term capabilities *

  May look very different
Synchronization

• Provides complimentary expansion to existing hospital and emergency management structure

• Connects with existing local plans:
  • Emergency Management Casualty Collection Points
  • Hospital alternate sites (JCAHO requirement)
  • Ambulatory Care Centers (ACC)
  • Neighborhood Emergency Health Centers (NEHC)
  • Metropolitan Medical Response System (MMRS)

• Designed to fill gaps between existing care and federal support programs:
  • National Disaster Medical System (NDMS)
  • Strategic National Stockpile (SNS – formerly NPS)
  • Federal support to National Capitol Region (NCR)
Medical Incident Management

- Locally owned and managed (DC Department of Health)
- Utilize Incident Command Principles
- Contractor support personnel management
- Unified command operational concepts
  - Engages hospitals and other healthcare assets
  - Local, state, and federal partnerships
  - Deployability: supported by regional assets
  - Local incident commander (DC, VA, or MD) has oversight over all assets when deployed to the area
Training and Deployment Support

- Staff modular site for training support
  - Provides training synchronization field site

- Dual mission training staff as advisory and coordination staff to medical incident commander
  - Provides operational support to incident commander
Modular Readiness

- Deployable Hard shell
  - Configured for up to 8 emergency medical critical care patients

- Two soft shell modules
  - Configured for 16 critical or 20 minimal care patient each (32-40 total)

- Equipment and supplies for 72 hours - continuous operation

- Mobile - expand in place or deploy to incident site

- Connects to pre-planned patient care sites
Hard Shell Module

- Rapid set-up (less than 1 hour)
- 8 patient critical care capability
- Meets JCAHO standards, ready to plug in
- Integrated patient monitoring
- Patient care console includes telephone, fax/modem port, data port, medical gas, call button and electrical outlets.
Soft Shell Module

Options:
• Critical Care Modules
• Holding Modules
• Triage Modules
Time Phased Modular Expansion

Mobility supports connection/synchronization with existing structure or plans:
- Fixed facility patient holding (i.e. gymnasium/armory/etc.)
- Acute Care Center concept
- Casualty collection points
- Goal: 1000+ patient capability

Kansas: Influenza pandemic 1918 Courtesy of PBS
Personnel Support

- Use contingency contracting model for contractor support
- Synchronize healthcare facility personnel planning with non healthcare facility medical personnel capability
- Site management personnel provide training and response support
- Outreach to Medical Reserve Corps
Mission Area Analysis

- Addresses long term goals to refine concept
- Strategy to Task Framework
- Fast-Track Execution
- Stakeholder planning groups will refine concept
- Define best practice options and relevant, cost effective solutions
- Develop implementation benchmarks
- Test and exercise
- Measured results
Outcome

• Enhance National Capitol Region patient care capacity with the ability to expand care in response to prolonged demand

• Systematic expansion with immediate and staged capacity for comprehensive triage, treatment, and overall patient care

• Isolation and containment of contaminated and contagious victims

• A template for the Nation
Life is full of wonderful opportunities temporarily disguised as overwhelmingly irresolvable problems
Back up slides
<table>
<thead>
<tr>
<th></th>
<th>Army</th>
<th>Air Force</th>
<th>Navy</th>
<th>Civilian</th>
<th>TOTALS</th>
<th>Grand Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Officers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>3250</td>
<td>3714</td>
<td>3145</td>
<td>5299</td>
<td>8444</td>
<td>15408</td>
</tr>
<tr>
<td>Doctors</td>
<td>4184</td>
<td>3691</td>
<td>4096</td>
<td>614</td>
<td>4710</td>
<td>12585</td>
</tr>
<tr>
<td>Veterinarian</td>
<td>403</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td>417</td>
</tr>
<tr>
<td>Med Service</td>
<td>3829</td>
<td>1071</td>
<td>2655</td>
<td>xx</td>
<td>2655</td>
<td>7555</td>
</tr>
<tr>
<td><strong>Officer Total</strong></td>
<td>11666</td>
<td>8476</td>
<td>9896</td>
<td>5927</td>
<td>15823</td>
<td>35965</td>
</tr>
<tr>
<td><strong>Enlisted</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medics</td>
<td>29329</td>
<td>19338</td>
<td>21688</td>
<td>xx</td>
<td>21688</td>
<td>70355</td>
</tr>
<tr>
<td><strong>Enlisted Medics</strong></td>
<td>40995</td>
<td>27814</td>
<td>31584</td>
<td>5927</td>
<td>37511</td>
<td>106320</td>
</tr>
</tbody>
</table>

Enlisted Medics include all medical specialties

Drilling Reserves = Individual Mobilization Augmentees (IMA) + Troop Program Unit (TPU) Soldiers

FY 01 OASD Health Affair Health Manpower Personnel Data System
## Total Reserve Force Medical Strength

<table>
<thead>
<tr>
<th></th>
<th>Army Reserve</th>
<th>Army Guard</th>
<th>Air Reserve</th>
<th>Air Guard</th>
<th>Navy Reserve</th>
<th>TOTALS</th>
<th>Grand Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Officers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>9483</td>
<td>773</td>
<td>5034</td>
<td>834</td>
<td>3280</td>
<td>9148</td>
<td>19404</td>
</tr>
<tr>
<td>Doctors</td>
<td>3104</td>
<td>600</td>
<td>2275</td>
<td>440</td>
<td>2537</td>
<td>5252</td>
<td>8956</td>
</tr>
<tr>
<td>Veterinarian</td>
<td>294</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>310</td>
</tr>
<tr>
<td>Med Service</td>
<td>4408</td>
<td>969</td>
<td>877</td>
<td>312</td>
<td>1131</td>
<td>2320</td>
<td>7697</td>
</tr>
<tr>
<td><strong>Officer Total</strong></td>
<td>17289</td>
<td>2358</td>
<td>8186</td>
<td>1586</td>
<td>6948</td>
<td>16720</td>
<td>36367</td>
</tr>
<tr>
<td><strong>Enlisted</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SELRES</td>
<td>19110</td>
<td>15477</td>
<td>6574</td>
<td>4192</td>
<td>6183</td>
<td>16949</td>
<td>51536</td>
</tr>
<tr>
<td>Ready Reserve</td>
<td>11040</td>
<td>260</td>
<td>3725</td>
<td>0</td>
<td>4092</td>
<td>7817</td>
<td>19117</td>
</tr>
<tr>
<td><strong>Enlisted</strong></td>
<td>36399</td>
<td>17835</td>
<td>14760</td>
<td>5778</td>
<td>13131</td>
<td>33669</td>
<td>107020</td>
</tr>
</tbody>
</table>

Enlisted Medics include all medical specialties

Drilling Reserves = Individual Mobilization Augmentees (IMA) + Troop Program Unit (TPU) Soldiers

FY 01 OASD Health Affair Health Manpower Personnel Data System