Changing Roles of Veterinarians in Public Health Emergencies

Path to National Preparedness

Dr. Tom McGinn

Natural & Man Made Disasters

Mad Cow

Chaos, Confusion & Crisis

1973 Energy Crisis

Cooperation, Coordination & Communication
Information Discovered in Afghanistan Illustrates Al Qaeda’s Interest in Biological Weapons

Al Qaeda’s Interest in Biological Weapons

Potential FMD Disease Spread After a Simulated Terrorist Attack at 5 Locations

Day: 30
States Infected: 40
Day 5 Disease First Detected

Potential Impact: If a National “Stop Movement” of all susceptible animals is ordered on Day 8, by the time the disease is eradicated the Nation would still lose 23.6 million animals!

States Infected: 5
12 15 19 23 27 30 33 35 37 38 39 40

An Improved National Surveillance & Detection System would reduce disease spread!

FMD Agricultural Bioterrorism Outcome

These Numbers Represent the Estimated Maximum Daily Manpower Requirement to Control the Disease Outbreak Predicted in This Model:

<table>
<thead>
<tr>
<th>Category</th>
<th>Manpower Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Outbreaks (5)</td>
<td>32,105</td>
</tr>
<tr>
<td>Secondary Outbreaks (32)</td>
<td>178,847</td>
</tr>
<tr>
<td>Tertiary Outbreaks (106)</td>
<td>499,800</td>
</tr>
<tr>
<td>Disaster Federal Assistance Staff Offices (44)</td>
<td>13,200</td>
</tr>
<tr>
<td>Total</td>
<td>723,952</td>
</tr>
</tbody>
</table>

The Nation is Not Prepared to Resource a Response at This Level and Our State Response Plans Are Not Integrated With Other States or With the Current Federal Response Plans!

Battle Lines

- **Linear Battle Lines**
  - Limited Protection of Supply Lines (Food)
  - Ease of Enemy Infiltration
  - Vast Supply Channels
  - No Reserves = “Just in Time”
  - Disease Not Battle Injury = DNB

- **Non-Linear Battle Lines**

Food Contamination Scenario

*BIO* Terrorist Attack Trace Out

<table>
<thead>
<tr>
<th>Location</th>
<th># Sick</th>
<th># Dead</th>
<th># ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fairfield</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Greeley</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fort Morgan</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Amarillo</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tempe</td>
<td>1072</td>
<td>178</td>
<td>391</td>
</tr>
<tr>
<td>Jasper</td>
<td>209</td>
<td>28</td>
<td>209</td>
</tr>
<tr>
<td>Indianapolis</td>
<td>1545</td>
<td>200</td>
<td>502</td>
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<tr>
<td>North Platt</td>
<td>497</td>
<td>36</td>
<td>497</td>
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<tr>
<td>Fort Worth</td>
<td>2384</td>
<td>268</td>
<td>2384</td>
</tr>
<tr>
<td>Sanger</td>
<td>599</td>
<td>88</td>
<td>599</td>
</tr>
<tr>
<td>Dallas</td>
<td>1012</td>
<td>45</td>
<td>1012</td>
</tr>
</tbody>
</table>

Worried Well Effect

Symptoms Produced If Infected:
- Gastro
- Respiratory
- Neurological

Allergy, Flu or Common Gastrointestinal Patients Will Assume They Are a Victim. The Public Health System Will Be Quickly Overloaded!
Food and Agricultural Security Activities in DHS

- Gathers/assesses intelligence on agricultural & food issues: critical infrastructure identified in the NSC
- Science and Technology
  - Collaborates on research, development, & planning with HHS (FDA, CDC), USDA (APHIS, ARS), labs, universities, and private sector to included Agro Terror Homeland Security Center of Excellence
  - Operates National Biodefense Analysis & Countermeasure Center at Ft. Detrick (includes Plum Island Animal Disease Center)
  - Develops detection/surveillance systems to identify pathogens of human and public health concern & to ensure security at critical nodes in food & agriculture

Federal Departments

- USDA
- HSC
- HHS
- AID
- State Dept
- DOD
- CRS
- DHS

Food and Agricultural Security Activities in DHS (cont.)

- Information Analysis and Infrastructure Protection
- Joint Preliminary Damage and Needs Assessment

FEDERAL DISASTER RESPONSE

- Emergency Support Functions
- Disaster Field Operations
- Voluntary Organizations
- Federal Regions
- Governor
- President
- Federal Director
- Programs of the United States
- National Response Framework
- Vital Information

Terrorist Corruption of the Integrity of Food Quality Control Process

The Intentional Introduction of a Contaminated Tissue or Food Sample into the Quality Control or Laboratory System Would:

- Trigger a Similar National Response
- Confidence in the Food Chain Would Be Undermined
- Entire ‘Farm to Fork’ Food System Processes Would Be Shut Down
- Enormous, Long Term Economic Consequences

U.S. Department of Homeland Security Organization

Combined 22 Federal Agencies to create:
- Four Policy Directorates:
  - Border and Transportation Security
  - Emergency Preparedness and Response
  - Information Analysis and Infrastructure Protection
  - Science and Technology
- Management Directorate
- United States Coast Guard
- United States Secret Service

Border and Transportation Security

Secures borders, ports, airports and other modes of transportation, interfacing with USDA’s Animal and Plants Health Inspection Service (APHIS)

Emergency Preparedness and Response

Leads efforts to prepare for and respond to terrorist attacks and coordinates efforts with USDA and HHS in responding to public health emergencies and biological threats to food an agriculture
Emergency Support Functions

1. Transportation Department of Transportation
2. Communications National Communications System
3. Public Works and Engineering Department of Defense Army Corps of Engineers
4. Firefighting Department of Agriculture
5. Information and Planning Federal Emergency Management Agency
6. Mass Care American Red Cross
7. Resource Support General Services Administration
8. Health and Medical Services Department of Health and Human Services
10. Hazardous Materials Environmental Protection Agency
11. Food Department of Agriculture Food and Nutrition Service
12. Energy Department of Energy

Defense of US Agriculture and Food - (HSPD - 9)

- DHS, USDA, HHS, EPA, FDA
- Develop Robust, Comprehensive and Fully Coordinated Surveillance and Monitoring Systems
- Early Detection; Adequate, Quick and Effective Response to Food and Agriculture Infrastructure
- National Veterinary Stock Pile / National Plant Disease Recovery System

Defense of US Agriculture and Food - (HSPD - 9)

- Tracking System:
  - Animals, Plants, Food
- Nationwide, Interconnected, Standardized Federal and State Laboratory System
- Enhanced Intelligence
- Vulnerability Assessments, Mitigation Strategies

National Urban Search and Rescue Response System and Task Forces

Medical Response Teams

National Disaster Medical System

NDMS—A nationwide Medical Response System and public/private sector partnership
- 108 NDMS Teams supplement State and local medical resources during disasters or major emergencies
- Provides patient evacuation from disaster areas
- Provides in-hospital medical care for disaster victims
- Coordinates activities of regional medical emergency coordinators
- Provides backup medical support to the DOD/VA medical care systems during an overseas conventional conflict
Responsibilities

- Rabies & County PH Boards traditionally
- Food & Water
- Terrorism
- Intel
- Risk & Vulnerability
- Research & Development
- Policy
- Emergency Management
Disciplines

- Research
  - Models, Food, Decon, Chem, Rad, Disposal
- New Centers
  - Risk, Food, Foreign Animal Disease, Communications, Preparedness and Response?
- International
- Education

Now what is a zoonosis??

Avian Influenza (AI)

- Value Of GIS In Communicating Control Strategies:
  - Rendering
  - Testing
  - Moving
- Essential For USDA To Become Involved Early On
- Value Of Beginnings Of ICS System
- Lack Of State Resources
- Stronger Epidemiology Presence In Planning Section
- Limited National Resources
- Ease Of National Spread Of Diseases (Live Bird Markets)

Avian Influenza (AI) cont.

- NC “ounce of prevention = 6 Flocks Vs 100’s
- An Involved Proactive Industry Willing To
  - Accept Costs
  - Public Opinion
  - Depopulate Fast
- Result Was: Saved Million Of Dollars For Themselves, USDA, And State
- Disposal Was Primary Issue That Slowed Response In VI And Accelerated The Disease Spread
- Declared Emergency Is Critical In Allowing Environmental Regulations To Be Waived
- Euthanasia Methods Improved By CO2 Technique
- Effects Of Unregulated Live Bird Market

Monkey Pox

- Need To Control Importation Of Exotics
- Confiscation And Euthanasia Programs
- Penalties For Placing Exotics In The Wild
- Penalties For Movement Against A Quarantine
  - Pet Stores Sometimes Do Not Sell Animals But Give Them To Employees And Friends Against An Order
- Integration With Public Health
- Value Of Educational Program
- Non Conventional Program For Agriculture
Monkey Pox

- Message To Small Animal Vets
- They Have Public Health Concerns / Responsibilities
- Strategic National Stockpile (SNS) Does Not Include Medications For Distribution To Animals
- If Emergency Event Has An Animal Vector, SNS Will Need Enough Meds To Prevent Spread To Humans
- Vets Will Not Have Enough Med For Animals In Stock And Currently Can Not Rely On SNS To Provide

Exotic Newcastle Disease

- Limited State And National Resources For National Disease Program
- Need Of Multi-Agency ICS System (Shared ICS Section Command)
- Logistical Issues Related To Supplies Worked Out On The Local Level
- Utilize The Forest Service Ounce Of Prevention Beats A Pound Of Cure
- Education for Ethnic Populations For Prevention
- Disease Eradication Involves Ethnic Considerations
- Third Party Bio-Security Of The Industry

Exotic Newcastle Disease

- Illegal Bird Movements Abound Pet Stores And Backyard Animals High Potential To Destroy Food Supply / Industry
- Disposal Still A MAJOR Political And Environmental Problem
- Landfill Can Solve Short-term Issue But Is Not Solution
- Mortality Can Be Trucked Without Disease Transmission
- If The Disease Escalates, Request Multi-State Response Early To Manage Problem
- Knowing Who And What (All Species) And Where Is Critical To Response
- WE Need To Know Where Animals Are Even If They Are Small Herds/Flocks

SARS Mapping

NCDA & CS: EMERGENCY PROGRAMS DIVISION AND NC PUBLIC HEALTH BIOTERRORISM REGIONAL RESPONSE TEAM PRIMARY RESPONSE AREA BOUNDARIES
SECTION 9. G.S. 106-307.2 reads as rewritten:

"§ 106-307.2. Reports of infectious disease in livestock and poultry to State Veterinarian.

(a) All persons practicing veterinary medicine in North Carolina shall report promptly to the State Veterinarian the existence of any reportable contagious or infectious disease in livestock and poultry. The Board of Agriculture shall establish by rule a list of animal diseases and conditions to be reported and the time and manner of reporting.


All information collected and published by the Department of Agriculture and Consumer Services pursuant to this Part shall be classified so as to prevent the identification of individual farm operators. All information received pursuant to this Part from individual farm operators shall be held confidential by the Department and its employees. Information collected by the Department from individual farm operators for the purposes of its animal health programs may be disclosed to the extent necessary to carry out its animal health programs and will be used in the implementation of such programs.

(1979, c. 228, s. 3; 1993, c. 5, s. 1; 1997-261, s. 26.)"
Bed Capacity Management

60% of homes have pets

ArcPad – Automated Forms

Remote Sensor & GIS Technology
Real-Time Disease Surveillance Tool

Business Continuity

G 8 Summit Leadership
- Governor
- Food Protection
- Emergency Management
- State Dept. Agenda
- Medical Coverage
- WMD