

Introduction to the Strategic National Stockpile

Stacy A. Robarge-Silkiner
SNS Coordinator
KDHE Center for Public Health Preparedness



Module 1

Strategic National Stockpile Overview



What is the Strategic National Stockpile?

The Strategic National Stockpile (SNS) is a national repository of antibiotics, chemical antidotes, vaccines, antitoxins, life-support medications, intravenous administration and airway maintenance supplies, and medical/surgical items.



Division of SNS (DSNS)

- The Division of SNS (DSNS) is under the Centers for Disease Control and Prevention (CDC) with the Department of Health and Human Services (HHS)
- DSNS ensures the availability and rapid deployment of the SNS and supports, guides, and advises on efforts by state and local governments to effectively manage and use SNS assets that may be deployed.
- The mission of DSNS is to deliver critical medical assets to the site of a national emergency.
- The vision of DSNS is to be the Nation's premier medical material preparedness and response organization



History of the SNS

- In 1999 the U.S. Congress tasked HHS and CDC with establishing a National Pharmaceutical Stockpile (NPS)
- During federal fiscal years 1999-2001 funding for the NPS was about \$50 million
- In 2001 CDC increased the number of 12-hour Push Packages from eight to twelve
- The Homeland Security Act of 2002 charged the Department of Homeland Security (DHS) with stockpile funding and deployment
- In federal fiscal year 2002 funding was \$645 million and in fiscal year 2003 it was \$300 million



History of the SNS

- 2002 the Shelf Life Extension Program was developed through FDA
- 2002 the CHEMPACK Program was outlined
- March 2003 the NPS becomes the SNS under joint management of DHS and HHS.
- 2004 the Cities Readiness Initiative introduced



SNS Deployments

- September 11, 2001: World Trade Center Response
 - TARU arrived within 3 hours of approval
 - Push package arrived within 7 hours of approval
 - Additional Managed Inventory arrived within 12 hours
- October 2001: Anthrax Response
 - 70+ shipments of antibiotics within a 6 week period
 - SNS response involved 9 states plus DC
 - Technical assistance deployed to FL, NC, MD, VA, DC, and NY
- August-September 2005: Hurricane Katrina/Rita Response
 - Separate TARU deployed to Louisiana and Mississippi
 - 12-hour Push Package deployed to Mississippi
 - Managed Inventory deployed to Mississippi and Louisiana



Federal Level Response

Module 2



SNS Formulary

The formulary for development of the SNS was based on the Category A Agents plus chemical nerve agents and recommendations from the Intra-governmental Committee for the Composition of the Strategic National Stockpile.



These assets are meant to *supplement* local/regional/state supplies

The formulary consists of:

- Pharmaceuticals
- Antibiotics
- Chemical agent antidotes
- Vaccines, Antiviral drugs and Antitoxins
- Other emergency medications
- IV administration supplies
- Airway management supplies
- Radiation, Burn and Blast supplies
- Wound care supplies

12-Hour Push Package

- There are 12 Push Packages located strategically around the United States (6% of SNS assets)
- Each package contains
 - Large amounts of prepackaged, individual 10-day regiments for over 300,000 people
 - Intravenous drugs and supplies for administration
 - Chemical antidotes and related supplies
 - Airway management supplies
 - Medical/Surgical supplies
- Can be delivered anywhere in the U.S. within 12 hours of a federal order to deploy



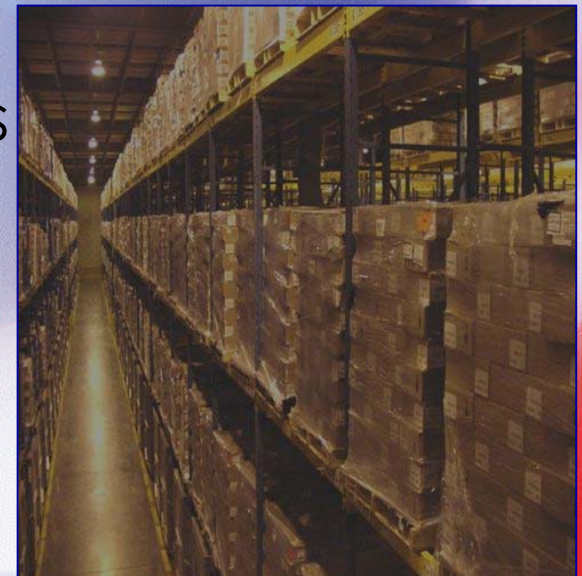
12-Hour Push Package

- Can arrive on nine semi-tractor trailers or one wide-body jet
- Weighs over 50 tons and occupies 130 cargo containers
- Requires 12,000 square feet of floor space for proper receiving, staging and storing



Specific Item Support

- Managed inventory
 - Vendor managed which is government owned inventory held at vendor warehouses (4% of SNS assets)
 - SNS managed inventory which is government owned inventory held in warehouses controlled by the SNS (90% of SNS assets)
- Vaccines , Antivirals, and Antitoxins



Buying Power and Surge Capacity

- If the SNS does not stock an item they will use the Veteran's Administration (VA) to buy and deliver it from the private sector
- Purchases could include medications as well as medical supplies



Federal Medical Stations

- Overarching goal:
 - Address the nation's potential shortfall in all-hazard mass casualty care events and create a federal-level contingency care program as directed in Homeland Security Presidential Directive 10.
- Mission:
 - Deploy a surge capability throughout the Nation, pre-positioned and configured to respond rapidly and effectively to all types of public health emergencies, from significant incidents to large-scale catastrophic disasters
 - Provide scalable, modular and rapidly deployable health and medical care to those patients who have non-acute medical, mental health, or other health related needs that cannot be accommodated or provided for in a general shelter population.
- To accomplish this DHHS is planning the acquisition of 138 FMS deployable units totaling 34, 500 beds.



Federal Medical Stations

FMS has six major attributes:

- Scalable to the incident.
- Modular configuration.
- Transportable for maximum geographic distribution.
- Quickly integrated to the site.
- Predictable resources (3 days of supply for 250 patients).
- Modeled for all age populations

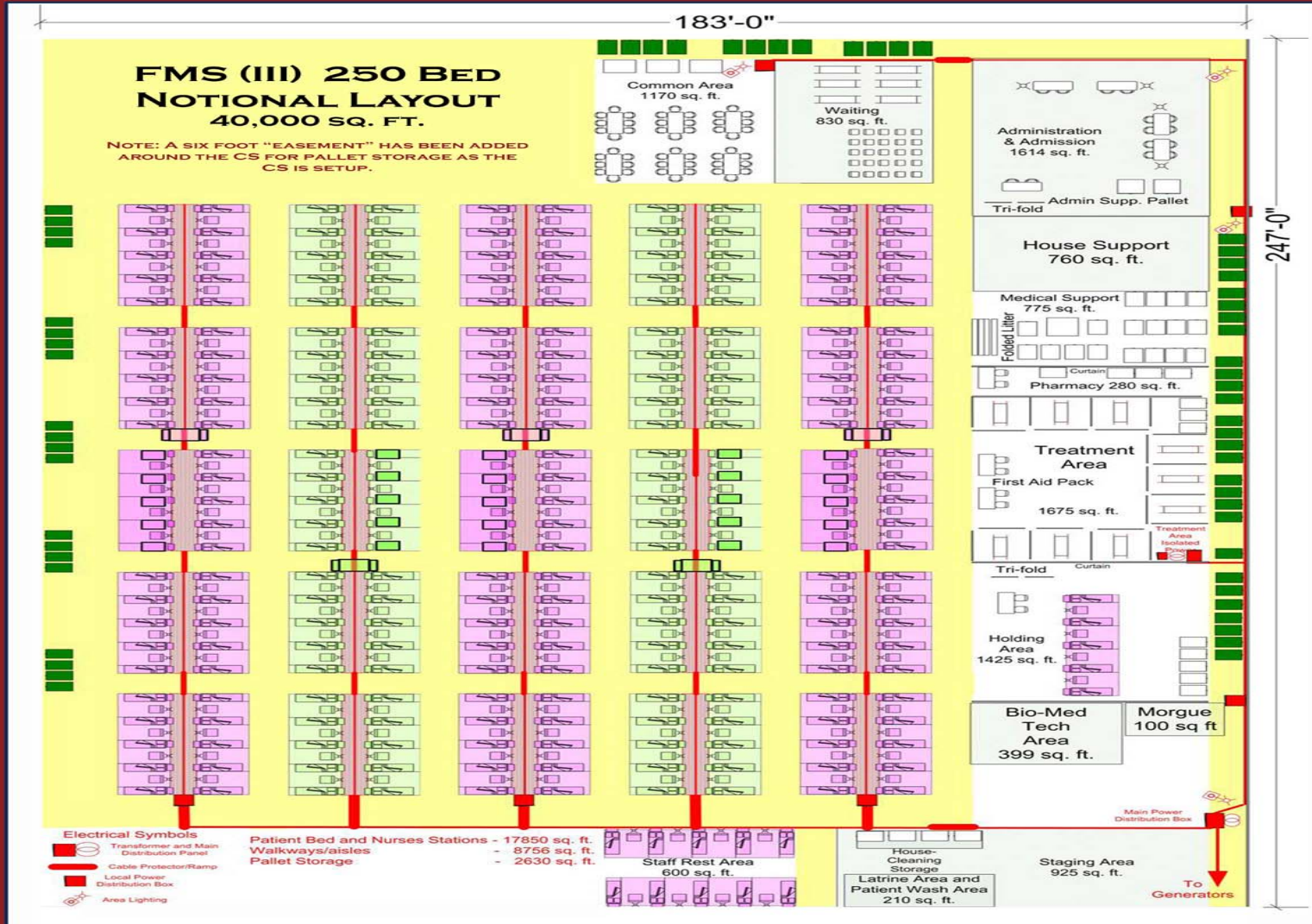
An FMS is designed to provide health and medical care for patients with needs such as:

- Conditions that require observation, assessment or maintenance
- Chronic conditions which require assistance with the activities of daily living and do not require hospitalization
- Need for medications and vital sign monitoring and who are unable to do so at home
- Conditions that require the level of care provided by an FMS
- Acute exacerbations of chronic conditions





FEDERAL MEDICAL STATION (FMS) PLANNING LAYOUT - 250 BED UNIT



RESTROOMS

EMERGENCY EXIT

01.06.2005



Requesting the SNS

- The decision to deploy SNS assets is a collaborative process decided among local, state, and federal officials. It starts at the local level when officials identify a potential or actual problem that they believe will threaten the health of their community.
- CDC's Emergency Operations Center will arrange a telephone conference call that will include representatives from DHHS, DSNS, and the requesting state's Governor and representatives.
- It is not necessary to have a state or federal declaration of emergency to request stockpile assets.



Request Justification Guidelines

- A chemical, biological, radiological, nuclear or explosive event
- A medical emergency brought on by a natural disaster
- Claim of release by intelligence or law enforcement
- An indication from intelligence sources or law enforcement of an increased potential for a terrorist attack
- Unexplained increases in emergency medical service requests
- Unexplained increases in antibiotic prescriptions or over-the-counter medication use
- Clinical, laboratory, or epidemiological indications including:
 - A large number of persons with similar symptoms, disease, syndrome, or deaths
 - An unusual illness in a population - single case of disease from uncommon agent, and/or a disease with unusual geographic or seasonal distribution, and/or endemic disease or unexplained increase in incidence
- An unusual illness in a population- single case of disease from uncommon agent, and/or a disease with unusual geographic or seasonal distribution, and/or endemic disease or unexplained increase in incidence
- A higher than normal morbidity and mortality from a common disease or syndrome
- A failure of a common disease to respond to usual therapy
- Multiple unusual or unexplained disease entities in the same patient
- Multiple atypical presentations of disease agents
- Similar genetic type in agents isolated from temporally or spatially distinct sources
- Unusual, genetically engineered, or an antiquated strain of a disease agent
- Simultaneous clusters of similar illness in non-contiguous areas
- Atypical aerosol-, food-, water-borne transmission of a disease
- Deaths or illness among animals that precedes or accompanies human death



Technical Advisory Response Unit (TARU)

- A TARU team is deployed with all SNS packages
- A team consists of 7 individuals who work with state and local authorities to help them receive, distribute and replenish SNS materiel
- Consists of public health experts, logisticians and emergency response specialists
- They will remain and assist as long as they are required
- TARU's responsibilities are to:
 - Facilitate materiel transfer
 - Coordinate closely with state or local incident command structure through the TARU Liaison Officer
 - Maintain continuous contact with the CDC's DSNS Operations Center



Arrival of the SNS

- SNS materiel will be delivered to one pre-designated location in the state
- The 12- hour push package can arrive on nine semi trucks or one Boeing 747/McDonald Douglas MD-11
- Managed Inventory will arrive by semi truck
- SNS has contracts with commercial shipping agencies to transport materiel
- Security for the materiel and the TARU are provided by the U.S. Marshal Service



Other SNS Initiatives

- Shelf Life Extension Program
- CHEMPACK
- Cities Readiness Initiative
- Pandemic Flu and Antiviral Distribution



Shelf Life Extension Program (SLEP)

- Actually a Food and Drug Administration (FDA) program
- Purpose is to defer drug replacement costs for date sensitive pre-positioned and war reserve stocks by extending their useful life
- Participating agencies include FDA, Defense Medical Standardization Board, Army, Navy, Air Force, Marine Corps, Defense Supply Center and SNS



U.S. Food and Drug Administration



CHEMPACK

- Placement of sustainable repositories of nerve agent antidotes in numerous locations throughout the U.S. to be immediately accessible for the treatment of affected persons
- Caches will be placed in locations at the local level who volunteer to participate in the program
- Antidotes will be subject to rotation in the Shelf Life Extension Program



EMS CHEMPACK Container for 454 Casualties

	Unit Pack	Cases	QTY
Mark 1 auto-injector	240	5	1200
Atropine Sulfate 0.4mg/ml 20ml	100	1	100
Pralidoxime 1gm inj 20ml	276	1	276
Atropen 0.5 mg	144	1	144
Atropen 1.0 mg	144	1	144
Diazepam 5mg/ml auto-injector	150	2	300
Diazepam 5mg/ml vial, 10ml	25	2	50
Sterile water for injection (SWFI) 20cc Vials	100	2	200
Sensaphone® 2050	1	1	1
SATCO C DEA Container ®	1	1	1

Hospital CHEMPACK Container for 1000 Casualties

	Unit Pack	Cases	QTY
Mark 1 auto-injector	240	2	480
Atropine Sulfate 0.4mg/ml 20ml	100	9	900
Pralidoxime 1gm inj 20ml	276	10	2760
Atropen 0.5 mg	144	1	144
Atropen 1.0 mg	144	1	144
Diazepam 5mg/ml auto-injector	150	1	150
Diazepam 5mg/ml vial, 10ml	25	26	650
Sterile water for injection (SWFI) 20cc Vials	100	28	2800
Sensaphone® 2050	1	1	1
SATCO C DEA Container ®	1	1	1

Cities Readiness Initiative

- Multi-agency project to develop a comprehensive strategy that will ensure selected cities have developed and coordinated city response plans that have the capacity to offer antibiotics to the cities' entire population within 48 hours of a decision to respond. (based on *Bacillus anthracis* scenario)

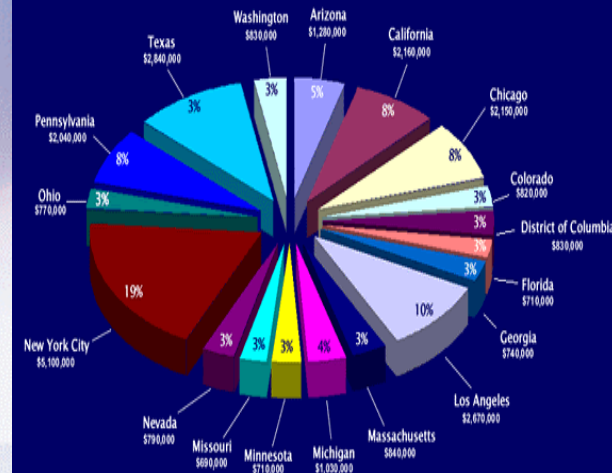


CRI Pilot Cities

- Phoenix, AZ
- Los Angeles, CA
- San Francisco, CA
- San Diego, CA
- Denver, CO
- Miami, FL
- Atlanta, GA
- Chicago, IL
- Boston, MA
- Detroit, MI
- Minneapolis, MN
- St. Louis, MO
- Las Vegas, NV
- New York City, NY
- Cleveland, OH
- Philadelphia, PA
- Pittsburgh, PA
- Dallas, TX
- Houston, TX
- Seattle, WA
- Washington D.C.



CRI FUNDING BY STATE



CRI Cities Year 2

- Baltimore, MD
- Cincinnati, OH
- Columbus, OH
- Indianapolis, IN
- Kansas City, MO
- Milwaukee, WI
- Orlando, FL
- Portland, OR
- Providence, RI
- Riverside, CA
- Sacramento, CA
- San Antonio, TX
- San Jose, CA
- Tampa, FL
- Virginia Beach, VA



CRI Cities Year 3

- Birmingham, AL
- Anchorage, AK
- Little Rock, AR
- Fresno, CA
- Hartford, CN
- New Haven, CN
- Dover, DE
- Honolulu, HI
- Boise, ID
- Peoria, IL
- Des Moines, IA
- Wichita, KS
- New Orleans, LA
- Baton Rouge, LA
- Portland, ME
- Jackson, MI
- Billings, MT
- Omaha, NE



- Manchester, NH
- Trenton, NJ
- Albuquerque, NM
- Buffalo, NY
- Albany, NY
- Charlotte, NC
- Fargo, ND
- Oklahoma City, OK
- Columbia, SC
- Sioux Falls, SD
- Nashville, TN
- Memphis, TN
- Slat Lake City, UT
- Burlington, VT
- Richmond, VA
- Charleston, WV
- Cheyenne, WY



Pandemic Flu and Antiviral Distribution

- The DSNS program will purchase and maintain 20 million treatment courses of antiviral drugs
- 2006 Pandemic Flu Grant from CDC tasks state SNS programs with developing flu vaccine and antiviral distribution plans
- Includes the purchase and storage of a state stockpile of antiviral drugs
- State SNS programs must prepare to allocate the state's share of the SNS's 20 million treatment courses of antiviral drugs and the state cache



State Level Response

Module 3



The role of the State

- The states are responsible for:
 - Command and Control
 - Requesting the SNS
 - Receipt, Storage, Staging
 - Repackaging
 - Distribution
 - Dispensing
 - Controlling Inventory
 - Security
 - Communication
 - Treatment Center Coordination
 - Training, Exercise, Evaluation

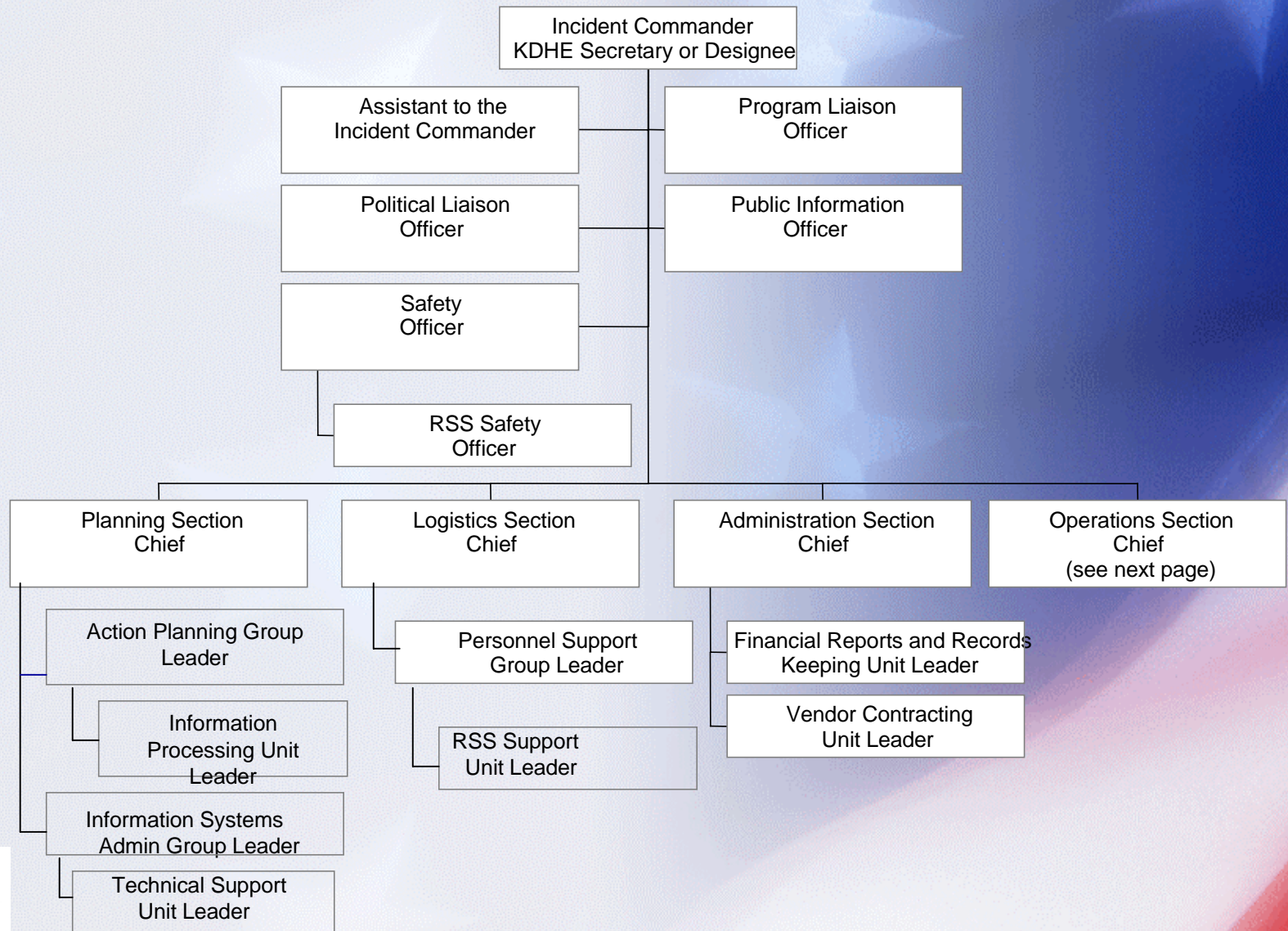


Command and Control

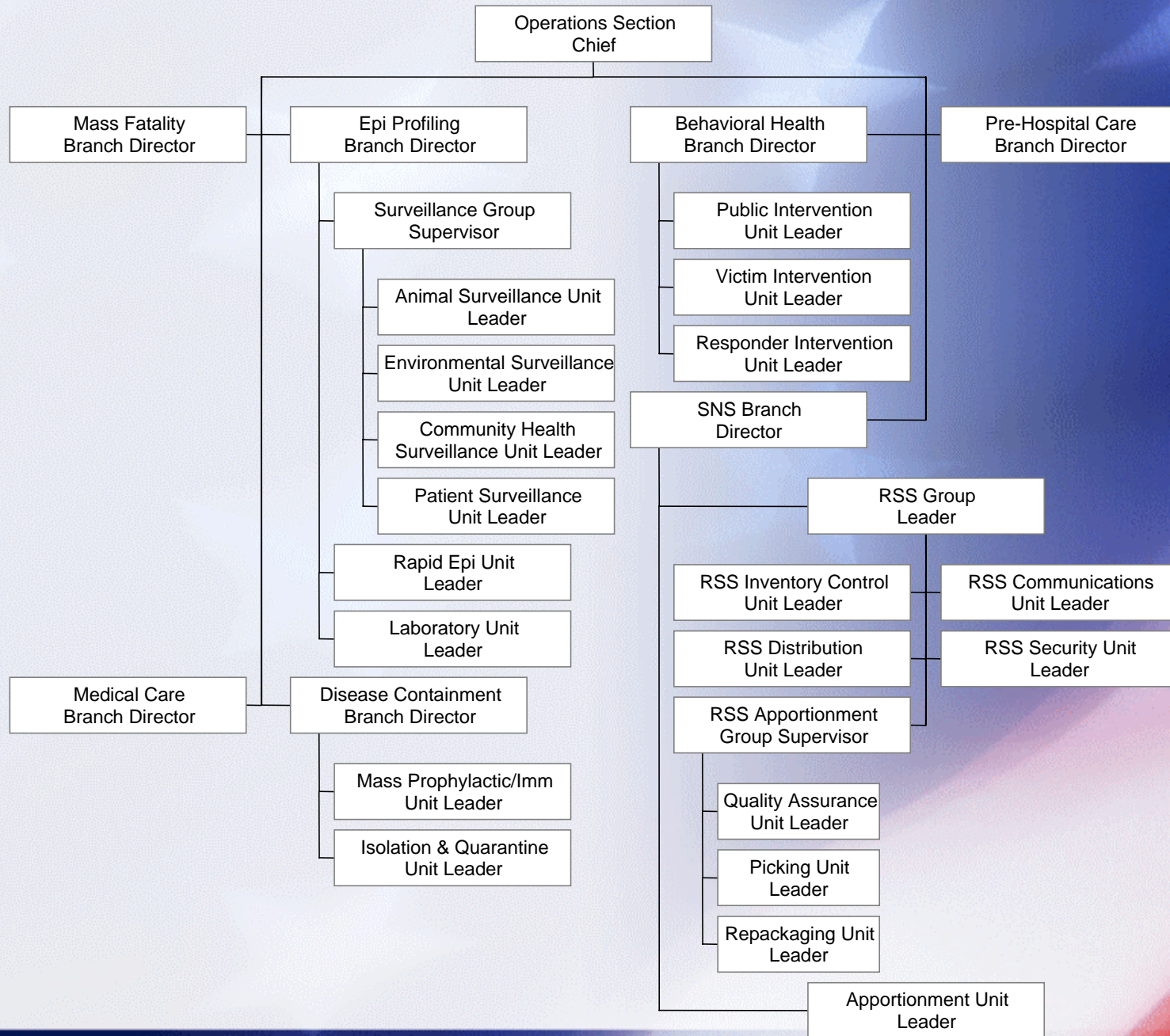
- This is the process that the political leaders, emergency management, public health, law enforcement and other groups use to coordinate their response to an emergency
- In April 2005 Governor Kathleen Sebelius issued Executive Order #05-03 designating the National Incident Management System as the standard to be used by all jurisdictions in Kansas responding to a disaster or other emergency.
- Compliance with E.O. 05-03 includes institutionalizing the use of the Incident Command System



KDHE Level 1-3 Activation



KDHE Level 1-3 Activation



Critical Command and Control Issues

- Chain of Command
- Decision Making
- Tactical Communications
- TARU



Requesting SNS

- Kansas will request the SNS materiel from CDC as soon as state officials, in consultation with local officials, determine it is necessary to do so to protect the health of the public
- SNS assets can be requested alone or as part of an overall request for federal assistance through the National Emergency Response System
- SNS assets can be requested and deployed without a state or federal declaration of emergency



Authorized Requestors

- Governor
- Lieutenant Governor
- Secretary KDHE
- State Health Officer
- Adjutant General



Sequence of Events for Request

- State determines the need for SNS assets
- Governor's office is notified
- State calls the CDC Emergency Operations Center
- CDC arranges a telephone conference call which will include:
 - DHHS
 - DHS
 - Governor of Kansas
 - KDHE
 - KDEM
- Governor makes the formal request during the conference call



Receipt, Storage, Staging (RSS)

- Once the request is approved for SNS materiel to be deployed CDC will send the assets to one location in the state.
- Kansas has identified several warehouse locations strategically located across the state where SNS assets could be received, stored and staged
- Once SNS assets arrive in a state they are signed for by a state representative and become the responsibility of the state



Authorized Signers

- State Health Officer or designee by Power of Attorney
- DEA Registrant from the Kansas Board of Pharmacy
- Other DEA Registrant



Storing and Staging

- Once received SNS materiel will be stored in the warehouse until picked and sent out to the counties for dispensing
- Some of the SNS materiel requires special storage such as temperature control
- All of the SNS materiel requires high levels of security protection



Controlled Substances

- The 12- Hour Push Package contains controlled substances such as morphine
- Transfer and storage of these substances are subject to the DEA- Title 21 of the U.S. Code of Federal Regulations
- These substances must be stored in a locked location until transferred
- Transfer of controlled substances will be done by using a DEA Form 222

Repackaging

- All of the medications in the 12-hour push package are now in unit of use bottles
- There may be an event that requires the repackaging of medications
- In the event that medications need to be repackaged KDHE will do a mission tasking through KDEM for the Kansas National Guard (KSNG)
- Repackaging will be supervised by pharmacists



Controlling Inventory

- The inventory control unit at the state level is responsible for:
 - Recording the receipt, storage location, orders, and issues regarding all resources
 - Processing requests from the counties for materiel
 - Tracking the type, quantity, location, and configuration of materiel on hand
 - Ordering more materiel when stock is low
 - Maintaining correct shipping addresses
 - Setting up the inventory management system in the RSS
 - Processing apportionment orders
 - Issuing pick lists to the picking unit
 - Recovering SNS equipment, containers and unused materiel after an event



Inventory Management System

- KDHE is required to have a warehouse inventory management system to keep track of inventory on hand and generate pick lists
- TARU will provide a data file with a copy of SNS materiel being received in the push package
- MI will need to be entered by hand



Distribution

- SNS materiel will be allocated or distributed to the counties by request depending on the event
- Staff and volunteers in the RSS will pick and palletize orders to be sent to one local health department and one hospital in each county
- A trucking contractor has be obtained by KDHE to do distribution for the state



Security

- SNS materiel will arrive in the state with a security escort provided by the U.S. Marshal Service
- Once the convoy passes the state line they will be picked up by a Kansas Highway Patrol (KHP) escort
- KHP is responsible for security of the SNS assets arriving in the state, and staged at the RSS warehouse



Security

- Security for SNS assets while in transit to the local health departments and hospitals has been tasked to the Kansas Department of Corrections
- Armed officers will accompany all distribution trucks



Communications

- There are two types of communications
 - Tactical Communications
 - Risk Communications



Tactical Communications

- KDHE maintains a robust and redundant communications system that includes:
 - Phone
 - Fax
 - WebEOC
 - Cell phone
 - Satellite phone
 - Radio
- Interoperable communications are required by NIMS



Risk Communications

- The KDHE Office of Communications maintains the KDHE Crisis Emergency Risk Communications Plan (CERC)
- The CERC plan details how the KDHE Office of Communications will respond to a public health emergency
- KDHE has provided a Risk Communications SOG template to local health departments that is based off of the concepts found in the state CERC plan



Dispensing

- The local health departments in Kansas are responsible for dispensing pharmaceuticals to the population
- KDHE provides technical assistance for local health departments to aid them in developing and writing plans, training and exercising
- KDHE is responsible for priority prophylaxis of the RSS staff and other essential staff



Treatment Center Coordination

- Local hospitals and local health departments work together to formulate plans for treatment centers
- In a public health emergency it may be necessary to open alternate care sites when hospitals become full
- KDHE provides technical assistance to local hospitals to aid them with development of plans, training and exercising



Training, Exercise, Evaluation



- In order to be confident that a plan will work it is necessary to train, exercise and evaluate
- The purpose of training is to make sure that individuals know how to do their jobs, that they know how to work with others in their group, and that the groups know how to work together
- To ensure that all participants in your plan understand their roles and to test the overall validity of the plan you must exercise
- The evaluation process should allow you to validate strengths and to identify improvement opportunities for all participating organizations
- KDHE CPHP uses the Homeland Security Exercise and Evaluation Program (HSEEP) guidelines, as required by the federal government, for all exercises



Local Level Response

Module 4



The Role of the Local Health Department

- Local health departments are responsible for:
 - Developing a Plan
 - Command and Control
 - Requesting SNS Assets
 - Tactical Communications
 - Public Information
 - Security
 - Distribution
 - Dispensing
 - Treatment Center Coordination
 - Training, Exercising, Evaluating



Developing a Plan

- Local health departments have been given the SNS SOG template to use for the development of a mass dispensing plan
- KDHE provides technical assistance for developing a plan
- SNS SOG templates should be completed with county specific information with input from all response partners
- Other planning guidance includes:
 - Receiving, Distributing, and Dispensing Strategic National Stockpile Assets; Version 10.02
 - KDHE Local SNS Dispensing Guidance; Version 4.0



Command and Control

- Local response agencies are required to be compliant with the National Incident Management System (NIMS) as stated in Executive Order #05-03
- Compliance with E.O. 05-03 includes institutionalizing the use of the Incident Command System (ICS)
- Local health departments should develop an ICS structure for use in their mass dispensing clinics



Requesting SNS Assets

- In a statewide event the first round of medications from the SNS will be allocated by population
- Once significant amounts of medications arrive from Managed Inventory health departments and hospitals will have the opportunity to request additional medications and supplies through WebEOC or by Fax



Tactical Communications

- Local health departments should have a robust and redundant communications system for their mass dispensing sites
- Hospitals should have a robust and redundant communications system for their treatment centers.
- KDHE has provided the Tactical Communications SOG to assist local health departments with development of a communications plan
- Dispensing sites should be able to communicate with:
 - Command and Control
 - Security



Public Information

- Local health departments have been provided with the Risk Communications SOG which provides tools and guidance for how to handle a public information campaign during a public health emergency
- The KDHE Office of Communications and the State Joint Information Center (JIC) will also be available to assist with public information during an emergency



Security

- KHP and the Kansas Department of Corrections are responsible for security of the SNS materiel until it reaches the local health department delivery site
- Local health departments and hospitals should work with local law enforcement to provide security at the mass dispensing sites
- Security issues include:
 - Security of the SNS materiel
 - Crowd Control
 - Traffic Control



Distribution

- A majority of the health departments in Kansas have only identified the need for one mass dispensing site in their county
- The health departments that have identified the need for more than one dispensing site are required to develop a distribution plan
- Counties with more than one hospital should also develop a distribution plan for hospitals
- KDHE will deliver SNS materiel to one health department delivery location in each county
- The local health department is responsible for distributing the materiel to the dispensing sites



Dispensing

- Dispensing is the most difficult piece of SNS planning and preparedness
- Federal guidance requires CRI counties to be able to provide prophylaxis to their entire population in 48 hours
- It is predicted that the 48 hour rule will become the norm for all counties



How to Determine the Number of Dispensing Sites Needed

- CDC recommends using the formula:

Total population divided by the number of hours to provide prophylaxis minus the time needed to set up the clinic divided by the throughput

$$TP / ((HHP - S) / PPH) = \# \text{ of Dispensing Sites needed}$$



How to Determine the Number of Dispensing Sites Needed

- Or just use the Bioterrorism Emergency Response Model

(BERM) <http://www.ahrq.gov/research/biomodel.htm>



Elements of a Dispensing Site

- Intake
 - Traffic management
 - Initial entry point
 - Greeting
 - Registration
 - Triage
- Screening
 - Screening
 - First Aid
 - Medical Transport
 - Clinical Resources
 - Mental Health
- Dispensing
 - Patient Education
 - Medication Counseling
- Exit
 - Follow-up information

NOTE: Education and Security should be an important part of the entire dispensing process



11:32



Medication
Dispensing
"Fast" Lane

Medication
Dispensing
"Slow" Lane

Medication
Dispensing





Treatment Center Coordination

- Local hospitals need to:
 - Identify alternate care/treatment center sites
 - Identify a location for SNS delivery
 - Ensure adequate materiel handling equipment for SNS deliveries
 - Maintain contact information for staff involved in SNS functions at the hospital and health department
 - Develop an inventory control system that will not charge patients for use of SNS materiel
- Local health departments need to:
 - Work with hospitals to develop a treatment center portion of the SNS SOG
 - Coordinate communications for transfer of patients from dispensing sites to treatment centers
 - Coordinate requests for SNS materiel through local emergency management



Training, Exercise and Evaluation

- All response partners should be trained in their roles and responsibilities during a public health emergency
- Local health departments are required to perform a mass dispensing exercise every other year
- The federal government and KDHE require that the HSEEP protocols be used for all exercises
- Evaluation, After Action Reviews, and Improvement Plans are vital parts of exercising and plan enhancement



Questions?

