Provide a brief overview of Organization structure Michigan

Provide background in funding and development of a IND scenario

Describe development of Operation Shared Burden (OSB) Full Scale Exercise

Identify lessons learned and areas of improvement
HEALTH AND HUMAN SERVICES PROGRAMS
(Cooperative Agreements)

ASPR

Medical Control Authorities
Hospital/Pre-hospital

Coordinated State/Local/Regional Planning

CDC

Local Health Departments
Other Local/Regional Partners
MCA - an organization designated by Michigan Department of Community Health, EMS Office under Part 209 of PA 368 of 1978

- Responsible for supervision, coordination of emergency services within a specific geographic area through State approved protocols

- Each hospital w/ED must be given opportunity to participate in a MCA

- Medical Director of MCA- board certified in Emergency Medicine/ACLS & ATLS certified
Based on Existing Structures (83 Counties)

- 8 Existing Emergency Management Regions
- 63 Medical Control Authorities (Oversight of pre-hospital system)
- 45 Local Health Departments
NEW PARADIGM OF PLANNING

Emergency Management

Public Health

Health Care
Office of Public Health Preparedness

Each Coalition has the following:

- Medical Director
- Regional Coordinator
- Emergency Preparedness Coordinator (*LHD within Region*)
- Epidemiologist
- Emergency Management Coordinator
R2S PLANNING PARTNERS

- Canadian Representatives
- DMAT/NDMS
- Hospital Representatives
- Emergency Management
- EMS (Fire and Private)
- FQHCs
- Health Departments
- Industry (BC/BS, GM Compuware)
- Law Enforcement (Local, Sheriff and FBI)
- LEPCs
- Long Term Care sites
- MCAs
- Medical Examiner
- MMRS
- Poison Control
- (LHD within Region)
  - Public Health Authorities
    - Immunization Coordinator
    - Epidemiologist
    - Strategic National Stockpile Coordinator
- Public Information
- Public Safety
- Red Cross
Communication
Emergency Management
Healthcare Preparedness
Exercise
Training
Pharmacy
Public Health
Public Information
CRI
Mental Health
OPERATION SHARED BURDEN
We Are At Risk

- Detonation of a 10 kiloton IND is National Planning Scenario #1.
- Building improvised nuclear device (IND) is relatively easy…just need fuel
- Potential fuel sources exist (dissolution of USSR, Korea, Iraq, Pakistan, etc.)
- Terrorist networks such as al Qaeda have tried to acquire the material for a nuclear weapon, and if they ever succeeded, they would surely use it.” – President Obama, April 2010 Nuclear Security Summit
**We Are Not Prepared: Current Plans Are Not Applicable To An IND**

- Federal protective action guidance is based on *relatively low-level* exposures associated with an accidental transportation or nuclear power plant release.
- Much of the civil defense planning is based on the Cold War strategic thermonuclear detonation scenarios but many of its paradigms no longer apply. For example, the concept of a fallout shelter worked well with likelihood of advanced warning of incoming missiles, but its applicability is less clear for an attack that occurs without any notice.
- Observations from state and local stakeholder workshops indicate that no communities have a coordinated regional plan for responding to the aftermath of a low-yield (<10-kiloton) nuclear detonation.
- General lack of response needs at all levels
EXERCISE PURPOSE

- To reduce potential hospital casualties during the post-detonation response phase **BY INCREASING AWARENESS**.
  - The largest potential for reducing casualties during the post-detonation response phase comes from reducing exposure to fallout radiation. This can be accomplished through early, adequate sheltering followed by informed, delayed evacuation.
  - "Get inside, Stay inside and Stay Tuned"
  - Regional planning is essential to successfully solving the response challenges to a nuclear detonation
- To generally test and improve individual facility and Regional all-hazard disaster preparedness.
Ground Burst of a 10 kiloton Improvised Nuclear Device

- This explosive yield is approximately 5,000 times the explosive power of the truck bomb in the 1995 Oklahoma City bombing.
- Significantly damages or destroys most buildings within a .5-mile radius of the detonation, and most of the population in this area would not survive.
- Complete loss of life and property extending out approximately .5 Mile radius from ground zero.
- From a half-mile to about a mile from the explosion, survival mostly likely depends on the type of shelter a person is in when the blast occurs.
- Shattered windows out to approximately 3 miles from the explosion.
2 PHASES OF EXERCISE

- **Phase 1, June 7, 2012**: Educational Seminar / TTX to Prepare for the Full Scale Exercise (FSE)
  - **Educational Seminar**
    - 10kt IND presented by U.S. DOE CTOS – Center for Radiological/Nuclear Training
    - Burn Surge Plan presented by R2S
    - Distribute Library of Electronic IND Reference Materials
  - **TTX**
    - Same scenario as the FSE
    - IND technical aspects prepared by U.S. DOE - Argonne National Laboratory and presented by U.S. DOE CTOS

- **Phase 2, October 4, 2012**: Full Scale Exercise
FSE OBJECTIVES / OPERATION DESIGN

- **Regional**
  - Test and evaluate primary and secondary communication tools (HAN, Code Spear, 800 Mhz)
  - Test and evaluate Regional Casualty Transport System
  - Test and evaluate Patient Tracking system
  - Test and evaluate Decontamination capabilities
  - Drive and control the exercise from a combined Regional Medical Coordination Center (MCC)/Exercise Sim Cell
INDIVIDUAL HOSPITALS (required) – may select additional ‘local’ objectives, as appropriate

- Test and evaluate Hospital External Disaster Plans
- Test and evaluate hospital evacuation/shelter-in-place plans
- Test and evaluate hospital EOCs
- Test and evaluate decontamination capability
- Test and evaluate primary and secondary communications systems (hospital and regional level)
- Conduct FSE “like it was real” and in coordination with the Regional MCC, local EOC’s, state EOC’s, CHECC, federal SME’s from DOE
11 AM:
• MCC and SIMCELL go operational.
• Dissemination of threat intelligence begins.

11 AM – 12 PM:
• Threat intelligence continues.
• Most Hospital and Community EOCs go operational.

12 PM – 1 PM:
• Threat intelligence continues
• Remaining Hospital and Community EOCs go operational.

1 PM:
• Boom – initiating incident occurs.

1 PM – 3 PM:
• Exercise objectives will be met during this time. The exercise will terminate at 3 PM.

3 PM – 4 PM:
• The RMCC and participating facilities will conduct the exercise hot wash.

5 PM – 7 PM:
• R2S staff, SimCell staff, community staff (Coordinator + 2 selected reps) and the FEP/C (+ 2 selected reps) from each participating facility will conduct the Regional hot wash at a central location.
Ground Burst of a 10 kiloton Improvised Nuclear Device on October 4, 2012 at 1300 hours in the City of Detroit at the intersection of Michigan Avenue and Livernois.

**DEFINITIONS**

**Severe Damage Zone (SDZ; half-mile radius):** most buildings destroyed, hazards and radiation initially prevents entry into the area; low survival likelihood.

**Moderate Damage Zone (MDZ; half- to 1-mile radius):** significant building damage and rubble, downed utility poles, overturned automobiles, fires and many serious injuries. Early medical assistance can significantly improve the number of survivors.

**Light Damage Zone (LDZ; 1- to 3-mile radius):** windows broken, mostly minor injuries that are highly survivable even without immediate medical care.
DESCRIPTION OF THE IMPROVISED NUCLEAR DEVICE (IND)
Gun-type device using 40 kilograms of weapons grade HEU (Highly Enriched Uranium) contained in a 53′ semi-trailer. The device was detonated at 1300 hours on October 4, 2012, at the intersection of Michigan Avenue and Livernois in the City of Detroit. The yield was 10-kiloton.

NUMBER OF PROMPT FATALITIES AND INJURED SURVIVORS
There are 14,000 fatal victims (priority 4) in the SDZ. There are 30,000 seriously (priority I and II) injured victims in the SDZ and MDZ. There are 10,000 minor (priority 3) injured victims in the MDZ and LDZ.

STATUS OF ELECTRONIC EQUIPMENT AND ELECTROMAGNETIC PULSE (EMP)
Direct damage to electronic equipment from EMP is limited to the SDZ and MDZ. Some electronic equipment was disrupted (but is still serviceable) by EMP within the LDZ. Electronic equipment (including radios and cell phones) is fully functional outside of the LDZ.

STATUS OF ROADS & EXPRESSWAYS
All roads and expressways out to the edge of the LDZ are impassable due to disabled vehicles, debris or damage.
SCENARIO – OPENING SITUATION

STATUS OF RAILROADS
The Livernois-Junction Intermodal Rail Terminal has suffered severe to moderate damage. All tracks are impassable due to disabled rail cars, debris or damage and this has brought all rail traffic in Southeast Michigan to a standstill.

STATUS OF INTERNATIONAL BORDER CROSSINGS
The Ambassador Bridge is impassable due to disabled vehicles and has been closed by order of U.S. Customs and Border Patrol. The Detroit Windsor Tunnel is fully operational but has been closed by order of U.S. Customs and Border Patrol.

STATUS OF PUBLIC UTILITIES (water, gas, electricity, telephone)
As a result of the blast wave and/or EMP, public utility service from ground zero to the outer boundary of the MDZ is non-existent. Utility service becomes increasingly available from the outer boundary of the MDZ to the outer boundary of the LDZ where full utility service is available. Public utilities outside of the LDZ are unaffected by the blast wave and/or EMP.

STATUS OF CELLULAR TELEPHONE SERVICE
Cellular telephone infrastructure remains essentially undamaged but circuits are severely overloaded.
STATUS OF AIRPORTS, AIR TRAFFIC AND AIRCRAFT
The FAA has closed Detroit Metropolitan Wayne County International Airport, Coleman Young International Airport, and Oakland County International Airport, and diverted all incoming flights to other airports. All Airspace within a 30 Nautical Mile radius circle around all of these airports has been closed by the FAA and **only military flight operations are authorized** until further notice. As a result of the blast wave and/or EMP, the following aircraft all crashed within 30 seconds of the IND detonation:

• Delta Flight 1919 in Dearborn near Hubbard and the Southfield Expressway; Airbus A319 Twin Jet; 171 Passengers and 6 Crew members. Scheduled arrival DTW at 1:10 PM.

• Canadair Regional Jet Flight 456 in Detroit on Jefferson near Clark Street; CRJ2 Twin Jet; 68 Passengers and 3 Crew. Departed Windsor International Airport at 1:02 PM.

• Delta Flight 1234 in Detroit near Linwood and Taylor; MD88 Twin Jet; 175 Passengers and 4 Crew. Scheduled to land at DTW at 1:14 PM.
GOVERNMENT PARTICIPANTS

Federal
• U.S. DOE - ANL RAP 5 (SimCell)

State
• MDCH/OPHP (SimCell)
• MSP/EMHSD (SimCell)

Regional
• R2S Healthcare Coalition (MCC)

County
• Monroe County EOC (SimCell)
• Washtenaw County EOC (SimCell)
• Wayne County EOC

City
• Ann Arbor EOC
• Canton Township EOC
• Dearborn EOC (SimCell)
• Dearborn Heights EOC
• Detroit EOC (SimCell)
• Trenton EOC
37 HOSPITAL PARTICIPANTS

DETROIT
- Behavioral Centers of America - Stonecrest Center
- Children’s Hospital of Michigan
- Detroit Receiving Hospital
- Harper Hutzel Hospital
- Henry Ford Hospital
- Karmanos Cancer Center
- Kindred Hospital - Detroit
- Rehabilitation Institute of Michigan
- Samaritan Behavioral Center
- Select Specialty Hospital – NW Detroit
- Sinai-Grace Hospital
- St. John Hospital and Medical Center
- V.A.M.C. – Dingell
- Vibra Hospital S.E. MI

MONROE COUNTY
- Mercy Memorial Hospital

WAYNE COUNTY
- Beaumont Hospital – Grosse Pointe
- Garden City Hospital
- Henry Ford Cottage Hospital
- Henry Ford Hosp. Brownstown Center for Health Serv.
- Henry Ford Hospital Wyandotte
- Oakwood Heritage Hospital
- Select Specialty Hospital – Downriver
- Select Specialty Hospital – Grosse Pointe

CANTON TOWNSHIP
- Oakwood Healthcare Center – Canton

DEARBORN
- Henry Ford Medical Center – Fairlane
- Oakwood Hospital and Medical Center

LIVONIA
- St. Mary Mercy Hospital

TRENTON
- Oakwood Southshore Medical Center

WAYNE
- Oakwood Annapolis Hospital
AAR-IP RESULTS

- **12,051 Total Participants**
  (from Hospital AAR-IP reports)
  - 10,706 Players
  - 1,153 Actors
  - 134 Evaluators
  - 58 Controllers

- Regional AAR-IP Findings Reviewed on Following Slides
MAJOR STRENGTHS

- Overall, participant comments were highly positive.
- Good participation and problem solving.
- Good learning experience.
- Strong teamwork and effective working relationships within and between organizations and facilities.
- Organizations showed great adaptability and flexibility under difficult conditions created by the scenario.
- Good internal and external communications using voice, email, radio and Internet based systems.
MAJOR STRENGTHS

- RACES operators are a strong asset to hospital and healthcare Coalition response.

- Participants were well prepared, knowledgeable of their roles and responsibilities.

- Realistic scenario that stressed participants.

- Good resource identification by participants.

- Public information was proactive.

- Participants were able to identify leadership, management, operations, logistics and planning strengths and weaknesses.
AREAS FOR IMPROVEMENT AND FOLLOW-UP ACTIVITIES

- Establish positional email addresses for all HCCs and the RMCC and publish directory
- Establish plans and procedures for a virtual JIC in coordination with local EM programs
- Identify communication systems and pathways and assign priority of uses for message flow
- Review state burn surge plans, procedures, supplies and expedient training
Review and develop plans and procedures for access to SME’s for various events

Identify / develop staffing patterns for RMCC for extended operations

Review CTS plans, provide training and plan functional exercise

Utilize the AAR for 2013 goals