Planning and Execution
of
Disaster Response

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Faculty

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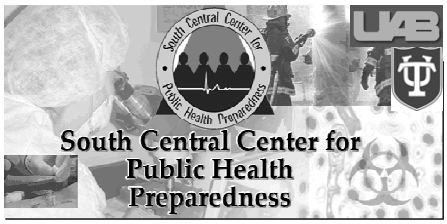
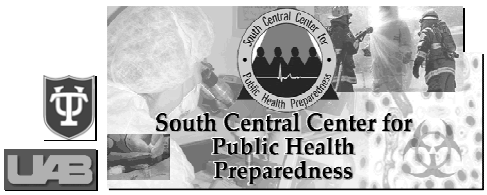


PLANNING & EXECUTION OF DISASTER RESPONSE



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Disaster

Overview

- **Introduction**
- **Readiness**
- **Execution**
- **Recovery**
- **Summary**

Action Phases Readiness

- **1. Prevention**
  - **Shape the battlefield.**
- **2. Preparation**
  - **CONOPS, assets and infrastructure.**
- **3. Surveillance**
  - **Scope, sensitivity, reliability, security and cycle time.**
- **4. Identification**
  - **Specificity, confidence, immediacy.**

Prevention

- Shape the battlefield.
- Psychological injury management.
- Public health WMD.
  - Biological.
  - Chemical.
  - Radiological.

Prevention

- Risk communication.
- Education.
  - Government officials and community leaders.
  - Responders.
  - Population at large.

Psychological Injury

- Expect large numbers of casualties.
- Treatment principles.
  - Proximity.
  - Immediacy.
  - Expectancy.


SOLDIERS RESTING ON OMAHA BEACH.

Psychological Injury

- Stress of dealing with casualties.
  - Fatigue.
    - Overworked.
    - Understaffed.
    - Sleep deprivation.

Prevention: Biological Agents

- Vulnerability analysis.
  - Target populations and consequences.
- Risk of social or economic disruption.
- Risk of disease spread.
  - Incubation period.
  - Low acuity infectious stage.
  - Vectors.
  - Potential for epidemic spread.

FLEEING THE PLAGUE IN MANCHURIA, 1911

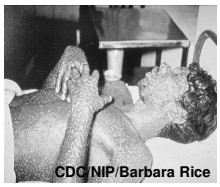
Prevention: Biological Agents

- CONOPS for consequence management.
- Management of quarantine.

- Adequacy of existing facilities for potential population at risk.

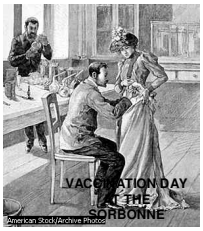
Prevention: Biological Agents

- Realistic plans for expansion of treatment facilities.
  - Time phased requirements.
  - Locations.
    - Types of patients.
    - Referral patterns.
    - Patient movement.
  - Manning.
  - Supply.
  - Administration.

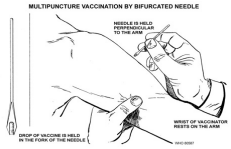

CDC/NIP/Barbara Rice

Prevention: Biological Agents

- Immunization planning.
  - Identification and training of personnel.
  - Venues.
  - Security.
  - Patient identification.
  - Patient screening.
  - Patient education.
  - Adverse outcomes.



Prevention: Biological Agents



- Vaccine logistics and delivery planning.
- Surveillance and outbreak identification.
- Surveillance for other pathogens.

Prevention: Chemical Agents

- Models for plume dispersion.
  - Numbers and location of population at risk.
  - Population protection.
  - Evacuation parameters.
  - Potential safe havens and employable routes.

Prevention: Chemical Agents

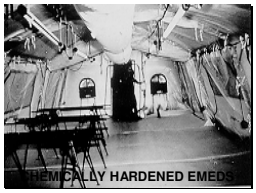
- Determine threshold for evacuation.
- Evacuation site procedures.
  - Census.
  - Assessment.
  - Education.
  - Treatment.
  - Support.

Prevention: Chemical Agents

- Plan consequence management.
  - Chemical neutralization plans.
  - Possible antidotes or treatment.
- Medication and therapeutics stockpiles.
  - Acquisition.
  - Maintenance.
  - Distribution.

Prevention: Chemical Agents

- Specialized treatment venues.
  - Suitable location.
  - Equipping.
  - Manning.
  - Trained staff.
    - Clinical.
    - Support.



Prevention: Chemical Agents

- Establish Health Alert Network.
  - Specialized content to target audiences.
  - Express distribution channels.
- Establish secure health operational communications network.

Prevention: Chemical Agents

- Develop case identification procedures.
  - Expedient referral patterns.
  - Simple clinical paradigms.
- Establish network of community contacts.
  - Timely effectiveness is key.

Prevention: Chemical Agents

- Hazard assessment.
- Assemble and review Material Safety Data Sheets (MSDS).
  - Evaluate range of potential adverse effects.
- Vulnerability analysis.
  - Target populations and consequences.
- Risk assessment.
  - Possibility of toxic levels.
  - Near vulnerable populations.

The Radiological Threat

- Nuclear Warfare
- Nuclear Terrorism
- Nuclear Accidents

Low Dose Scenario

- RDD
- Controlled broken arrow or dud.
- Remember
  - "You have nothing to fear but fear itself"
    - President FDR

- Fear itself is worth worrying about.

Radiological Response

- Focus on treating the injuries.
- Large numbers of frightened people.
- Identify patients needing hospital care.
- Set up a treatment area.
- Act as if patient contaminated with sewage.

Radiological Response

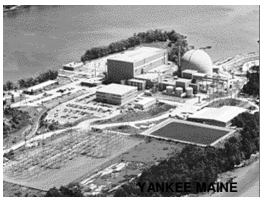
- Avoid unnecessary spreading radioactive contamination.
  - Double sheet and stretcher.
- Identify and treat significant exposures.
- Government agency coordination.
- Plan to evaluate and counsel non-injured exposed at a location outside of the hospital.

High Dose Scenario

- Generalized.
  - Nuclear detonation.
  - Nuclear war.
  - You are having a bad day.

High Dose Scenario

- Localized.
  - Power plant accident.
    - Attack.
  - Dud (initially).
  - Broken Arrow (initially).
  - Contain and convert to low dose scenario.



High Dose Scenario

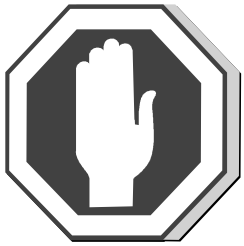
- Triage.
- Dose estimation.
- Surgical patients.
- Initial clinical stabilization.
- Management of potential survivors.

High Dose Scenario

- Management and support of high dose victims.
- Traumatic stress disorder.
- Response team stress management.
- Population stress management.

Prevention

- What is the difference between prevention and preparation?



Prevention

- What is the difference between prevention and preparation?
  - A. Prevention focuses on building a resistant and resilient environment.
  - B. Preparation focuses on developing the capability for a coordinated, timely and effective response.

Preparation

- CONOPS.
  - Operational models.
- Assets.
  - Personnel.
    - Numbers and training.
  - Equipment.
  - Supplies.

Preparation

- Infrastructure.
  - Authority.
  - Command, control, communications and intelligence.
  - Logistics.

Medical Preparation

- Preparation (primary prevention).
  - Planning.
  - Facilities.
  - People.
  - Training.
  - Equipment.
  - Communications.

- Public Education.
- Community Contacts.

Medical Preparation

- Control of disease/injury.
  - Limit exposure.
    - Individual protection.
    - Mass protective measures.
      - Evacuation.
      - Quarantine.

Medical Preparation

- Early identification of population at risk.
- Effective communication.
  - Population at large.
  - Population at risk.
  - Emergency workers.

Medical Preparation

- Decontamination.
- Isolation as indicated.
- Prompt prophylaxis.
- Engineering.

Medical Preparation

- Treatment of victims.
  - Surgical and medical emergencies.
  - Specific threat-related care.
    - External and internal decontamination.
    - Antidote/medical therapy.
  - Isolation.
  - Medical evacuation.

Medical Preparation

- Care of refugees.
- Continuing care of emergency workers.
- Continuing care of population at large.
  - Ongoing care.
  - Preventive measures.
  - Psychological consequences.

Operational Models

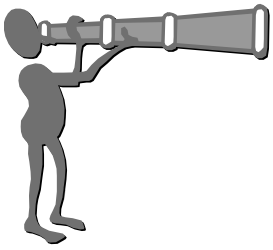
- Biological – Non infectious (Anthrax)
- Biological – Highly infectious bacterial (Plague & Tularemia)
- Biological – Highly infectious viral (Smallpox & Exotic Hemorrhagic)
- Biological – Toxin (Botulism)

Operational Models

- Chemical - Nerve
- Chemical – Choking and Cyanides
- Chemical - Vesicant
- Radiological - High and Low Dose

Surveillance

- Scope.
- Sensitivity.
- Specificity.
- Reliability.
- Security.
- Cycle time.



Surveillance

- Scope
  - Intrinsic is best.
  - Extrinsic if necessary.
- Good coverage for the probable.
- Good coverage for the terrible.
- Satisfactory coverage for the possible.
- Far enough.
- Wide enough.
- Deep enough.

Surveillance

- Sensitivity.
  - If it happens will I know?
  - Most important.
  - Cheap and simple is best.
- Specificity.
  - Are you sure?
  - Sometimes costlier but must be timely.

Surveillance

- Tandem sequence.
  - Alerting mechanism – highly sensitive.
  - Confirming mechanism – better be right.

Surveillance

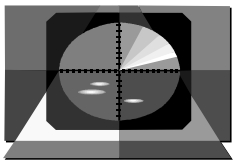
- Reliability.
  - Consequences.
    - Bad data is worse than useless.
  - Personnel.
    - Motivation, supervision.
  - Equipment.
    - Robust.
    - Repairable.
      - Expertise, parts, time.
  - Communications.

Surveillance

- Security.
  - Accident.
  - Sabotage.
  - Theft.
  - Mischief.
  - Personnel.
    - Real harm.
    - Intimidation.
  - Equipment.
  - Data.

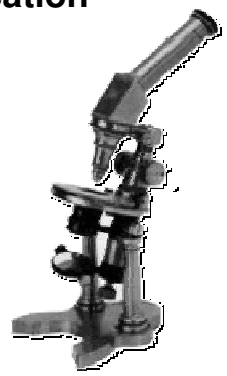
Surveillance

- Sampling scheme.
  - Incidence/frequency.
  - Random.
  - Cluster.
- Cycle time.
  - Adapted to threat.
  - Early containment.
  - Early prophylaxis and treatment.
- Scanning rate.
- Reporting rate.
- Analysis rate.



Identification

- Specificity.
- Confidence.
- Immediacy.



Identification Issues

- Testing methodology.
- Testing site/lab.
- Transport/preservation of specimen.
- Expertise of personnel.
- BSL level.
- Confirmation – how sure is sure?
- Communication.
  - Robust.
  - Secure.

Action Phases: Execution

- 5. Notification.
  - Timely, robust, orderly, functional.
- 6. Marshalling.
  - "Firstest with the mostest."
- 7. Early response.
  - Effective, professional, orderly.

Action Phases Execution

- 8. Full response.
  - Big as it needs to be to minimize casualties.
  - Delicate as a battleship.
- 9. Mop up.
  - Thorough, quick, disciplined.

Notification

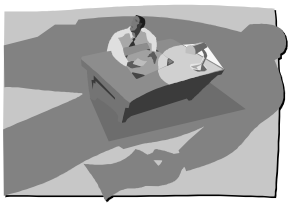
- Timely.
- Robust.
- Orderly.
- Functional.

Notification

- Timely.
  - Here is where it begins.
  - Parallel not serial.
  - In accordance with guidelines.
  - Must meet standards.
- Robust.
  - Disaster environment.
  - Sabotage.
  - Fear.
  - Independent of "agendas."

Notification

- Orderly.
  - Complete.
  - Predictable.
  - Professional.
  - Documented.
  - Repairable.



- Functional.
  - Roll with the punches.
  - Common sense.

Biological Non-contageous

• Identify Agent	T+15
• Identify Population at Risk	T+30
• Approved Plan Activation	T+30
• Public Announcement	T+40
• Evacuation Site (Overt)	1h
• Complete Prophylaxis	48h
• Reverse Flow Evacuation	96
• 100% Exposure ID	

Command and Control

- Three tyrannies.
  - Time.
  - Communications.
  - Logistics.

- Authority.
  - Legality and jurisdiction.

Command and Control

- Leadership.
  - Realistic practical planning.
  - Capability of execution.
    - Concepts of operation.
    - Manning.
    - Equipment.
    - Training.
    - Practice, evaluation and process improvement.

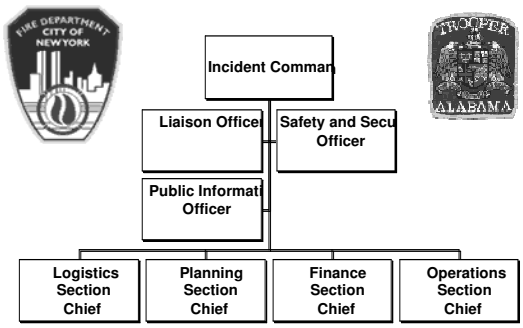
Command and Control

- Accountability.
  - Who?
  - Doing what?
  - For which population?
  - With what assets?
  - For how long?

Command and Control

- Integrity.
  - Begin with the end in mind.
  - Realistic evaluation of capability.
  - Reporting to established authorities.
- Credibility.
  - Channeled into effective community action.

Incident Command

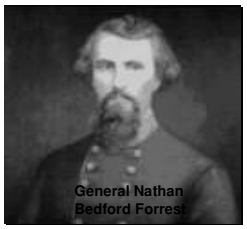


Hospital Emergency Incident Command System

- Chain of management.
- Accountability of function.
- Flexible organizational chart.
- Documentation of capabilities.
- Common language.

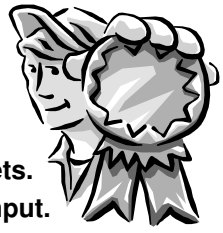
Marshalling

- "Get there firstest with the mostest."
- Right people.
- Right stuff.
- Right time.
- Right place.



Marshalling

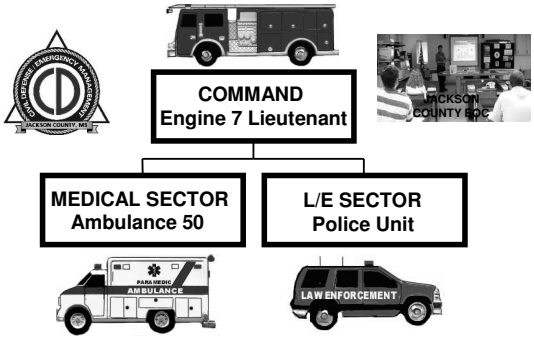
- Quality control.
- Source blending.
- Prioritization.
  - Need.
  - Transportation assets.
- Sequencing / throughput.
- Responsive to circumstances.
  - Mid-course correction.
- Stockpiling.



Early Response

- Effective.
- Professional.
- Orderly.

Command Structure
Initial ICS Structure



Incident Management

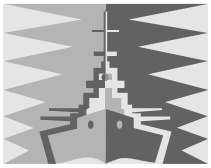
- Establish command.
- Ensure responder safety.
- Assess incident priorities.
- Determine operational objectives.
- Develop and implement action plan.
- Develop organizational structure.
- Maintain manageable span of control.

Incident Management

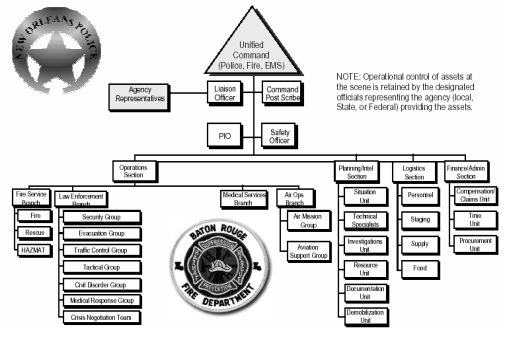
- Manage incident resources.
- Coordinate emergency activities.
- Coordinate activities of outside agencies.
- Manage preparation and release of information to the mass media.
- Monitor and record costs.

Full Response

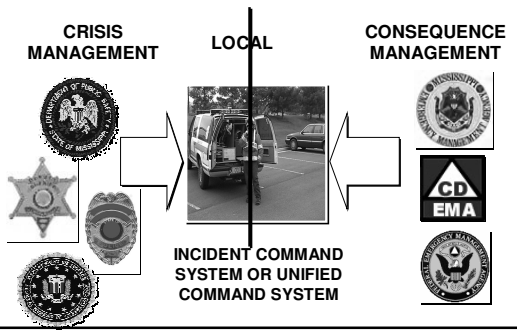
- Big as it needs to be to minimize casualties.
- Delicate as a battleship.



Incident Command System/Unified Command



Crisis and Consequence Management Integration



Consequence Management Local Support

- DoD Teams
- Weapons of Mass Destruction Civil Support Teams (WMD-CST)
- Joint Task Force - Civil Support (JTF-CS)

Consequence Management Local Support

- Metropolitan Medical Strike Teams (MMST)
- Federal Emergency Management Agency (FEMA)
  - State Emergency Management Agencies

Mop-up

- Finish it off.
- Thorough.
- Quick.
- Disciplined.
- Responsive to the public.
  - Plans and actions.
  - Tactical risk communication.

Media Public Information Tactical Considerations

- 1. Targeted
- 2. Specific
- 3. Authoritative
- 4. Concise

Action Phases: Recovery

- 10. Clean up.
  - Hierarchy of needs.
- 11. Reconstitution.
  - Ready to go again.
- 12. Convalescence/healing.
  - Return of functions.

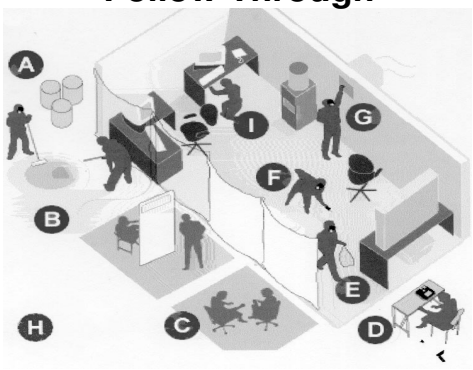
Action Phases: Recovery

- 13. Rebuilding.
  - For the future not the past.
- 1. Prevention.
  - Shape the battlefield.

Clean-up

- Follow through.
- Hierarchy of needs.

Follow Through

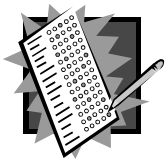


Clean Up: Follow Through

- Return of personnel.
- Return of equipment.
- Cleanup.
- Damages.

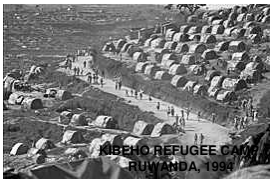
Clean Up: Follow Through

- Reimbursement.
- Recognition.
  - Authorities, agencies and participants.
- Constructive feedback.



Hierarchy Of Needs

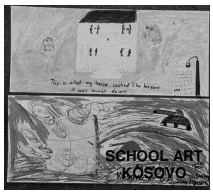
- Safety.
- Water.
- Food.
- Shelter/heat.
- Clothing.
- Medical Care.
- Employment.


KIBEHO REFUGEE CAMP, RUWANDA, 1994


JTF SAFE HAVEN PANAMA 1995

Hierarchy Of Needs

- Companionship.
- Family environment.
- Stability.
- Social status and advancement.
- Child development.
- Care of elders.
- Mid and long term plans.


SCHOOL ART KOSOYO


MEETING HUT, EMPIRE RANGE, JTF SAFE HAVEN

Reconstitution

- Ready to go again.

Convalescence / Healing Return of Functions

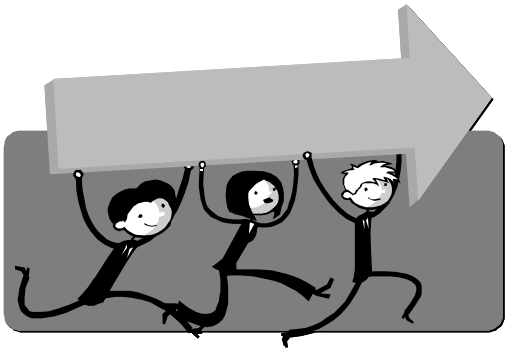
- Governance
- Housing
- Municipal Services
- Public Health Infrastructure
- Medical Services
- Education Services

Rebuilding

- For the future not the past.

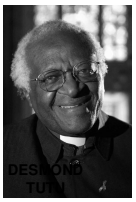
RESOURCES

Coordination



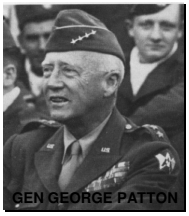
Prevention

- Shape the battlefield.
- Back to the future.
- "The good news to a hungry person is bread ." – Desmond Tutu



Summary

- Introduction.
- Readiness.
- Execution.
- Recovery.
- Summary.
- "Plans are nothing, planning is everything." – Gen. George Patton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