The Office Of Chief Medical Examiner - NYC

• Established in 1917
• Legal authority to investigate deaths:
  – Violent, suicides, apparent good health, custody, suspicious or unusual manner, unattended, hospital complications.
• Our jurisdiction is the City of New York with a population of 7.3 million spread over 322 square miles.
• Operate the Forensic Biology (DNA) laboratory for the City of New York

2004 Statistics

• 20,000 cases Investigated
• Performed 5,500 Autopsies
• Issued 8,000 death certificates
• Annual budget: 56 million (Non WTC 35 million)
• WTC ID project – 80 million (to date)
• 550 employees (200-DNA)
• HQ – First Ave/30th Street, Manhattan
• 4 Borough Offices: BK, QN, BX, SI
• METT Operation
• Potter’s Field (>750,000 burials)

Purpose of Talk

• To identify and discuss four factors of Mass Fatality Incidents (MFI’s) that impact resource requirements.

Presentation Outline

• Identification: The mission of the ME in a mass fatality incident
• Four factors that impact resources in an MFI
• Three Case Studies:
  – WTC Terrorist Attack
  – Crash of Flight 587
  – Thailand tsunami disaster
• Terrorist MFIs, why are they different?
Role of the ME

Conduct a Medicolegal investigation:
• Determine **CAUSE** of death (proximate)
• Determine **MANNER** of death
• **Positive Identification of victim(s)**
• Collect & Preserve ante-post mortem information
• Identify and mitigate a public health hazard
• Production of a death certificate
• If possible, prompt return of remains to family

Identification

• Four Factors
  – Number of fatalities
  – Rate of recovery
  – Manifest
  – Condition of remains

WTC – Four Events

• 8:46am Flight 11 hits North Tower
• 9:03am Flight 175 hits South Tower
• 9:58am South Tower collapses
• 10:28am North Tower collapses

Within 10 seconds 1,350ft tower reduced to 70 foot pile of compressed rubble
“Typical” Specimens

Triage Station

Memorial Park

Reported Missing WTC

Totals

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<th>Date</th>
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Members of service

- Firefighters 343
- NYPD 23
- Others 48
OCME WTC Work Force
(24/7 Shift-work)

- Medical Examiners = 30
- NYPD general personnel = >200
- NYPD fingerprints examiners = 5
- Forensic Dentists = >20
- Photo / X-ray / Lab technicians = >100
- Department of Corrections (labor) = > 200

- Ancillary staff: DMORT, FBI, CDNY, FDNY, PAPD, State Police (NY/NJ/CT), Other County PD's, NYU & Columbia Med Schools, Salvation Army, + …

WTC – Worst Case?

- Large number of fatalities – 2,749 Victims
- Highly fragmented remains – 19,917 remains
- WTC fatalities represented only .03% of the resident population and less than .02% of the mid-day population.

- Add chemical, biological or radiological agents

American Airlines Flight 587 November 12, 2001

- Airbus 300 – 600
- JFK to Santo Domingo
- 251 passengers and 9 crew
- Belle Harbor, Queens, 81 sec. after takeoff
- 5 fatalities on ground
American Airlines #587

- 265 total fatalities, all identified in 1 month
- Remains recovered: 2,058
- Remains identified: 1,750 85%
- Remains not identified: 308 15%

**Modalities Used to Make ID’s**

**Flight 587** as of 06/07/04

**Final Disposition**

- Family groups have not decided on resting place for unidentified and unclaimed remains.
- Hundreds of unidentified and unclaimed remains are stored in a trailer at our office.

**Thailand Tsunami**

- High number of fatalities
  - Over large geographic area
- No manifest
  - Multiple nationalities
  - Limited antemortem data
- Fast recovery
  - Many collection points
- Intact bodies
  - High heat, fast decay

**Summary of the Four Factors**
Number of Fatalities
Manifest vs No-Manifest

- Terrorists aim for Public Transit Areas
  - Transient Individuals
  - No manifest
- This makes identification slow, difficult and expensive
  - High volume of missing persons reports
  - Delayed collection of antemortem data
  - Identification is not complete until all missing persons are either identified or eliminated from the missing persons list

Rate of Recovery

- Site Conditions
  - Safety
    - Secondary devices
    - Extraordinary destruction
    - Proper PPE for contaminated remains
- Fast recovery – Requires fast buildup of high levels of resources
- Slow recovery – Requires maintenance of resources for extended operations

Condition of Remains

- Intact Remains
  - Whole bodies, visual identification
- Fragmented Remains
  - Slower recovery
  - Risk of commingled remains
  - All remains require identification (DNA)
- Contaminated Remains
  - Assessment of risk prior to recovery

Case Study Summary
Case Study Summary
Strategies

• You can’t do it alone
• Develop a mass fatality response plan
• Identify external resources
  – Police, Fire, Medical Schools, Military, Private vendors
• Identify a management team that can operate 24/7

• Plan and train with those resources