Disaster Health Research Data Systems

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Overview

• Disaster epidemiology
• Types of human health data
• Data systems
Disaster Epidemiology

Objectives

- prevent or reduce the number of deaths, illnesses, and injuries caused by disasters
- provide timely and accurate health information for decision-makers
- improve prevention and mitigation strategies for future disasters by collecting information for future response preparation

Surveillance

- Mortality
  - Vital Records
  - CDC Disaster-related mortality surveillance form
- Morbidity
  - Laboratory
  - Sentinel sites
  - Syndromic surveillance
  - Absenteeism
  - Insurance
  - Pharmacy
  - Shelter
- Response
  - CASPER
  - OEMS Systems
**Disaster Epidemiology**

**Research Data**
- Registry/Cohort
- Short and long-term data
  - Medical history, occupational, recreational, residential exposures, mental health, social and behavioral factors
- Anthropometric and physiological measures
  - HT / WT, HC/ WC, HR/ BP, pulse ox, lung function
- Biospecimens
  - Blood, urine, toenails, hair, saliva for DNA
- Environmental measurements
  - Household dust and GPS coordinates

**Cohort/Registry**

**Data Sources**
- Training rosters
- Contractor lists
- Shelter manifests
- Evacuee manifests
- FEMA
- Social services
- Public datasets
- Local jurisdictions
Data Collection Tools

[Image of a form or chart related to data collection tools]
Data Collection Tools
Research Management Systems

Basic Registry Information

- Contact Information
- Demographic and Sociological Factors
- General Health
- Deployment Information
- Exposure Information
- Medical Records
Biospecimen Collection Considerations

Disaster

Resource Constrained?

Time & space for specimen collection?

Self-collected Specimens

Electricity for processing & refrigerating/freezing?

Transport available to move specimens to CPL?

Collect Convenience Specimens

Collect Basic Specimens

Resources Available?

Available?

No

Yes

Collect

Basic Specimens

Possible Convenience Specimens

Primary Specimens

Aliquots and possible assays

- Metabolic, endocrine, stress, TM
- Metabolic, endocrine, stress
- Serum and clot
- Plasma and PCV
- Whole blood or Lymphs
- Trace metals
- RNA, DNA studies
- Metabolic, endocrine, stress, TM
- Endocrine, TM
Disaster Epidemiology
Exposure Assessment
• Weather Data
• Monitors
• Sensors
• Models

Questions?