How Will I Know?

Opportunities, Challenges and Considerations in Data Integration for Disaster Recovery

Natalie N Grant, MPH
US Department of Health and Human Services (HHS)
Assistant Secretary for Preparedness and Response (ASPR)
Office of Emergency Management (OEM)
Hurricane Sandy – Consensus Modeling
SLOSH Models - New York/New Jersey Coastline

Category 1
Extent of Surge
- Uninhabited
- Inhabited

Population in Surge
- New York: 480,000
- New Jersey: 300,000
- Total: 780,000

Category 2
Extent of Surge
- Uninhabited
- Inhabited

Population in Surge
- New York: 1,344,000
- New Jersey: 532,000
- Total: 1,876,000

Category 3
Extent of Surge
- Uninhabited
- Inhabited

Population in Surge
- New York: 2,099,000
- New Jersey: 732,000
- Total: 2,831,000

Category 4
Extent of Surge
- Uninhabited
- Inhabited

Population in Surge
- New York: 2,884,000
- New Jersey: 1,014,000
- Total: 3,898,000

Source: NOAA, U.S. Army Corps of Engineers, U.S. Census

THE HUFFINGTON POST
Post-Disaster Questions

• How Will I Know?
  — What impacts the community sustained?
  — When we have recovered?
  — If we are making the correct decisions?
  — When the community will return to “normal”?
  — What impact will recovery have on the health and fabric community?

All of these questions point to data analysis – an essential part of disaster epidemiology – to help inform the local recovery planning process
National Disaster Recovery Framework
Roles and Focus – US DHHS

• US Department of Health & Human Services

  — **Coordinating Agency** for the Health and Social Services (H&SS) RSF

  — **Mission**: to support locally-led recovery efforts in the restoration of the public health, health care, and social services networks.

  — **Core Principle**: the ability to restore health and social services networks to promote the resilience, health (including behavioral health), independence, and well-being of the whole community

  — **Core Mission Areas**:

    • Public Health
    • Health Care Services Impacts
    • Behavioral Health Impacts

    • Environmental Health Impacts
    • Food Safety and Regulated Medical Products

    • Long-term Health Issues Specific to Responders
    • Social Services Impacts

    • Referral to Social Services/Disaster Case Management
    • Children In Disasters/School Impacts

Who Should I Know?
Identifying Partners for Recovery

- Non-Governmental
  - ARC, NVOAD

- Federal Interagency
  - Primary and Supporting (identified in NDRF) and others

- All HHS Op/Staff Divs
  - Particular Focus = ACF, ACL, SAMHSA, HRSA, NIH, OASH, CDC, CMS
  - Headquarters and Regional Offices
    - HQ = Navigating national policy level issues, federal priorities, coordination and funding
    - Region = Engaging state/local/tribal partners; addressing key issue areas; projecting, identifying and elevating challenges

**Overall Goal = Matrix resources and coordination to synchronize resources in support of local community recovery**

What Should I Know? 
Defining Priorities for Recovery

• Service Transition
  — What does the relationship between response & recovery look like? Are there triggers or general categories?

• Defining Priority Areas
  — What are the potential “challenge areas” to anticipate post-disaster? How to track over time?
  • Are there communities or capabilities that are difficult on a day-to-day basis and exacerbated by disaster? In what timeframe are you seeking to restore?

• Resourcing Priority Areas
  — What mix would be utilized? (May take long time for federal long-term disaster assistance)

How can epi data help inform these planning processes?
Where does Disaster Epi Fit? - 1
How Will I Know? If we are making the “right” decisions

— Providing perspective with pre-disaster information and ongoing post-disaster comparative analysis
— Supporting development of longitudinal outcome measures or metrics to inform the decision-making process
  • Challenge = having the information pre-disaster available in format for future use, manipulation, appropriate comparative analysis.
  • Challenge = establishing data capture mechanisms (e.g. registries) in a timely fashion not in conflict with responders
  • Challenge = coordinating research at local level with outside institutions or universities
**Where Does Disaster Epi Fit? – 3**

**Guiding Recovery Investments**

**How Will I Know? Investment Impact on Community Health**

— Post-disaster funding and decisions move quickly; critical to have analysis available to guide leadership and redevelopment processes

• E.g. [Rutgers Health Impact Assessments in NJ](#)

> “The measurement and evaluation of recovery strategies focused on health improvement has been a sorely neglected area of research. Evaluation of programs or projects during recovery is conducted primarily in terms of process measures (e.g., numbers of individuals served) rather than outcome measures (e.g., changes in health status indicators).”

— IOM, [Healthy, Resilient and Sustainable Communities After Disaster](#)
Pathway for Disaster Epi?
Lessons from Hurricane Sandy

• Executive Leadership
  — President’s charge to federal agencies drove entities to collaborate and innovate
  — Hurricane Sandy Task Force
    • Created by Executive Order 12.07.12
    • Supported by the principles of the NDRF

“My instructions to the federal agencies has been, ‘Do not figure out why we can’t do something. I want you to figure out how we do something. I want you to cut through red tape. I want you to cut through bureaucracy.’” – President Obama 10.30.12

“We must use all the great ideas coming from academic institutions, businesses, and community leaders, including the talent and perspectives from vulnerable communities. By uniting these ideas with opportunity, we can help to turn them into action”

- Task Force Chair Secretary Donovan

“Obviously this is something that is heartbreaking for the entire nation,” Obama says.

Obama pledges ‘no red tape’
Federal Challenge =
Lots of Partners, Across Disciplines

- **Opportunity**
  - Data sharing from representative entities across community = new information points
  - Comprehensive Community Health Analysis
  - Recovery projects informed through research

- **Challenge**
  - Different protocols for data collection, definition & analysis
  - Regulatory and legal constraints for data sharing
  - Complexity of coordinating federal programs and funding
Advancements from Sandy - New Approaches to Data Sharing

• Chapter dedicated to “Improving Data Sharing Between Federal, State and Local Officials”

• Addressing Common Challenges Encountered
  — Who controls/Gatekeeper?
    • Data Sharing Points of Contact
  — What is available?
    • Data Menus
  — How to access?
    • Creating uniform request process
  — What about privacy?
    • Revisiting “routine use” language
Advancements from Sandy - Scientific Research Collaboration

• Science Coordination Working Group tasked to ensure “best available science” used to inform policy recommendations

• HHS Science Preparedness Working Group

• ASPR, NIEHS, CDC collaboration to create Hurricane Sandy Research Grants
  — $20 mln funded 31 projects across 12 focus areas
  — Leveraged ASPR Hurricane Sandy Dataset in multiple projects
Relative Sea Level Change for USACE Intermediate Scenario

99 percent flood: with a 99 percent chance of being equaled or exceeded in nearly every year, often referred to as the annual storm.

10 percent flood: with a 10 percent chance of being equaled or exceeded in any given year, often referred to as the 10-year storm.

2 percent flood: with a 2 percent chance of being equaled or exceeded in any given year, often referred to as the 50-year storm.

1 percent flood: with a 1 percent chance of being equaled or exceeded in any given year, often referred to as the 100-year storm.

0.2 percent flood: with a 0.2 percent chance of being equaled or exceeded in any given year, often referred to as the 500-year storm.
Advancements from Sandy - Tools for Tracking Recovery

• Planning Tool Development
  — Disaster Recovery Tracking Tool
  — Developed by UNC-Coastal Hazards Center and Texas A&M Health Science Center School of Public Health
  — Designed to provide practitioners validated metrics to document how well a community is recovering from a disaster
  — Developed a consolidated online tool to assist communities with tracking recovery over time

http://www.trackyourrecovery.org
A Few Additional Remarks…

• Population Demographics and Planning Implications
  – Aging populace?
    • Post-Disaster Morbidity and Mortality
  – Coastal Communities and Development Practices?
  – Return to Urban Centers?
    • Affordable housing and “gentrification”
  – Population Displacement/Shifts
    • Idaho Cascadia Planning; Porter Ranch, CA

• Complex or Compounded Disasters
  – Multiple system failures or aggregation of community risk
    • Fukushima=extreme; Flint, MI=likely; Puerto Rico = uncertain
  – Multiple disaster insults
    • Gulf Coast – 2004, 2005; Louisiana – BP; Sandy – Nor’Easter
Summary

• Developing a positive recovery trajectory requires utilizing best available science and data to inform decision-making.

• Data collection, assessment, sharing and evaluation over time is essential to inform decision-makers on pre and post-disaster community health conditions.

• Epidemiologists are centrally positioned to function as a bridge between response and recovery in distilling and providing key information on population health and impact of recovery investments.

   In a rapidly changing environment with complex, interconnected networks and systems, dependencies can either inhibit or support disaster risk, resilience and recovery.
Contact Information

Natalie Grant, MPH
Program Analyst
US Dept of Health & Human Services
Office of the Assistant Secretary for Preparedness & Response
Washington, DC
Natalie.grant@hhs.gov
202.641.5940