

Establishing a Public Health Branch of an Incident Response Coordination Team – Haiti Earthquake Response, 2010

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Members of the Public Health Branch, IRCT

- CAPT Peter Bloland
- CAPT Holly Williams
- CAPT Mehran Massoudi
- CDR Daphne Moffett
- CDR Margaret Riggs
- LCDR Roque Miramontes
- LCDR Juliana Grant



A Special Thank You....

- This presentation is modified from a previous one given by CAPT Holly Williams and CDR Margo Riggs



**12 janvier 2010 : Tremblement de terre
35 secondes fatales... plus de 220.000 morts**



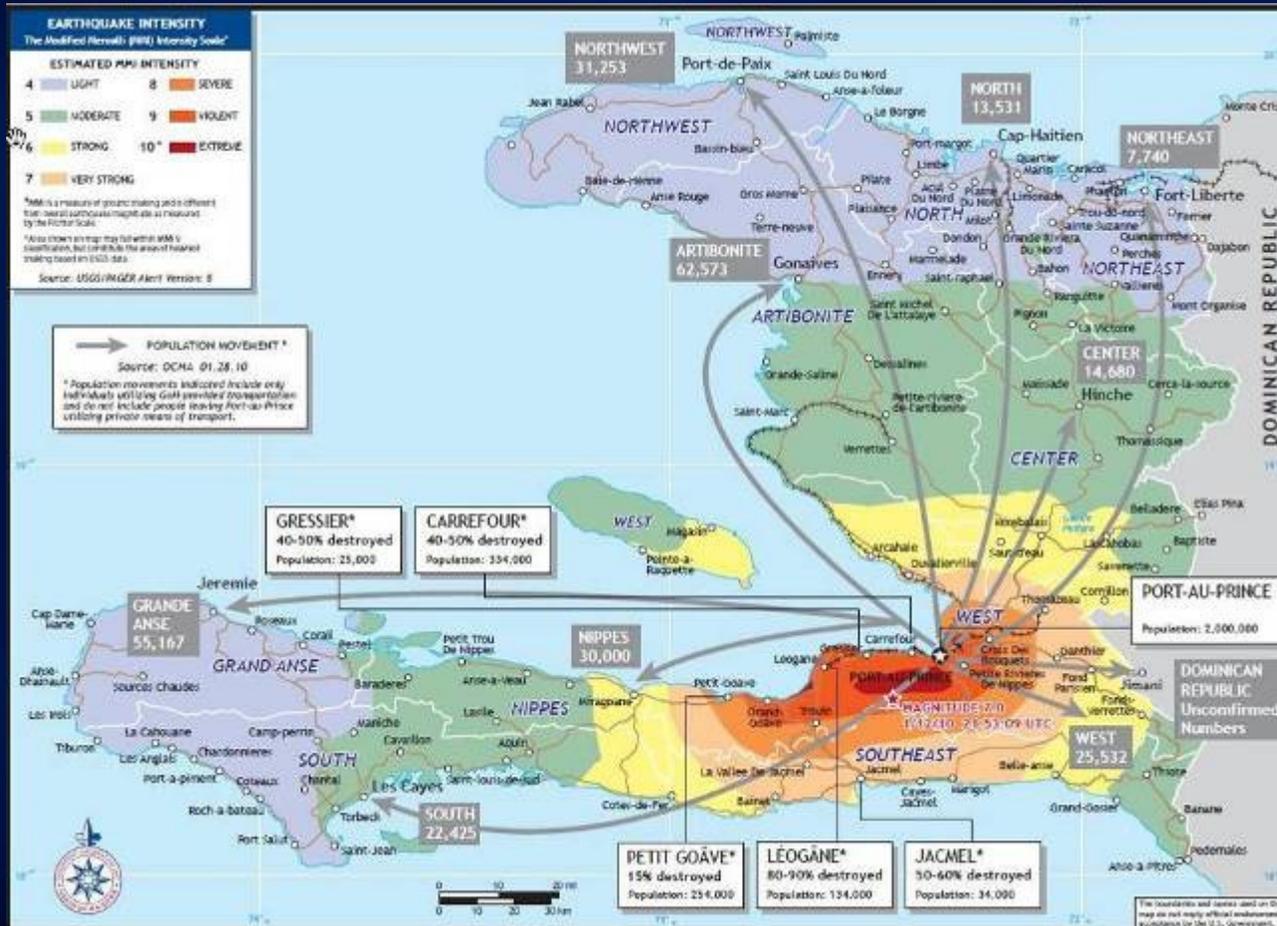


Haiti Earthquake, January 2010

On January 12, a 7.0 magnitude earthquake hit Haiti at 1653 hrs, ~10 miles from Port-Au-Prince (near Leogane)

- 220,000+ deaths
- 330,000+ injuries
- 1,000,000+ homeless

On January 20, at 0600 hrs, a 6.1 magnitude earthquake occurred with epicenter approximately 35 miles WSW of Port-Au-Prince







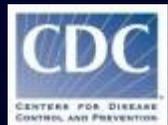


Public Health Branch in Haiti: What Did We Do?



Who Were We?

- Branch composed of all US Public Health Service (PHS) officers, all of whom were stationed at CDC:
 - Branch modeled on PHS's 'Preventive Medicine Branch' within the Rapid Deployment Forces (RDF) and 'Applied Public Health Teams' (APHT)
- Size of branch varied and, at most, consisted of six officers
- Expertise within the group included: epidemiology, anthropology, toxicology, environmental health, food safety, veterinary medicine, nursing and vector-borne diseases
- Direct report to OPS Section Chief

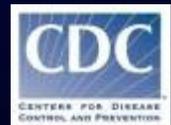


Function of the PHB I

- **Force Protection continued:**
 - Conducted environmental health assessments at DMAT, DMORT sites, including Hotel Montana
 - Stressed use of Personal Protective Equipment
 - ❖ DEET
 - ❖ Sunscreen
 - ❖ Insecticide treated bednets
 - ❖ Appropriate clothing
 - ❖ Malaria chemoprophylaxis
 - Provided public health education briefings (for HHS assets and others, such as Urban Search & Rescue Teams)



Arm bites on DMAT responder



Function of the PHB II

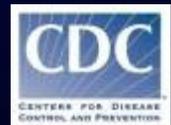


CDR Lipin entering DMAT EMR data



CDR Riggs on nightly EMR data calls

- **Surveillance of Diseases & Injuries:**
 - Assisted with re-initializing and modifying Haiti's national surveillance system to better address trends post-earthquake:
 - ❖ Modeled national surveillance on forms developed after the 2008 Haiti hurricanes and subsequent floods
 - Collected electronic medical record data (EMR) from DMATs on a daily basis:
 - ❖ Collaborated closely with SOC Fusion Cell
 - Summarized data and produced daily charts of DMAT data for distribution across DMAT sites, to IRCT, and interested partners, including the MoH



Function of the PHB III

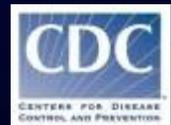
- **Provided technical assistance to larger, global humanitarian efforts:**
 - Collaborated with DoD on environmental assessments
 - Participated in Inter-agency Vector Borne Disease meetings and provided feedback on funding proposals from donors and UN
 - Provided technical assistance to DoD on operational issues related to establishing and maintaining a ‘federal medical station’
- **Stressed the context of endemic tropical diseases in affected area to responders:**
 - Dengue fever, malaria, leptospirosis, typhoid, TB, HIB, H1N1, and Hepatitis A
 - Consulted with CDC entomology and vector borne disease specialists in Puerto Rico and Fort Collins



RADM Deitchman at FMS site assessment



Public Health Assessments



Assessment of Hazards



Austere Working Conditions



MREs for 32 days!



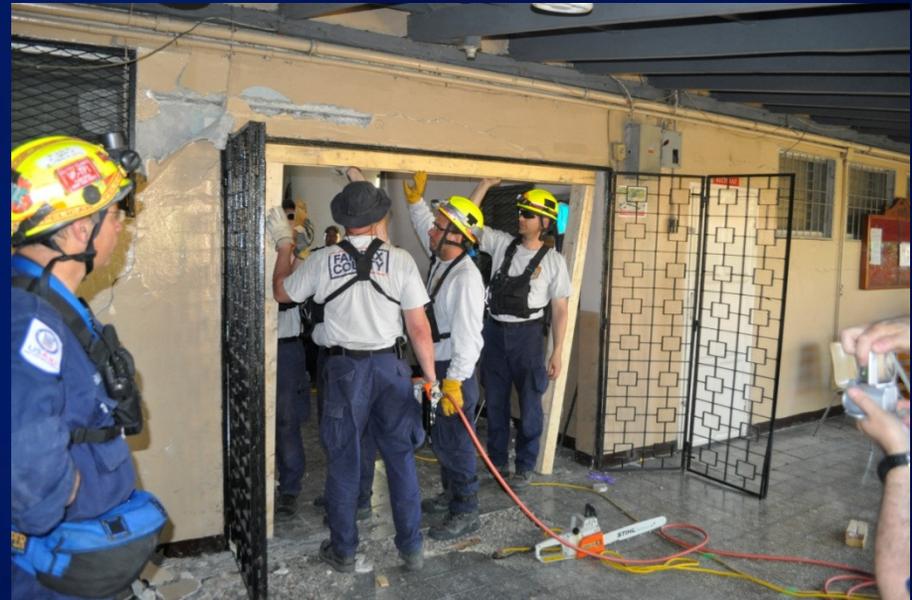
Difficult sleeping arrangements



Toilet for DMAT team



Structural Damage



Standing Water After Rains: DMAT Work Space



DMAT Sites: Testing for Contamination and Quality of Water



CDR Riggs doing coliform testing at DMAT site



Testing for chlorine:
CAPT Williams &
LCDR Grant



Vector Control



Old Tires: Vector Breeding Sites



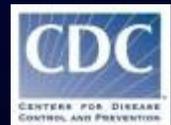
Insufficient length of bednets

Poor Air Quality

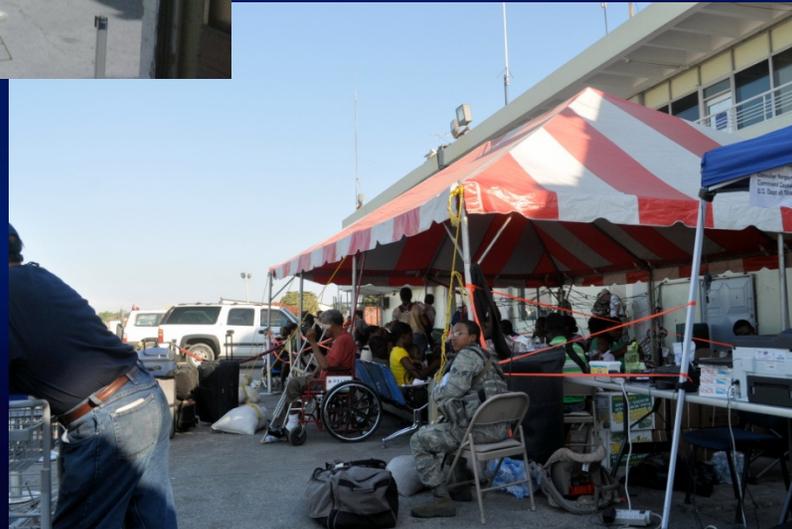


Search & Rescue not wearing respirators

Burning of garbage at Gheskio



Unrelenting Noise: Airport



Lack of Ear Protection



Lack of Waste Removal: Biohazard and Other



Look carefully: this has both biohazard and other trash



Disease Surveillance Prior to Earthquake

- **NGO contracted to collect general disease surveillance data**
 - Not routinely collected
 - Dependent on funding
- **U.S. President's Emergency Plan for AIDS Relief (PEPFAR) operated by the CDC in Haiti**
 - Functioning surveillance system with personnel located at approximately 150 health care sites



Haiti Hospital System

- 4 university hospitals – 3 in Port-Au-Prince, 1 in Northern Haiti (Caphaitian)
- Several large NGO-run hospitals in Port-Au-Prince
- 10 departmental hospitals
 - 1 in each department
- Approximately 40 community hospitals
- Approximately 1000 health centers
 - TB care and treatment
 - HIV/AIDS care



National Surveillance

- Partnership
 - Haiti Ministère de la Santé Publique et de la Population (MSPP)
 - Pan American Health Organization (PAHO)
 - Centers for Disease Control Prevention (CDC)
- Launch of National Sentinel Site Surveillance System



Objectives of Surveillance System

- Monitor trends in disease occurrence
- Detect epidemics and outbreaks
- Characterize the affected population to target relief efforts



Data Collection Instrument

Advantages

- Previously approved for use
- Staff at some sites familiar with tool and process
- Could be completed in a short period of time
- Training could be conducted via telephone

Disadvantages

- Non-validated post-earthquake
- Did not collect injury data
- Included a mix of chief complaint and diagnosis data
- Never utilized for daily collection of data



Challenges to Implementation

- Many staff were homeless or had other significant personal challenges at home
- Rumored migration of the population out of Port-Au-Prince made focus of surveillance activities difficult
- Many proposed data collection sites had not communicated with the CDC GAP office
 - Unknown how many had the ability to communicate via email or fax
 - Travel to sites to conduct training if needed was difficult



Site Selection

- 51 sites selected
- 30 in Port-au-Prince
- Wanted to make sure sites were representative of Haiti
 - Could not be only seeing trauma or peds
 - Wanted to make sure areas reported significant damage were represented
 - Wanted to use sites that had experience collecting surveillance data
 - Site had to have communication capability and PEPFAR staff assigned to them



Initial Results

- Surveillance personnel at each site trained via telephone
- 11 sites began reporting data within 14 days of the earthquake
- 22 sites reporting daily surveillance data within 22 days
- 52 sites currently reporting to the Haiti Ministry of Health Epidemiology Unit
 - 3 mobile teams organized by Haiti MoH, CDC, and WHO/PAHO conducting investigations

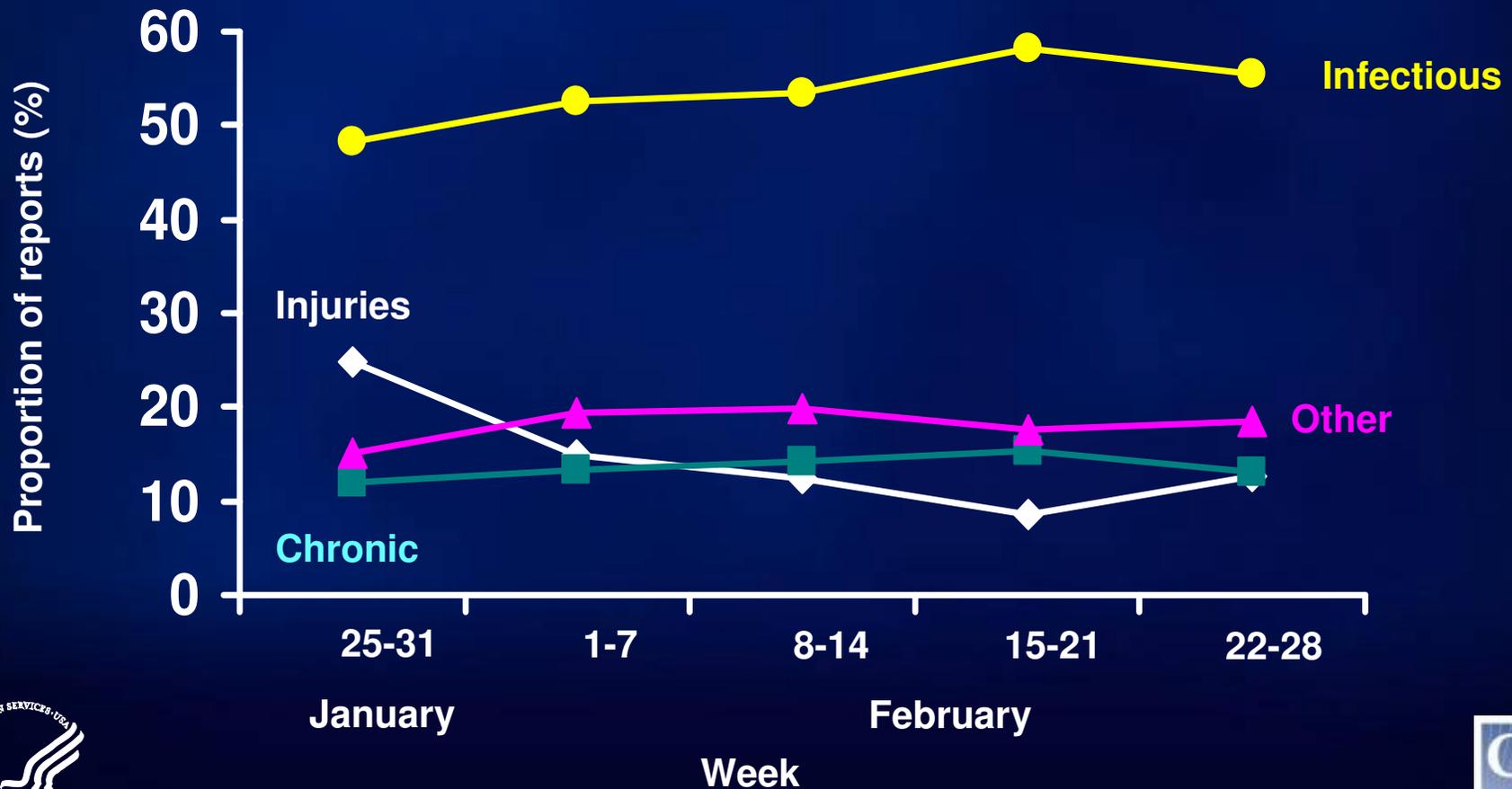


Characteristics of Patients

- 22,520 new patients
- 53.4% female
- 32.6% aged < 5 years
- 57.2 % aged \geq 5 years



Primary Diagnoses



Future of IRCT Public Health Branch



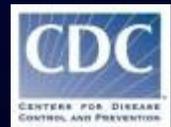
Challenges Faced in Haiti

- **PHB – a new concept within IRCT and NDMS**
 - Different orientation and expectations for acute medical care versus public health
- **No identified cache**
- **CDC focused on longer term perspective**
 - PHB was caught between need to focus on IRCT Public Health issues, while responding to requests from home agency



Recommendations

- **Develop training modules on role and functions of Public Health Branch for IRCT and NDMS staff, HHS deployed assets, including PHS Officers deployed through OFRD**
- **Provide direct access to EMR data so that PHB can better assist SOC Fusion Cell in analyzing field data in a timely manner**
- **Identify and obtain needed items for cache**
 - **Ensure that equipment is readily available and accessible**
 - **Examples: sampling equipment for water, soil and air quality; sufficient amounts of insecticide, appropriate computer software for data analysis**



Thank You and Acknowledgements

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 - LCDRs Juliana Grant and Roque Miramontes
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