Internally Displaced Persons Surveillance System, Haiti – Post Quake, 2010: Implementation and Preliminary Results

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Background

- On January 12, 2010, a 7.0 magnitude earthquake struck Port au Prince, Haiti destroying limited existing healthcare and communication infrastructure.
  - The pre-quake poor disease vector control, fragile public health infrastructure, and lack of governmental health services made the situation more challenging post-quake.
- The earthquake displaced 2 million people:
  - Overcrowded and unsanitary living conditions in temporary camps
  - Risk for infectious disease outbreaks and other public health challenges.
- Internally displaced persons (IDP) camps locations were often vulnerable to environmental hazards and vectors.
- Many non-governmental organizations (NGOs) provided health care to IDP through temporary clinics within the camps.

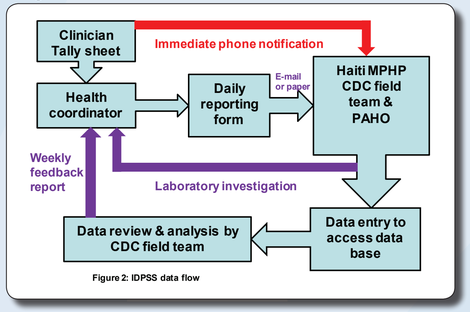
Objectives

- To monitor for and prevent the threat of infectious diseases of public health significance in the IDP camps

Methods

- The Haitian Ministry of Public Health and Population (MPHP), the Pan-American Health Organization (PAHO) and the Centers for Disease Control (CDC) worked together with NGOs to implement the Internally Displaced Persons Surveillance System (IDPSS) in their respective clinics.
- IDPSS focused on 19 priority conditions (Table 1).
- CDC field team trained NGO providers in reporting procedures through:
  - Direct communication with NGO coordinators
  - Periodic site visits
  - Dissemination of information at PAHO health cluster meetings.
- The Haiti IDPSS Google Group was created to:
  - Improve communication with NGOs
  - Provide consistent feedback and support for surveillance.
- CDC field team reviewed data for disease clusters and provided weekly analysis of trends in proportionate morbidity of total clinic visits.
- MOPHP and CDC teams undertook epidemiologic and laboratory investigation of clusters as they were identified.

Figure 1: IDPSS data flow



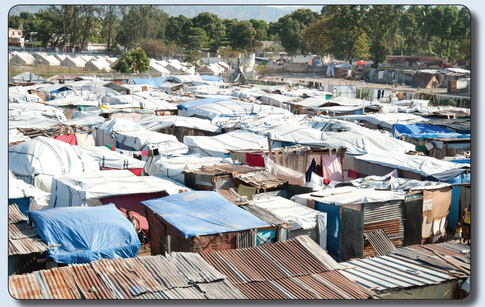
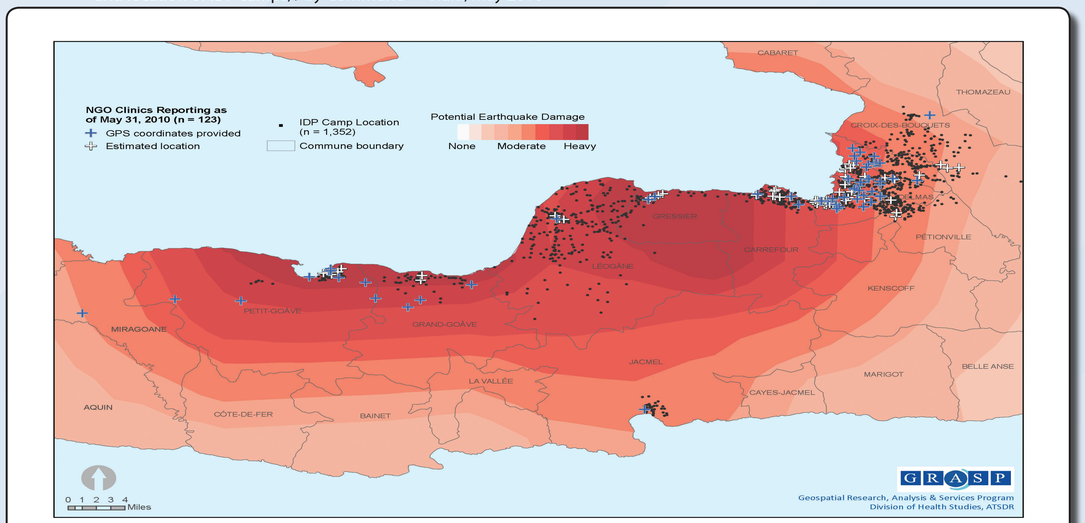


Photo courtesy of David Snyder and CDC Foundation

Figure 2: Distribution of temporary health-care clinics reporting to the Internally Displaced Persons Surveillance System (IDPSS)* and location of IDP camps,† by Commune — Haiti, May 2010



Sources: CDC, Haiti Ministry of Public Health and Population, Pan-American Health Organization, Camp Coordination and Camp Management Cluster (CCCM), United Nations Stabilization Mission in Haiti (MINUSTAH), Geocommons, U.S. Geological Survey.
* Clinics reporting to IDPSS at least once as of May 31, 2010.
† Based on CCCM data, as of May 3, 2010. Available at http://groups.google.com/group/cccmhaiti/web/mapping-and-gis?_done=%2fgroup%2fcccmhaiti%3f.
§ Based on data from the U.S. Geological Survey, available at http://pubs.usgs.gov/tm/2005/12A01.

Figure 3: Percentage of reported illnesses in IDP sites among all clinic visits in all age groups – Feb 2 to April 24, 2010

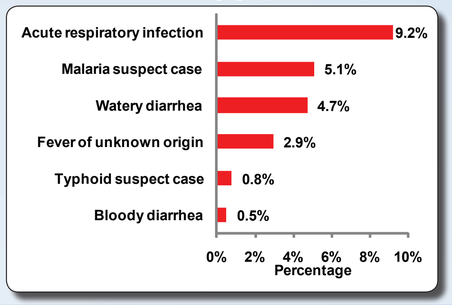


Table 1: IDPSS Conditions under Surveillance

Conditions requiring immediate MSPP notification	Acute hemorrhagic fever syndrome Suspected meningococcal meningitis Suspected diphtheria Suspected measles Acute flaccid paralysis Bite by an animal suspected of having rabies
Additional communicable diseases of great outbreak potential	Fever of unknown origin Acute febrile illness with jaundice Acute respiratory infection Acute non-bloody diarrhea Acute bloody diarrhea Suspected typhoid Suspected pertussis Suspected tetanus Suspected malaria Suspected cutaneous anthrax
Programmatic indicators	Interruption in antiretroviral therapy (ART) Interruption in TB treatment 3rd trimester pregnancy or pregnancy complications

Results

- Reporting began on February 2, 2010.
- By April 24, 2010, 91 sites total had reported at least once to IDPSS
  - An average of 33 sites were reporting weekly
  - Data flow (Figure 1) and distribution of reporting sites (Figure 2) provided.
- To that date, a total of 96,472 clinic visits were reported
  - 23,183 (24.0%) were cases with a priority condition
  - Over half (57.5%) of these occurred among children under five years of age
  - Most common diagnoses: acute respiratory infections (9.2%), suspected malaria (5.1%), and watery diarrhea (4.7%) (Figure 3).
- Clusters of typhoid fever and malaria were confirmed in several Communes*, but no large outbreaks of priority conditions detected in IDPSS through April 24, 2010.

* Note: 133 Communes among 10 Departments of Haiti

Discussion

- MPHP, PAHO, CDC, and participating NGOs implemented IDPSS in Haiti five weeks post-earthquake
- Disease trends in IDPSS have been similar to previous natural disasters.
- Several challenges were encountered during IDPSS implementation:
  - Migration between camps made reliable denominators not available
    - Analyses were based on proportionate morbidity of total cases seen per clinic.
  - Coordination of the multiple and geographically separate participating partners
    - As of May 21, Google Group had 102 members from >60 NGOs and agencies.
  - Inconsistent reporting, even from largest NGOs, despite simple reporting procedures.

Lessons Learned

- Have disease surveillance implemented early after a disaster to monitor potential public health threats.
- Prepare in advance easily modifiable tools and guidelines for their use to speed implementation and improve performance of surveillance.
- Use Web-based tools, such as the IDPSS Google Group, to address communication challenges.

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