

High TB Incidence in a Tent City in Port-au-Prince



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Background

- Haiti - Highest TB incidence in Western Hemisphere prior to 2010
- 2010 Earthquake: increased risk factors for TB transmission
 - 1.5 million homeless -> crowded tent cities, promiscuity
 - Over 50 hospitals and all TB sanatoria destroyed
 - Treatment interruption for thousands of TB patients
 - Hundreds of prisoners with active TB escaped from damaged Penitentiary into camps
- Complex emergency setting:
 - Prolonged humanitarian crisis:
 - Ongoing challenges three years post earthquake
 - Lack of housing, food insecurity, stress from ongoing violence
 - Destroyed health facilities, government offices, schools, banking system
 - Prior conditions of poverty:
 - High rates of malnutrition
 - Poor health indices

Crowding in Refugee Camps



Overview of GHESKIO Activities Pre and Post Earthquake

- GHESKIO: Haitian Study Group for Kaposi's Sarcoma and Opportunistic Infections
 - HIV/AIDS, TB and other related OI center, since 1982
 - Mission: clinical care, research, training
 - 2010 Global health extension: GHESKIO tent city, TB and MDR-TB field hospital, cholera treatment center (CTC), community outreach
- Active health surveillance in the refugee camp
 - Primary health clinic in the camp
 - Daily census and health survey: cough, diarrhea, fever, rash
 - Referral of symptomatic patients for medical evaluation including physical exam, sputum smears and chest radiography for TB



GHESKIO Centers, tent camp and surrounding slums

Active TB Case Finding in the Tent Camp

Tent Camp Residents April 2010-June 2011: 6,791->3,898

358 referred for cough > 10 days

213 (59%) smear microscopy done

35 Pulmonary TB diagnosis

23 (11%) AFB positive

12 clinical diagnosis
(symptoms + CXR)

High TB Case Detection Rate in the Tent Camp: Expected vs. Observed Cases

Dates	Max. No. Residents	Expected No. TB Cases*	Measured No. TB Cases	Difference / Measured Incidence (per 100,000 PY)
Apr 1 to Jun 30, 2010	6791	3.9	1	0.3 / 59
Jul 1 to Sep 30, 2010	5913	3.4	13	3.8 / 879
Oct 1 to Dec 31, 2010	5241	3.0	5	1.7 / 383
Jan 1 to Mar 30, 2011	4570	2.6	8	3.1 / 707
Apr 1 to Jun 30, 2011	3898	2.2	8	3.6 / 836
TOTAL			35	2.5 / 573

Based on the WHO estimate of TB incidence for Haiti of 230 cases/100,000 population

Rising TB rates in Haiti?

- If TB incidence in other camps is as high as GHESKIO, then an estimated 8,770 incident cases have occurred in 24 months post earthquake
- This represents 4,480 more than expected number of cases!
- Active case finding extended to neighboring slums: high rates found with 32 cases over 5 months in a population of 10,000 -> 768/100,000PY

Conclusion

- Active case finding is an effective strategy
- TB needs to be addressed in early period post natural disasters that lead to complex emergency situations
- Rising incidence of TB is a major concern in Haiti