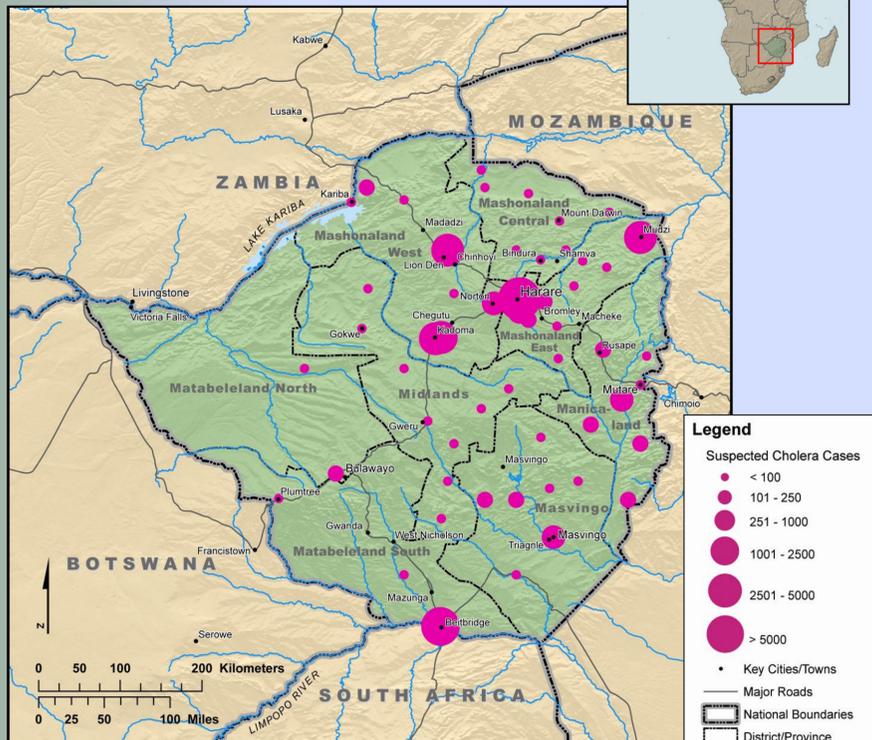
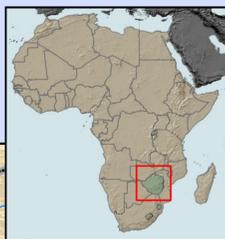


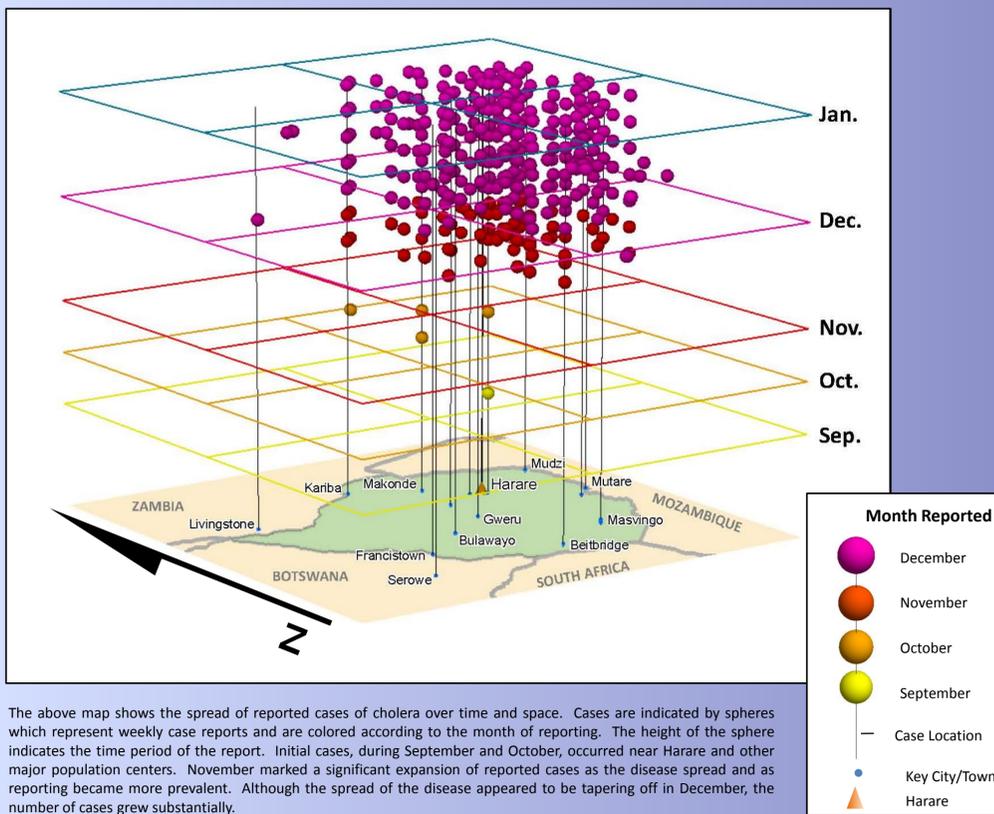


Zimbabwe: Cholera Dynamics in Space & Time

Cholera : Sept-Dec. 2008



Cholera Outbreaks Over Space and Time

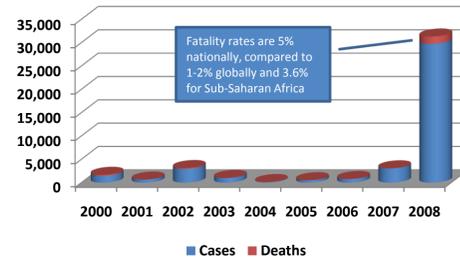


The above map shows the spread of reported cases of cholera over time and space. Cases are indicated by spheres which represent weekly case reports and are colored according to the month of reporting. The height of the sphere indicates the time period of the report. Initial cases, during September and October, occurred near Harare and other major population centers. November marked a significant expansion of reported cases as the disease spread and as reporting became more prevalent. Although the spread of the disease appeared to be tapering off in December, the number of cases grew substantially.

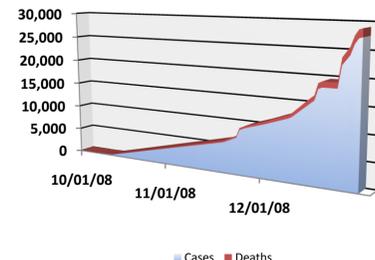
Sept. - Oct. 2008



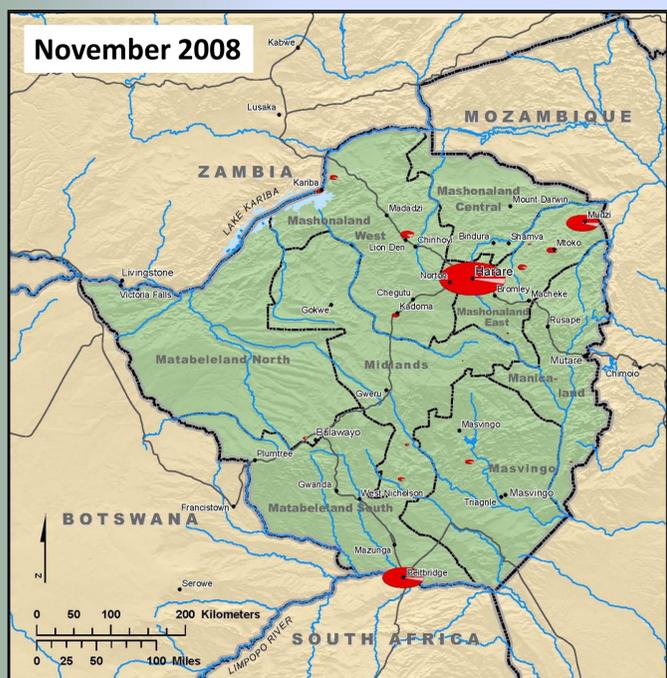
Annually Reported Cases of Cholera: 2000-2008



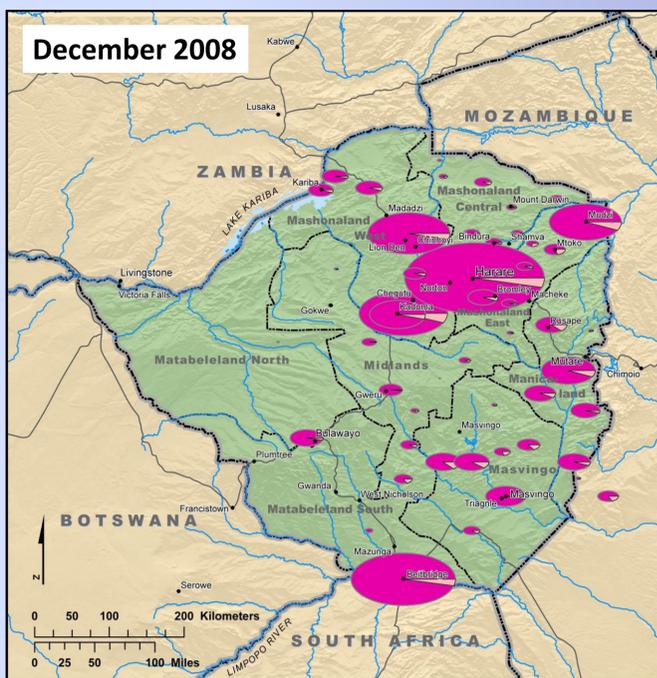
Cumulative Cases of Cholera: Oct. - Dec. 2008



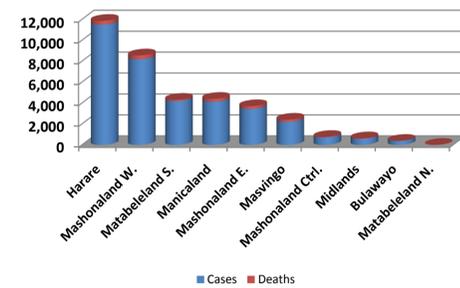
November 2008



December 2008



Cholera Impacts by Province



Cholera outbreaks in Zimbabwe and neighboring countries are reported during most years. However, 2008 marked the onset of a critical episode. Suspected cases of cholera in Zimbabwe were initially reported in August, but were not regularly reported until mid-November. The initial outbreaks occurred in the environs of Harare, but began to spread throughout the country until cases were reported in all 10 provinces of Zimbabwe and 55 of its 62 districts. In addition, cases were reported in South Africa, Zambia, Angola, and Mozambique, though only the cases in South Africa, Botswana and Malawi were attributed to the outbreak in Zimbabwe and these were largely limited to Zimbabwe nationals. Death rates attributed to cholera vary by locality, and are strongly associated with access to health facilities and essential (though basic) medical treatment. In 2008, 5 percent of cholera cases resulted in a fatality, a rate that is five times the global average and nearly twice the average for sub-Saharan Africa. In many localities, anywhere from 10 to 50 percent of the cholera cases ended in death. The current outbreak is largely attributed to the collapse of sanitation facilities, particularly in urban areas. The population has become reliant on untreated water, often collected from open and unprotected sources, increasing the likelihood of contracting the disease. Precipitation was above normal during the middle part of the rainy season, and as flood waters recede, remaining stagnant ponds that harbor the disease will be depended upon for water because wells and municipal systems are largely not functioning or inaccessible to the general population. In November 2008, Cholera was found in the Limpopo River that forms the border of Zimbabwe, South Africa and Botswana. Though subsequent tests failed to indicate contamination, the World Health Organization assesses that water-borne contamination is playing a key role in the spread of cholera in Mozambique.

FINDINGS:

- The extent of reported cases of cholera in Zimbabwe expanded rapidly in November and the magnitude of local infections grew dramatically in December.
- The cholera outbreak has coincided with a rainy season that is wetter than the norm, increasing the risk of spreading as seasonal flooding occurs in key watersheds.
- Outbreaks of cholera beyond the borders of Zimbabwe, particularly in Zambia, Mozambique, and South Africa, remain primarily concentrated among the Zimbabwean population in the affected countries, though local populations are at risk.

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