



health

Department:  
Health  
REPUBLIC OF SOUTH AFRICA



## STATISTICAL NOTES

June 2009

Welcome to this edition of Statistical Notes

### 1. AN OUTBREAK OF CHOLERA IN SOUTH AFRICA

#### 1.1. Background

Cholera (frequently called Asiatic cholera or epidemic cholera) is a severe diarrhoeal disease caused by the bacterium *Vibrio cholerae*. Transmission to humans is by water or food. The natural reservoir of the organism is not known. It was long assumed to be humans, but some evidence suggests that it is the aquatic environment.<sup>1</sup>

South Africa has reported cholera cases on the 15<sup>th</sup> of November 2008, the patients were Zimbabwe residence. The first case of the outbreak was reported in Musina municipality (Limpopo Province), and following the reported case, cholera bacteria was therefore detected in the Limpopo River on the 3<sup>rd</sup> of December 2008.<sup>2</sup> By 12 December 2008, 11 deaths and 859 infections had been recorded in South Africa.<sup>3</sup> Cholera cases increased to 2 100 cases and 15 deaths by 14 January 2009<sup>4</sup> and to 12 000 cases and 59 deaths by 10 March 2009.<sup>5</sup>

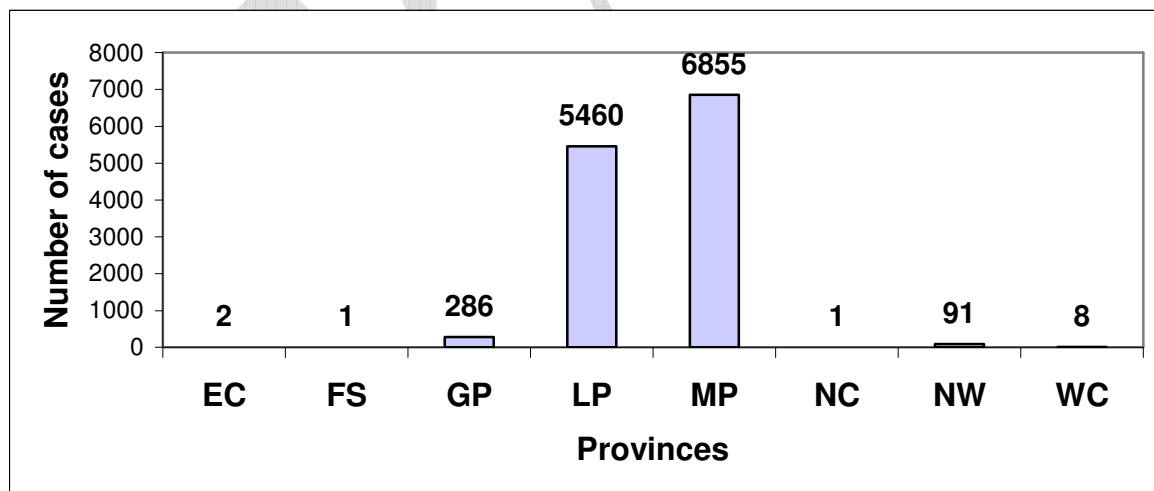
The South African government set up medical facilities and drinking water supplies at the Beitbridge border post<sup>6</sup> and deployed the National Outbreak

Response Team and additional medical personnel to Musina.<sup>7</sup> On the 10<sup>th</sup> of December 2008, the Limpopo Provincial Government declared Vhembe District Municipality, which borders Zimbabwe at Beitbridge, Matabeleland South province, a disaster area.<sup>8</sup>

## 2. CHOLERA CASES REPORTED IN SOUTH AFRICA, 15 NOVEMBER 2008 TO 22 APRIL 2009

### 2.1 Distribution of cholera cases by province

Twelve thousand seven hundred and six (12 706) cases of cholera have been reported in South Africa from 15 November 2008 to 22 April 2009 with 65 deaths. Mpumalanga and Limpopo were the most affected provinces, with 6 855 and 5 460 respectively. Of the total cases reported, the majority (54%) was from Mpumalanga province, followed by Limpopo with 43% (Figure 1). Free State and Northern Cape provinces reported one case each in the period under review.

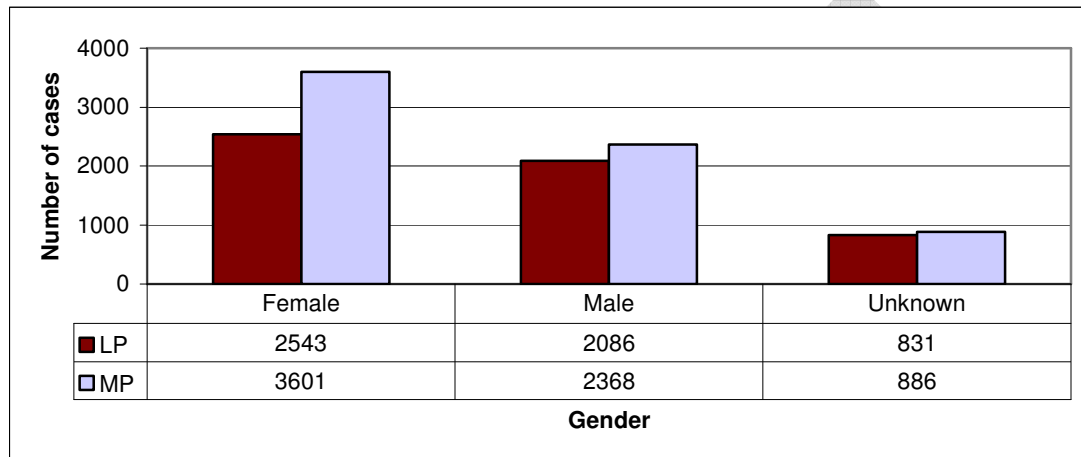


**Figure 1: Cholera cases by province, 15 November 2008 to 22 April 2009, SA**

Source: NDoH (Epidemiology & Surveillance)

### 2.1.1 Distribution of cases by Gender (Limpopo versus Mpumalanga)

The two provinces, Limpopo and Mpumalanga have contributed to a total of 10 598 cases accounting for 83% of the total cases. Of the reported cases females accounted for 58% (n= 6 144) while males were recorded in 4 454 patient, figure 4.

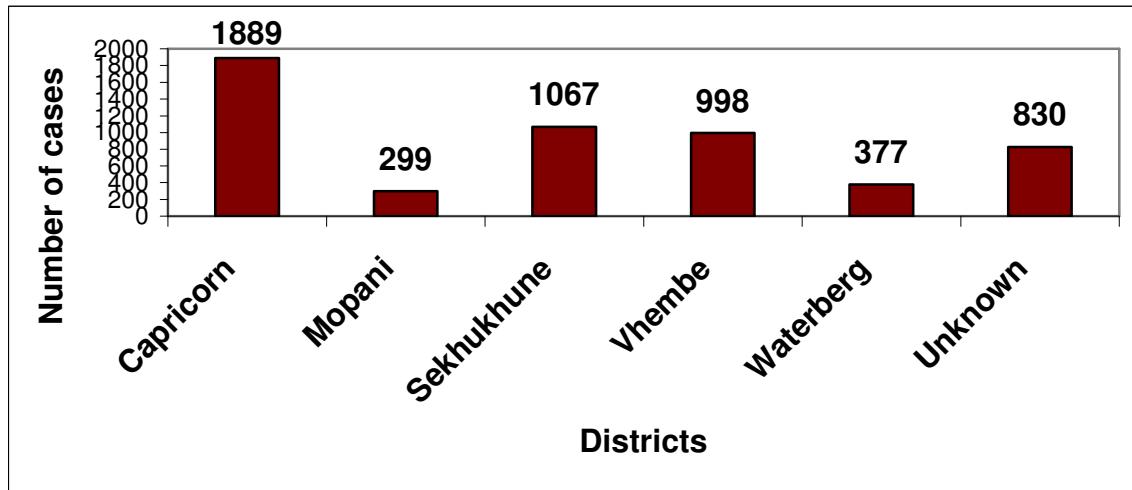


**Figure 4: Number of cases by gender, Limpopo versus Mpumalanga province, 15 November 2008 – 22 April 2009**

Source: Limpopo and Mpumalanga Provincial Department of Health

### 2.1.2 Distribution of cases in Limpopo by district

Of the 5 460 cases reported in Limpopo province, cases predominated in Capricorn district with 34.6%, followed by Sekhukhune district with 19.5%. Mopani district recorded the lowest cases in the province.

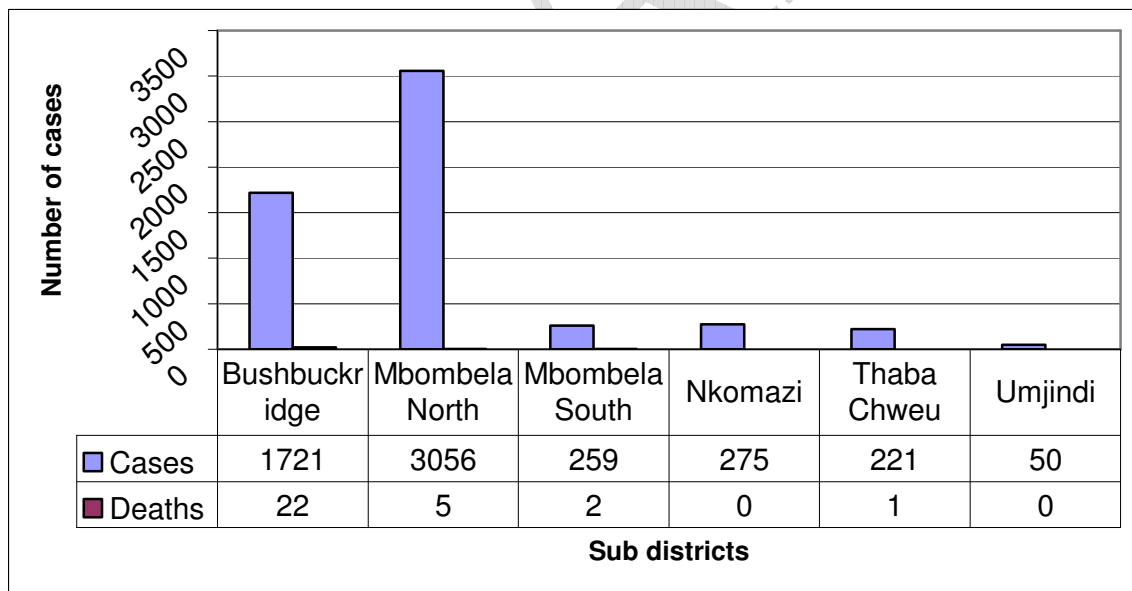
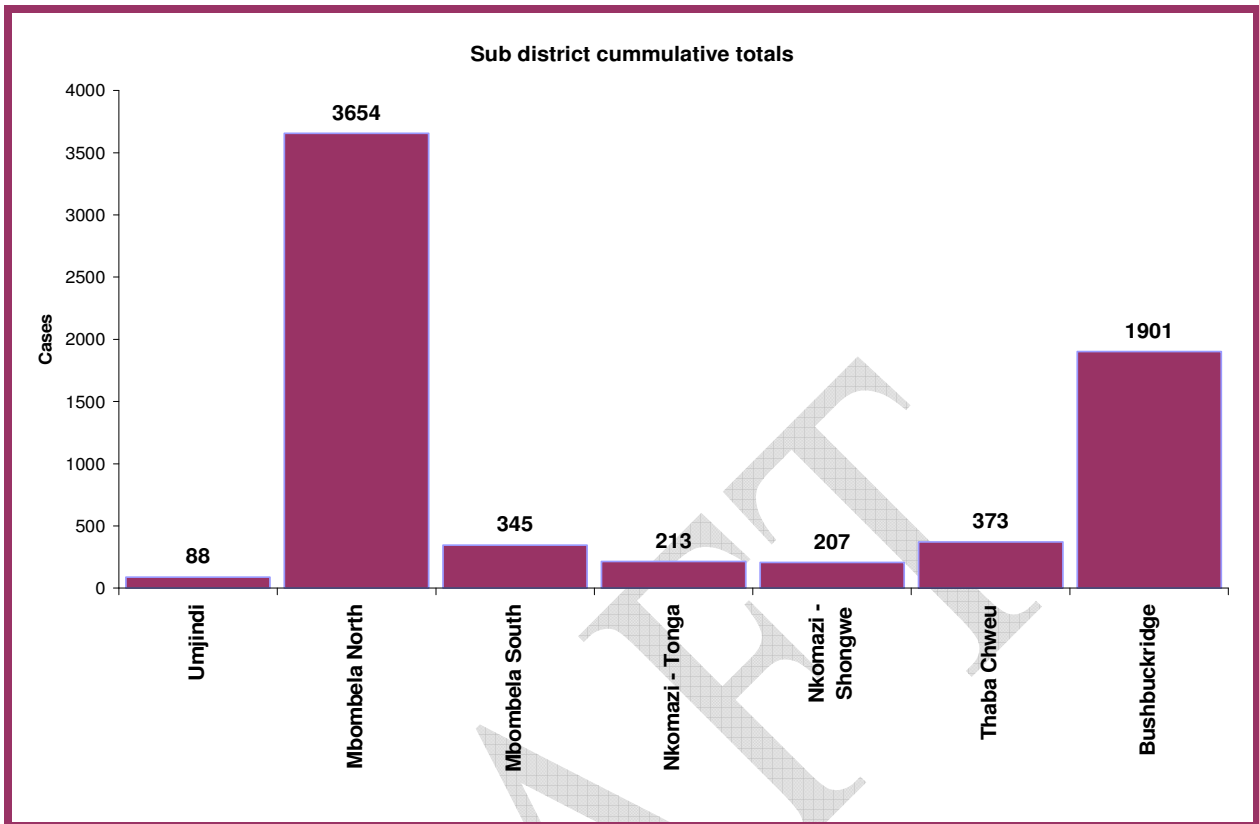


**Figure 2: Number of cholera cases by district, Limpopo province, 15 November 2008 – 22 April 2009**

Source: Limpopo Provincial Department of Health

### ***2.1.3 Distribution of cases in Mpumalanga by sub-district***

Six thousand eight hundred and fifty five (n= 6 855) of cholera cases were reported in Mpumalanga province between the periods (15 November 2008 – 22 April 2009). Cholera cases were only confirmed within the Ehlanzeni district with a total of 5 582 cases. Mbombela North reported more cholera cases of (54.7%), followed by Bushbuck ridge with (30.8%) while Umjindi sub-district reported the lowest (Figure 3).



**Figure 3: Number of cases reported at the sub districts of Ehlanzeni district, Mpumalanga province, 15 November 2008 to 12 March 2009**

Source: Mpumalanga Provincial Department of Health

### **3. Case management and surveillance plan and implementation**

The provincial and National Outbreak response Teams coordinated by the Department of Health, National Institute for Communicable Diseases (NICD) and others stakeholders jointly coordinating outbreak response activities. All healthcare facilities in the country were on high alert to ensure rapid recognition of suspected cases. Suspected case(s) were ought to be immediately notified by telephone (or other means) to the local health authority. Aggressive rehydration therapy (Oral Rehydration Salts and appropriate IV fluids e.g Ringer`s Lactate) was established as the cornerstone of cholera management. Cholera treatment centres have been set up in Musina, Madimbo and other most affected areas to specifically handle management of cholera cases

Case Management, Social mobilization, Environmental Health Services, Surveillance and Epidemiology, Logistic and Infection Control core teams were established and daily embark on recommended activities intended for curbing the outbreak and activities included:

- Training of all sub-district Primary Health Care (PHC) facility managers on case management.
- Distribution of Cholera guidelines to all the PHC managers and ongoing support to hospitals and PHC facilities.
- Monitoring of sewages and water for human consumption which included provision of Chlor Floc sachets to community for the purpose of purification of water by the municipality.

### **4. Recommendations**

Immigration in the region, predominantly from Zimbabwe, appears to have led to the outbreak in South Africa, in-particular across the border in Musina town and

Madimbo area. Under the guidance of SADC investigations are ongoing to verify the cause of the outbreak in the different countries. Poor water and sanitation, especially in remote and farm areas are seen to be the contributing factor.

Considering occurrence of cholera outbreaks in other countries in the sub-region (Angola, Botswana, Mozambique and Zimbabwe), and free movement the National Department of Health in context of the SADC supports a coordinated regional approach to control of the outbreaks in the region.

- To identify gaps, activities and monitoring mechanisms for an effective response.
- Strengthen coordination and capacity of existing structures including NORT, PORT, local outbreak response teams; ensure linkage with the inter-departmental response team as well as with other partners (i.e. UN, IOs, NGOs, CBOs, etc).
- Participate in existing regional coordination mechanisms, including with SADC Secretariat and other stakeholders on trans-border issues.

## **5. Conclusion**

The current warm rainy season in the region and efficient transport system factors that could potentially result in a dramatic deterioration of the situation particularly following the festive season, a number of critical measures were put in place nationally. Advocacy and response measures are ongoing, as well as prevention of activities. A lot more work needs to be done in increasing public awareness, consolidation of interventions with more focus on highly vulnerable communities.

Cholera transmission is essentially through contaminated water and food and as such it is assumed that the population at risk will be that part of the general population with a compromised access to safe water and toilet facilities.

For the purpose of estimation of the relative risk of a province being afflicted by the current outbreak of cholera it is prudent to consider, apart from access to water and sanitation, the possibility of an infected person travelling from a currently endemic location to a non infected locality. This will most probably be the primary source that will then infect water and food in the province. Further to this the chances that people will fall ill depends on other factors. Most important among these factors are the social and cultural factors of the population.

The current outbreak of cholera in the Limpopo and Gauteng Provinces has been associated with the outbreak of the disease in Zimbabwe and the movement of infected persons along the main highway into South Africa.

There was evidence of local transmission of the disease in the communities into which such initial sources of infection have settled. Local transmission started, the disease situation was later prone to further spread by internal travel. As such, Gauteng province with very high levels of access to sanitation facilities was then considered as a high risk area.

The current festive season and the associated mass travelling of the population are therefore considered a major risk factor in favour of the possibility of spread of the cholera outbreak throughout the country. The feasibility of such spread will however depend on the susceptibility of the population. Susceptibility in its turn is dependent on the availability of sanitation among other factors.

## 6. References

1. <http://www.textbookofbacteriology.net/cholera.html>
2. [Zimbabwe: Tracking the Descent](http://www.reliefweb.int/rw/rwb.nsf/db900sid/MCOI-7M8MGB?OpenDocument&rc=1&emid=ACOS-635PHU). ReliefWeb. 11 December 2008. <http://www.reliefweb.int/rw/rwb.nsf/db900sid/MCOI-7M8MGB?OpenDocument&rc=1&emid=ACOS-635PHU>. Retrieved 2008-12-12.
3. [Zimbabwe health cluster weekly bulletin No. 2 - 12 December 2008](http://www.reliefweb.int/rw/rwb.nsf/db900SID/EGUA-7MCQLR?OpenDocument&rc=1&emid=ACOS-635PHU). World Health Organisation. 12 December 2008. <http://www.reliefweb.int/rw/rwb.nsf/db900SID/EGUA-7MCQLR?OpenDocument&rc=1&emid=ACOS-635PHU>. Retrieved 2008-12-16.
4. [Zimbabwe cholera surges as neighbours report rising cases](http://www.google.com/hostednews/afp/article/ALegM5inUjrOec8guxoAGDFfCrqafxyMQ). AFP. 15 January 2009. <http://www.google.com/hostednews/afp/article/ALegM5inUjrOec8guxoAGDFfCrqafxyMQ>. Retrieved 2009-01-15.
5. [AFP South Africa cholera outbreak 'declining'](http://www.iol.co.za/index.php?set_id=1&click_id=68&art_id=vn20081204051853844C776011)
6. [SA–Zim border under close watch](http://www.iol.co.za/index.php?set_id=1&click_id=68&art_id=vn20081204051853844C776011). Independent Online (South Africa). 04 December 2008. [http://www.iol.co.za/index.php?set\\_id=1&click\\_id=68&art\\_id=vn20081204051853844C776011](http://www.iol.co.za/index.php?set_id=1&click_id=68&art_id=vn20081204051853844C776011). Retrieved 2008-12-04.
7. [Statement by Minister of Health Barbara Hogan on the outbreak of cholera in Zimbabwe and South Africa](http://www.info.gov.za/speeches/2008/08112711451003.htm). SA Government Information Service. 26 November 2008. <http://www.info.gov.za/speeches/2008/08112711451003.htm>. Retrieved 2009-01-22.
8. [Mugabe: 'There is no cholera in Zimbabwe'](http://www.timesonline.co.uk/tol/news/world/africa/article5323595.ece). The Times (UK). 11 December 2008. <http://www.timesonline.co.uk/tol/news/world/africa/article5323595.ece>. Retrieved 2008-12-11.