

# CHOLERA RESPONSE & MITIGATION



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Health  
**REPUBLIC OF SOUTH AFRICA**

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# Outline

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# Introduction

- ◆ Cholera has been prevalent worldwide and in Sub-Saharan Africa since the early 19<sup>th</sup> Century
- ◆ Cholera is caused by the bacteria *Vibrio cholerae* type 01 and/0139 in Africa
- ◆ An Environmental Health condition spread through faecal-oral route. Contaminated water the reservoir
- ◆ Presents with a sudden onset of diarrhoea with or without vomiting – incubation period few hours to 5 days. >20% of cases become acute while <80% become mild and others asymptomatic.
- ◆ South Africa had its first outbreak in 1973
- ◆ Biggest outbreak was in August 2001 to July 2001 when 106,389 cases and 300 deaths were recorded. KZN and Limpopo saw most cases.
- ◆ In 2003, around 3 901 cases in KZN, EC, Mpumalanga

# Background to Current outbreak

- ◆ Zimbabwe faced outbreak of cholera since Mid August 2008
- ◆ On 15 Nov 2008 received report of cholera in Beitbridge, Zimbabwe & fear of possible spillover into neighbouring Vhembe district, Limpopo
- ◆ 18 Nov '08 Limpopo Provincial DoH reported increase in acute diarrhoea cases – including 1 death ? Cholera
- ◆ 19 Nov '08 NICD confirmed *Vibrio cholerae* isolated in 5 out of 11 stool samples tested in Polokwane NHLS
- ◆ From this date Vhembe district the epicenter of the outbreak. Spread South along N1, from Mid December Capricorn and Sekhukhune also affected
- ◆ By this time Gauteng also affected and all other provinces had 1-2 cases

# Current status

- ◆ Water-borne diseases are “dirty-water” diseases;
- ◆ Mainly attributed to water that has been contaminated by human, animals or chemical wastes;
- ◆ Worldwide, it has been shown that water-borne diseases are responsible for over 12 million deaths a year;
- ◆ This is mainly due to poor sanitation facilities; and unsafe drinking, washing, and cooking water [3].
- ◆ Millions of People throughout the world have little access to clean water, as a result, millions of people are at risk because of lack of access to safe drinking water and adequate sanitation facilities.
- ◆ The WHO reported that water-borne diseases are killer number one in Africa, especially in the tropics.
- ◆ It can therefore be understood that these water-borne diseases are a great burden to the health system



# Current status

- ◆ *In SA Communities without safe water have been reduced considerably in the past decade*
- ◆ *However some communities are still without access to safe reticulated water;*
- ◆ *In some areas even reticulated water is untreated, while others use water directly from the streams/sources;*
- ◆ *In most rural areas people especially children are exposed to high risks of waterborne diseases due to use of contaminated/polluted water:*
  - *Fishing, recreation, drinking, and general domestic use;*
- ◆ *Substandard and in some cases the absence of sanitary facilities in our communities leads to continuous pollution of our water sources;*
- ◆ *SA`s climatic conditions are conducive to the breeding of most vectors and pathogens;*

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# Waterborne Diseases in SA

## Cholera

- *2008/9 has been a year of cholera in SA;*
- *First cases were seen in the first quarter of 2008/9 in Mpumalanga-Barberton;*
- *The biggest outbreaks were seen in the third quarter which covered the whole country but mostly Mpumalanga, Limpopo and Gauteng respectively;*
- *The index cases in all Provinces were imported from Mozambique and Zimbabwe;*
- *The disease infected 12,787 people and killed up to 64 people*
- *The most affected communities were in all cases poor, with unsafe water supply (borehole/river or spring untreated water) directly from the sources or reticulated.*
- *The communities were mostly rural, farming and mining communities;*

# Current Status in the Region (17Apr 09)

Country	Reported Cases	Reported Deaths	CFR	Time Period
Angola*	5,444	60	1.1%	01 Oct 08 28 Mar 09
Botswana	15	2	13.3%	01 Nov 08 03 Mar 09
Malawi	5,042	110	2.2%	15 Nov 08 29 Mar 09
Mozambique	14,448	122	0.8%	01 Oct 08 21 Mar 09
Namibia	287	12	4.2%	22 Oct 08 14 Mar 09
South Africa	12,787	64	0.5%	15 Nov 08 16 Apr 09
Swaziland**	12,500	0	0.00%	22 Dec 08 07 Mar 09
Zambia***	6,624	75	1.1%	19 Sep 08 26 Mar 09
Zimbabwe	94,013	4,115	4.4%	15 Aug 08 31 Mar 09
<b>Total</b>	<b>151,160</b>	<b>4560</b>	<b>3,0%</b>	

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# Current Status In S.A.(21 Apr' 09)

Province	Cumulative number of cases	Cumulative Number of deaths	Cumulative Number lab confirmed	New Cases of the day
Limpopo	5460	26	610	0
Gauteng	286	4	71	0
Mpumalanga	6855	30	386	0
Kwa-Zulu Natal	2	1	2	0
North West	91	4	59	0
Eastern Cape	2	0	2	0
Northern Cape	1	0	1	0
Western Cape	8	0	8	0
Free State	1	0	1	0
<b>Total</b>	<b>12,706</b>	<b>65</b>	<b>1,140</b>	<b>0</b>

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# Factors contributing to the spread of Cholera

- ◆ Migration of possibly infected people from affected countries and areas.
- ◆ Easy travel within the country makes it possible for the efficient movement of possibly infected people – Christmas period
- ◆ Inadequate water supply and sanitation coverage in certain areas.
- ◆ The rainy season exacerbates the bad sanitation situation in some areas
- ◆ Cases seen at facilities account for about 10% of people infected - the remainder usually asymptomatic or have mild symptoms and remain in the communities. This category of cases remain potentially infectious to others

# *Waterborne Diseases in SA cont...*

## *Bilharzia*

- Another waterborne disease;*
- Poor sanitation practices -sustain the disease by maintaining the life cycle of the parasite;*
- Usually affects people who engage in water recreational activities including fishing;*
- Cases were reported in the Limpopo Province-Vhembe District where a number of children were infected;*
- Continuously cases of Bilharzia are reported in SA.*

# *Waterborne Diseases in SA cont...*

- ◆ *Other similar waterborne Diseases include*
  - *Malaria*
  - *Typhoid fever*
  - Amoebiasis
  - Dysentery
  - Gastroenteritis

# South African – Response National

- ◆ 17 Nov 08 NORT deployed in Musina to support with investigations
  - Several subsequent support visits to Limpopo, Gauteng and Mpumalanga
- ◆ 19 Nov 08 – Cabinet informed and mobilized
- ◆ Contact made with other partners e.g., WHO, UNICEF SAMS and NGOs
- ◆ A National Multi-Sectoral Cholera Outbreak Response Committee has been set up to meet weekly
- ◆ Alert messages were sent out to all provinces.
- ◆ National Cholera Guidelines were disseminated
- ◆ IEC material sent to some affected provinces
- ◆ National Cholera Plan of Action plan was develop and distributed to support development of provincial plans
- ◆ Supported Reactivation of Outbreak Response Teams and Joint Operations Committees in provinces that have reported outbreaks.
- ◆ Training carried out in some districts in Limpopo and Mpumalanga.
- ◆ Development of a National Sitrep that is regularly disseminated
- ◆ Weekly Teleconferences with Communicable Disease Control Coordinators
- ◆ Bilateral meetings with other stakeholders to identify high risk areas for intervention



# South African – Response Provincial and District

- ◆ In Limpopo, Mpumalanga, North West and Gauteng Outbreak Response Teams (ORTs) formed working sub-committees (coordination, logistics and supplies, case management and infection control, epidemiology and surveillance, environmental health and social mobilisation);
- ◆ Declaration of Musina as a disaster area
- ◆ Stakeholder mobilisation to support health promotion activities at community level
- ◆ Strengthening of public education to local communities and travellers
- ◆ Rehydration centers and Treatment tents erected at facilities
- ◆ Additional supplies obtained – Re-hydration fluids (Oral and IV), beds, linen, buckets and covers for tent floors
- ◆ Additional health professionals mobilised
- ◆ Contact made with other partners
- ◆ Inter-provincial cholera meeting – LP and MP



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# Response Provincial and District Cont..

- ◆ Water quality monitoring was done regularly at various critical points
- ◆ Identification of high risk areas e.g river baptismal sites, informal settlement (poor sanitation), unhygienic socio-cultural practices such as Lesenke( eating from a common utensil) etc.

# Serviced Health Facilities

- ◆ 716 HF were provided with water and sanitation facilities
- ◆ The projects were completed on 31 March 2008
- ◆ Health Promotion Practitioners are deployed in all provinces (in exception of Limpopo) to various facilities to deliver health education and awareness programme
- ◆ Operation and maintenance manuals have been developed by DWAF and will be distributed to all 716 facilities



# Challenges - Water and Sanitation

- ◆ Contaminated Water Sources include:
  - river water, streams, bore holes, wells etc. with fecal contamination through direct disposal where there are no toilet facilities, sewerage plant inefficiencies and spills
  - Contaminated water containers due to poor hygiene practices e.g improper handling and water storage
- ◆ Formal Water Supply problems
  - Problems of chlorination
  - Interrupted water supplies
  - Sub-optimal maintenance of the system
  - Over-stretched water system
  - Poor water handling in households
  - Raw water supply to communities through taps
- ◆ Poor sanitation coverage
  - Facilities absent, overflowing, sub standards etc

# Challenges – Health System

- ◆ Regional Cross-border cholera epidemic out of control – initial high number of imported cases from Zimbabwe
- ◆ Institutions challenged with preexisting burden of disease
- ◆ Insufficient Health Promotion and IEC material
- ◆ Insufficient medical supplies in some provinces
- ◆ Inadequate human resources – national, provincial and institutions
- ◆ Turnaround time for laboratory results also the capacity with regard to sensitive tests and distances- water
- ◆ Poor coordination as far as cooperative governance is concerned amongst all spheres

# Response and Mitigation

- ◆ *South Africa has established Active Disease Outbreak Response Teams Nationally, Provincially and in the Districts;*
- ◆ *The teams got stronger and as they responded to different kinds of Outbreaks;*
- ◆ *There is continuous Technical Support from WHO and other International Organizations/partners -readily available to strengthen the available capacity in the country whenever there is a need.*
- ◆ *International relations as prescribed in the IHR2005 has proved to be helpful in the management of international spread of waterborne and other communicable Diseases.*



# Recommendations

- ◆ Development, implementation and maintenance of provincial plans of action
- ◆ Health Promotion to be strengthened in all provinces – focus on high risk areas
- ◆ Provinces to maintain high level of alert and ensure dissemination of guidelines and other IEC materials to all institutions
- ◆ Ensure sufficient stock levels of supplies – provinces at risk can plan according to different scenarios
- ◆ Improvement of coordination within Government and continued coordination with partners and mobilization of resources
- ◆ Coordination with DWAF, DPLG and local authorities essential to address water and sanitation challenges
- ◆ Strengthening Joint regional outbreak response

# Recommendations

- ◆ *Prevention of water-borne diseases needs to form an integral part of the health education and health promotion in SA. This will reduce the number of waterborne disease seen in health facilities, including referral facilities.*
- ◆ *Cost effective water purification mechanisms such as boiling and chlorination should be communicated to community members.*
- ◆ *Personal hygiene messages such as hand washing after using the toilet and before handling food should be stressed in health education messages.*
- ◆ *Water and Environment Affairs Ministry should be in the forefront in its duty to provide safe drinking water and adequate sanitation facilities in support of the Water Services Authorities and in collaboration with the Department of Health.*



# Abbreviations

- ◆ NICD: National Institute for Communicable Diseases
- ◆ NORT: National Outbreak Response Team
- ◆ SAMS: South African Medical Society
- ◆ IHR: International Health Regulations
- ◆ IV: Intravenous
- ◆ NGOs: Non-Governmental Organizations
- ◆ Sitrep: Situational Report
- ◆ WHO: World Health Organization
- ◆ UNICEF: United Nations International Children and Education Fund



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