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Global Insight covers areas of topical interest and is meant to provide the reader with an initiation to the subject and its policy implications. The analysis is meant to be simple yet elegant, and without sacrificing depth, useful to a broad policy community. We welcome and encourage comments and suggestions.

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Confronting Cholera C Lessons learnt from collaboration between the World Health Organisation and the South African government

by
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Cholera is a good example of how well - or badly - the state and civil society can work together to overcome communicable diseases. In South Africa the very low death rate versus case ratio highlights the ability of health services to respond quickly to the epidemic. However, this is reversed by the desperate backlog in clean water provision and sanitation, especially in communities which are often illiterate and ignorant of health-impact behaviours. This has resulted in a clarion call for government to accelerate planned service delivery and educate the public, which in turn needs to assume greater responsibility for its own health and well-being.

What is the problem?

Cholera is a very infectious water-borne disease which is nearly always related to poverty due to the inaccessibility of clean water and adequate sanitation to vulnerable communities. Caused by infection of the intestine with the bacterium *Vibrio Cholera*, cholera causes massive, watery diarrhoea shortly after infection. This severe watery diarrhoea can rapidly lead to dehydration, subsequent loss of circulation and blood volume, and ultimately to death. It is mainly spread by drinking water or eating food contaminated by infected faeces. The bacterium can also live in brackish rivers and coastal waters. The disease can thus spread rapidly in areas where sewage and drinking water supplies are inadequately treated.

Successful treatment of cholera depends on rapid replacement of fluid and electrolyte losses, either orally or intravenously. With proper treatment, mortality can be less than 1 per cent of reported cases, but in unprepared communities, the death rate can be as high as 50 per cent, largely because of a lack of facilities for treatment, or because treatment is given too late.

The regional context: Disease as a threat to sustainable development in Africa

Communicable diseases remain the most pressing and critically important health problem in Africa. The most common causes of death and illness in the southern African region are HIV/AIDS and sexually transmitted diseases, acute respiratory tract infections, diarrhoeal diseases, malaria, tuberculosis, and vaccine preventable infections. A strong disease surveillance system is the foundation of an effective prevention and control programme. Strengthening the surveillance

system through an integrated approach is the preferred strategy for Africa.

Cholera is believed to have had its roots in the Ganges Delta of India, from where it spread globally and reached Africa in 1970. In the early 1990s the locus of the disease was in southern Africa, but towards the end of the decade cholera had moved to west Africa. Overall, more cases were reported in Africa during the 1990s than in the previous decades. By November 2000 the latest wave of cholera in Africa had resulted in 25 023 cases in Mozambique with 149 deaths, 24 786 cases in Madagascar with 1453 deaths, and 7995 cases in the Democratic Republic of Congo with 411 deaths. South Africa's tally was 5353 cases with 35 deaths at that stage.

The South African cholera crisis

The disease emerged in the north-east part of KwaZulu-Natal in mid-August 2000. Within two months the total number of reported cases exceeded 2 800 and the number of estimated deaths was 26. Following visits to the area in September 2000 by the South African Ministers of Health, and Water Affairs and Forestry, the South African government requested assistance from the World Health Organisation (WHO). Three experts arrived from the African regional office in October 2000 to meet with local and provincial health authorities, assess the situation and make recommendations. At that stage they found the case fatality of just over 1 per cent to be low compared to what was usually experienced in the region, and they attributed this to the effectiveness of the health system response in KwaZulu-Natal.

Health education

The health promotions directorate of the KwaZulu-Natal Department of Health was unflagging in its reports to the media of the cholera situation in that province, and the media consistently reported on the situation.

In theory the health messages were simple: tap or piped water is safe; drinking water from dams or rivers should be boiled or treated with bleach; wash hands before meals, handling food, after going to the toilet, and before and after changing nappies; all raw fruit and vegetables should be washed before consumption; human waste must be disposed of carefully, not near a water source or where rain could wash faeces into rivers or dams. The public were requested to report to the nearest health facility as soon as they had sudden, watery diarrhoea. Increasing numbers of tankers transported clean water to affected communities, and rehydration centres were set up.

Practically though, this advice was not always easy to implement. The disease had hit the poorest of the poor who mostly had no access to clean water or sanitation and who tended to resist boiling the water they had walked miles to get because boiled water, as well as chlorinated water, tasted peculiar. Getting to rehydration centres or clinics was often not easy due to non-existent or impassable roads and a lack of public transport. Health messages were often not internalised: those with access to safe borehole water would forego it in favour of tanker water; bleach was for washing clothes, not for drinking. In short, the cholera bug hit hardest among those who had the fewest resources to fight it or knowledge to understand its effects.

The outbreak provided the Department of Health with a huge challenge, and a full-scale disaster management project was launched, which included government at all levels, traditional leaders, local councils, NGOs, the private sector, and the SA Medical Health Services (SAMHS). Toilets and rainwater tanks were built, educational programmes were implemented, and various water purification products or techniques were used. The Red Cross also joined forces with the Department of Health to provide latrines and boreholes to affected communities in KwaZulu-Natal.

But then the rains and the holiday season cameY

Initially it appeared is if cholera was being beaten, but the hopes of KwaZulu-Natal were dashed as the rains contaminated new water sources, and human mobility increased as the holiday season broke. On January 3, *The Sowetan's* headline read: ANew cholera scare - holidaymakers, migrants spreading the disease@. By 5 January cholera had struck a Gauteng woman who had recently visited KwaZulu-Natal. Cases were confirmed in Mpumalanga and neighbouring Swaziland. The Jukskei River in Gauteng which runs through Alexandra, a sprawling informal settlement, tested positive for cholera. This prompted local authorities to speed up the relocation of people living on the banks of the river and accelerate plans to improve the water supply and housing facilities in the township. Sites along the Jukskei continued to be monitored for cholera.

WHO revisits

The WHO officials were recalled in January to review and discuss the ongoing cholera outbreak in Kwazulu-Natal. By 10 January infected cases in the province had risen to 18 218 with reports of 66 deaths, signalling a significant increase in areas where the epidemic had previously occurred.

In its effort, the South African government had implemented the following:

1) multi-sectoral joint provincial, regional and district operation committees (JOCs);
2) mobilised resources, also from the national treasury;
3) the WHO case definition of cholera was being used widely;
4) a functional government information system database to track infection trends greatly improved monitoring;
5) WHO guidelines for treating cholera were being adhered to;
6) SAMHS assistance was seen as important for early management of cholera.

Overall, the WHO officials praised the response of the health system, and saw the exceptionally low fatality rate of less than 0.5 per cent as a sign of successful case management. Health personnel were seen as Adevoted beyond the call of duty@.

Why the increasing cases, despite effective management?

Poverty alleviation takes time, money, education, and capacity. The challenge of cholera lies not so much in treatment but in prevention, through the provision of basic services such as water and sanitation, and education of the community to change their habits.

According to WHO, these were some of the reasons for the increase in cases:

$ **Sector responsibility**
Those sectors responsible for water, sanitation and housing could enhance their major roles in reducing the vulnerability of communities. A shortage of water and sanitation staff was noted, and it was recommended that environmental health officers assume a temporary dual responsibility.

$ **Water and sanitation provision**
Availability, accessibility and appropriate utilisation of water were the most important factors in the increased cases. The minimum requirements of water per person for personal hygiene were not being met in the most affected areas. The geographic location of certain communities also severely inhibited the provision of water from tankers.

$ **Mobility**
The increase in cases had coincided with the holiday season, and the number of gatherings such as weddings, funerals and church services may have aggravated the situation. The rains may have greatly contributed to the geographical spread of the disease.

$ **Notification:**
The issue of initial over reporting C up to 30 per cent C also occurred despite an improvement in case definition. The experts recommended that this problem could be minimised if reporting was done after computer data entry and analysis.

$ **Over-burdened hospitals**
Cholera patients occupied a significant number of hospital beds in some hospitals, and the WHO experts encouraged the establishment of cholera treatment centres, as well as human resources drawn from other health sectors such as SAMHS.

$ **Behavioural change**
Concerns were raised about the effectiveness of the health promotion strategy and its impact on the prevention and control of the epidemic. Community participation was regarded as inadequate, and there were serious constraints in implementing the strategy, mainly due to staff shortages. A review of the overall strategy for a long-term programme together with local institutions was recommended.

Government's Commitment to Combatting Cholera

By 13 March 2001, 70 473 cases had been reported with 149 deaths. Cholera was reported in eight of the nine provinces, with increasing cases witnessed in KwaZulu-Natal, Mpumalanga and

Northern Province. The cases in Western Cape, North West and Orange Free State were imported from other provinces. Eastern Cape had reported one case of cholera and Northern Cape has remained cholera free.

Government acknowledged that the provision of sanitation had gone much more slowly than it would have liked. Seven million people still needed clean water and about 21 million, most rural South Africans, have no access to sanitation. On 9 February 2001 President Thabo Mbeki informed the South African public that special attention would be given to a more vigorous extension of the system of sanitation to contain the outbreak of water-borne diseases.

The Department of Water Affairs and Forestry continued to supply purified water and sanitation. Funding from the European Union will help to speed up this process. It will lead to an integrated inter-departmental approach to sanitation, linking water supply, housing, local government, health and education within the framework of the municipal infrastructure programme. A National Inter-Sectoral Strategy for Cholera Control has been prepared by the Departments of Water Affairs and Forestry and Health, which endorses a multi-sectoral approach beyond health and water affairs, starting at the local level and working to national level.

Health education and promotion throughout the country is continuing through the media, school systems and press. Surveillance systems are in place and the epidemic is monitored daily.

Conclusion

AHealth for All@ was initiated by the World Health Assembly in 1977, which recognised health as a fundamental social goal. Successive international health promotion conferences have enhanced this by emphasising the need for increased community participation and a multi-sectoral approach in promoting healthy public policies.

In South Africa the community's acceptance of responsibility for health, among other things, was slowed by the years of apartheid where a minority government determined the quality and accessibility of health services available to the disenfranchised. However, in the nascent democracy of South Africa, civil society will do well to accept some responsibility and support government in whatever way possible, while government commits itself to the provision of basic water and sanitation to affected communities.

Policy Recommendations

In a nutshell, a two-pronged attack will help contain the disease: those who are ill must be treated quickly, and those who are not ill must be protected through access to piped water, sanitation and education on basic hygiene practices.

In South Africa the WHO experts recommended the following:

Management of the epidemic:

$ The roles and responsibilities of different sectors involved in the control of the epidemic should be redefined.
$ Inter-sectoral coordination should be emphasised to increase accountability.

Water and Sanitation:

Short and medium term strategies to strengthen water and sanitation supplies should be formulated, including rehabilitation of existing water sources, provision of emergency water supply, and sanitation where needed.

The Health Sector:

$ Closer monitoring, supervision and training of health personnel at local community level should occur to minimise errors related to case diagnosis and reporting.
$ Community awareness on the risk factors associated with public gatherings during the outbreak should be increased.
$ The existing health promotion strategy related to cholera prevention and control should be reviewed and updated.
$ The capacity of rehydration centres should be improved to alleviate the burden on hospitals.
$ A short-term strategy for cholera preparedness and response in unaffected areas should be developed.
$ Addressing the shortage of human resources through redeployment of staff within and outside the cholera affected areas should continue.

References:

http://www.who.int/disease-outbreak-news/disease_indices/chol_index.html.

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