KENYA: CHOLERA

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period covered: November 1997 - July 1998

A cholera epidemic broke out in Kenya's Nyanza province in June 1997, quickly spreading and affecting 1100 persons by September. In addition to needed health relief to stem the tide of the epidemic, the high mortality rate - above 10% of cases - signalled the need for comprehensive health education directed at the affected population. The Kenya Red Cross Society, with support of the International Federation, distributed the needed supplies, becoming an invaluable implementing partner of newly formed and overwhelmed district authorities. Training and mobilising a vast network of trainers and volunteers for the public health education campaign, the Society reached 163,135 persons of the targeted 240,000, or 68%.

The Disaster

A cholera epidemic broke out in Kenya's Migori District in June 1997 and by September had engulfed the whole area previously known as South Nyanza which now comprises the districts of Migori, Rachuonyo, Suba, Homa Bay, newly created Nyando and Kisumu. Rainfall and subsequent flooding in October 1997 also caused the epidemic to spread.

Conditions in the above-mentioned districts are extremely conducive to the existence of the epidemic. Sanitation coverage is, in general, very low reaching less than 5% of households in some villages. Latrine ownership is severely hampered by topographical conditions in the lake basin where soils are often sandy or rocky and the water table is high. The most dependable and most frequently used water source is Lake Victoria which is also the drainage basin for most of western Kenya and is considered highly polluted by human excrement washed there as a result of the flooding.

Other sources of water in the districts are shallow wells and open ponds which are used by both man and animal. An old water supply programme is only partially functional nowadays and many of the protected wells built under the scheme have been washed away by the El Nino rains.

Awareness of cholera is quite high among the local population yet few families practised preventative measures against the disease. Boiling water was not commonly practised nor was hand-washing after toilet use. Knowledge on alternative ways of making water safe and of safer disposal of human waste were generally unknown. Most families therefore drank raw unprocessed water and disposed of faeces indiscriminately.

During the assessment in September 1997, about 1100 cases of cholera had been reported throughout the five districts of which over 100 had died, a mortality rate of just above 10%. Many cases were said to be dying at home as a result of a combination of factors such as lack of access to nearby health facilities, lack of money for medical treatment and failure to recognise the potential seriousness of the disease.

Health facilities in the region were inundated with cholera patients seeking care, but the districts being new establishments, the infrastructure and available supplies were unable to cope with the excess load. As supplies and finances allocated to such outbreaks dwindled, the epidemic escalated to outside the province's borders. Laboratory support, water sampling, chlorinating -- all important elements in cholera control -- were overwhelmed by the spreading epidemic.

The Appeal

A joint Federation/KRCS assessment was carried out in Migori by the Regional Health Delegate and the KRCS Health Programme Officer at the request of the National Society in September 1997. During this assessment an action plan was drawn up to provide assistance in Migori but soon the epidemic escalated to the other districts forcing a new assessment in the newly affected areas and also Tarime District in Tanzania, where one cholera kit was forwarded as a result.

The Appeal launched by the International Federation was divided into short-term or emergency objectives which sought to provide health relief and stem the tide of the epidemic, while long-term objectives were aimed at prevention of future outbreaks. The interventions delineated in the short-term were:

- dissemination of health education by Red Cross volunteers and assistance at cholera treatment centres
- assistance with provision of safe drinking water
- provision of critical cholera treatment supplies to the Ministry of Health (MOH)

Household-based health education was considered the most reliable means of effecting behavioural change in regards to hygiene. The target beneficiaries included 240,000 individuals in 40,000 households through the efforts of 200 trainers and 2,000 volunteers based on the assessment that only household education could elicit commitment and only household diagnosis could reveal health threatening risks and dynamics existing at the household level.

The long-term objective of the operation focused on improving on sanitation and water sources and to continue with the health education programme.

The Operation

The Regional Delegation in Nairobi produced 10,000 copies of the existing Federation cholera leaflet written in English which they then distributed to the districts in Nyanza. These copies were in turn distributed to persons in the district who knew English such as teachers and pupils. The leaflet was also translated into the local Luo language by the KRCS Health Field Officer and adapted to suit the local cultural context; 40,000 leaflets were produced for final distribution to households and institutions. During the final evaluation visit these leaflets were said to have been used extensively by households and are often found pasted on of the residential units.

Trainers conducted health education in schools because teachers are usually opinion leaders in the communities and pupils are sometimes the most literate members of households. To effect this, 303 trainers (more than the planned 200), provided this health education in both primary and secondary schools. In addition to education on prevention of cholera, pupils and teachers were also taught how to provide first aid in cholera, for example, how to prepare and administer oral rehydration salt or home-available fluids.

Trainers received the required refresher course and 3760 volunteers were trained. These volunteers were supposed to target 20 households each but whereas in some districts some volunteers exceeded this number, the average number of households visited by each volunteer was 6 for a total number of 23,305 households, the equivalent of 163,135 individuals, out of the targeted 40,000 households and 240,000 individuals, showing an achievement of 68%.

One of the troubling characteristics of the Nyanza cholera epidemic was its high mortality rate of 10% and above. High mortality rates in cholera epidemics are usually a function of a large gap between onset of illness and beginning of treatment. To reduce this fatal gap, the Appeal sought for the provision of 10 tents which were to serve as treatment centres in areas where health facilities are hard to reach. In the end only 3 tents were provided. The location of the tent was usually determined jointly by the Society and the Ministry of Health but it was almost exclusively operated by the Ministry with minimal involvement of the Society, save for the supplies and the Red Cross symbol on the tent.

Water boiling in rural areas is more easily said than done. When it is not possible to boil water, solar radiation is a proven suitable alternative. Since this resource is in abundance and suitable devices are locally available, the appeal sought to introduce it as a possible alternative. Unfortunately, this very convenient method did not catch on, especially with health workers. Also, as another alternative, acidification of water by lemon or lime juice, often available locally, was introduced. This method suffered the same fate as solar radiation and only a very few persons interviewed remembered it as a suitable method of water treatment.

All persons interviewed claim they boil their water and health workers testify to this assertion. However, about 50% of health workers interviewed believe this to be temporary behaviour promoted by real fear of catching cholera. It is believed that once the epidemic has faded from memory people and especially the older members of the community will resort to drinking unpurified water.

As a stop-gap measure, the Appeal provided for chlorination of water sources mostly through donating chlorine to the Ministry of Health. With the exception of Suba, all districts received chlorine supplies. Some of the trained volunteers assisted the Public Health technicians in identifying water sources requiring chlorination and even in actual dosing. The number of water sources treated is estimated at 5050.

Six Cholera kits (sufficient for 6000 patients), out of 10 kits sought in the Appeal, were distributed. Three of the kits were directly donated to the MOH but the rest were kept by the Red Cross branches and distributed according to identified needs. KRCS Field co-ordinators monitored the utilisation of the kit. Where the contents of the kit were inappropriate or expired, replenishments were provided

Out of a total of 40 cholera beds in the Appeal plan, only 38 were provided to the MOH. Although lack of laboratory back-up was noted to be a serious deficiency, recommended laboratory equipment was never purchased and everywhere the Final Evaluation Team went it was reminded of this serious omission.

Analysis of the Operation

The objectives of the operation took into account universally accepted methods in cholera control and the unique comparative advantage of the Red Cross. Widespread but judicial use of Red Cross volunteers was the most prominent feature of the operation and demonstrated once more how careful use of these community members can make a difference in health operations.

Only a few volunteers reported meeting resistance from community members when they made house calls. This may partly be explained by the fact that many of the volunteers were not new to the

community. However volunteers feel they could have been assisted more by the operation, for example, by being provided with bicycles, torches, hurricane lamps and kerosene. The matter of incentive allowances also came up frequently during Focus Group Discussions.

Fulfilling the short-term objectives was expected within six months, but this extended to nine. The long-term interventions were meant to be integrated into existing national society activities currently on-going in the districts but there has not been much headway in this regard except in manpower sharing, logistics and some software.

The presence of health activities and viable branches played a decisive role in the Society's ability to launch a modestly successful operation. If the Society strives to introduce even low-scale community-based health programmes within its existing branches, the level of preparation would be much higher and the response time significantly reduced when an emergency occurs.

The delineated long-term interventions in this operation were hardly started yet these are the activities that will determine how severe the next cholera outbreak is going to be. The reason households do not own latrines is related more to the difficult geological conditions and poverty than to lack of health education. People in the area do struggle to own latrines, sometimes going to heroic lengths. Some households have been known to dig new latrines every six months as old latrines collapse. After the El Nino floods there will be a lot fewer household with latrines. The answer to this problem is to line the pit with bricks and mortar which is quite a costly undertaking. If KRCS is to get an opportunity to complete the long term interventions it must find an innovative way of enabling communities at risk to own and operate more permanent latrines in an hygienic way. Possible ways include introduction of revolving funds, cost sharing, etc.

The major short-coming of this operation had little to do with the methodology of the operation but the administrative practices of the National Society. Disbursement of funds to the field was the main problem of the operation. Many times the field was ready to undertake activities but funds were usually sent very late or not at all and almost always in amounts grossly at variance with the amount sought. Despite much advice from the Regional Delegation, this practice was not changed.

Related to this was the difficulty in financial reporting especially in reference to receiving timely and accurate financial reports for the operation. For this reason it is not known how much money remains unspent. If there should be any, it is important to note that there are outstanding bills to be paid out of the Appeal such as the storage fee in Kisumu and laboratory equipment for district hospitals. There are also outstanding long-term cholera activities such as repair of old water sources/construction of new ones, protection of shallow wells and springs and at least sanitation in some schools.

While there are only sporadic cases reported nowadays, cholera remains a very serious health problem throughout the Lake zone and efforts need to be redoubled to prepare the communities to deal with future outbreaks and facilitate means to prevent any outbreaks from happening.

The National Society was lucky in that it had health programmes going on in the area of operation so that the introduction of the activities was not so difficult. Critical infrastructure (office, staff, transport, communication equipment and volunteers) were in place. This underscores yet again the importance of having some baseline activities in branches which makes introduction of relief or even development health activities so much easier.

Financial statements

See Annex 1 for financial report on this Appeal. The report includes two operations, Kenya Cholera and Nairobi Cholera, which explains why more Disaster Relief Eemergency Funds were received than the amount in the Appeal budget. In fact, there were two applications (CHF 45,000 and CHF 214,000), which explains some of the unforseen expenditures. Cost recovery for the Regional delegation accounts

for most of these expenditures, however. The balance of funds, if any left, should be used to reimburse the DREF.

Conclusions

The cholera epidemic ultimately provided an opportunity for the KRCS to participate in a health relief operation and gain valuable experience for the future. Whatever its failings, it has been recognised by the Ministry of Health as a credible partner in health emergencies and it has used its "niche" as a unique organisation with critical grassroots connections quite effectively.

However, it is important to acknowledge that there were some major and serious shortcomings in the operation. Whereas the Appeal sought to ultimately reach 240,000 persons, only two-thirds of this number was reached.

The operation took too long to start and ended many months late. The role of KRCS as "donor" of supplies to the Ministry of Health or a conduit for drugs was more evident than absolutely necessary. The weak field base sometimes forced the National Society to merely hand over drugs and supplies without adequate capacity for stringent follow-up on their use.

The National Society has a grossly inadequate system for timely disbursement of funds to the field. A Society engaged in relief activities must have capacity to respond in an enhanced emergency mode when necessary. It is obvious that the KRCS does not yet have this capacity.

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