

Cholera outbreak during massive influx of Rwandan returnees in November, 1996

SIR—From Nov 16 to 24, 1996, nearly half a million Rwandan returnees coming from five camps in north Goma, east Zaire, entered Rwanda through Gisenyi. By Nov 24, most of the returnees had reached their home communes in the préfectures of Gisenyi and Ruhengeri, and in rural Kigali. To assist the returning population, Médecins Sans Frontières (MSF) operated health facilities in various contexts: road stations, existing transit camps, hospital support, and mobile units along the 63 km Gisenyi-Ruhengeri route. This system ensured one health facility every 6 km, equipped with oral and intravenous rehydration, and provided dressings and basic treatments, BP5 (high-energy protein) biscuits, latrines, and water. Cholera-treatment centres, set up in tents, allowed infection-control measures.

A simple surveillance system was established. Morbidity and mortality data were tallied daily at each site. Because of difficult working conditions, the case definition used for possible cholera was any patient presenting with acute diarrhoea of rapid onset with dehydration, with or without vomiting. From Nov 13 to 25, 44 stool samples were collected among returnees by the ministry of health (MOH), WHO, Central Hospital of Kigali, and MSF from Goma (4), Gisenyi (25), Ruhengeri (8), and Kigali (7), and analysed by the CHK laboratory/Swiss Disaster Relief team. In addition, 16 stool samples from Goma (7) and Gisenyi-Ruhengeri (9) were sent to MSF to Institute Pasteur, France. By counting the number of persons per hour on the Gisenyi-Ruhengeri route MSF estimated a total of 350 000 returnees, between Nov 16 and 24. MSF provided 15 675 consultations of

which 8916 were for watery diarrhoeal diseases, representing 57% of the total consultations in both préfectures (figure). A total of 4408 diarrhoea cases occurred among children under 5 years of age (49% of total diarrhoeal cases). Diarrhoeal cases increased from Nov 16 to 18, and decreased from Nov 19 to 24. From Nov 16 to 24 the attack rate was 25.4/1000 (8916 per 350 000). A total of 47 deaths, of which 36 were reported by MSF, were recorded by MOH/WHO. MSF registered a case fatality rate of 0.4% (36/8916). From the 44 stool samples analysed in Kigali (CHK), 40 tested positive for *Vibrio cholerae* O1. Of the 16 samples sent to Institute Pasteur, eight tested positive for *Vibrio Cholerae* O1, serotype Inaba.

UN aid agencies and non-governmental organisations (NGOs) had prepared emergency plans in advance, but the magnitude of the population displacement surprised everyone. For operational purposes all diarrhoeal or dehydrated patients were treated according to their hydration status. The surveillance system used did not allow the distinction between cholera cases and watery diarrhoea due to other causes. The continuous fall in the number of diarrhoea cases registered from Nov 19 was attributed to the parallel decrease of the target population as the column of returnees moved on. Also, several stations had to be closed on Rwandan Government orders. Although the quality of the data collection varied among health facilities, trends remain reliable. The very high number of registered diarrhoeal cases is indisputable. This outbreak, among which an unknown but probably important number of cases were cholera, is unique in terms of low case-fatality rates. Epidemics of diarrhoea reported lately have been associated with high mortality rates (Kurdish refugees in 1991, displaced Somalis in 1992, Burundian refugees in Rwanda and in Tanzania in 1993, Rwanda refugees in Goma in 1994).

During this crisis the very low case-fatality rate may be attributed to the quick assistance provided along the road. It is also possible that the returnees might have developed some immunity to cholera, following the 1994 outbreak in Goma. The Goma Epidemiology Group¹ estimated that almost all refugees were infected by *Vibrio cholerae* during that period.

Now that returnees are in their communes, active surveillance should be continued daily for suspected cholera cases (MOH/WHO recommendations). The cholera outbreak described may be regarded as being of moderate severity, but it is likely that in the coming weeks, vulnerable groups among the Rwandan population will need more attention. Co-ordination between MOH, UN agencies and NGOs will remain essential to maximise efficiency of emergency health intervention.

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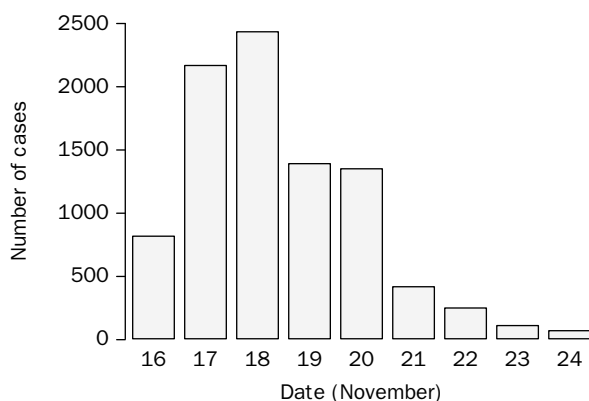
We thank Rwandan Ministry of Health personnel and Médecins Sans Frontières expatriate staff for their invaluable collaboration.

- 1 Goma Epidemiology Group. Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994? *Lancet* 1995; **345**: 339–44.

Emergency medical aid for refugees

SIR—We agree with *The Lancet's* assertion that emergency medical aid is not for amateurs (Nov 23, p 1393)¹ but we do take issue with the solution that you propose—yet another multinational task force. This force would only produce a highly centralised, poorly controlled, and unaccountable bureaucracy. There are no quick fixes.

In the world of humanitarian medical aid, it is essential to recognise the differing agendas of donors, of national, international, and multinational implementing agencies, and of governments. For example, expert intelligence on movements of refugees in Zaire and Rwanda was almost certainly withheld from aid agencies by those preoccupied with political and military concerns. Humanitarian organisations, donor agencies, and other institutions need alternative, self-reliant strategies to ensure that aid donors get value for money. One such strategy is a defined career structure for those entering into medical relief.



Diarrhoea/suspected cholera cases in Rwandan returnees, Nov 16–24, 1996

MSF centres Gisenyi and Ruhengeri préfectures, Rwanda.