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SHORT COMMUNICATION

Decreased peripheral health service utilisation during an outbreak of Marburg haemorrhagic fever, Uíge, Angola, 2005

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Summary In 2005, a Marburg haemorrhagic fever (MHF) outbreak occurred in Uíge province, Angola, which had its epicentre in Uíge municipality. Concurrently, a health facility located a considerable distance from the outbreak's epicentre reported a drastic reduction in attendance, possibly due to a remote effect of the ongoing MHF outbreak. Health officials should devise strategies to ensure that communities far from a filovirus haemorrhagic fever epicentre are not adversely affected by interventions at the epicentre and, to the greatest extent possible, ensure that these peripheral communities receive essential medical care during an epidemic.
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Recent literature indicates an underutilisation of health services at facilities where filovirus haemorrhagic fever (FHF) patients are being treated,¹ even when these facilities remain fully functional during an outbreak.² It is understandable that a community would fear seeking health care at facilities where FHF may be transmitted to patients, staff and family members. However, the impact of a FHF outbreak on the utilisation of health facilities located at a considerable distance from where FHF patients are being treated has not been previously documented.

From March to November 2005, a Marburg haemorrhagic fever (MHF) outbreak (374 putative cases; 88% case fatality)³ occurred in Uíge province, Angola, which had its epicentre in Uíge municipality. After nosocomial transmission became evident in Uíge Provincial Hospital and another health facility, both located within Uíge municipality, the Angolan health authorities reduced non-essential services at Uíge Provincial Hospital, closed private health facilities and prohibited injections outside public health facilities.⁴ These restrictions were meant for Uíge municipality only.

Cangola, a town in Uíge province with a Médecins Sans Frontières (MSF)-supported public health centre, is located 96.3 km in straight-line distance, or a 4–6 h car drive, from Uíge municipality. Throughout the outbreak, fully functional health services were available to the approximate catchment population of 23 700 residents. The health centre

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Table 1 Outpatient consultations, children under 5 years consultations, admissions and deaths at Cangola Health Centre, Uíge province, 2005

Month	Outpatient consultations	Under 5s consultations	Admissions	Deaths	Deaths within 48 h of admission
Jan.	1003	259	50	4	4
Feb.	1305	395	74	5	3
Mar. ^a	1352	384	71	6	4
Apr.	639(53%) ^c	96(75%) ^c	22(69%) ^c	5	5
May	956	241	53	2	2
Jun.	1106	230	43	7	6
Jul.	1054	242	52	4	4
Aug.	734(30%) ^c	136(44%) ^c	25(52%) ^c	7	6
Sept.	799	143	25	0	0
Oct.	972	241	51	3	2
Nov. ^b	1176	268	51	2	2

^a Marburg haemorrhagic fever outbreak declared on 23 March 2005.

^b Marburg haemorrhagic fever outbreak declared over on 7 November 2005.

^c Percentage decrease from previous month.

reported a drastic reduction in attendance following the official outbreak declaration in Uíge on 23 March 2005,⁵ although no individuals suspected of being infected with MHF were reported in Cangola at that time. From March to April 2005, outpatient attendance dropped by 53%, inpatient admissions declined by 69% and consultations for children aged <5 years fell by 75% (Table 1). However, the number of deaths in the Cangola Health Centre remained stable, suggesting that healthcare utilisation dropped predominantly among patients with mild conditions. Healthcare utilisation increased in May and June to levels similar to those prior to the decline. This recovery occurred spontaneously, without intervention to encourage attendance. In August, Cangola Health Centre utilisation dropped again following the admission of a patient suspected as suffering from MHF. Subsequent disinfection and set-up of a Marburg ward disrupted health facility activities. After a sensitisation campaign, healthcare utilisation increased steadily.

Healthcare attendance data are unavailable for 2004 and 2006 as MSF supported the Cangola Health Centre in 2005 only. However, Congolan health workers indicated that the drastic reductions in health service utilisation in April and August 2005 were unprecedented and not a result of fluctuating seasonal activities or weather patterns. Through radio communication and word of mouth, the Congolan population was acutely aware of the lethality of MHF and the possibility of nosocomial transmission in healthcare settings. Residents told Congolan health staff that they avoided the health centre for fear of exposure to Marburg virus and preferred to suffer through their illness at home or to seek medical attention from alternative healthcare providers, e.g. indigenous healers. We therefore believe that the sudden drop in healthcare utilisation in April 2005 may have been a remote effect of the MHF outbreak in Uíge municipality, prompted by the declaration of the outbreak and the official restrictions to health services in Uíge municipality. However, the drop in healthcare utilisation in August 2005 was likely a local effect, triggered by the admission of a patient suspected as suffering from MHF. A similar phenomenon was reported in 2000 following the admission of Ebola patients at Masindi Hospital, Uganda. Affected ser-

vices included the Expanded Program on Immunization (67% reduction compared with the 12-month average), paediatric and adult inpatient admissions, outpatient consultations and deliveries, whilst emergency obstetric services increased by 12%.²

No population-based morbidity and mortality data were collected from communities distant from the MHF epicentre. Whilst our data suggest that the drop in healthcare utilisation primarily affected non-emergency services, there is a risk that the underutilisation of peripheral health facilities may have led to adverse health effects: individuals may have received inaccurate diagnoses and inadequate treatments as they shunned formal healthcare settings and sought the services of indigenous healers, received unskilled nursing care by friends or family, or purchased drugs and alternative cures in the open market.

Drastic reductions in healthcare utilisation as observed in April and August 2005 in Cangola are a public health concern. Given the possible adverse health implications, health officials should be aware of the possibility of a remote effect on health service utilisation. We recommend that during future FHF outbreaks health services are monitored to assess the magnitude and duration of underutilisation in order to activate remedial action, if necessary. Health officials should devise strategies to ensure that communities far from a FHF epicentre are not adversely affected by interventions at the epicentre and, to the greatest extent possible, ensure that these peripheral communities receive essential medical care during an epidemic.

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