

Comparative evaluation of event-based and indicator-based components of MSF's "Tea Team Surveillance System", Somali Region, Ethiopia

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Introduction

The Somali Region is one of the least developed regions of Ethiopia, with low coverage of healthcare services and recurrent disease outbreaks, floods, and malnutrition emergencies. MSF has been providing medical assistance in the Doolo Zone, Somali Region, since 2007. Following multiple disease outbreaks in 2017, MSF shifted focus to work primarily on early outbreak detection and provision of a timely response. In 2019, MSF established a "Tea Team surveillance team"; this combines health facility data with that from community indicator- and event-based surveillance systems. Data are collected from 32 locations (17 surveillance only and 15 non-permanent mobile clinic sites), as well as alerts from other actors in Doolo Zone. We aimed to evaluate the usefulness of the data generated by these different components.

Methods

We used a mixed methods approach. Description of the surveillance system, quantitative analysis of retrospective data between February 2019 and January 2021, and focus group discussions were the main methods used to evaluate usefulness, acceptability, and other surveillance attributes. Quantitative analyses were done using R software (R Core Team, 2014) while qualitative data analysis was performed with NVivo software (QSR International Pty Ltd, Australia).

Ethics

Permission to conduct the study was obtained from the Somali Regional Health Bureau. This study was approved by the MSF Ethics Review Board.

Results

Over 1200 signals were reported to the Tea Team surveillance system over the evaluation period, with the majority being reported via the community event-based surveillance (CEBS) component. There were a total of 31 responses conducted between February 2019 and January 2021. 22 (84.6%) originated from CEBS system signals, one (3.8%) was from the community indicator-based surveillance (CIBS) system, 2 (7.7%) were from health facility indicator-based surveillance (HFIBS), and 6 (23.1%) came from other event-based surveillance systems. Most responses were triggered by population movements, suspected measles, and suspected acute watery diarrhoea. No responses arose from acute jaundice syndrome signals. MSF staff found the "Tea Team surveillance system" to have higher acceptability in non-emergency situations, but indicated lower acceptability during a crisis, due to data processing times and rigidity of the HFIBS online database. The surveillance system has complex data management procedures leading to potential underreporting of signals and difficulties with routine data quality monitoring. Project staff considered the CEBS and CIBS components to be more flexible than HFIBS. The system was sufficiently flexible to integrate with Covid-19 surveillance.

Conclusion

The Tea Team surveillance system is a comprehensive and useful system to detect and respond to public health events in a pastoralist population. Simplification of the surveillance system and greater standardisation of the data management processes will increase the utility of the system.

Conflicts of interest

None declared.



Bashir Ali is an Ethiopian field epidemiologist whose work is focused on community-based surveillance in the Somali region, a highly pastoralist state in eastern Ethiopia. He has worked as a nurse and a clinical officer in Warder Hospital in the Somali region. He has worked in community-based surveillance since 2014, including as a surveillance officer in a polio project. He has also established a network of community-based surveillance systems that relied on community volunteers and health extension workers, focussing on polio, measles, and neonatal tetanus. In 2019 he started working with MSF as a field epidemiologist, and led integrated community-based, health facility-based, and other event-based surveillance systems. Currently Bashir is working as a mission epidemiologist in Nigeria, with work focused on the northwest part of the country, historically affected by outbreak-prone diseases such as measles, cholera, and meningitis.