First experience of a health and demographic surveillance system (HDSS) in an MSF project

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Introduction

In many resource-poor settings, cross-sectional surveys are the most common means of community-based data collection and monitoring. However, these do not provide data trends over time; health and demographic surveillance systems (HDSS), longitudinal cohort follow-up with biannual health indicator data collection, provide more reliable data. MSF decided to implement an HDSS in the Bafata region of Guinea-Bissau through the Bandim Health Project (BHP) with the aim of improving the quality of surveillance data used to guide MSF health interventions. We present initial analysis of baseline and first follow-up data after the introduction of HDSS.

Methods

HDSS was implemented in January 2015 in seven health areas. 40 clusters were randomly selected, with probability proportional to population size. An open cohort of women of reproductive age (12-49 years) and children aged <5 years are followed up through home visits every 6 months. At each visit, births, migration, deaths (cause ascertained by verbal autopsy), and health indicators are recorded. Demographic data such as date of birth, sex, schooling, marital status, co-wives, socio-economic status, and pregnancy as well as vaccination status, health-seeking behaviour, illness in the past month, and hospitalisation in the preceding 6 months are recorded. Children’s (6-59 months) mid-upper arm circumference (MUAC), vaccination status, and bilateral oedema are also assessed. Trends in health indicators are followed and MSF interventions will be adjusted accordingly.

Ethics

This study was approved by the Guinea-Bissau National Ethical Board.

Results

We registered 3481 women of reproductive age and 3637 children <5 years. At baseline, the prevalence of severe acute malnutrition among children aged 6-59 months was 0.7% (17/2503; 95%CI 0.3-1.0). 12.4% (424/3426) of children <5 years reported an illness in the past month, of whom 70.2% (271/386) consulted a health facility and 13% (42/313; 95%CI 7.6-19.9) sought a traditional healer; in the past 6 months 1.4% (49/3479) had been hospitalised. In the first 6 months of the project, neonatal mortality was 1.6% (95%CI 0.0-4.7). Between baseline and first follow-up, for children aged 12-23 months, measles vaccination coverage increased from 63% (95%CI 55.2-70.4) to 64.1% (95%CI 56.9-71.2) and full EPI (expanded programme on immunisation) coverage increased from 44% (95%CI 37.9-50.1) to 52% (95%CI 39.1-55.8). There was no change in other indicators. HDSS implementation over 3 years is less than half the cost of performing two surveys/year (132,020 vs 292,144 Euros, respectively).
Conclusion

The HDSS was a cost-effective way of obtaining trend data. Use of HDSS by MSF would allow projects to adjust to real-time needs in the targeted population and potentially improve health-care provision in areas where MSF plans to remain for many years.

Conflicts of interest

None declared.