Community event-based surveillance (CEBS) for Ebola virus disease (EVD) in Sierra Leone: Alert demographics by sex and age, February 2015-June 2016

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Purpose: In 2015, Community Event-Based Surveillance (CEBS) was implemented in Sierra Leone to provide an early warning system for Ebola virus disease (EVD), using a pre-established network of Community Health Workers (CHWs) to generate alerts for “trigger events” indicative of EVD. We analysed the demographic breakdown of alerts using sex and age-specific reporting trends within the CEBS system.

Methods & Materials: Alerts generated by the CEBS system from February 27, 2015-June 30, 2016 were described by type of trigger event (sick, death, unsafe burial, and other), sex (male and female), age category (<1 year, 1–5, 5–9, 10–19, 20–29, 30–39, 40–49, 50–59 and ≥60) and district.

Results: Of the 33,957 CEBS alerts that were generated during the 16-month period, 72% were death alerts and 28% were sick alerts. Of these alerts, 48% were male and 52% female; percentage of death alerts and sick alerts did not vary by sex. Alerts by age group showed comparable trends between male and female alerts, with the largest percentage of alerts being from deaths in people over 60 (22% of male alerts and 20% of female alerts). Out of nine districts, a majority of districts generated a greater percentage of female alerts compared with male alerts within the 10-19 and 20-29 age groups, while seven districts had a higher percentage of male alerts compared with female alerts among people over 60 years of age.

Conclusion: Understanding community-based surveillance data is crucial for ensuring proper disease surveillance, targeting appropriate responses during outbreaks, and to improve community surveillance. The consistency across districts in sex- and age-specific demographics among both live and death alerts generated by CEBS suggests that the reporting of trigger events was not influenced by sex or age.

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The zoonoses data collection in Italy: An expert system for data quality management and improvement

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Purpose: The need to improve data quality for a better analysis and understanding of the trend of zoonoses at country level has been increased year after year both by the EFSA and by reporting countries. This is the reason why the EFSA launched in 2014 a grant programme supporting the participating countries in updating and complementing their historical datasets in EFSA’s databases. In this context, an expert system was put in place in the Italian information system for zoonoses data collection (SINZoo) for improving data quality and for complementing the historical datasets.

Methods & Materials: Zoonoses data are checked in SINZoo both during and at the end of the insertion: during data entry, an automatic logic system of truth tables checks that for each zoonoses the combination of the area of interest, each possible sampling context, stage and sampling unit has been entered correctly, thus avoiding inconsistent data. Each combination available in the truth table indicates the context, the stage, the sampling Unit allowed for each zoonosis in a specific area and for a category of species.

Results: The missing information was retrieved following a logical pattern based on the national legislation in place on the zoonoses covered by the project. The same logical pattern was used in SINZoo to build the truth tables specific for each zoonosis, in order to avoid mistakes during its feeding by the reporters.

After the missing/unspecified information was retrieved, the rows containing wrong combinations of zoonosis/context/stage/unit were corrected and updated following both the logical pattern of the truth table and logical rules to ensure the coherence of the data retrieved.

Overall, the goal of the project was achieved for most of the information to be retrieved: the 89% and the 83% of sampling contexts and stages respectively and the 100% of the other information were retrieved.

Conclusion: This project highlighted the importance of data quality during the collection and feeding of any information system. The need to retrieve historical data led to improve the rules of the national data collection foreseen by the truth tables and to define new logics and algorithms that may be used for each data reporting.

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Community-based cholera surveillance by volunteers with mobile phones: A case study from Western Area, Haiti

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Purpose: The purpose of the project was to design and implement a digital community-based surveillance (CBS) system to understand whether non-health trained volunteers could accurately detect and report cases of suspected Cholera in their communities, using simple mobile technology.

Methods & Materials: In 2014-2015, 239 community-based Haitian Red Cross volunteers were trained to detect, respond to and report cases of acute watery diarrhoea occurring within their own communities by SMS. Real-time, digital data collection was set up through the online software Magpi. We used the android application SMSsync to enable SMS responses being sent to a local smartphone and data transferred to an online database through wifi or 3G. Data was extracted daily and processed in RStudio to merge SMS data with volunteer location data. The database output