



Tracking events to inform a system dynamics model of utilisation of maternal and newborn healthcare services in urban settings: Insights from Lubumbashi City, DRC

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Background: The provision and use of maternal and newborn healthcare (MNH) services is affected by complex dynamics and events. This study presents the first phase of model development, describing events tracked within the health facilities (HF) and at micro, meso, and macro levels in Lubumbashi city, DR Congo, and their impact on MNH outcomes.

Method: Primary data collection of events has been carried out daily at HF, city, regional and national levels, from various sources including media, government announcements, Provincial Health Division monthly meetings, and healthcare providers for 15 months, and meetings with stakeholders were organized to validate entries.

Results: We documented a total of 2,674 different types of events reported from 206 HF, with most facilities reporting one event per week and a maximum of four events in the same week. At the city, national and global level, we documented 156 events with a median of 3 events per week. Event types included health policy changes (n=38), infectious disease outbreaks (n=17), election campaigns (n=16), and political demonstrations (n=13). Events had perceived direct and indirect impacts on healthcare, e.g., a 62% reduction in the number of livebirths after a maternal death in one of the HF, early discharge of patients from hospitals due to a doctors' strike, and geographical inaccessibility to services due to a blocked bridge.

Conclusions: Events tracking is key to understanding disruptions in urban maternal healthcare services and as a basis for developing a model for elaborate strategies and policies to improve MNH access and outcomes.

