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Abstract S4B.1

Comparison between longitudinal and census data in accessing population size and child mortality: Experience from KEMRI/CDC HDSS

Nyaguara Amek, Kayla F. Laserson, Frank Odhiambo, *Kenya Medical Research Institute/Centers for Disease Control and Prevention (CDC)-Research and Public Health Collaboration, P.O. Box 1578 Kisumu, Kenya*

Background: National census data is largely used by governments and/or policy makers in planning and resource allocations in countries where routine vital registration are scare. However, a number of challenges related to data quality have been reported. In many parts of these countries, Health and Demographic Surveillance Systems (HDSS) which is a geographically defined population based longitudinal surveillance system on vital events exist to supplement civil registration. This paper sought to assess the accuracy of the national census estimates by comparing it with HDSS figures (data) obtained from rural western Kenya, in particular population structure and under-five mortality.

Methods: Population size and under five mortality rate were generated for 2009 based on KEMRI/CDC HDSS and compared with the ones from national census data collected during the same period in the HDSS study area. Mortality rate was calculated as total number of deaths over live births.

Results: Overall, the population structure of HDSS and national census data were largely comparable: The proportion of individuals aged <15, 15-59 and 60 plus years old were 45%, 47% and 8% respectively for HDSS, except in a few administrative (locations) areas for elderly individuals. Under-five deaths for national census were 1,605 compared to 1313 for HDSS yielding mortality rate of 171 and 172 per 1000 live births in that order. Even though HDSS reported slightly high <5 mortality rate, the national census had a 9 % higher neonatal mortality ratio.

Conclusion: HDSS provides an alternative data source to validate and improve census estimates. Correction factor may be calculated to adjust data for the entire country leading to more reliable statistics that can be used for proper planning and resource allocation.