

Publication

Associations between key intervention coverage and child mortality : an analysis of 241 sub-national regions of sub-Saharan Africa

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Reducing child mortality remains a key objective in the Sustainable Development Goals. Although remarkable progress has been made with respect to under-5 mortality over the last 25 years, little is known regarding the relative contributions of public health interventions and general improvements in socioeconomic status during this time period.; We combined all available data from the Demographic and Health Survey (DHS) to construct a longitudinal, multi-level dataset with information on subnational-level key intervention coverage, household socioeconomic status and child health outcomes in sub-Saharan Africa. The dataset covers 562 896 child records and 769 region-year observations across 24 countries. We used multi-level multivariable logistics regression models to assess the associations between child mortality and changes in the coverage of 17 key reproductive, maternal, newborn and child health interventions such as bednets, water and sanitation infrastructure, vaccination and breastfeeding practices, as well as concurrent improvements in social and economic development.; Full vaccination coverage was associated with a 30% decrease in the odds of child mortality [odds ratio (OR) 0.698, 95% confidence interval (CI) 0.564, 0.864], and continued breastfeeding was associated with a 24% decrease in the odds of child mortality (OR 0.759, 95% CI 0.642, 0.898). Our results suggest that changes in vaccination coverage, as well as increases in female education and economic development, made the largest contributions to the positive mortality trends observed. Breastfeeding was associated with child survival but accounts for little of the observed declines in mortality due to declining coverage levels during our study period.; Our findings suggest that a large amount of progress has been made with respect to coverage levels of key health interventions. Whereas all socioeconomic variables considered appear to strongly predict health outcomes, the same was true only for very few health coverage indicators.

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