

Determining the Effective Coverage of Maternal and Child Health Services in Kenya, Using Large Survey Datasets

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Introduction

Kenya is aligning her health systems towards universal health coverage (UHC). In order to monitor the country's progress towards UHC, it is important to regularly monitor the population's coverage with quality essential health services, as well as coverage with financial protection.

Effective Coverage (EC) assesses the performance of a health system by measuring the extent to which evidence based services offered, deliver their potential health gains to the population in need of them. EC goes over and beyond measuring basic "contact coverage", to measure coverage with quality health services.

EC is computed at individual level as a quality-weighted probability of coverage ($Q_{ij} * U_{ij} | N_{ij} = 1$), which is then aggregated across intervention and across the population to give a group or population level summary metric of the health system's performance in delivering better health.

Objectives

The key objectives of this study were

- 1) To estimate the EC of maternal and child health services in Kenya
- 2) To compare trends in EC over the recent survey periods, and
- 3) To investigate socioeconomic inequalities in EC

Methods

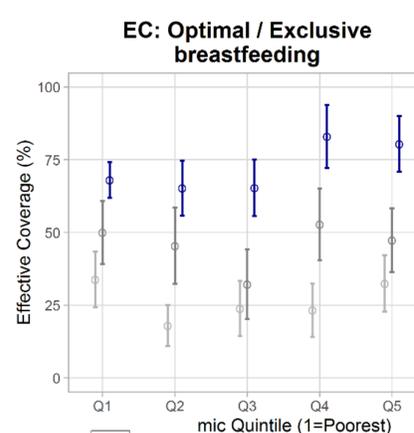
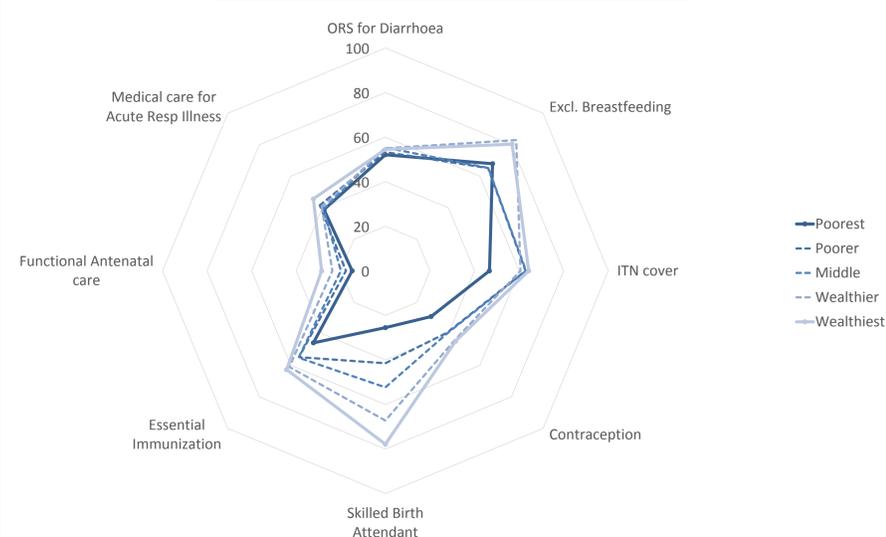
Data from 3 rounds of KDHS (2003, 2008-09 and 2014) were analysed. Due to the subject matter of the survey, women of reproductive age (15-49y) and children under 5 years are the focus. Eight MCH interventions were identified, based on their relevance to national priorities and availability of data (the first 4 of these interventions' indicator constructs are shown in the table below). EC was computed with Taylor series linearized standard errors. These were then summarised and charted.

Intervention	Measure of Need (denominator)	Measure of Use (numerator)	Quality Fraction Estimator
Family planning coverage with modern methods	Women 15 - 49 years old who at the time of survey were able to get pregnant (Fecund).	Fecund women 15 - 49 years old, currently using a modern contraceptive method.	Facility level estimate: Minimum quality of service across structural and process domains observed at facilities (source KSPA)
Antenatal care coverage	Women with at least one child.	Women with at least one child, whom for their most recent birth, reported having made at least 4 visits for Antenatal Care.	Individual level: Woman recalls receiving each of identified routine services during any ANC visit (source KDHS)
Essential immunization	All children alive between 12 and 23 months	All children alive between 12 and 23 months who received the complete set of essential immunization i.e. BCG, 3 doses of IPV, 3 doses of DPT and Measles vaccines	Facility level estimate: Minimum quality of service across structural and process domains observed at facilities (source KSPA)
Breastfeeding practices	All children between 0 and 5 months	All children between 0 and 5 months, for whom breastfeeding occurred in the preceding 24 hours.	Individual level: All children between 0 and 5 months for whom exclusive breastfeeding (breastfeeding only, with no other complementary feed offered) in the past 24 hours.

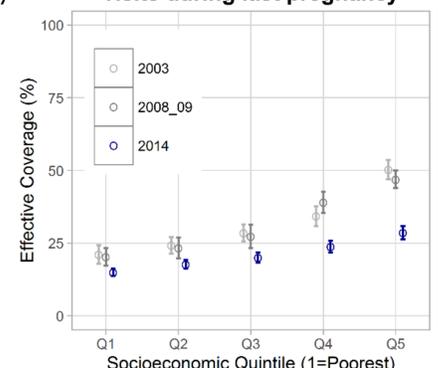
Results

We found on average that there were low levels of EC across all interventions, with an overall EC of 45.9%. Only the immunization and skilled birth attendance EC demonstrated an increase over this period; the rest of the interventions remained at or near the 2003 survey period EC levels. The distribution of EC inequitably favoured the wealthy especially among the facility based services. The wealthiest fifth of the population had a 1.9 times level of EC with functional ANC, and 3.05 times coverage with skilled birth attendance compared to the poorest fifth. Preventive services such as breastfeeding and homestead level management of acute diarrhea were more equitably distributed (Wealthiest-to-poorest ratios of 1.18 and 1.05 respectively).

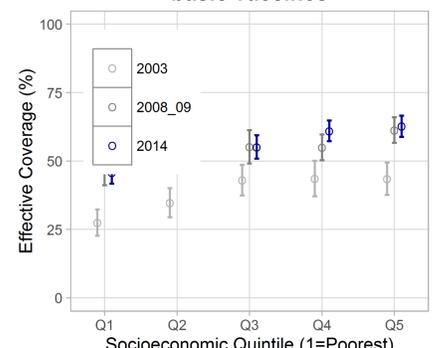
Chart of EC across indicator interventions, 2014



EC: Attended 4 or more ANC visits during last pregnancy



EC: Received complete set of basic vaccines



Conclusions

The level and distribution of effective coverage with MCH interventions in Kenya remains inadequate. There is need to focus not only on increasing utilisation, but also on the quality of the care package delivered – both in curative and preventive care. Efforts are ongoing, however, to reform the institutional arrangements for health financing, service delivery and quality assurance in order to deliver better health to the population.