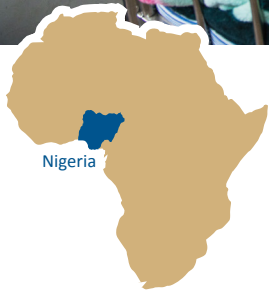


LEARNING & ANALYSIS BRIEF



IMPROVING MATERNAL CARE THROUGH A STATE-WIDE HEALTH INSURANCE PROGRAM: A COST AND COST-EFFECTIVENESS STUDY IN RURAL NIGERIA



While the Nigerian government has made progress towards the Millennium Development Goals, further investments are needed to achieve the targets of the post-2015 Sustainable Development Goals, including universal health coverage. Economic evaluations of innovative interventions can help inform investment decisions in resource-constrained settings. This study assesses the cost and cost-effectiveness of maternal care provided within the Kwara State Health Insurance program in rural Nigeria.

Since Nigeria adopted the Millennium Development Goals, substantial progress has been made towards reducing maternal mortality. It fell from 1,000 to 224 deaths per 100,000 live births between 1990 and 2013. In September 2015, Nigeria adopted the Sustainable Development Goals, reaffirming its commitment to reducing maternal mortality to fewer than 70 deaths per 100,000 live births by 2030. Although Nigeria has implemented several key health interventions to improve both the quality of available healthcare services and demand for those services, further investments are needed to achieve this goal.

The Kwara State Health Insurance (KSHI) program is a public-private partnership with the objective of improving access to affordable quality care for low-income people. In this study, we assessed whether the implementation of the KSHI program, including the initial investment by donors

to establish the program, is likely to have been a cost-effective maternal care intervention in rural Nigeria.

Methodology

We used a decision analytic model to simulate a group of pregnant women, followed down a pathway of care during their current pregnancy until delivery. Two scenarios were modelled and analysed:

- 1) current standard of care where women do not have access to the KSHI program; and
- 2) KSHI scenario where women have access to the insurance and to facilities participating in the KSHI program.

To inform the model parameters, we drew on information from impact and costing studies undertaken during implementation of the program, as well as from insurance and hospital monitoring databases.

Implications and lessons learned

- Investing to improve both supply and demand for maternal health services was likely a cost-effective intervention in rural Nigeria, compared to the current standard of care.
- The KSHI program increased the likelihood that women access care in general and specifically in an emergency, thereby improving the outcomes of complicated deliveries.
- Even if an intervention is considered cost-effective according to the WTP threshold of one GDP per capita, it might not be feasible given currently available resources and the health financing structure.
- The feasibility of wide-scale expansion of the program depends on how health system constraints, such as a limited health workforce and health facility infrastructure, are addressed.

KEY COUNTRY FACTS

173.6 m
population (54% is rural)

46%
of people live below the national poverty line

62%
of people live on less than USD 1.25 /day

69%
of people's spending on healthcare is out-of-pocket

18%
general government expenditures on health (compared to 15% Abuja norm)

38%
of births are attended by skilled health staff

40,000
maternal deaths in 2013

– Based on 2012 and 2013 World Bank and World Health Organization data.

PROGRAM FACTS

37
clinics

111,902
enrollees

TOP 5 TREATMENTS

- 1) Malaria
- 2) Hypertension
- 3) Pregnancy
- 4) Upper respiratory tract infections
- 5) Respiratory/Ear-nose-throat complaints

– Based on June 2015 data.

Main findings

Costs

Total costs are higher in the KSHI scenario than in the standard-of-care scenario.

Effectiveness

- In the KSHI scenario, higher utilization of antenatal care and essential obstetric care translates into a lower number of cases of sepsis and complications of high blood pressure during pregnancy.
- An estimated 47 deaths per 100,000 deliveries were averted.

Cost-effectiveness

- The cost per disability-adjusted life year (DALY) is low for both scenarios, reflecting the generally high 'value for money' of maternal health interventions.
- The incremental cost per DALY averted is considered very cost-effective when compared to a willingness-to-pay (WTP) threshold of one gross domestic product (GDP) per capita in Nigeria (USD 2,730 in 2012).
- A WTP threshold of one GDP per capita is the current WHO-recommended benchmark for decision making. Because there are important limitations to this decision rule, we calculated the minimum WTP threshold under which the intervention will likely not be considered cost-effective - this is USD 200. This means that the maximum incremental cost of the intervention (compared to the current standard of care) would need to be up to USD 200 to keep the program cost-effective.
- KSHI maternal care remains cost-effective when the model was run using three alternative standard-of-care scenarios that reflect uncertainty in the way that current standard of care is described.
- When we tested the model by varying our assumptions, we found that our results are most sensitive to changes in three parameters: variations in the likelihood of hypertensive disorders, differences in estimated costs for general support to service delivery, and probability of death following a sepsis episode. However, under all extreme variations considered the KSHI scenario remains cost-effective.

Budget impact

A minimum of 4% more investment in the State healthcare expenditure, depending on the model of care implemented, is needed to successfully scale up this program to State level.

Technical terms explained

DALY: The *Disability Adjusted Life Year* is a measure of the overall disease burden. The DALY is expressed as the sum of life years lost due to early death and life years lived with ill-health and/or disability. For example, one DALY can be thought of as one lost year of "healthy" life.

WTP: *Willingness-To-Pay* is defined as the maximum amount the decision makers are willing to pay for purchasing a good or avoiding something undesirable. In the context of this study a WTP threshold of one gross domestic product (GDP) per capita was defined, until which the incremental cost per DALY averted would be considered cost effective.



TAKE HOME MESSAGES

- Interventions that improve utilization and quality of maternal care, such as the KSHI program, are likely to be cost-effective.
- Further healthcare investments are needed for this program to be successfully expanded within Kwara State.

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MORE INFORMATION

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