

**Characters:** 1,997

**Title:**

Impact of universal health coverage on catastrophic health expenditure: Evidence from Ghana

**Authors:**

Lucia Fiestas Navarrete, Simone Ghislandi, Fabrizio Tediosi

**Abstract:**

Financial risk protection from catastrophic health spending is a major limitation to accessing needed health services in developing countries and a strategic global health priority. Although Ghana was the first Sub-Saharan African country to introduce a National Health Insurance Scheme (NHIS), there is paucity of evidence on the extent of protection that health insurance affords enrollees. This study examines the effect of insurance on financial risk protection from catastrophic health expenditure in Ghana. We use data from the Ghana Living Standards Survey collected in 2012-2013 and investigate the effect of interest via fixed-effects probit analyses disaggregated by geographical proximity to care. We use two measures of catastrophic payments: those that absorb more than 40% of discretionary consumption and those that leave a household's nonmedical consumption below 150% of the poverty line. We instrument participation in the NHIS via cluster insurance rate and construct matched datasets using propensity score methods. Our findings show that health insurance protects against the risk of incurring catastrophic health expenditure. Households are significantly less likely to incur catastrophic expenditure when insured ( $-0.21$ ,  $\alpha=0.012$ ). The protective effect of insurance is larger among households living outside a 1-hour radius to the nearest hospital ( $-0.33$ ,  $\alpha=0.023$ ). Moreover, poorest households have higher probability of incurring catastrophic expenditure ( $1.16$ ,  $\alpha<0.001$ ) compared to the richest ( $-2.35$ ,  $\alpha<0.001$ ). Our study offers evidence that the NHIS has sharply reduced catastrophic spending among the insured. Despite impressive progress, we reveal the urgency of providing effective protection against catastrophic health expenditure in remote areas and ensuring that the poorest benefit equally from the NHIS. Our findings support the universal health coverage objective of the NHIS and are relevant to countries seeking to lessen reliance on out-of-pocket payments.

**Main message 1:**

Universal health coverage significantly protects households against the financial risk of incurring catastrophic out-of-pocket health expenditure when using needed health services.

**Main message 2:**

The protective effect of health insurance is greater for households living outside a 1-hour radius to the nearest hospital, revealing the urgency of providing effective protection in remote areas.

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**Title:**

Impact of universal health coverage on medical care utilization: Evidence from Ghana

**Authors:** Lucia Fiestas Navarrete, Simone Ghislandi, Fabrizio Tediosi

**Abstract:**

Universal health coverage requires that families have access to quality health services appropriate to their needs. In Ghana, the National Health Insurance Scheme (NHIS) aims to improve access to health services unconditioned by capacity to pay. Despite impressive efforts to encourage the Ghanaian population's enrolment in the NHIS, evidence regarding the impact of health insurance on improved medical care utilization is scarce. This study examines the effect of insurance on health service utilization using data from the Ghana Living Standards Survey collected in 2012-2013. We investigate the effect of interest via fixed-effects probit analyses disaggregated by geographical proximity to care. We construct an outcome variable indicating use of medical services when an individual is ill or injured. To mitigate selection bias, we instrument participation in the NHIS via cluster insurance rate and construct matched datasets using propensity score methods. Our results show that enrolment in the NHIS significantly increases the probability of meeting medical needs (0.284,  $\alpha=0.001$ ). The effect of health insurance on improved utilization is larger among individuals living outside a 1-hour radius to the nearest hospital (0.321,  $\alpha=0.035$ ). Moreover, individuals in the poorest expenditure quintile have a significantly lower rate of utilization (0.149,  $\alpha=0.007$ ) compared to their richest counterparts (0.205,  $\alpha=0.023$ ). Our findings suggest that health insurance broadens access to needed health services. This is especially relevant for insured individuals living in geographically remote areas who would not have sought medical care otherwise. By identifying heterogeneous insurance effects among vulnerable subpopulations, we reveal the urgency of reducing geographic barriers to care and ensuring that the poorest benefit equally from the NHIS. Findings are relevant to low and middle income countries with hard-to-serve rural populations seeking to broaden access to quality healthcare.

**Main message 1:**

Universal health coverage significantly improves use of needed health services, especially among individuals living in geographically remote areas who would not have sought care otherwise.

**Main message 2:**

Insurance effects are heterogeneous among subpopulations. Insured individuals in the poorest expenditure quintile have a lower rate of utilization compared to their richest counterparts.