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Catastrophic health payments and health insurance: Some counterintuitive evidence from one low-income country

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Abstract

Objectives: The purpose of the study is to quantitatively analyze the role of health insurance in the determinants of catastrophic health payments in a low-income country setting.
Methods: The study uses the most recent publicly available household level data from Zambia collected in 1998 containing detailed information on health care utilization and spending and on other key individual, household, and community factors. An econometric model is estimated by means of multivariate regression.
Results: The main results are counterintuitive in that health insurance is not found to provide financial protection against the risk of catastrophic payments; indeed, insurance is found to increase this risk.
Conclusions: Reasons for the findings are discussed using additional available information focusing on the amount of care per illness episode and the type of care provided. The key conclusion is that the true impact of health insurance is an empirical issue depending on several key context factors, including quality assurance and service provision oversight.

Keywords: Health financing; Insurance; Catastrophic effects; Econometrics; Zambia

1. Introduction

Catastrophic health payments, defined as spending for health care that exceeds a certain level of the patient's income, have been found to be real and sizable in both rich and poor countries. For example, in a recent study of health payments in Vietnam, results indicate that in the 1990s well over a third of households faced out-of-pocket (OOP) payments in excess of a defined threshold level of income [1]. In Indonesia, also the rich are found to be at risk of experiencing catastrophic health payments defined as exceeding 10% of income [2], and in the US certain vulnerable groups are more affected by such types of payments than other groups [3]. In a recent global review of household catastrophic health payments, the role of health insurance was emphasized as a key instrument in reducing the risk of such payments [4]. Bearing in mind one of the key purposes of health insurance of providing protection against particularly high health care costs, the purpose of this paper is to empirically test this proposition in a low-income country setting.

The suggestion that health insurance is an important policy tool for providing financial health protection is well grounded in both theory and experience [5,6].

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However, the empirical nature of health financing justifies the systematic analysis of individual cases that can provide evidence on the practical effects of health insurance programs. Specifically, there are two related reasons for why health insurance may fail to fulfill its intended objective. First, given that the benefit package of insurance is often limited in scope and with regard to reimbursement levels, the introduction of health insurance may provide the insured with improved financial access to care [7], but once inside the system, the insurance fails to protect against the accrued treatment costs. And second, through the introduction of a third-party payment mechanism, the service provider may induce the patient to demand more care and more expensive type of care than would otherwise had been the case. Against the background of the principal finding of this study of a failure on behalf of health insurance to provide effective protection, both of these explanations will be further discussed.

The empirical context of the study is that of Zambia, a Sub-Saharan Africa (SSA) low-income country that has been implementing health prepayment over the past decade within the ongoing overall health sector and financing reforms. Also, in the recent review, the country was found in the top quintile of countries with real catastrophic health payments. Zambia compares below that of other low-income and SSA countries for most economic and social indicators. Gross national income (GNI) per capita in 2004 was only (exchange-rate based) USD 450 compared with USD 600 on average for that of other SSA countries. Poverty is widespread and it is estimated that more than 70% of the population lives below the official poverty line. Life expectancy at birth is around 37 years and falling, largely due to the HIV/AIDS epidemic [8]. Moreover, mortality rates are high, both for women and children, as seen from an under-5 mortality rate and a maternal mortality rate of 182 per 1000 and 649 per 100,000 live births, respectively.

In 2003, Zambia spent around 6% of its total resources on health annually, translating into some USD 20 per capita [9], well below the level recommended by, for example, the World Health Organization's (WHO) Commission on Macroeconomics and Health (CMH) of USD 34 [10]. Around half of all health spending is private, around 70% of which is paid OOP at the time of use [11]. Although WHO statistics suggest that no part is pre-paid, efforts to increase this share have been underway for some time. Specifically, the Zambian government initiated health financing reforms in 1991 partly with a view to decentralizing and introducing cost-sharing and insurance [12]. There are, thus, several different ways of paying for health care in Zambia and the scope of this analysis is to assess the extent to which, in particular, the various insurance programs protect against the catastrophic effects of health expenditure.

A key focus of this paper is the Zambian voluntary health insurance program referred to as "Prepayment" [15] that were introduced in the 1990s as a health risk management mechanism. The schemes operate as an insurance mechanism through a monthly premium offering subsequently lower user fees after a 1-day waiting period. Coverage rates are, thus, less than full and members are not reimbursed ex post utilization. The schemes are mostly run by the government or the organization of Zambian copper mines (ZCCM). Only a few mission hospitals or clinics and private providers operate prepayment schemes. The effect of the schemes has been assessed in several studies using both qualitative and quantitative methods [13,14]. While results from these studies vary in detail, the overall finding is that prepayment has largely failed to reach the stated objectives related to utilization of funds, community involvement, and application of the fee and exemption mechanisms. For example, although government policy is that all referrals should be free of charge, actual practice is that also referred prepayment patients are charged a user fee. Overall, lack of knowledge and understanding of the principles of prepayment (insurance) by both patients and providers has been identified as the main obstacle to success. Other factors include administrative difficulties and poor management and supervision [14].

Other insurance programs include the compulsory employment based social health insurance that cover around 5% of households according to survey data. Finally, another 12% of the population are exempted from paying for care on account of being too poor or eligible for subsidized care for the elderly and small children. To the extent that Zambia typifies a low-income country struggling with health sector reform, including increasing insurance coverage by means of voluntary schemes, in the midst of rapid socioeconomic changes, the analysis of the effect of health insurance