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Analysis of the distributional impact of out-of-pocket health payments: Evidence from a public health insurance program for the poor in Mexico

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ABSTRACT

Many governments have health programs focused on improving health among the poor and these have an impact on out-of-pocket health payments made by individuals. Therefore, one of the objectives of these programs is to reach the poorest and reduce their out-of-pocket expenditure. In this paper we propose the distributional poverty impact approach to measure the poverty impact of out-of-pocket health payments of different health financing policies. This approach is comparable to the impoverishment methodology proposed by Wagstaff and van Doorslaer (2003) that compares poverty indices before and after out-of-pocket health payments. In order to escape the specification of a particular poverty index, we use the marginal dominance approach that uses non-intersecting curves and can rank poverty reducing health financing policies. We present an empirical application of the out-of-pocket health payments for an innovative social financing policy implemented in Mexico named Seguro Popular. The paper finds evidence that Seguro Popular program has a better distributional poverty impact when families face illness when compared to other poverty reducing policies. The empirical dominance approach uses data from Mexico in 2006 and considers international poverty standards of $2 per person per day.

1. Introduction

Health policy makers have long been concerned with the design of health financing policies that protect people from the possibility that ill health will lead to high shares of out-of-pocket (OOP) health payments and subsequent impoverishment. The increase in the share of OOP health payments imposes financial burdens on poor households and individuals, which then creates barriers to seeking adequate quantity and quality of care. In most developing countries where access to credit is limited, the financial burden can put a household into debt, causing an endless cycle of poverty and ill-health. Adequate financing policies continue to elude most countries. For those financing policies of public health systems that do exist in low- and middle-income countries, the situation is severe since different health programs struggle with meager and inequitably distributed resources. In terms of policy choices, this has involved a movement towards policy instruments which intend to reduce the incidence of OOP health payments among the poor. For example, several insurance mechanisms have recently been designed to protect the poor against excessive health expenditures including: community based health insurance (Ranson, 2002; Wang et al., 2005), national health insurance (Wang et al., 2005; Chu et al., 2005; Obermann et al., 2006; Wagstaff and van Doorslaer, 2003; Limwattananon et al., 2007), and health insurance for the poorest groups of populations (Frenk et al., 2006). Specifically, the Mexican government has been focusing on the development of a voluntary insurance program aimed to target the poorest segments of the population.

Although there have been studies focused on analyzing the impact of Seguro Popular (SP) on the impoverishing effect of OOP health payments (Knaul et al., 2007), as well as the impact of SP on catastrophic health expenditures (Galárraga et al., submitted for publication), there have not been any studies applying distributional poverty methods that make it possible to verify the welfare impact of programs focusing on protecting poor families against excessive health expenditures. The purpose of this paper is to measure the distributional impact of OOP health payments of health financing policies on poor households, such as SP in Mexico. The impact of OOP payments as an important consideration of health care has been widely recognized in the literature (see, among others, Pannarunothai and Mills, 1997; Liu et al., 2003; Wagstaff and van Doorslaer, 2003; Gustaffson and Li, 2004; van Doorslaer et al., 2005). Most of these contributions analyze the role of OOP health payments in causing poverty, that is, the extent to which illness may induce poverty by answering the question, "How many households have become poor because of illness?" Some, such as Wagstaff and van Doorslaer (2003) and van Doorslaer et al. (2005),

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focus on those expenditures that represent catastrophic payments, in the sense that they represent an amount in excess of a substantial fraction of household income, causing an impoverishing effect.

We propose the distributional characteristic approach to measure the distributional poverty impact of OOP health payments. This allows us to measure the impact of OOP health payments using distributional information that assigns households different weights according to certain value judgments relating to the amount of income accrued by households across a distribution spectrum. This provides an alternative to various approaches in the literature, while being able to use a wider class of poverty measures, as well as to make value judgments underlying the analysis more transparent.

In order to find a robust result to the selection of poverty lines and poverty measures, we also extend our analysis to the use of the marginal stochastic dominance approach proposed by Yitzhaki and Slemrod (1991) for marginal tax reforms and extended by Makdissi and Wodon (2002); Duclos et al. (2002, 2008) for the case of consumption taxation and Duclos et al. (2005) for the case of income transfers. We propose an OOP health payments dominance curve that imposes only a minimal ordinal structure on poverty indices in order to identify non-intersecting curves and to offer a ranking of policy options. There exist many orders of marginal stochastic dominance, and each order can be given an ethical interpretation when used in the context of poverty analysis. Hence, when two OOP health impact dominance curves of a given order do not intersect, all poverty indices that obey the ethical principles associated with that order give the same ranking of the impact on OOP health payments when comparing different health financing policies. This is one advantage of the use of OOP health payments dominance curves over concentration curves that allow comparisons only at second order dominance.

In this paper, we present an empirical application of the OOP health payments for SP, a social insurance system in Mexico that seeks to protect the poorest uninsured families against excessive OOP health payments when a family member falls ill. For purposes of comparison, we use the beneficiaries of the Oportunidades program as a reference point to a subpopulation living in extreme poverty. We add to the growing literature on health financing policies by analyzing the distributional effect of specific health programs on OOP health payments. Using the proposed methodology, the paper finds evidence in favor of SP policy having a better distributional poverty impact when families face an illness compared to other poverty reducing policies. The OOP health payments dominance analysis at second order favors SP when compared with Oportunidades, but the analysis is inconclusive when we compare SP with the SP–Oportunidades subgroup. However, we found dominance of SP over SP–Oportunidades at dominance of order 3. The empirical analysis uses data from Mexico in 2006 and considers international poverty standards of 2 USD per person per day.

The structure of the paper is as follows. Section 2 discusses the context of OOP payments in Mexico. Section 3 describes the poverty framework to analyze the impact of OOP health payments. This section presents the distributional characteristic approach to measure the impact of OOP and the OOP health payments dominance curve for robust marginal poverty comparisons when analyzing OOP health payments. Section 3 presents an empirical application of the distributional effect of OOP health payments in Mexico. Section 4 concludes.

2. Context of OOP payments in Mexico

OOP represents one of the main financing sources for health services in developing countries. This situation is particularly common among Latin American countries such as the Dominican Republic, El Salvador, Nicaragua, Guatemala and Paraguay, where OOP is greater than 40% of total health expenditures (Knaul et al., 2007). Mexico is no exception; according to the National Health Plan 2001–06, since around 50% of total health expenditures were financed by OOP health expenditures (Secretaría, 2006). Furthermore, 3.9% of Mexican households incurred catastrophic health expenditures in 2002, leaving the poor and uninsured households at risk of impoverishment.

In 2000, more than one-half of the Mexican population lacked any insurance coverage (either private or public). This lack of insurance was higher in rural areas, but more predominant among the poorest 20% (Perez-Rico et al., 2005). The lack of insurance coverage among the poorest populations leads to a higher incidence of OOP health spending, and consequently a higher incidence of catastrophic and impoverishing spending on health. Trying to reverse this situation, the government introduced a health reform in 2002 that involved a substantial increase in public health spending: between 2000 and 2006, public health spending in Mexico increased, in real terms, by 5.2% per year on average (OECD, 2006). This reform focused on reallocating financial health resources to the poorest and uninsured groups of the population in order to reduce the high incidence of catastrophic and impoverishing health expenditures that frequently occured among these groups. One of the reform's main components was the implementation of SP, whose main objective was to increase the range of health benefits, including health interventions at the primary and secondary levels, and different types of health inputs, as well as improving the quality of health services. This social welfare program began with a pilot phase in 2001 in five states and was gradually rolled out with coverage increasing each year to the remaining 27 states. SP provides preventive and curative health care services, as well as subsidies to reduce OOP health expenditures, primarily to lower income Mexicans who are uninsured. The program also aims to strengthen the quality of services through a certification process and the enhancement of effectiveness at local health facilities. The affiliation process within the states was set up on the basis of covering the poorest families. First, affiliation campaigns were focused on the poorest rural and urban areas and those geographical areas where social programs, targeted to the poorest, were already established (such as areas with Oportunidades). The identification of household's socioeconomic characteristics was a key aspect to establish the annual due payments of the insurance process. Socioeconomic questionnaires were applied in order to define an annual quota per affiliated family that increases by income decile, with the lowest two deciles exempt. The distributive objectives of the SP have previously been described at both the state and the household levels (Scott, 2006) where at the state level, SP seeks to reallocate per capita public spending among the states (as well as insured and uninsured groups of populations), and at the household level, SP is targeted to the poorest sections of the population in rural and urban areas without any health insurance coverage.

In contrast, the Progresa program (later named Oportunidades) is a conditional cash transfer program that uses a well-defined targeting mechanism to transfer cash to poor households to ease constraints on household investments for human capital. Despite these programs following different objectives, their targeting mechanisms are related. The universe of the population benefiting from Oportunidades is eligible for SP benefits but not vice-versa. Although the Oportunidades program focuses on the poorest groups of the population, like the SP program, the latter extends its coverage to include all uninsured households in the population. It is important to mention that when the SP was introduced, there was a recruitment mechanism from the Oportunidades population to the SP that was an automatic process. As a