World Development 113 (2019) 246–258

Contents lists available at ScienceDirect

World Development

journal homepage: www.elsevier.com/locate/worlddev

Universal health coverage: A (social insurance) job half done?

Sven Neelsen [a,b,c,*], Supon Limwattananon [d,e], Owen O'Donnell [f,g,h,i], Eddy van Doorslaer [b,f,g]

[a] The World Bank, USA
[b] Erasmus School of Health Policy & Management, Erasmus University Rotterdam, the Netherlands
[c] Lima School of Economics, Peru
[d] Khon Kaen University, Faculty of Pharmaceutical Sciences, Thailand
[e] International Health Policy Program, Ministry of Public Health, Thailand
[f] Erasmus School of Economics, Erasmus University Rotterdam, the Netherlands
[g] Tinbergen Institute, the Netherlands
[h] School of Economics and Area Studies, University of Macedonia, Greece
[i] Faculty of Economics and Business, University of Lausanne, Switzerland

ARTICLE INFO

Article history:
Accepted 3 September 2018

JEL Classification:
I13
J46
O12

Keywords:
Health
Medical expenditure
Earnings
Social insurance
Thailand

ABSTRACT

Evidence on households' ability to smooth consumption over health shocks is mostly obtained from environments where there is little or no formal insurance of either medical expenses or sickness-related earnings losses. To establish whether households remain economically vulnerable to illness after the introduction of universal health coverage (UHC), we examine the impact of health shocks of different severity on informal workers in Thailand who are entitled to comprehensive public medical care but lack social protection of earnings. Using three years of panel data, we find that the most severe illness that strikes an initially healthy worker reduces household earnings by almost one third and, despite UHC, raises out-of-pocket spending on medical care by around two thirds. However, households are able to protect spending on goods other than medical care by drawing on informal insurance, credit and savings. These coping strategies substitute for the lack of formal earnings insurance and fill gaps in the effective health care coverage. On average, the combination of UHC and informal insurance of the residual risks does a reasonably good job of protecting living standards from the economic impact of illness, at least in the short term.

1. Introduction

A global campaign to extend health care coverage in the developing world was launched in the last decade (World Health Organization, 2010). This push for universal health coverage can potentially improve protection against the risk of unforeseen medical expenses, but it will do little or nothing to reduce exposure to the other major economic risk associated with illness – lost earnings. Nevertheless, if households that acquire health care coverage can cope with the earnings risk by drawing on support networks, credit and savings, then formal health insurance combined with this informal insurance of earnings may be an appropriate policy response to health risks in economies characterized by a large informal sector.

Whether the effective health care coverage in such economies provides sufficient protection against the economic risks associated with illness is currently difficult to establish because most of the existing evidence on households' ability to smooth consumption over health shocks is obtained from environments in which there is little or no formal insurance of either medical expenses or sickness-related earnings losses (Townsend, 1994; Gertler & Gruber, 2002; Asfaw & Von Braun, 2004; Wagstaff, 2007; Genoni, 2012; Islam & Maitra, 2012; Mohanan, 2013; Khan, Bedi, & Sparrow, 2015). Inability to smooth consumption over both risks does not necessarily imply incapacity to cope with one of them. This paper contributes to knowledge of the economic impact of health shocks by examining the extent to which illness continues to threaten living standards in a population that has acquired cover for health care but still completely lacks formal earnings insurance. We establish whether households with health insurance can cope with remaining risks related to sickness. If they

* Corresponding author at: The World Bank, 1818 H St NW, Washington, DC 20433, USA.
E-mail addresses: sneelsen@worldbank.org (S. Neelsen), supon@kku.ac.th (S. Limwattananon), odonnell@ese.eur.nl (O. O'Donnell), vandoorslaer@ese.eur.nl (E. van Doorslaer).

https://doi.org/10.1016/j.worlddev.2018.09.004
0305-750X/

cannot, then the social insurance job done by universal health coverage (UHC) is only half complete. If they can, then the value of additional formal insurance is low because it would crowd out informal mechanisms that are sufficient to cope with the residual risks.

We address this question by studying the economic impact of health shocks in Thailand, a country that took a major stride towards UHC in 2001 by extending access to reasonably comprehensive medical care benefits to the four fifths of the population not insured through formal sector employment.[1] This landmark reform has been shown to have increased access to medical care sufficiently to produce marked gains in population health (Gruber, Hendren, & Townsend, 2014; Limwattananon et al., 2015) and to have substantially reduced out-of-pocket payments for health care (Limwattananon et al., 2015). But earnings insurance in Thailand, as elsewhere, remains restricted to formal sector employees who form less than a third of the workforce. We estimate the impact of illness on earnings in the other two-thirds of the Thai workforce that is on the margins of poverty and assess the extent to which households can deploy informal insurance mechanisms to maintain expenditure on goods other than medical care despite experiencing a drop in income.

Legislating UHC does not necessarily eliminate the threat to living standards generated by medical expenditure risk. The health system may be overstretched by the attempt to cover a large fraction of the population for a wide array of health services from a very limited budget. Those entitled to health care in the public sector may choose to pay out-of-pocket (OOP) in order to avoid queues, obtain off-list medicines and access care considered to be of higher quality. In Thailand, universal coverage is estimated to have reduced OOP health payments by 28% – well short of 100% (Limwattananon et al., 2015). Our second contribution is to determine the medical expenditure risk that can remain after the introduction of UHC by estimating the extent to which OOP payments increase when illness strikes a Thai informal sector worker who, at least in principle, has cover for public health care.

We use panel data to identify informal sector workers who are struck by the onset of a new health condition and compare their earnings, OOP medical expenses and non-medical expenditures with those of other informal workers who do not experience any deterioration in health. To increase the plausibility of our main identification strategy, which relies on the assumption that the health change is exogenous conditional on the lagged value of the outcome, we select only workers who are initially healthy. We demonstrate robustness to an alternative identification strategy that assumes illness is exogenous conditional on an individual fixed effect.

Our third contribution is to estimate a dose-response relationship by discriminating between the effects of health changes of varying degrees of severity that are distinguished by the extent of any drop in reported health that occurs simultaneous to the onset of the health condition. We demonstrate that greater drops in reported health are observed for more serious conditions. We are aware of only one other study that has examined heterogeneity in the economic impact of illness by severity (Gertler & Gruber, 2002).

Evidence from low- and middle-income countries (LMICs) on the ability of households to smooth consumption in the short term over the economic impact of illness is mixed.[2] Townsend (1994) finds that households in three southern Indian villages can smooth consumption. But this may be due to use of a health measure (sickness days) that does not discriminate major from minor illness. Some later studies that examine more serious health events reject complete smoothing of consumption (Gertler & Gruber, 2002; Wagstaff, 2007; Mete et al., 2008; Gertler, Levine, & Moretti, 2009). The validity of this finding rests on the assumed exogeneity of the health measures used. Two studies with designs intended to deal with endogeneity do not reject full consumption smoothing (Genoni, 2012; Mohanan, 2013).[3] Recently, attention has shifted to how households smooth consumption over illness. If short-term shocks can be absorbed only by depleting long-term productive capacity, for example, by reducing investment in education, or if risk exposure and aversion causes households to divert valuable resources to self-insurance, then ability to keep consumption constant while health fluctuates does not imply that there are no gains to be had from social insurance (Chetty & Looney, 2006). Mohanan (2013) finds that in Karnataka (India) the accumulation of debt is the primary means of maintaining expenditures on food and housing while incurring large medical expenses resulting from health shocks. Mitra, Palmer, Mont, and Groce (2016) find that Vietnamese households experiencing ill-health and hospitalization are able to hold their non-medical expenditure constant, but they spend less on education. Liu (2016) finds a similar result for Chinese households that do not have health insurance. Those that do are able to smooth their consumption over health shocks without sacrificing their children's education.

Most of this literature examines policy environments in which there is little or no formal insurance of health risks. We contribute evidence on the extent to which poor and near-poor Thai households continue to be economically vulnerable to illness after health care coverage is universally provided. The studies of Vietnam (Mitra et al., 2016) and China (Liu, 2016) do examine households' ability to cope with the economic impact of health shocks in contexts where there is some formal health insurance. But compared with Thailand, coverage in these countries during the periods studied was either less universal across the population (Vietnam) or less comprehensive with respect to health services included in the benefit package (China). Informal sector workers in Vietnam who were insufficiently poor to qualify for a tax-financed scheme were covered only if they enrolled voluntarily. And enrolment was very low.[4] The Chinese insurance scheme studied by Liu was restricted to covering mainly inpatient treatments during the period examined.

We find that the onset of a new health condition reduces employment and hours of work. Effects rise substantially with greater drops in reported health. Consistent with previous studies using data from Indonesia (Genoni, 2012) and China (Liu, 2016), we find that reduced labor supply of the person struck by illness is partially compensated by increased work effort of other adults in the household. Fadlon and Nielsen (2018) argue that such intra-household substitution of labor indicates gains that could be obtained from (more) social insurance. Partly as a result of the reallocation of work effort within the household, on average, there is no significant impact on household earnings. However, the most severe health conditions result in a significant 27 percent drop in

[1] In 2003, two years after the UCS was introduced and two years before the beginning of our sample period (2005–07), 95 percent of the Thai population was covered by one of the country's health insurance schemes (Limwattananon et al. (2015) Fig. 1). The UCS benefit package is one of the most comprehensive in countries aspiring to reach UHC (Giedion and Andrés Alfonso (2013) Annex 3). During 2005–7, out-of-pocket payments financed just 20 percent of total health expenditure in Thailand, which is 44 percent below the average in middle-income countries even in 2014 (World Development Indicators).

[2] See Alam and Mahal (2014) for a systematic review of the literature on the economic impact of health shocks in low- and middle-income countries.

[3] Mohanan (2013) has the strongest claim to using exogenous variation in health, which comes from involvement in bus accidents. Genoni (2012) instruments health (changes) with the prices of health services, which need to be interacted with age and sex in order to obtain sufficiently strong instruments.

[4] In 2011, three years after the end of the period examined by (Mitra et al. 2016), around 36 percent of the Vietnamese population remained uninsured (Somanathan et al. 2014).