



Informal Groups and Health Insurance Take-up Evidence from a Field Experiment



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SUMMARY

This paper presents the results of 20 randomized experiments aimed at understanding the low take-up of in-patient health insurance observed in developing countries. Take-up does not increase when participants receive information about the product, or an assistance to register, or small subsidies of 2, 10, or 30%. Take-up does not increase when the same information is provided by local respected community leaders, when participants are offered an in-kind gift (a chicken) if they register, when participants are offered the possibility to contribute lower and more frequent payments, or the possibility to pay by cell-phone. A full subsidy generates a mere 45% take-up (with no retention after one year). In contrast to these low take-up rates, presenting the same information without any subsidies to existing informal groups raises take-up to 12% (still 7% after one year), as well as trust and knowledge of the product. Social networks play a major role in the adoption of health insurance. This paper provides a cost-effective way to increase take-up of health insurance, while subsidies are found to be largely ineffective at raising take-up in the long run.

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1. Introduction

Recent randomized experiments in developing countries have shown that health insurance presents numerous benefits. Health insurance reduces catastrophic health expenditures (Baicker *et al.*, 2013; King *et al.*, 2009) and out of pocket payments (Finkelstein *et al.*, 2012; King *et al.*, 2009; Powell-Jackson, Hanson, Whitty, & Ansah, 2014), it increases utilization of health services (Asuming, 2013; Manning *et al.*, 1988; Powell-Jackson *et al.*, 2014), it improves health (Asuming, 2013; Baicker *et al.*, 2013; Powell-Jackson *et al.*, 2014) and well-being (Finkelstein *et al.*, 2012).

Yet, demand for health insurance is very low. For example, when existing microfinance clients were required to purchase health insurance at the time of renewing their loan, a large fraction of borrowers preferred to give up microfinance in order to avoid purchasing health insurance (Banerjee, Duflo, & Hornbeck, 2014). The low demand for health insurance, despite its numerous benefits, raises a significant puzzle.

In this paper, together with the main health insurance provider in Kenya, the National Hospital Insurance Fund (NHIF), we implemented 20 randomized experiments to determine how to increase health insurance coverage among the poor. We present the results from two complementary studies, where the debriefing from the failure of traditional interventions in Study 1 is used to design an innovative intervention in Study 2.

In Study 1 implemented in 2011, we followed the existing literature (Asuming, 2013; Das & Leino, 2011; Dercon, Gunning, & Zeitlin, 2011; and Thornton *et al.*, 2010) and offered: information about NHIF, assistance to register, and subsidies of 2, 10, or 30%. We also offered in other treatment groups the possibility to pay lower but more frequent payments, the possibility to pay by mobile money (M-Pesa), or protection from fines in case of default of payment of insurance premiums. Each intervention was offered to separate sub-groups randomly selected out of our sample of 1,803 small-scale farmers living at the poverty line in rural Kenya.

We find no significant effect of any of those interventions on take-up, even when the interventions were delivered by local community leaders, for whom we purchased NHIF, and who were financially motivated, or not, to register people. These findings are consistent with the existing literature, which has found mixed results about these interventions. Specifically, delivering information about insurance has been found to have a positive (Asuming, 2013), null (Dercon *et al.*, 2011), or negative (Das & Leino, 2011; Thornton *et al.*, 2010) effect on take-up, while offering assistance to register has been found to have a positive (Thornton *et al.*, 2010) or null (Asuming, 2013) effect on take-up.

In line with the existing literature, we also find that large subsidies significantly increase take-up. A 100% subsidy generates a 45% take-up. Yet surprisingly, take-up is not 100%: 55% of the sample turn down free health insurance. Moreover, the retention rate

is close to zero once the subsidies are discontinued. Overall, these findings indicate that more fundamental factors beyond lack of information, transaction costs, or the price of coverage, are influencing the poor take-up rate of health insurance.

We then depart from the existing literature by providing an innovative new intervention informed by qualitative evidence gathered after the failure of these traditional interventions. Debriefing with individuals who chose not to take up health insurance even when it was free revealed a lack of trust, and poor understanding of the product. Our respondents described insurance as a “risky proposition”: if the insured event does not occur, they would not get any money back, and if the insured event does occur, they were not sure whether the NHIF will cover their claims. In this context of uncertainty, even if the product is free, any remaining transaction costs may outweigh unclear benefits.

The intuition of Study 2 is that close friends may explain the system better, and even share their experience if they have tested the system before (i.e., made a claim and were reimbursed), in meetings where the NHIF product is discussed. In this regard, these friends could offer reassurance about the reliability of health insurance. An ideal forum for this to take place may be the existing tight-knit informal groups, a widespread phenomenon in developing countries.¹ These groups meet regularly with a system of fines punishing absence, lateness, or lack of contribution. This maximizes attendance and involvement of all members in group discussions, thereby providing a good environment for social learning to occur. Other than social learning, imitation and peer pressure (for example from the healthiest to the sickest households, to avoid contributing informally to their hospital bills) may also increase take-up.

To test this proposition, in Study 2 organized in 2012, we implemented a randomized intervention based on these groups. In another geographic area than Study 1, we randomly selected 208 households, and gathered information on their most important informal group, obtained authorization from their group leader, and visited their informal group at their usual meeting time and place. In these groups, we offered the same information and assistance to register as in Study 1. Our experiment is best viewed as an encouragement design, where we make salient the topic of health insurance in groups, to provide an environment for group members to talk and share their stories. It is not clear whether such an intervention would have any effect on take-up: discussions about NHIF may have happened organically before the meetings; early adopters of NHIF may not share their positive experience in the absence of any incentives to do so; or there may be no positive experiences to report. Alternatively, presenting about formal insurance may remind people of their informal risk-sharing arrangements in these groups, which could reduce take-up.² The impact of presenting to groups on take-up is therefore an empirical question.

We find a 12% take-up (7% take-up after one year) among individuals randomly selected to receive a presentation *together with their informal group*. This is more than any traditional interventions

of Study 1. We find that organizing group meetings is more cost-effective than full subsidies, since group members were required to pay the full price of health insurance. Organizing group meetings is also more sustainable, since take-up dropped to zero when subsidies were discontinued. *Without any subsidies*, this simple intervention almost brought this community to the take-up rate of Ghana (18% in the lowest income quintile for a more generous product, i.e., out-patient and subsidized), one of the highest rate of voluntary health insurance coverage, and generally considered the success story of Sub-Saharan Africa. Additionally, we find significant spillovers of organizing meetings: by initially targeting 208 households, we reached 2,029 of them, with a 12% take-up rate.

In a follow-up survey organized in 2013–14, we find that informal group meetings improve trust and knowledge of NHIF. This may come from the extensive discussions witnessed among group members. Debriefing with the group leaders after the meetings indicated that in 24% of the groups, at least one group member was registered with the NHIF prior to the presentation, had required hospitalization in the last year, got reimbursed by the NHIF, talked about their experience with the group, and helped convince other members to register. Debriefing with our participants indicated that 20% of them received a positive piece of advice from an early adopter.³

Study 2 provides a unique contribution to the literature on health insurance take-up in developing countries. The closest paper examined “study circles” of nine randomly selected peers formed to discuss insurance (Dercon *et al.*, 2011). The authors find no effect of these study circles on take-up. In our paper, peers are not selected randomly, but belong to pre-existing informal groups, which may explain the different findings. People may trust more close friends than randomly selected peers.

Our paper generates important implications for developing countries. Developing nations are increasingly looking toward universal health insurance coverage as a way to increase the health of their population and decrease poverty rates,⁴ without decreasing prices.⁵ This paper finds that presenting information on health insurance to informal groups increases formal health insurance take-up in a cost-effective way. This methodology is applicable to other contexts since informal groups are a pervasive phenomenon in developing countries, under the name of Rotating Savings and Credit Associations (Roscas), Chit funds, self-help groups, sub-castes in India (Mobarak & Rosenzweig, 2012), Tontines in West Africa, susu in Ghana (Besley *et al.*, 1993), Idirs in Ethiopia (Dercon *et al.*, 2014). Their properties have been extensively studied in the literature (Deaton, 1990; Townsend, 1994; Udry, 1991).

This paper is organized in the following way: Section 2 provides background information on the NHIF. Section 3 presents the data. Section 4 presents Study 1, while Section 5 presents Study 2. Section 6 provides a discussion on the likely mechanisms through which Study 2 works. Section 7 presents a cost-benefit analysis, while Section 8 discusses the external validity of the findings. Section 9 concludes.

2. Background

The take-up of health insurance is extremely low in developing countries (e.g., 10% in Kenya; Xu, James, Carrin, & Muchiri, 2006). In this background section, we explain and discard a number of

¹ Informal groups can be Rotating Savings and Credit Associations (ROSCAs) (Anderson & Baland, 2002), clan or family groups, church groups, Chit funds or self-help groups in India, Tontines in West Africa, susu in Ghana (Besley, Coate, & Loury, 1993). These informal groups have been extensively studied in the economics literature (Deaton, 1990; Townsend, 1994; Udry, 1991).

² Formal and informal health insurance are substitutes, and informal insurance should crowd out formal insurance. This may be different from weather insurance. Dercon, Hill, Clarke, Outes-Leon, and Taffesse (2014) and Mobarak and Rosenzweig (2012) formally show that formal and informal weather insurance are complements, since informal insurance may cover any remaining basis risk generated by index insurance. They find that take-up in informal groups increases when the group leader is trained to understand this point (Dercon *et al.*, 2014), or when the network indemnifies more, not less, against farmer-specific losses (Mobarak & Rosenzweig, 2012). Our paper is different, since formal and informal health insurance are substitutes, and reminding people of their informal insurance may decrease, not increase, take-up.

³ E.g., “I was told by my friend that when she was admitted in the hospital, the bill was covered by the insurance company”.

⁴ For example, Kenya has currently set a goal of universal health coverage for its population by 2030 in its current development blueprint, “Kenya Vision 2030”.

⁵ The NHIF increased its rate in 2013 from 1,920 Ksh (approximately 25 USD) to 6,000 Ksh (approximately 78 USD) per year.

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