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Eliciting community preferences for complementary micro health insurance: A discrete choice experiment in rural Malawi

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ABSTRACT

There is a limited understanding of preferences for micro health insurance (MHI) as a strategy for moving towards universal health coverage. Using a discrete choice experiment (DCE), we explored community preferences for the attributes and attribute-levels of a prospective MHI scheme, aimed at filling health coverage gaps in Malawi. Through a qualitative study informed by a literature review, we identified six MHI attributes (and attribute-levels): unit of enrollment, management structure, health service benefit package, copayment levels, transportation coverage, and monthly premium per person. Qualitative data was collected from 12 focus group discussions and 8 interviews in August–September, 2012. We constructed a D-efficient design of eighteen choice-sets, each comprising two MHI choice alternatives and an opt-out. Using pictorial images, trained interviewers administered the DCE in March–May, 2013, to 814 household heads and/or their spouse(s) in two rural districts. We estimated preferences for attribute-levels and relative importance of attributes using conditional and nested logit models. The results showed that all attribute-levels except management by external NGO significantly influenced respondents' choice behavior ($P < 0.05$). These included: enrollment as core nuclear family (odds ratio (OR) = 1.1574), extended family (OR = 1.1132), compared to individual; management by community committee (OR = 0.9494) compared to local micro finance institution; comprehensive health service package (OR = 1.4621), medium service package (OR = 1.2761), compared to basic service package; no copayment (OR = 1.1347), 25% copayment (OR = 1.1090), compared to 50% copayment; coverage of all transport (OR = 1.5841), referral and emergency transport (OR = 1.2610), compared to no transport; and premium (OR = 0.9994). The relative importance of attributes is ordered as: transport, health services benefits, enrollment unit, premium, copayment, and management. To maximize consumer utility and encourage community acceptance of MHI, potential MHI schemes should cover transport costs, offer a comprehensive benefit package, define the core family as the unit of enrollment, avoid high copayments, and be managed by a competent financial institution.

1. Introduction

Micro health insurance (MHI) represents a potential means of advancing progress towards universal health coverage (UHC) in rural sub-Saharan Africa (SSA) (WHO, 2010). MHI refers to voluntary non-profit contributory health insurance schemes, implemented at the local level, relying on the solidarity and risk pooling efforts of community residents or members of a socio-economic organization, who are mostly low income households working in the informal sector (Basaza et al., 2009). MHI schemes usually adopt a participatory management approach and allow for voluntary enrollment based on the payment of a community-rated premium which is often subsidized by tax revenue or donor funds (Criel et al., 2008). MHI schemes are often designed to replace existing out-of-pocket payment systems (user fees) or to complement weak publicly (tax) funded health care systems (McIntyre, 2012). If the aim is to complement a publicly funded system, MHI

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is purposefully targeted at identifying and filling specific gaps in financial risk protection and access to health care within a specific local context (WHO, 2010). To be accepted within such local context, the scheme must therefore be designed to reflect community preferences for the given MHI product on offer.

There is, however, evidence that little attention has so far been paid to the identification and incorporation of communities' preferences into the initial design of MHI schemes within SSA. A number of post-scheme design studies applying non-experimental techniques (Basaza et al., 2007; Criel and Waelkens, 2003; De Allegri et al., 2006a) have suggested that low enrollment in and satisfaction with existing MHI schemes in SSA result from the inability of designed schemes to reflect consumer preferences. Specific MHI product attributes such as unaffordable premiums (Basaza et al., 2007; Royalty and Hagens, 2005), inappropriate premium payment modalities (De Allegri et al., 2006b), poor health service quality and providers attitudes (Basaza et al., 2007), inadequate scheme benefits (Chankova et al., 2008) and lack of trust in scheme management (Basaza et al., 2007) have been cited to explain reasons for low enrollment in MHI, hence potentially revealing consumer preferences. However, since these studies are often conducted after the schemes are already implemented, they provide limited opportunity to incorporate community preferences in the designs of the schemes.

Due to practical difficulties of obtaining real market data on the revealed preferences of prospective clients for products such as MHI when they are yet to be introduced into the market, stated preference elicitation techniques such as discrete choice experiment (conjoint analysis) can be useful for preferences elicitation (Louviere et al., 2010). In a discrete choice experiment, potential products or interventions are described by their attributes (main characteristics), and each attribute is assigned a range of definite dimensions called attribute-levels (Louviere et al., 2010). The attributes and attribute-levels are combined using experimental designs to produce a set of hypothetical choice options. Respondents are then confronted with a set of two or more of these competing choice alternatives and are asked to choose their preferred option (De Bekker-Grob et al., 2012). The respondent's choice is an indication of the preference or utility he/she attaches to an intervention and its attributes. Discrete choice experiments represent a valuable preference elicitation technique because of their ability to capture trade-offs in preferences for each of the individual attributes that make up a product (WHO, 2012).

In general, there is a growing application of DCEs within the health sector, but mostly among literate populations, and in high income settings (De Bekker-Grob et al., 2012; Mengoni et al., 2013). Within SSA, DCEs are widespread among health workers (Mangham et al., 2009; Robyn et al., 2012; WHO, 2012), but rarely conducted among non-literate rural populations (Colbourn, 2012; Hanson et al., 2005; Kruk et al., 2011, 2009). In particular, only few DCEs, none among the non-literate rural populations in low- and middle-income countries (LMICs), have elicited community preferences for a health insurance product in its entirety (Akaah and Becherer, 1982; Becker and Zweifel, 2008; Chakraborty et al., 1994; Gates et al., 2000; Van den Berg et al., 2008; Vroomen and Zweifel, 2011). These DCE studies were conducted among subjects who already had experience with health insurance and/or within health care contexts where private or social health insurance existed.

Even within the literature on stated preferences in general, there is little understanding of preferences and trade-offs of prospective clients for various attributes and attribute-levels of a health insurance product, especially among low income rural residents in SSA. Only a few stated preference studies have elicited prospective consumers' preferences for single attributes, such as benefit package (Dror et al., 2007a; Onwujekwe et al., 2010) or premium, using willingness to pay (WTP) techniques (Binnendijk et al., 2012; Dong et al., 2005; Dror et al., 2007b; Phiri and Masanjala, 2012). A weakness of these studies is that they do not take into consideration the fact that choice decisions involve trade-offs among different attributes of insurance packages.

This discrete choice experiment aims at exploring community preferences for the attributes and attribute-levels of a prospective MHI product, set to fill gaps in universal health coverage in SSA, specifically in rural Malawi.

2. Methods

2.1. Research context

The study was conducted in the rural districts of Thyolo and Chiradzulu in Southern Malawi, where civil society organizations and microfinance institutions are currently exploring the feasibility of introducing micro health insurance reforms (Enarsson and Wirén, 2005). The two districts cover approximately 6.7% of the total Malawian population of 15 million (National Statistical Office, 2008). Malawi is a low income country with an estimated per capita Gross Domestic Product (GDP) (adjusted for purchasing power parity (PPP) in 2013) of about 900 United States Dollars (USD) (Central Intelligence Agency (USA), 2013). The health system characteristics of the two districts are similar to those of the entire Malawi. Approximately 60% of all health services are provided by government-owned health facilities; 37% by the Christian Health Association of Malawi (CHAM); and the rest by private-for profit health practitioners (Phiri and Masanjala, 2012).

As a strategy to move towards universal health coverage, an essential health package (EHP) is provided free of charge at point of use in public facilities through a tax-funded system which is heavily supported by donors (Bowie and Mwase, 2011). The EHP is also supposed to be offered free of charge at selected CHAM facilities under Service Level Agreements (SLA) with the government (Ministry of Health Malawi, 2010), although operational challenges make these SLAs ineffective (Abiiro et al., 2014a; Mueller et al., 2011). On the ground, the provision of free healthcare is constrained by frequent shortages of drugs and health personnel, poor infrastructure and equipment, resulting in poor quality of care (Abiiro et al., 2014a; Mueller et al., 2011). At the national level, about 12% of total health expenditure is financed through direct out-of-pocket payments (Zere et al., 2010). In Malawi, there is no social health insurance (including no MHI) scheme, and only very few people, mostly formal sector employees resident in the cities, are covered by private health insurance schemes (Phiri and Masanjala, 2012). Due to these gaps within the current tax-funded system, private not-for-profit institutions such as microfinance institutions (MFIs) and civil society organizations, have proposed the introduction of MHI to complement the tax-funded system with the aim of increasing access to care and improved financial protection for informal sector workers and rural populations (Enarsson and Wirén, 2005).

The setting for our study arose as, within our study districts, the Malawian Union of Savings and Credit Cooperatives (MUSCCO), one of the largest microfinance institutions, plans to launch a MHI scheme for the members of one of its largest community-based (Bvumbwe) Savings and Credit Cooperatives (SACCOs) (Enarsson and Wirén, 2005). MUSCCO also plans to later extend coverage of its scheme to the entire population within its catchment area. The benefit package and other important attributes that make up an MHI product are yet to be clearly specified. The potential of promoting universal health coverage through MHI in Malawi is expected to be established through MUSCCO's initiative.