



The impact of a conditional cash transfer program on the utilization of non-targeted services: Evidence from Afghanistan



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ABSTRACT

While existing research suggests that health-related conditional cash transfer (CCT) programs have positive impacts on the utilization of CCT-targeted health services, little is known as to whether they also influence the utilization of non-targeted health services—defined as general health services for which program participants are not financially motivated. Based on a sample of 6649 households in a CCT program that took place in May 2009–June 2011 in Afghanistan, we evaluate the impact of the receipt of CCTs on the utilization of non-targeted health services both by women, who were direct beneficiaries of the program, and by members of their households. We estimate the outcomes of interest through four probit models, accounting for potential endogeneity of the CCT receipt and dealing with lack of credible exclusion restrictions in different ways. In comparison with the control group, the receipt of CCTs is found to be associated with an increase in the probability of utilizing non-targeted services among household members across regression models. The results are mixed, with regard to the utilization by women, suggesting that there exist non-economic barriers to health care, unique to women, that are not captured by the data. The results confirm the importance of accounting for direct as well as indirect effects in policy evaluation and suggest that future studies investigate more deeply the role of community health workers in removing non-economic barriers for Afghan women and the possibility of introducing an incentive structure to motivate them to contribute more actively to population health in Afghanistan.

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1. Introduction

Immediately after the collapse of Taliban militia in 2001, the health system in Afghanistan was virtually non-existent. The population in general and women in particular had limited access to health care. In 2002, health care was accessible only to 9% of the population and approximately 40% of health facilities were without female health workers (Rahimzai et al., 2013). With post-Taliban donor support, there has been a substantial development in the health system. Several measures have been implemented to improve access to health care, notably the 2003 introduction of a Basic Package of Health Services (BPHS) that provides primary care, the 2005 introduction of an Essential Package of Essential Services (EPHS) that enhances access to inpatient care (Michael et al., 2013)

and the 2008 constitutional ban on national user fees (MOPH, 2011). As a result, the number of BPHS facilities has increased constantly, from 1075 in 2004 to 1829 in 2011, and the percentage of facilities with at least one female health worker has also risen, from 54% in 2004–74% in 2011 (Newbrander et al., 2014).

Nevertheless, maternal and child health (MCH) remains a concern in Afghanistan. While several MCH-related indicators have improved in the past decade, e.g. a 42-fold increase in the number of attended births from 2007 to 2011 and a drop in the infant mortality ratio, from 165 to 77 per 1000 live births in 2002 and 2010 respectively, the maternal mortality ratio is still high by international standard at 327 per 100,000 live births in 2010 (Newbrander et al., 2014). The utilization of MCH care remains low. Based on administrative data from 2005 to 2009, Steinhardt et al. (2011) showed that, despite the 2008 user-fee ban, the number of institutional deliveries was unchanged and, although there was evidence of an increase in DPT-3 immunization and antenatal care, the impact proved to be unsustainable. Several factors have been linked to low health care utilization among Afghan women.

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Examples include limited availability of MCH services, lack of female medical professionals in the area, inability to leave home without an accompanying male relative (Kim et al., 2012; Turkmani et al., 2013) and prohibitive travel costs (Hirose et al., 2011). It is clear that supply-driven BPHS and EPHS mechanisms can ease only some but not all of the barriers.

Recognizing the presence of demand-driven barriers, the Ministry of Public Health Afghanistan and Global Alliance for Vaccine and Immunizations implemented a conditional cash transfer (CCT) program in 2009–2011 (HOPE Worldwide, 2011). The program transferred cash either to eligible women or community health workers (CHWs) or both, upon eligible women utilizing either of the following two MCH services at a health facility: institutional delivery and the third dose of Diphtheria–Pertussis–Tetanus (DPT-3) vaccination. According to an evaluation by Lin and Salehi (2013), the program was successful in increasing utilization of the targeted services.

The positive effect of the CCT program in Afghanistan is consistent with what has been found in other countries, including, for example, Bangladesh (Ahmed and Khan, 2011; Schmidt et al., 2010), India (Lim et al., 2010) and Mexico (Fernald et al., 2008). In fact, the literature almost universally supports the fact that demand-side financing increases the utilization of targeted services, improves health of targeted individuals and alleviates poverty (Gupta et al., 2010; Jehan et al., 2012).

Nevertheless, it is possible that CCT programs also have effects that extend beyond the services on which they are conditioned. These ‘indirect’ effects can be defined as the impact of an intervention on targeted outcomes among non-targeted population or on non-targeted outcomes among non-targeted population, targeted population or both. There is evidence that demand-side financing programs that encourage health care utilization have positive effects on health of non-beneficiary households in the same community (Chioda et al., 2012; Angelucci and Di Maro, 2016) and promote health-seeking behavior of non-targeted individuals within beneficiary households (Chaudhuri, 2009; Contreras and Maitra, 2013; Shei et al., 2014). There is also evidence that CCT beneficiaries themselves may exhibit changes in their preference towards non-targeted health services as they have a better awareness of benefits of health care (Teixeira et al., 2011).

To address the need to consider direct as well as indirect effects in policy evaluation, we investigate the impact of the CCT program in Afghanistan on general health-seeking behavior, defined as the utilization of health services for which subjects were not financially motivated, on both targeted (women) and non-targeted individuals (other household members) in the same household. A positive intra-household impact on non-targeted services could imply an expansion of the household budget, an increased awareness of the value of receiving health services at a formal facility or the fact that non-targeted services are normal goods and are complements to the targeted services. We use a combination of probit models, accounting for potential endogeneity of the receipt of CCTs and dealing with the lack of sensible exclusion restrictions. The results show that the CCT program has varying effects depending on the way the intervention was designed and the effect particularly on utilization of non-targeted services by household members is positive across all intervention areas relative to the control area.

2. Background: conditional cash transfer program in Afghanistan

In May 2009–June 2011, the Ministry of Public Health Afghanistan and Global Alliance for Vaccine and Immunizations implemented a conditional cash transfer (CCT) program. The purpose was to increase institutional delivery and DPT-3 vaccination,

among women of reproductive ages, allocating cash to either women or community health workers (CHWs) or both, given that women in the program utilized either of the targeted services at a BPHS facility (HOPE Worldwide, 2011).

Four rural provinces in the North and Central regions were included in the program: Kapisa, Wardak, Badakhshan and Faryab. They were selected on security grounds and based on the fact that they had a sufficient number of BPHS facilities, physicians, widwives and CHWs and a well-replenished stock of DPT-3 vaccines (HOPE Worldwide, 2011). In each province, four districts were selected and each district was randomly assigned to an ‘arm’. In total, 16 districts were involved, as shown in Table 1. The amount of cash transfers and equivalently CCT eligibility (as there were no other criteria) depended on the district or, equivalently, the arm in which households lived.

- Under the ‘family arm’, 300 Afghans (approximately 6 US dollars) and 150 Afghans (approximately 3 US dollars) were given to women upon having an institutional delivery and bringing a child to a BPHS facility for DPT-3 vaccination respectively. CHWs were not given any cash.
- Under the ‘CHW arm’, CHWs were allocated 150 Afghans upon having made successful referrals on the targeted services. Women were not given any cash.
- Under the ‘combined arm’. Cash incentives in the earlier two arms were provided to both women and CHWs when the targeted services were utilized.
- In the final arm, the ‘control arm’, no cash transfer was made. Neither women nor CHWs in this arm were eligible for CCTs.

By design, households in the program can be categorized into seven sub-groups: those who were eligible for and received CCTs in each of the three intervention arms, those who were eligible for but did not receive CCTs in each of the three intervention arms, and those who were not eligible for CCTs at all (i.e. in the control arm). These seven sub-groups were likely to exhibit different patterns of health care utilization. The empirical strategy attempts to account for these differences.

3. Empirical model

3.1. Regression equations

The outcomes of interest include (1) whether the woman (s) utilized medical services not included in the program in the past 12 months, and (2) whether members of her household (f) utilized medical services not included in the program in the past 12 months. To quantify the impact of CCTs on the outcomes of interest, the following latent-variable models are assumed:

$$U_{ji}^* = \beta_0 + \beta_1 F_i + \beta_2 CH_i + \beta_3 CB_i + \beta_4 FA_i + \beta_5 CHA_i + \beta_6 CBA_i + X_i' \alpha + \varepsilon_{ji}. \quad (1)$$

Subscript i refers to each individual in the sample and $j \in \{s, f\}$ such that U_{si}^* and U_{fi}^* represent utilization of non-targeted services by women and by members of their households respectively. The U_{si}^* and U_{fi}^* equations share the same explanatory variables, owing to data limitations and more importantly to the fact the sample is based on a household survey that consists of one woman per household, in which case the woman's characteristics become empirically ‘representative’ of her household's.

The first three explanatory variables (F_i , CH_i and CB_i) represent the receipt of CCTs or, equivalently, the fact that the woman had

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