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Can cash transfers improve determinants of maternal mortality? Evidence from the household and community programs in Indonesia

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ABSTRACT

Despite global efforts in maternal health, 303,000 maternal deaths still occurred globally in 2015. One explanation is a considerable inequality in maternal mortality and the sources such as nutritional status and health utilization. One strategy to fight health inequality due to poverty is conditional cash transfer (CCT). Taking advantage of two large clustered-randomized trials in Indonesia from 2007 to 2009, this paper provides evidence on the effects of household cash transfers (PKH) and community cash transfers (Generasi) on determinants of maternal mortality. The sample sizes are 14,000 households for PKH and 12,000 households for Generasi. After two years of implementation, difference-in-differences (DID) analyses show that the two programs can improve determinants of maternal mortality with Generasi provides positive impact in some aspects of determinants, but PKH does not. Generasi improves maternal health knowledge, reduces financial barriers to accessing health services and improves utilization of health services, increases utilization among higher-risk women, improves posyandu equipment, and increases nutritional intake. As for PKH, evidence shows its strongest effects only on utilization of health services. Both programs, however, are unlikely to have a large effect on maternal mortality due to design and implementation issues that might significantly reduce program effectiveness. While the programs improved utilization, they did so at community-based facilities not equipped with emergency obstetric care. In the midst of popularity of household cash transfer, our results show that community cash transfer offers a viable policy alternative to improve the determinants of maternal mortality by allowing more flexibility in activities and at lower cost by monitoring at community level.

1. Introduction

Despite global efforts in maternal health, 303,000 maternal deaths still occurred globally in 2015. One explanation is a considerable inequality in maternal mortality and the sources such as nutritional status and health utilization. Globally, 99% of global maternal deaths occurred in poorer developing countries and also within Indonesia (WHO et al., 2015). In Indonesia, maternal mortality ratio (MMR) of the poorest quintile is three times that of the wealthiest (World Bank, 2010). In order to make significant progress, addressing the sources of maternal mortality that are most likely to affect the poorest is needed (WHO and UNICEF, 2012, 2015).

One strategy is conditional cash transfers (CCTs), which provide cash payments to poor households in exchange for compliance with health-related conditionalities (Fiszbein et al., 2009). Evidence from randomized controlled trials (RCTs) shows CCTs improve utilization: increased prenatal care visits by 8, 11, and 19 percentage points in Mexico (*Progresa*), the Philippines (*Pantawid Pamilya*), and Honduras (*Programa De Asignación Familiar* [PRAF]); increased postnatal care visits by 10 and 11 percentage points in the Philippines and Mexico (Chaudhury et al., 2013; Barber and Gertler, 2009; Urquieta et al., 2009; Morris et al., 2004).

However, the literature is limited in two ways. First, literature shows effectiveness in health utilization but lack evidence in comprehensive determinants of maternal death such as financial barriers and provider quality (Glassman et al., 2014; Ranganathan and Lagarde, 2012). Secondly, all existing studies are using household-level but lack evidence using community-level CCTs. Given the individual nature of the transfer, the former are relatively expensive to monitor. In Indonesia, the average administrative cost

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of a CCT (PKH) is almost three times as high as that of an unconditional cash transfers (BLT) (Alatas, 2011). Further, household CCTs potentially lack community involvement such as support in transporting pregnant women in the case of emergency.

Taking advantage of two large clustered-randomized trials in Indonesia, we provide evidence on the effects of household cash transfers (PKH) and community cash transfers (Generasi) on determinants of maternal mortality. A comparison of the effectiveness of household and community cash transfers is important for policy options to overcome the aforementioned limitations of household CCTs. Community cash transfers are potentially less expensive since monitoring is done at the village level rather than at the household level. We try to understand not only whether the programs affect maternal health outcomes but also why. Previous evaluation of PKH explored health behavior and found that household CCTs increased the proportion of women who had at least four prenatal visits and the proportion that had at least two postnatal visits by 7 percentage points for each. The evaluation found no significant effects of the CCTs on assisted delivery and facility delivery (Alatas, 2011). Previous evaluation of Generasi reported that the program improves take-up of iron supplementation, but found no effects on the number of prenatal, postnatal care visits, or assisted deliveries (Olken et al., 2011). These prior evaluations do not provide comprehensive evidence of the impact of cash transfer programs on determinants of maternal mortality such as financial barriers and provider quality.

2. Background

2.1. Maternal health in Indonesia

Indonesia has a decentralized health system with most responsibilities shared to district governments. In public sector, district health offices provide public health services; health centers (Puskesmas) and network provide primary care, and district hospitals provide secondary/tertiary care. Puskesmas network includes supporting Puskesmas (Pustu), village midwife (Polindes). There are also integrated care posts (Posyandu) run by cadres with health services provided by Puskesmas doctors, nurses, and midwives. In private sector, there are doctor and midwife practices and hospitals. In terms of maternal health, prenatal and postnatal services are usually provided by public or private primary care facilities. Facility delivery occurs at hospitals, Puskesmas/Pustu, private practices, or Polindes. Community-based facilities include Polindes, private practices, and Posyandu for prenatal and postnatal visits; and exclude Posyandu for delivery.

The main feature of maternal health policy in Indonesia since the late 1980s has been the massive scale-up of access to midwives, which aimed to place a skilled birth attendant in every village. In 2011, the national insurance program was expanded to include maternity insurance covering transport costs, but only partially (World Bank, 2010; Lerberghe et al., 2014). However, MMR is still high at 126 (or 6400 maternal deaths) in 2015 and inequality still persists. MMR among the poorest is more than three times that of the wealthiest (WHO et al., 2015; World Bank, 2010). There are several factors for the slow reduction. First, the push for the rapid deployment of midwives compromised candidate selection and quality of training including ability to manage complicated delivery. Second, a substantial proportion of "facility deliveries" actually occur in unequipped facilities. Third, there was limited access and financial support for referral to obstetric emergency centers, one of the most important obstacles to reduce maternal mortality. Patients with complications should be referred to Puskesmas or hospitals with basic or comprehensive emergency obstetric and newborn care (BEMONC or CEMONC). In 2011, however, only 61% and 42% of districts in Java/Bali and in the eastern part of the country have at least four BEMONC puskesmas in each district (Lerberghe et al., 2014; Joint Committee, 2013; Shankar et al., 2008; WHO, 2006).

2.2. Cash transfers: PKH and Generasi

In 2007, the government of Indonesia launched two large-scale pilots: (1) *Program Keluarga Harapan* (PKH), a CCT to household; and (2) Generasi, an incentivized community block grant program. The goals are to reduce poverty, maternal and child mortality, and to ensure universal coverage of basic education. PKH is a traditional CCT program to poor households while Generasi takes that idea and applies it in a way that allows communities the flexibility to address supply or demand constraint. They were piloted in five common provinces: West Java, East Java, North Sulawesi, Gorontalo, and East Nusa Tenggara. Additionally, PKH was piloted in Jakarta. They were designed to achieve the same target indicators or conditionality provided in Table 1 (Sparrow et al., 2008; Alatas, 2011). For maternal health, both programs condition on four prenatal visits, iron tablets during pregnancy, assisted delivery, and two postnatal visits. In terms of supply readiness, PKH covers mostly urban areas while Generasi does mostly rural areas.

PKH features: (1) cash given to mothers quarterly; (2) conditionality and cash penalty; (3) field facilitators; and (4) improvements in supply-side readiness. First, the cash, collected by mothers through the nearest post office, ranges from $60–220 per household per year depending on the number and aged of children. There are no rules about how the cash must be used. The cash is approximately 15–20% of the estimated consumption of poor households. The fixed amount is $20 per year. If a mother is pregnant and/or has children aged 0–6 years, she will receive additional $80 per year, regardless of the number of children. If a mother has one child at primary school, she will receive additional $40 per year. If a mother has one child at secondary school, she will receive additional $80 per year. The differences in cash amount for primary and secondary schools are due to potentially higher expenditures for the latter. Second, PKH was designed to enforce conditionality with a cash penalty for noncompliance: the first breach is a warning, the second reduces the cash by 10% in the next payment, and the third is expulsion. For health, beneficiaries can choose facilities ranging from district hospitals, Puskesmas, Polindes, and Posyandu. Third, field facilitators are trained to advise households to comply with conditionalities, informing them of their rights and obligations, and monitoring eligibility. Fourth, PKH is implemented mostly in supply-ready urban areas. Readiness is based on existing health and education facilities and is a precondition to be part of PKH pilot. The threshold for readiness, however, was set lower for off-Java areas to ensure more inclusion in the pilot (Sparrow et al., 2008; Hicklin, 2008; Alatas, 2011).

In practice, there are some deviations from the PKH design. The cash penalty was not enforced due mainly to the lack of readiness of providers to fill out verification forms and the slow establishment of management information systems (MIS). It is important, however, to note that cash penalty is just one of many features that were in place. In fact, beneficiaries were likely to think that there were conditionality and potential cash penalties because field facilitators informed them. A study shows that over 90% of beneficiaries in the spot check samples in Jakarta, West Java, and East Nusa Tenggara knew about the terms and conditions of PKH (CHR-UI, 2010; Ayala, 2010).

Generasi features: (1) cash given to villages quarterly; (2) conditionality and bonus performance; (3) field facilitators; and (4) improvements in rural areas. First, block grants are allocated to villages and predetermined by the population size and poverty