



# Do financial incentives for safe motherhood work? New evidence from India's Janani Suraksha Yojana

INDIA

## INTRODUCTION

There are 68,000 maternal deaths and 1.8 million deaths among children under five every year in India; no other country accounts for a larger proportion of global maternal and child mortality. If current trends continue India will not meet its own health targets or MDGs 4 and 5. In an effort to improve population uptake of maternal health services, the Janani Suraksha Yojana (JSY), or "Safe Motherhood Scheme" in English, was launched in 2005. It is a nationwide scheme which provides cash incentives to women who give birth in a public health facility or with an accredited private health provider.

The JSY is one of a number of different types of financial incentive programmes that have recently become popular in developing countries to improve the uptake of health services. Perhaps the most widely adopted are conditional cash

transfer programmes (eg. Oportunidades in Mexico). Financial incentive schemes that focus on specific health problems or health services have also emerged. These tend to provide one-off cash payments, vouchers, or in-kind transfers linked to specific services, such as maternity services (e.g. Nepal), insecticide treated nets (e.g. Tanzania), immunization (e.g. Indian state of Rajasthan) and reproductive health and family planning services (e.g. Cambodia, Bangladesh and Kenya).

With an annual expenditure of 8.8 billion rupees or US\$207 million, and an estimated 7.1 million individual beneficiaries in 2007-08, JSY is one of the largest financial incentive programmes for health in the world. This study sought to examine the impact of the JSY on the uptake of maternal health services and neonatal mortality.



## ABOUT THE JANANI SURAKSHA YOJANA

The JSY is a national financial incentive programme, whose purpose is to increase uptake of maternal health services and ultimately reduce maternal deaths.

It designates Indian states as low performing or high performing, varying the cash amount to provide greater incentives in areas of higher priority.

Women in low performing states who deliver in a health facility are offered 1,400 Rs (US\$31) in rural areas and 1,000 Rs (US\$22) in urban areas; those in high performing states are given 700 Rs (US\$16) in rural areas and 600 Rs (US\$13) in urban areas. The cash payment is available to all women in the low performing states; by contrast, it is offered in high performing states only to women living in households below the poverty line, belonging to scheduled castes and tribes, or those who have had two or fewer live births.



A young mother in a rural village near Jodhpur, India, holds her child, as a community based social worker with the Veerni Project looks on.  
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### ABOUT THE STUDY

- The study exploited variation in the timing of the introduction of the JSY to districts. Of 587 districts, 157 introduced the JSY in the first year (2005/06) and by the third year (2007/08) a total of 424 districts had started the programme.
- The study used health and demographic data on women who gave birth between 2001 and 2008 from the two most recent rounds of India's District Level Health Survey.
- A "difference-in-difference" approach was used to isolate the causal impact of the JSY.
- Unintended consequences of the JSY were explored, including the possibility that it: i) encouraged women away from giving birth in the private sector into the public sector; ii) incentivised women to become pregnant or pregnant sooner; and iii) generated positive benefits through changes in healthy behaviours subsequent to childbirth, such as early breastfeeding.
- The study also examined whether the impact of the JSY varied according to the socioeconomic characteristics of the woman involved and the quality of health care providers.

### WHAT WERE THE FINDINGS?

#### HEALTH CARE USE

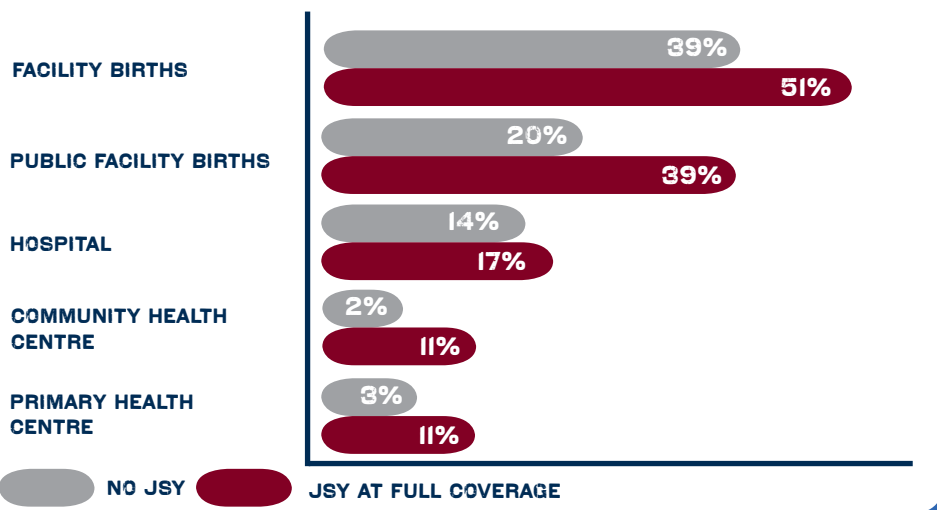
The JSY was effective in increasing use of maternal health services, consistent with much of the evidence emerging from conditional cash transfers and small scale incentive experiments. Over the period 2005-2008, the financial incentives increased facility births by 12 points from 39% to 51%, and births in a public health facility by 19 points from 20% to 39% (See Figure 1). Much of the positive impact on public facility births was driven by greater access to primary care level facilities – i.e. community health centres and primary health centres. The effect of the JSY on hospital births was positive but small.

There was variation in the impact of the JSY with respect to the socio-economic

characteristics of the woman. The impact of the financial incentives was substantially greater amongst women who were less educated, less wealthy, belonging to scheduled castes or tribes and living in "high priority" states. These results imply that the JSY contributed to greater equity in access to maternal health services.

The financial incentives had little or no impact on the caesarean section rate, a finding which is consistent with the fact that the JSY encouraged women mainly to primary health centres and community health centres. These health facilities are not well equipped to respond to obstetric emergencies – for example, less than one-fifth of community health centres offer caesarean sections.

FIGURE 1: IMPACT OF JSY ON USE OF MATERNAL HEALTH SERVICES





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### IMPLEMENTATION GAP

The JSY encouraged an additional 580 thousand women in India to give birth in a health facility in 2007/08. But if the JSY cash had reached all eligible women in the districts in which it was introduced, the programme would have incentivised around 2.1 million additional health facility births. In practice, the programme's impact on the use of maternal health services has been modest.

### NEONATAL MORTALITY

Despite the positive findings on use of health care, the JSY led to no improvement in neonatal mortality or early neonatal (1 day or 7 day) mortality over the period 2005-2008. This remains true even in districts where the quality of care was relatively high, as measured by the availability of inputs (e.g. staff, drugs etc). These findings suggest that without a fully functional referral system, improving access to primary health services may be insufficient to save the lives of women and their babies.

### UNINTENDED CONSEQUENCES

The results in Figure 2 show three unintended effects of the JSY. First, the financial incentives encouraged women away from the private sector because of the slow expansion of the JSY beyond the public sector. This substitution between providers, which accounts for approximately one-third of the positive impact of the JSY on public health facility births, may be viewed by some as a positive development. A second unintended consequence of the JSY was an increase in the likelihood of a woman being pregnant in a given year. It is not possible to know whether this is due to a reduction in birth spacing or an increase in total lifetime fertility. Third, the JSY led to a positive change in early breastfeeding behaviour, most likely due to women's increased exposure to information at health facilities on the benefits of breastfeeding.

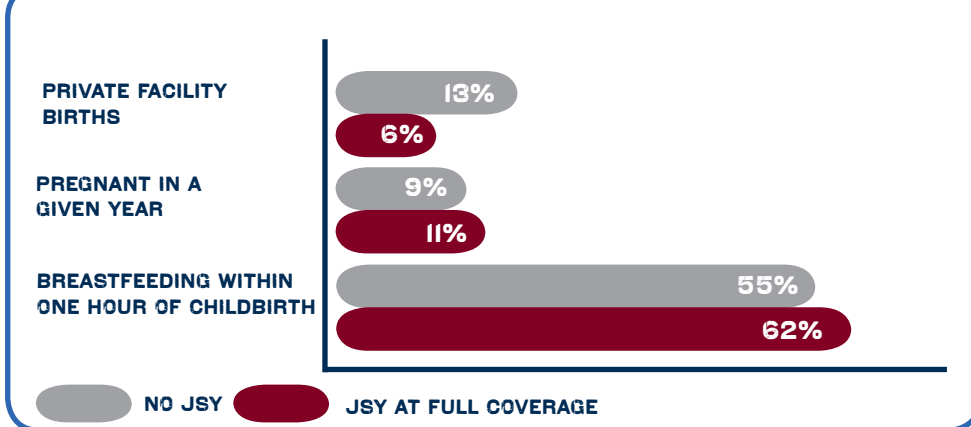
### COST-EFFECTIVENESS

The government spent roughly US\$357 of JSY money for each additional facility birth. The cost per additional visit is high because the

cash incentive is given irrespective of whether the individual would have given birth in the health facility in the absence of the JSY. The total cost rises to US\$486 for each additional facility birth when the cost of delivery is included.



FIGURE 2: UNINTENDED CONSEQUENCES OF THE JSY





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### WHAT DO THE FINDINGS MEAN?

These findings have implications for policy development in India and contribute to the global evidence on financial incentives for health. Of particular relevance are the plans of the Government of India to introduce a new cash transfer scheme to improve child nutrition outcomes.

The study supports the growing sentiment that demand-side interventions can improve access to health services, but alone may be insufficient to improve health outcomes. Strengthening the quality of primary health care and the referral system in India is a critical complementary strategy to demand-side schemes. In this regard, quality monitoring should go beyond inputs to assess processes.

If disbursement of the JSY cash were improved, there would be up to a fourfold increase in the number of women encouraged to use formal health care. The financial administration of cash incentive programmes is critical to their success.

Financial incentives are a powerful but imprecise tool for changing health-related behaviours. They can have unintended health effects, on fertility for example, which may undermine the JSY's own objective of reducing mortality. Financial incentives should be used with caution and efforts should be made to track potential negative unintended consequences.

The findings of this study are specific to the period during which the data were collected. Greater public awareness of the JSY and improvements in the quality of care in the public health system since 2008 may have contributed to improved performance of the programme. These findings nonetheless remain relevant because the underlying mechanism has not changed and the impact estimates presented here are adjusted so as to take account of the extent of programme implementation.

### FURTHER READING

Mazumdar S, Mills A, Powell-Jackson T (2011) *'Financial Incentives in Health: New Evidence from India's Janani Suraksha Yojana.'* Working Paper. Available for download at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1935442](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1935442)

Powell-Jackson T., Hanson K. (in press) Financial incentives for maternal health: impact of a national programme in Nepal. *Journal of Health Economics*.

Lagarde, M., Haines, A., Palmer, N. (2007) Conditional cash transfers for improving uptake of health interventions in low- and middle-income countries: a systematic review. *JAMA* 298, 1900–1910.

### ACKNOWLEDGEMENTS

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The opinions expressed are those of the authors and do not necessarily reflect the views of LSHTM or DFID. All errors are those of the authors.

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A mother smiles with her young child in India  
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