

Maternal & Child Health

The Problem

India figures amongst the highest prevalence of neonatal mortality in the world, with about 0.75 million neonates dying every year. More than 659,000 newborn babies die every year in India – amongst the highest number of newborn deaths in the world. India also accounts for twenty percent of all maternal deaths worldwide, with more than 150 women dying in India each day due to preventable causes related to pregnancy and childbirth.

The Million Death Study (MDS) based on data from the Sample Registration System (SRS) estimates that 14.3 percent of all Infant Mortality Rates (IMR) is caused by low birth weight (2015) and 55 percent of all neonatal deaths. Three causes — prematurity or low birth weight, neonatal infections, and birth asphyxia or trauma — accounted for more than three-quarters of neonatal deaths in India. To meet the 2030 Sustainable Development Goals for child mortality, India will need to maintain the current trajectory of 1–59-month mortality and accelerate declines in neonatal mortality (to >5% annually) from 2015 onwards. There is evidence to show that promotion of breastfeeding practices, ANC care and child immunization have positive relationship in terms of reduced IMR.

Rajasthan has improved significantly on its maternal and child survival indicators in the last 10 years. Between 2005-06 and 2015-16, Rajasthan’s infant mortality fell from 65 to 41 deaths per 1000 live births (NFHS-3, NFHS-4). Maternal mortality rate fell from 318 per 100,000 live births in 2008, to 244 in 2013 (Ministry of Health and Family Welfare). Nevertheless, there is still room for improvement, particularly on several indicators related to access and use of child and maternal health services.

Various initiatives have been undertaken by the Union Government including Mission Indradhanush, MAA (Mother’s Absolute Affection), Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), Janani Shishu Suraksha Karyakram (JSSK) etc. and by the Rajasthan State Government such as ANM Samvad, Rashtriya Kishor Swasthya Karyakram, POSHAN etc. to address issues related to Maternal and Child Health.

Solutions

Interventions	BCR	Benefit (INR crores)	Cost (INR crores)
Promotion, incentivization and supply of immunization in lagging districts	30	720	24
Conditional cash transfer for ANC visits	9	2,097	241
Mass media promotion and intensive counseling of breastfeeding	8	9,277	1,181

Total costs & benefits are discounted at 5%

The full research paper by **Abusaleh Shariff**, Chief Scholar of the US-India Policy Institute is available on www.rajasthanpriorities.com/health-systems-maternal-and-child-health.

Mass media promotion and intensive counselling of breastfeeding

The Problem

Studies indicate that poor and suboptimal breastfeeding practices, including non exclusive breastfeeding, contribute to more than 11% of mortality in children under 5 years of age (Black et al., 2013).

The World Health Organization’s recommendation is that initiation of breastfeeding should occur within 1 hour of birth, exclusive breastfeeding should be practiced till 6 months of age and breastfeeding should be continued until 2 years of age at the least.

Currently 42% of women in Rajasthan do not exclusively breastfeed and 25% of women do not continually breastfeed up to 23 months (NFHS-4, IHD2).

The Solution

The intervention seeks promotion of breastfeeding via TV advertisements, counselling of mothers via dedicated staff and providing printed fliers/pamphlets which contain the communication material to mothers regarding the importance of breastfeeding.

Analysis on India’s last-born children (both dead and alive at the time of survey) suggests that likelihood of a child being alive increases by almost 9.43 time higher for the children who are breast-fed for 19-24 months than the children who were not breastfed at all.

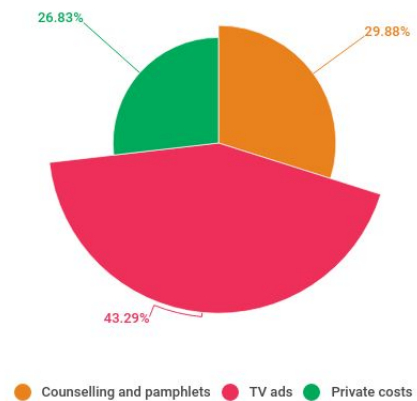
It is recommended that a 17-point interactive communication opportunities between the mother (and child) and health professionals.

Costs

The cost of the intervention is the sum of three categories of costs. The first is the cost of running 30 advertisements per day on 10 local and national news channels for two days a week which yields a total cost of Rs 468 crores per year. The second is the extra staff cost for intensive counseling, including communications materials, on breastfeeding which adds up to Rs. 323 crores (This cost factors the 17 points of contact and 250 working days per year,

implying that 12,915 additional counselors need to be hired). The final set of costs are private costs such as transport, food and time when availing the 17 counselling services. This is Rs. 390 crores per year. The total annual requirement to promote various components of breastfeeding practices in Rajasthan is therefore Rs. 1,181 crores per year.

Promotion of breastfeeding costs



Benefits

It is estimated that this intervention will increase exclusive breastfeeding from 58 percent to 90 percent, and extended breastfeeding from 75 percent to 94 percent. This implies an additional 4.8 lakh children more who will be exclusively breastfed, and 2.8 lakh who will be breastfed between 6-23 months.

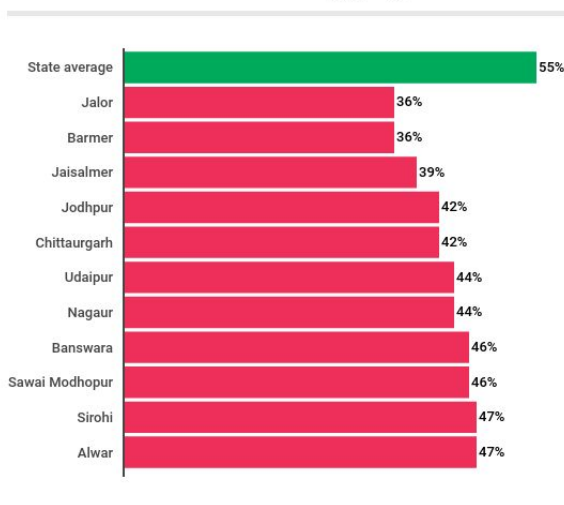
This will lead to 12,628 fewer child deaths (0-23-month old) per year, reduce U5 mortality rate from 51 to 43 per 1000 live births and avoid almost 81,000 years lost to disability (YLDs). The benefits at 5 percent discount rate is estimated to be Rs. 9,277 crores.

Promotion, incentivization and supply of immunization in lagging districts

The Problem

In Rajasthan only 55% of the children are fully vaccinated (NFHS-4). Further there are districts where full immunization rates are below the state average (Jalore, Barmer, Jaisalmer, Jodhpur, Chittorgarh, Udaipur, Nagaur, Banswara, Sawai Modhopur, Sirohi and Alwar). The average rate of immunization in these districts is 43%, compared to the state average of 55 percent. The intervention is focused specifically on these districts.

Immunization rates in lagging district



The Solution

The intervention seeks promotion and provision of immunization camps for remote areas, that incentivizes mothers to bring children for immunization.

The intervention will be implemented with in-kind transfers (lentils and meals) worth Rs 685 based on a randomized controlled study from rural Rajasthan (Banerjee et al.2010).

It is assumed that this intervention would raise rates of full immunization from 43 percentage points in lagging districts to the state average of 55 percentage points, an increase of 25%. It is also

assumed that due to the incentive, 70% of children who would otherwise be vaccinated in the normal health care system such as in schools and health centers will be diverted to the immunization camps. The total number of children passing through the camps in a year is therefore 236,710.

Costs

The augmented total cost per annum for the immunization camps plus incentives in Rajasthan is Rs. 24.2 crores (amongst other costs, 16.2 crores are the incentives and 4.6 crores is the fixed cost of the camp finally the remaining cost is the cost of time for mothers to receive services).

Benefits

This intervention is assumed to raise the level of fully immunized children in the lagging districts from 43% to the state average 55 percent which will lead to a 2.9% reduction in child mortality and morbidity for 5.6 lakh children born each year. This will save 827 children per year and avoid 8,675 YLDs.

This is valued at 720 crores per year at 5% discount rate. Also included is the value of the incentives, 16.2 crore as a benefit.

Conditional cash transfers for ANC visits

The Problem

Rajasthan, the proportion of women receiving at least 4 ANC visit is quite low at 38.5% (the Indian average is 51.2%, NFHS4).

The Solution

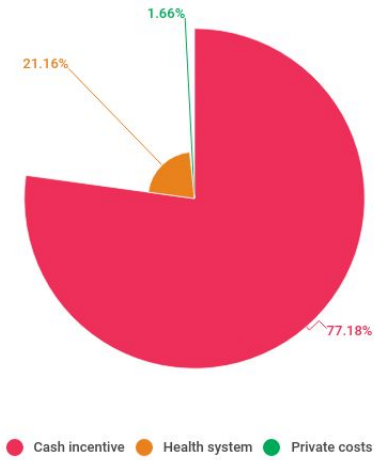
The intervention seeks to provide conditional cash transfer of Rs. 2000 for accessing 4 ANC visits during pregnancy. This inducement is designed to foster demand and cover wage losses, opportunity cost and transportation costs in accessing ANC services.

Costs

Given 15.2 lakh new births per year, the intervention will therefore induce 3.5 lakh women to undertake 10.3 lakh new visits. The total cost of this intervention is 241 crores, 186 crores for the cash incentives, and 55 crores for health system and

private costs of mothers making new ANC visits.

ANC visit cash transfer costs



Literature review suggests that 25% reduction in neonatal deaths is a reasonable estimate of the impact in the Indian context from increased ANC visits. It is expected that this will lead to a reduction in neonatal mortality of 8 per 1000 live births. This will save 2,764 infant lives per year and avert 13,558 YLDs. The health benefit is valued at 1911 crores and with the incentive benefit of 186 crore, the total benefit is therefore 2,097 crores.

Benefits

It is assumed this large incentive will boost uptake of 4 ANC services from 39 percent to 61 percent of women during pregnancy.