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Review

The National Rural Health Mission in India: its impact on maternal, neonatal, and infant mortality

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SUMMARY

The National Rural Health Mission (NRHM) has been a watershed in the history of India's health sector. As a previously unattempted investment, governance, and mobilization effort, the NRHM succeeded in injecting new energy into India's public health system. A huge expansion of infrastructure and human resources is the hallmark of the NRHM action. Demand-side initiatives led to enhanced utilization of public health facilities, especially for facility births. The impact is visible. The Mission has brought Millennium Development Goals 4 and 5 within India's grasp. Acceleration in infant and neonatal mortality reduction is especially notable. The NRHM has created conditions for the country to move toward universal health coverage.

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The NRHM was started in 2005 by the Government of India (GOI) with the vision to provide effective health care to the rural population throughout the country and to achieve the expectation of National Health Policy and the Millennium Development Goals (MDGs) [1].

With special focus on 18 states, the Mission objectives were: (i) reducing child and maternal deaths; (ii) provision of universal access to public services for food and nutrition, sanitation, and hygiene and to public health care services; (iii) prevention and control of communicable and non-communicable diseases; (iv) providing access to integrated comprehensive primary health care; (v) stabilizing the population, ensuring gender and demographic balance; (vi) revitalization of local health traditions and mainstreaming of the Indian system of medicine; and (vii) promotion of healthy lifestyles [1].

The NRHM brought about a paradigm shift from a vertical programmatic approach in public health to a systematic consolidation and strengthening of the institutional arrangements of the public health care delivery system in its entirety (primary up to tertiary), which is the administrative platform to deliver any program in the health sector. Health being a state subject, the NRHM provided the leadership to the States to steward and define their priorities, driving significantly to impact maternal, neonatal, and infant outcomes, thus galloping to bridge the gap to achieve MDGs 4 and 5.

The key maternal and child health indicators and the goals are shown in Table 1 [1,2,3,4,5,6,7].

1.1. Financial inputs

Under the NRHM the GOI raised the public expenditure on health and provided financial assistance to the States for health systems strengthening with focus on maternal and child health. The Ministry of Health & Family Welfare (MoHFW) has reported more than US$17 billion [8] of disbursement to the States since the inception of the NRHM. The funds under the NRHM from the central government (which are additional to states' own budgets) flowed directly to a specific account, not to the generic treasury, which ensured that the funds were not diverted to non-NRHM (and non-health sector) activities.

1.2. Structural inputs

The NRHM resources were spent on the expansion of infrastructure, increase in human resources and programme management, emergency response services, mobile medical units, community participation including engagement of accredited

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Table 1
Key NRHM, XII Plan goals and Millennium Development Goals (MDGs), and baseline and most recent levels.

Health measure	Baseline 2005	NRHM goal 2012 [3]	Most recent	MDGs 2015 [6]	XII Plan goals 2017 [7]
Infant mortality rate (per 1000 live births)	58 [1]	30	40 (2013) [4]	27	25
Neonatal mortality rate (per 1000 live births)	37	–	28	–	–
Maternal mortality ratio (per 100,000 live births)	254 (2004–06) [2]	100	167 (2011–13) [5]	109	100
Total fertility rate	2.5	2.1	2.3 (2013) [4]	–	2.1

social health activists (ASHAs), involvement of 'Rogi Kalyan Samitis' (patient welfare committees), and improved supply chain management with reference to essential drugs, consumables, and equipment, etc. (Box 1) [8].

1.3. Process inputs

The NRHM refashioned capacity development processes, developed Indian public health standards, refined quality assurance mechanisms, provided managerial support at all levels, standardized essential drug lists for MCH services, offered greater flexibility for fund utilization with established norms, and established a system for regular and timely financial audits through submission of utilization certificates for garnering additional resources.

Box 1
Selected list of activities under the National Rural Health Mission [8].

Human resources (new providers)
- 890,000 accredited social health activists
- 23,079 doctors/specialists
- 35,172 staff nurses
- 70,891 auxiliary nurse midwives

Human resources (program management)
- 590 district programme managers, 601 district accounts managers, and >9000 accountants deployed

Infrastructure
- Centres: 526 community health centres (CHCs), 85 sub-district hospitals, and 93 district hospitals initiated/completed.
- Major renovation of 16,954 sub-centres, 8475 primary health centres, 3009 CHCs, 606 sub-district hospitals, and 659 district hospitals initiated/completed
- More than 28,000 beds for mothers and children added
- 507 special newborn care units established at district hospitals (wherein >0.5 million sick newborns were treated in 2013).
- 1737 newborn stabilization units and 13,653 newborn care corners created

Ambulances
- More than 20,000 ambulances deployed nationwide

Community participation structures
- 500,000 village-level health sanitation and nutrition committees created
- 31,000 patient welfare committees created at public facilities

Web-based mother and child tracking system
- Tracking 105 million mother–baby dyads

Finances provided
- A total of US$17 billion invested (2005–13) by the central government

Other
- Between 2009 and 2013, graduate medical capacity increased by 54% and postgraduate medical seats by 74%.

2. Special schemes on maternal and child health under the NRHM

Under the NRHM, a plethora of new schemes was initiated. The following NRHM initiatives have special significance for maternal and child health [8].

2.1. Janani Suraksha Yojana (JSY; 'Safe Motherhood Scheme')

This is a cash transfer scheme that provides monetary incentives to the woman (and to the health worker) for delivery in the facility. There were 10 million beneficiaries of this scheme in 2013 (amounting to almost 40% of India's birth cohort).

2.2. Janani Shishu Suraksha Karyakram (JSSK; 'Safe Mother and Newborn Program')

This scheme, started in 2011, entitles mothers and child aged <1 year to free medicines/blood, diet, pickup and drop at government facilities.

2.3. Home-based newborn care (HBNC)

Home visits by ASHAs (six for facility-born babies, on days 3, 7, 14, 21, 28 and 42; an extra visit on day 1 for home births) for examination, counselling, and referral. The coverage of this program has been modest.

2.4. Facility-based newborn care (FBNC)

2.4.1. Special newborn care units (SNCUs)

These are specialized newborn units at district hospitals with specialized equipment including radiant warmers, phototherapy units, and resuscitation equipment. These units have a minimum of 12–16 beds with a staff of three physicians, 10 nurses, and four support staff to provide round-the-clock services for newborns requiring special care, such as those with very low birth weight, neonatal sepsis/pneumonia, and common complications.

2.4.2. Newborn stabilization units (NBSUs)

These are step-down units providing facilities for neonates from the periphery where babies can be stabilized through effective care. These are set up in community health centres and provide services including resuscitation, provision of warmth, initiation of breastfeeding, prevention of infection and cord care, supportive care (oxygen, intravenous fluids, provision for monitoring of vital signs), and referral.