Jharkhand immunization success – power of partnership: a case study

Background

Jharkhand, India was created as a new state out of Bihar in 2000. It has a population of approximately 26.9 million[1], with 26.3% of this population considered to be from tribal communities. Despite a rich natural resource base of minerals and forests, the state had approximately 34.83% of the population living below the poverty line in 2005.

Figure 1: Map of India depicting state of Jharkhand

The delivery of primary health care in rural areas of Jharkhand was very poor at the time the state was formed, as indicated by the routine immunization coverage. The 1998-99 National Family Health Survey 2 (NFHS 2) found that only 8% of children 12-23 months age in Jharkhand had completed their full immunization schedule before reaching 12 months (Bihar, by comparison, was also low at 11%).

The new administration in Jharkhand was committed to improving primary health care services in the state. Through sustained advocacy and focused technical assistance with development partner agencies, improving routine immunization coverage in the state was given highest priority. As a result of initial efforts, fully immunized coverage increased to 34.2% in the 2005-2006 (NFHS 3).

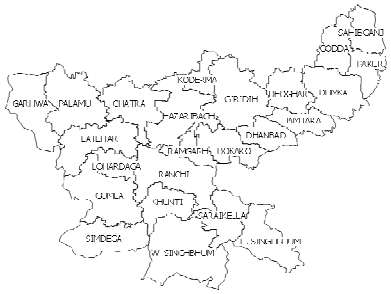


Figure 2: Map of Jharkhand depicting districts

Multiple approaches were adopted in the state to enhance routine immunization (RI) coverage. Initial catch-up rounds to reach to all left out hamlets were followed with regular outreach sessions in all un-covered habitations. Systems for planning, monitoring, reporting and coordination with other departments were established, and the cold chain was expanded. Development partners also supported the quality of the immunization program through interventions like 'supportive supervision', which have been sustained and are being scaled up in the state. Jharkhand also adopted the Reproductive and Child Health (RCH) II and National Rural Health Mission (NRHM) initiatives while also increasing involvement of Sahiyas (community mobilizers) for social mobilization, ensuring vaccine delivery to session sites through local couriers, increasing use of due-lists for children eligible for their next vaccination(s), and further upgrading of cold-chain facilities.

[1] Census 2001

Methodology

The USAID-funded IMMUNIZATION-Basics (IB)[2] provided technical assistance in the state from 2005-2009. IB worked in close coordination with the state government and partners[3] and continues to provide support to planning, monitoring and supportive supervision. To document the progress achieved in Jharkhand, along with possible factors contributing to the improvement in RI coverage and quality over time, IB undertook the following exercise with key stakeholders involved in the state Universal Immunization Program (UIP):

1) Analysis of Jharkhand RI coverage, using findings of recent surveys (NFHS and DLHS – District Level Health Survey);
2) Brainstorming exercise with key state level government and partner officials to identify different processes and initiatives which they think have contributed to the improvement in RI coverage.
3) In-depth interviews and focus group discussions (FGDs) with program implementers and government and partner managers from state and community levels.

District Immunization Officers (DIOs) and Chief Medical Officers (CMOs) from four districts were included in the discussions. The State Immunization (EPI) Officer and RCH Officer were involved, along with health program personnel from the World Health Organization/National Polio Surveillance Program (WHO-NPSP), the United Nations Children's Fund (UNICEF), CARE-India, the USAID-funded A2Z nutrition project and the Child in Need Institute. A number of Primary Health Care (PHC) MOs, Auxiliary Nurse Midwives (ANMs), Lady Health Volunteers (LHVs) and staff of local Non-Governmental Organization (NGO) partners were also interviewed and included in focus group discussions during field visits to the districts. In addition, interviews were held with mothers and other care-givers and community representatives during visits to session sites at community level.

Trends in RI coverage in Jharkhand

From NFHS 2 to 3, full immunization coverage (FIC) in Jharkhand increased from 8.8% to 34.5%. Coverage with all antigens also increased consistently during this period, as shown in Table 1.

Table 1: Immunization Coverage in Jharkhand (NFHS 2 and 3)

Indicator (in %)	NFHS 3 (2005-06)	NFHS 2 (1998-99)
Children 12-23 months fully immunized (BCG, measles, 3 doses of DPT/OPV)	34.5	8.8
Children 12-23 months who received BCG	72.9	44.3
Children 12-23 months who received 3 doses of OPV	79.6	36.4
Children 12-23 months who received 3 doses of DPT	40.3	21.6
Children 12-23 months who received measles vaccine	48	18.2

Table 2: Immunization coverage in Jharkhand (DLHS 2 and 3)

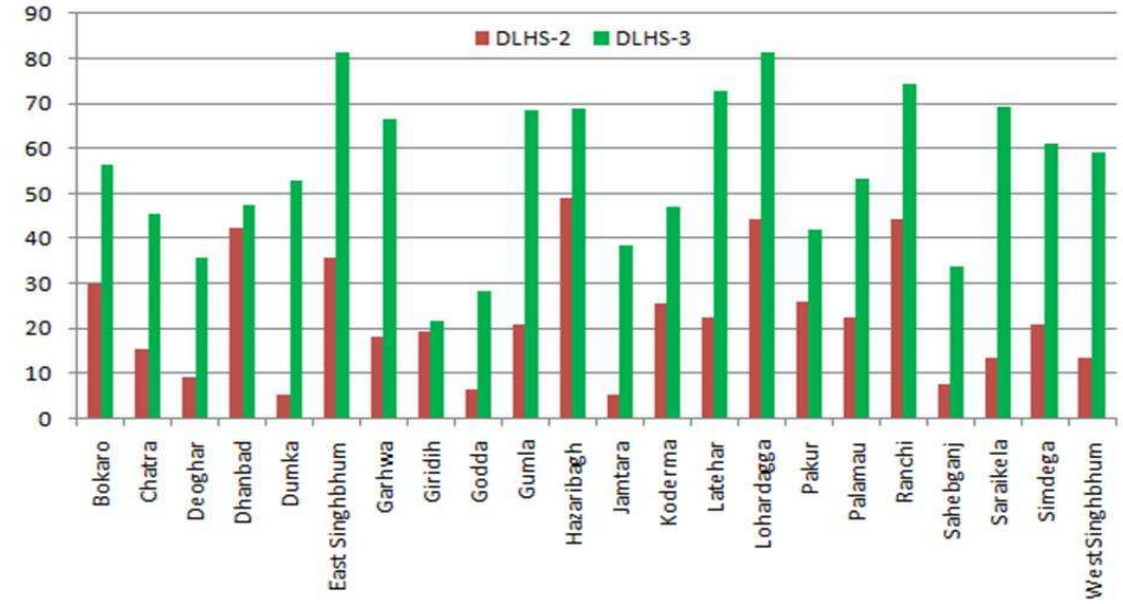
Indicator (in %)	DLHS-3(2007-08)			DLHS-2(2002-04)		
	Total	Rural	Urban	Total	Rural	Urban
Children 12-23 months fully immunized	54.1	52.4	69.3	25.7	18.9	49.7
Children 12-23 months who received BCG	85.0	84.1	93.1	50.8	42.9	78.6
Children 12-23 months who received 3 doses of OPV	64.4	63.1	75.9	34.8	27.1	62.2
Children 12-23 months who received 3 doses of DPT	62.6	61.0	77.0	35.6	27.7	63.4
Children 12-23 months who received measles vaccine	70.5	69.0	84.8	31.2	23.4	58.9
Children 12-23 months not received any vaccination	12.8	13.6	5.9	45.6	53.0	19.2

[2] IB was merged into the USAID-funded Maternal and Child Health Integrated Program (MCHIP), with a projected project timeframe from 2009-2013.
[3] WHO, UNICEF, and CARE have been key partners in supporting the RI strengthening in Jharkhand.

A similar trend was shown by the DLHS 2 and 3, notably with an increase in FIC in rural areas from 18.9% to 52.4%. The statewide proportion of children who did not receive any vaccination was reduced from 45% (53% in rural areas) to 12.8% (13.6% in rural areas), indicating significant improvement in the reach of primary health care services to the larger population over the years.

All districts recorded improvement in FIC, with some variation in progress across districts. Some new districts were also formed between DLHS 2 and 3 through splitting larger districts. Figure 2 shows fully immunized coverage by district, taking the parent district as baseline from DLHS 2.

Figure 3: Percentage of children (12-23 months) fully immunized by district in Jharkhand



DLHS-2	29.7	15.3	9.2	42.2	5.2	35.7	18.3	19.2	6.3	20.7	48.9	5.2	25.5	22.4	44.1	25.8	22.4	44.3	7.7	13.5	20.7	13.5
DLHS-3	56.4	45.4	35.7	47.5	52.9	81.5	65.6	21.6	28.4	68.6	63.9	38.6	45.9	72.7	81.2	41.9	53.4	74.3	33.5	69.3	61.2	59.1

Factors contributing to progress in Jharkhand

Through the interviews and FGDs with various stakeholders, local NGOs, community level government functionaries, mothers and community leaders, several factors emerged as possibly contributing to RI progress in the state. In addition to recent initiatives and strategies, the interviewing team sought information on the evolution of the RI program in the state since 2001, in order to get a picture of program implementation before the NFHS 3 and DLHS 3 surveys. Initiatives after the launch of RCH II and NRHM (2005) were also recorded from respondents' experiences. Details on the variety of factors and strategies gathered from the respondents at different levels are provided below and summarized in the text box.

- ***High level political commitment, fund flow, and strong collaborative partnership among stakeholders***

  Respondents interviewed across districts and at the state level informed that the consistently high priority and support to RI by the state senior officials of the health ministry was an important factor in achieving progress in service delivery. Frequent reference was made to the commitment of some of the earlier secretaries of the Department of Health and Family Welfare

who consistently focused on the RI program and organized development partners into a formal advisory body in the state.

Various development agencies provide technical assistance on RI with the state government, including UNICEF, WHO, IB (now MCHIP) and CARE-India. All of these agencies are included by the Jharkhand government into the state-RI cell forum which engages in planning, regular review and problem solving. Since its formation, the RI-cell meets on a monthly basis and the partners share accountability for the deliverables and rotate responsibility for organizing the meetings. The RI cell meetings are used to coordinate functions and share plans of different agencies with the government to bring synergy among their plans. Session monitoring data and findings from supportive supervision exercises conducted during the month are generally discussed in the RI cell meetings. These form the basis of prioritized actions by the state government and partners, which are communicated to the districts.

In addition to political commitment, another success factor noted by some district MOs and PHC MOs was the ease of funding flow due to creation of the new state and better coordination and support due to the formation of smaller districts. They noted that frequent and focused program reviews at the state level were effective and that the division of larger districts into newer and smaller ones eased communication and response to requests of blocks and PHCs and strengthened the overall health system.

- ***Functional convergence between ICDS and RCH at the operational level***

As reiterated in every interview, the convergence at the community level between the India government's national Integrated Child Development Services (ICDS) and RCH functionaries in jointly organizing outreach immunization sessions has been an important factor for sustained increase in the number of children reached with all vaccine doses. This included preparation of micro-plans for Anganwadi Worker Center (AWC) session sites and flexibility to revise these as newer AWCs are established. Anganwadi Workers (AWWs) and the Anganwadi Helpers support the ANM in calling mothers of children due for vaccination on a given day. Sahiyas (equivalent to Accredited Social Health Activists – ASHAs - in NRHM) now also provide social mobilization. ANMs and AWWs maintain and update immunization registers and the AWW usually helps to update ANMs registers with new pregnancies and child births between sessions.

Another important factor in attracting beneficiaries was the linking of RI sessions with provision of food-rations for pregnant, lactating women and children under 3 years age, as part of the supplementary nutrition program of ICDS at the AWC. Participation of ANMs in monthly review meetings of AWWs in a cluster of about 15-20 AWCs was also mentioned as an important mechanism for coordination in two of the four districts visited. Some of the Block Medical Officers and DMOs also mentioned conducting periodic joint review meetings with their ICDS counterparts; however this coordination was not uniform across all districts and it depended on the initiative of the District Magistrates or local non-government partners like CARE. These joint review forums offered opportunities for community-level problem solving related to RI sessions and for planning site visits to difficult areas. Most of the state level government officers and functionaries of development partner agencies noted that the coordination at the community level was good in most places but more needed to be done to institutionalize coordination at the district and state level to sustain this.

- ***Expansion of cold-chain capacities and improvement in managing supplies for RI program***

With the formation of the new state, vaccine storage facilities were strengthened at state and district levels. Cold rooms were installed at state level in 2002 and 2004-05. Regional storage is being expanded and solar ice-lined refrigerators have been installed at 154 PHCs. Most PHCs have back-up generators.

Since the time of the catch up rounds, storage and transportation facilities for vaccines have improved significantly in the state. Similarly, the process for procurement and distribution of vaccines and other essential supplies was established and timeliness improved.

Factors contributing to RI improvements in Jharkhand

1. *Creation of new state: Eased fund flows to districts and formation of smaller districts facilitated quicker problem solving attention and timely coordination*
2. *Strong and committed political and bureaucratic leadership at the state level focused on increasing RI coverage, with active partnership between government and all development partner agencies to sustain program focus*
3. *Convergence: ANMs, AWWs and Sahiyas organizing regular nutrition and health days*
4. *Implementation of Catch up rounds strategy, that helped establish systems for RI and more importantly increased demand for RI services*
5. *Robust micro planning, allocation of adequate health workers and institutionalization of conducting weekly once/twice out-reach sessions by every health worker*
6. *Sustained increase in number of outreach sessions to cover every AWC and institutionalization of monthly fixed-site outreach sessions in AWCs*
7. *Expansion of cold-chain facilities at the state and consistency and adequacy of supplies of vaccines, immunization cards and other supplies*
8. *Sustained session monitoring by development partners and timely feedback to the state and districts*
9. *Use of mechanisms to track beneficiaries over the first 12 months of life for complete immunization*
10. *Training for ICDS supervisors and ANMs*
11. *Supportive supervision, which focused on quality of system*
12. *Social mobilization support of Sahiyas, especially reminders to mothers on the session day. Also, IEC materials and mass media enhanced community sensitivity to preventive health.*

❖ ***Catch-up rounds and establishing of systems for regular service delivery***

Between 2003-04 and 2006, RI catch-up and vitamin A supplementation rounds were carried out every six months. Most of the respondents felt that this catch-up round strategy enhanced the focus and creation of a strong RI delivery system.

Many ANMs noted that the greatest contribution of the catch-up rounds was the creation of a sense of importance and demand for childhood vaccination among community members. Organizing sessions in every habitation (including outreach sessions held for the first time in several remote habitations and repeated efforts to trace and vaccinate each child contributed to this.

The PHC MOs and DIOs felt that the wide reach of catch up rounds helped in subsequent micro-planning for conducting regular monthly fixed-day outreach sessions. The population of several hamlets got included in the denominator of regular health service provision for the first time. State level officers mentioned that the catch-up rounds were also used to strengthen outreach service delivery and program management, including vaccine storage and distribution, session planning, listing of beneficiaries, the reporting system and technical guidelines, early introduction of AD syringes and hub cutters, convergence mechanisms with ICDS, community mobilization and providing information and communication.

Regular reviews at the district and state levels, and commitment and flexibility of the leadership (including the district administration) to learn and refine the approaches, enabled correction of mistakes and capacity building of all health workers. As a result, the RI sessions were strengthened and catch-up rounds have been adapted as the bi-annual Vitamin A

supplementation events that include vaccination to reach any left-out or recently dropped out children.

- ***Robust micro-planning, deployment of adequate workers and regular fixed-day sessions***

As noted previously, micro plans developed after the initial catch-up rounds included all the AWCs as session sites and RI activities at the sub-health centers began to reach to smaller habitations through a fixed-day fixed-site approach. Planning tools developed by IB at the national level were extensively used in Jharkhand for preparing micro-plans and to estimate supply requirements for each session, based on the target population of the habitation. As the ICDS expanded the number of AWCs, the health department revised micro-plans to include some of the new sites for monthly sessions. Jharkhand also strengthened monthly village health days prior to and as part of RCH II and NRHM.

With the increasing number of outreach sessions regular availability of an adequate number of vaccinators is essential. Under RCH II and NRHM, the Jharkhand government has engaged the services of ANMs on a contractual basis to support the available ANMs, male health workers and LHVs assigned to cover all sessions in a month through the micro-planning process. In each PHC, rosters of ANMs assigned to session sites are available, and in some of the districts visited, the male health workers are assigned responsibility to support the contractual ANMs during the session. As of 2009, a total of 3321 contractual ANMs and 3359 regular ANMs were in position for covering 3958 sub-health centers in the state which is a substantial increase over 2190 ANMs in 2005-06.

Over the last three years, the regularity of fixed day outreach sessions indicated by the session monitoring data of development partners and the MO has increased consistently, with more than 90% of sessions visited by monitors in the last 2 quarters of 2009 held on fixed days as planned. Community members in the FGDs as well as the AWWs interviewed were of the opinion that instances of ANMs not holding sessions on the planned day were very rare.

- ***Regular external session monitoring, supportive supervision and capacity building***

Led by IB and the WHO-NPSP RI cell at the national level, the external session monitoring using a common checklist was introduced across states in 2005-06. Jharkhand was quick to initiate this session monitoring and has sustained the process with continued participation of development agencies and increasing state government officers. The state WHO-RI office consolidates and analyzes the information from the different districts, sharing the findings with the state government, partners, and respective districts. Emerging issues are discussed in the RI-cell meetings and guidelines sent to districts. The districts pay serious attention to the findings of session monitoring and take up issues in their meetings with block officers, as the findings are regularly referred to by the state leaders during review meetings with districts officers. State level officers interviewed felt that the findings on regularity of sessions, convergence with ICDS, mobilization, supply quality, injection safety and waste disposal issues were very useful to the state program; district level officers interviewed pointed out session monitoring by state level officers and staff from external development agencies (e.g. WHO, UNICEF, CARE and its affiliated NGOs, IB, etc) had increased the importance of the RI program among health workers.

Some of the respondents felt that several questions in the checklist have become less important due to improvements on these parameters. As a result, some refinement of the questions is underway. On average, approximately 2000 sessions are monitored by government and external monitors (with filled-in checklists available at state level for the last 3-4 years).

Similar to the session monitoring, supportive supervision exercises were pioneered in the state by IB and the government, with support from CARE-India, WHO-RIO and UNICEF to improve the quality of the RI program. In the last 3 years, these teams have undertaken comprehensive review and on-site corrections of the RI program in 11 of the districts, conducting site visits to all the vaccine storage facilities and select session sites. A common set of checklists is used by these teams and the findings are consolidated and shared at the facility and district levels. Findings from district supportive supervision visits in a month are also discussed at the state RI-cell meetings and guidance provided to districts for correction of gaps. Repeat visits to the districts are undertaken within six months. Most of the districts have now had 2-3 rounds of supportive supervision visits, which district and state government officials feel have been very useful in providing correct and consistent communication of technical and operational requirements for better cold-chain maintenance, micro-planning and conducting outreach sessions. This was appreciated by the health workers interviewed.

Based on the usefulness of this supportive supervision, the state government and UNICEF have included this in their annual plans and allocated resources for scaling up the experience to all districts of the state in 2010.

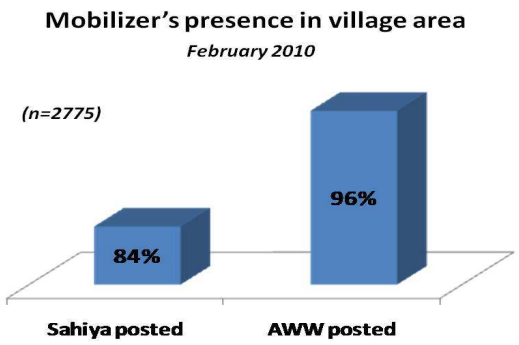
The catch-up rounds and supportive supervision exercises were identified by DIOs and PHC MOs as useful opportunities to build ANM and supervisor capacity on RI issues and vaccine storage to establish recording and reporting systems. Simultaneously, the classroom training of ANMs on RI using the modules developed by the government of India, IB, UNICEF and WHO was held in all districts by the state government and development partners and appreciated by the ANMs interviewed.

❖ ***Social mobilization and use of tracking mechanisms***

AWWs, AW helpers and community volunteers (called Change Agents -- established by CARE-India's child health and nutrition program in nearly 40% of the villages in Jharkhand), are NRHM (from 2007 onwards). Mothers in the FGDs confirmed that these mobilizers remind mothers of children due for immunization either a day prior to the session or on the session day.

Similar observations are found through the RI monitoring. For example, in the month of February 2010, monitors interviewed 3299 mothers in Jharkhand, of which 67% said they had been reminded of immunization by the Sahiya and 51% by the AWW.

ANMs and AWWs maintain lists of children and new births in the village and update the immunization registers to know the children due for vaccine in a given session. With the introduction of the one hundred and fifty rupees incentive for mobilization for each monthly session, Sahiyas are also assisting with due lists; however, the roll out of incentive provision and regularity of payments to Sahiyas was not uniform in all districts.

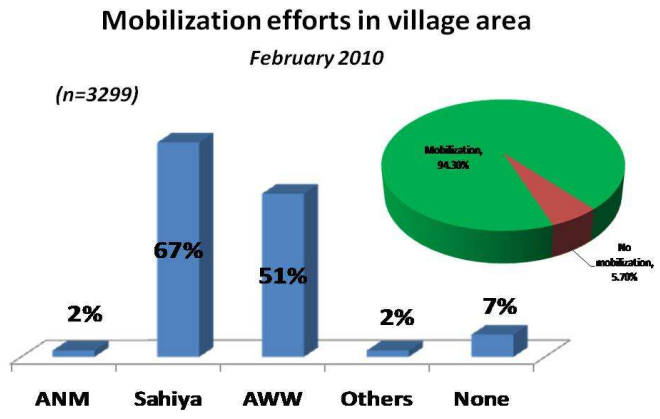


Data source: Jharkhand - house to house monitoring, February 2010

District and state officials noted that various mechanisms are in use to map and track children to reduce left-outs and drop-outs. One tool developed by IB, 'my village-my home', was one of the first tracking tools used in the state in select areas of CARE/India's program. A participatory social mapping process was also implemented in a large number of villages, channeled mainly through the ICDS functionaries. Tracking bags using the immunization card counter-foils were also taken to scale across the state; however some districts reported inadequate number of bags for each session site. As a result, several session sites were relying on the 'due list' records and registers of ANM, AWW and Sahiyas. The comprehensiveness of the

registers/records therefore continues to be important to reduce left-out and drop-out populations, given that about 13% of children are not receiving any vaccines and FIC coverage is 54% (DLHS 3).

In addition to improved registers and due lists, several ANMs and MOs noted the important contribution of RI messages in mass media and communication campaigns as well as the inter-personal communication by AWWs and Sahiyas.



Data source: Jharkhand - house to house monitoring, February 2010

IEC in the form of wall paintings in the villages providing the day and site of vaccination session was also identified as an important communication initiative. Posters displayed at the AWs and SCs listing the four key messages to be provided to the mothers at the time of vaccination (designed by IB and disseminated by other partners and the state government) were also identified as useful by several ANMs interviewed.

Conclusion

A key question of this analysis is whether the gains made in RI coverage in Jharkhand are primarily due to efforts like catch-up rounds or if the state has been able to establish and strengthen systems to deliver services in a sustained manner. Based on the consultations with different stakeholders and field workers, it is evident that components of a robust service delivery system - from planning to continued monitoring - are in place. The focus of partners, and more importantly of the government, is clearly on strengthening system components and not on pursuing quick fix solutions.

The coordination of the government and development agencies since formation of Jharkhand state - and the effective leadership and commitment by the state government, with the establishment and functioning of the multi-partner RI cell - are important factors to improve RI program performance. Despite competing priorities among some agencies, the RI component has remained a priority, with all partners together undertaking planning exercises, monitoring visits, supportive supervision, and sharing resources. The articulated direction for the RI program to achieve 80% FIC by NFHS 4, improve tracking of children to complete their vaccination schedules, scale up of due lists and emphasis on enhancing quality of immunization services through supportive supervision are all contributing to the state's RI strengthening and a healthier Jharkhand.