Immunization in India

Where does it stand?

How did the immunization programme evolve ?

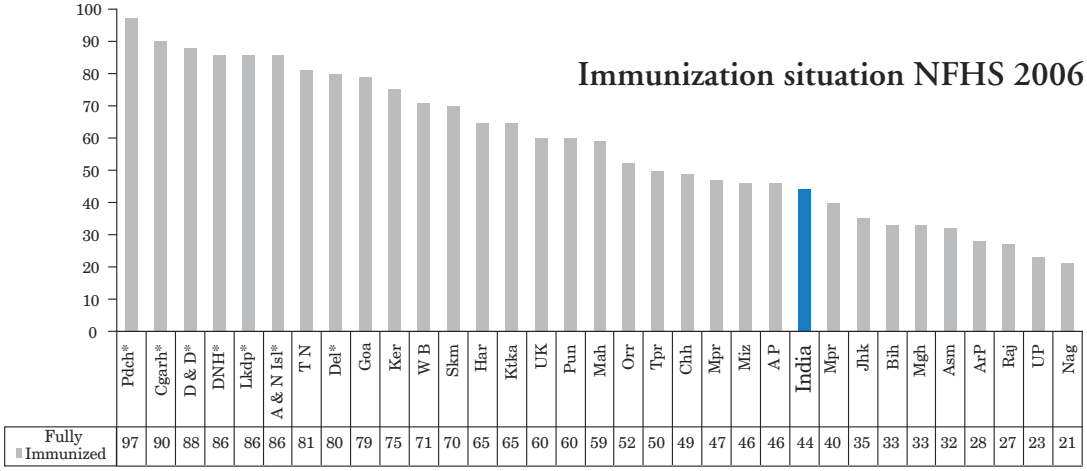
India is committed to the Millennium Development Goal of reducing child and infant mortality by two-thirds which implies a reduction of IMR to 27 and Under-5 mortality to 32 by 2015. Immunization is a key intervention to protect children from life threatening conditions and enhancing the child's survival especially beyond infancy.

India is committed to the Millennium Development Goal of reducing child mortality (MDG 4) by two thirds by 2015, requiring it to reduce national IMR to 27 and U5MR to 32. Immunization is a key intervention to support this goal by protecting children from life threatening conditions and enhancing the child's survival beyond infancy.

The immunization programme forms a cornerstone of the strategy to reach MDG4 through the Reproductive and Child Health (RCH) programme of the Government of India. Begun in 1978, immunization was universalized in 1985 through the Universal Immunization Programme (UIP). The UIP has envisaged achieving and sustaining universal immunization coverage among infants with three doses of DPT and OPV and one dose each of measles vaccine and BCG, and with two primary doses or one booster dose of TT among pregnant women. Intensified polio eradication activities began in 1995 under the Polio Eradication Programme. Importantly, the UIP has established a reliable cold chain system for storing and transporting vaccines and promoted self-sufficiency in the production of all required vaccines.

A National Technical Advisory Group on Immunization was set up in 2001 and a UIP Review conducted in 2004; based on its findings and recommendations, India has prepared a country Multi-Year Plan for Immunization (cMYP 2005-10). Immunization continues to be implemented as an important element of the RCH programme under the overarching managerial framework of the National Rural Health Mission (NRHM). Although health care is a state subject under the Indian Constitution, the central government scheme provides full support to the UIP in order to ensure effective, equitable and safe immunization. Studies indicate that 90% of the immunization doses are delivered by public sector facilities.

Immunization situation NFHS 2006



Where are we now?

Low rates of immunization

Despite extensive efforts, India has not been able to achieve high routine immunization rates. The 3rd National Family Health Survey (NFHS3) indicated that only 43.5% of children aged 12-23 months were fully vaccinated and 5% had received no vaccinations at all. This translates to well over 13 million children unimmunized or incompletely immunized in the country each year. Surveys indicate that one of every three children who have contacted the health system for immunization at some point, does not complete the schedule. While there have been substantial improvement in coverage of all individual vaccines, DPT vaccine against diphtheria, whooping cough, and tetanus is an exception.

Regional variation

There is extensive variation in the immunization programme. While at least three-quarters of eligible children have received all recommended vaccinations in Tamil Nadu, Goa, and Kerala; in Nagaland, Uttar Pradesh, Rajasthan, Arunachal Pradesh, and Assam less than one third are reached. NFHS2 and NFHS3 indicated a mixed performance with some states showing improved coverage, and others, notably Andhra Pradesh, Gujarat, Maharashtra, Punjab and Tamil Nadu, showing a decline. Of the eligible children not protected with full immunization cover, approximately 9 million live in Uttar Pradesh, Rajasthan, Bihar and Madhya Pradesh. In addition, national level immunization rates fail to take note of the heterogeneity in sub-national and local immunization coverage, which often leads to a critical mass of susceptible individuals that can result in outbreaks.

Limited mix of vaccines

Although several countries have by now introduced new vaccines into their immunization programmes, India is yet to do this in a comprehensive manner. The intention to do this has only recently been reflected in the cMYP.

What are the challenges & responses?

Lack of skilled staff

Vacancies are common among staff responsible for immunization at national, state and district level. Inadequate capacity of existing management staff has led to insufficient analysis of immunization failure at local levels.

Inadequate data use at all levels

Inadequate management review has been intensified by poor use of data by staff at all levels. This is manifest in, among other effects, the poor tracking of children for completion of their immunization schedules and the large drop-out rate seen in the Indian programme.

Vaccine stock-outs in the field

Vaccine stock-outs denote the inability of the delivery system to respond to public demand for critical service; and stems from the inability of the system to adequately forecast vaccine demand at field level and inventorize vaccines further up the cold chain.

Poor quality/absence of service

An observation highlighted by most review teams, this could well be related to other deficiencies in the field such as lack of staff, vaccine or cold chain.

Safe injection practices poor

It has been observed by review teams in various states that safe injection practices were not being followed during immunization sessions. This could have serious consequences for the programme.

Funds release not timely

Much of the action on the ground relates to safe transport of vaccines and of follow-up of children who have dropped out of the programme. The ability of the worker to carry out the action is determined

by the availability of funds to take care of local operational costs.

Insufficient coordination

Cooperation with the private for-profit and not-for-profit sector is inadequate and requires strengthening in the light of the fact that immunization services are sometimes accessed from the private sector.

Demand generation required

Demand for services has been found to be especially low among the more marginalized communities; in particular, hard-to-reach pockets and slum areas.

Gaps in the health system

Assessments continue to highlight inadequate coordination, training, monitoring and evaluation, finance and logistics. Inadequate manpower and insufficient competencies pose serious health frontline workforce challenges.

Lack of VPD surveillance

In the absence of an effective VPD surveillance system there is limited understanding of how successful immunization has been in controlling or eliminating vaccine preventable diseases.

Many of these barriers are being addressed through initiatives in the NRHM, RCH II and the 11th Five Year Plan which address crucial issues such as:

Governance through strengthening of planning and programming skills through State and District Management Units; enabling community participation, establishing Rogi Kalyan Samitis; and involvement of Panchayati Raj Institutions.

Health information systems by restructuring and strengthening of health management information systems; and use of routine immunization monitoring software.

Quality of human resources by training midlevel managers, ANM, cold chain handlers, mechanics etc.

Service delivery including by making provisions for vaccines and vaccine van procurement; cold chain strengthening and maintenance; and encouraging the use of auto-disable syringes to improve vaccine safety.

Financing and financial systems by ensuring financial support for alternate vaccine delivery from PHC to sub-centres and outreach sites; mobility support for State and District Immunization Officers and for children to be brought to session sites by ASHA; and support to immunization sessions in urban areas.

What has worked in other developing countries?

Nigeria: A series of community dialogues in partnership with the Federation of Muslim Women Association of Nigeria mobilized 313 schools, sensitizing 685 teachers and organized 76 ceremonial events that reached 4,831 women. In the ensuing house-to-house IPD mobilization, over 72% of the non-compliance cases have reportedly been resolved and has led to an 80% reduction in the number of WPV cases.

Afghanistan: In 2006, on the basis of high risk clusters identified through a series of epidemiological, social and operational indicators, a 'Women's Courtyard' strategy was initiated in the Eastern Region to reach female caregivers at home and immunize newborns and very young children.

Ethiopia: Reminder stickers for parents resulted in 50% decrease in dropout between DPT1 & DPT2.

Pakistan: Highway Motorway Police have been engaged to ensure immunization of children travelling on national highways. The police provide support to immunization teams at 57 toll plazas throughout the country. At an innovative immunization station set up at a toll plaza in Karachi, 5,530 children were immunized over the course of a few days in May 2008.

Ghana: During its biggest nationwide integrated child health campaign in November 2006, 2.1 million long-lasting insecticide-treated bed nets were distributed free of charge for all children under the age of two. Across the country 9,505 immunization posts were established and 28,000 volunteers and health workers administered the interventions to reach 20,000 children.

What remains to be done?

Immunization for resource poor settings

Generate demand for services

Build community trust

Planning for local contexts

Multi-level supervision

Introduction of newer vaccines

India's Immunization programme is not only one of the largest and oldest public health programmes of the country, but it is one of the largest in the world in terms of quantity of vaccines used, numbers of beneficiaries, the number of immunization sessions organized, and the geographical spread and diversity of areas covered. There remain major hindrances that prevent the programme from achieving optimal results.

Urgent measures are needed in particular, to increase immunization coverage in resource poor settings, generate demand for services and build community trust by providing consistent quality services. Social audits could detect and prevent over-reporting and area specific strategies and new technologies could help improve service delivery problems.

Planning for local contexts especially for heterogeneity of immunization coverage could bridge the gap between partial and full immunization of eligible children. Multi-level supervision of all service delivery points is crucial. Ensuring robust data collection systems, devising child tracking mechanisms that work and supporting close supervision of immunization sessions, district reviews and state plans would go a long way in ensuring that each child receives the full set of vaccines that the stateguarantees. Itis also time for India to think about introducing newer vaccines into the programme.

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