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Community Medicine

ROUTINE IMMUNIZATION: ITS STATUS AND CHALLENGES IN CENTRAL INDIA

KEY WORDS:

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India's Routine Immunization Programme:

The picture of routine immunization (RI) in India has changed drastically in the last two decades, with introduction of new vaccines, intensification of programme to reach remote / inaccessible rural and tribal areas and involvement of multiple stakeholders in a concerted effort to increase immunization coverage in the country. All this effort is towards reducing the Infant Mortality Rate (IMR) to 25 per 1000 live births by 2030 under the Sustainable Development Goal target, and to achieve this, the programme is reaching about 30 million pregnant women and a birth cohort of 26 million, through 9 million immunization sessions annually.

The government of India launched the country's first immunization programme EPI in 1978 with four vaccines (BCG, OPV, DPT and Typhoid-paratyphoid) and a target coverage of 80% infants. The programme was renamed as UIP in 1985 with addition of two new vaccines and more emphasis on quality of care, reducing mortality and morbidity from six Vaccine Preventable Diseases (VPD) and strengthening cold chain, monitoring and evaluation and vaccine self-sufficiency through local production. A clear direction for systematically scaling up immunization coverage only came in 2011, with the National Vaccine Policy, which refocused GOI's strategies on increasing operational efficiency of the immunization programme in order to increase the coverage. Along with several key decisions on supply and demand side issues, the policy also set directives on human resources, such as to integrate immunization efforts under NRHM (now NHM), in order to increase competent workforce for immunization and develop a cadre for monitoring and supervision.

One of the key successes of the programme was in 2012 when WHO removed India from the list of polio endemic countries. Moreover, since the launch of UIP, India has seen significant reduction in the burden of VPDs. The central stakeholder for the immunization programme (UIP) is the government of India (from central to sub-district), who is coordinating the efforts across the country from policy to last mile vaccine delivery, with support of several multilateral donors and partner agencies.

At the national level, The Ministry of Health and Family Welfare coordinates the UIP through its Immunization Division (ITSU) for all policy, technical and managerial issues, and the funds are channelled through National Health Mission based on Programme Implementation Plan (PIP) prepared by each state. The state Department of Health and Family Welfare (led by Director of Health Services) and Secretary of Health are responsible for the operations of the immunization programme and coordinate with the district health administration bodies.

The state level bodies are responsible for implementing the immunization programme and managing infrastructure, staff and services related to immunization sessions. The responsibility of the programme cascades down to the Chief Medical and Health Officer and District Immunization Officer at a district level and Block Medical Officers at a block level.

The Auxiliary Nurse and Midwife and other Community Health Workers delivers the immunization services at a community level. In terms of infrastructure, there are 27,000 cold chain points across the country, a network of Primary Vaccine Stores and Regional Vaccine Stores, District Vaccine Stores, Block Vaccine Stores and Cold Chain Point at Primary Health Centre or Community Health Centre (last cold chain point). Every cold chain point has been mandated to be equipped with Cold Chain Equipment (based on its tier), for example Ice Lined Refrigerators, Deep Freezers, Walk-in Coolers and Walk-in Freezers. All the vaccines are mandated to be stored at a temperature of +2°C to +8°C.

Presently, the UIP is in its third Multi Year Strategic Plan (2018-22); where the key objective is to achieve and sustain the target of 90% full immunization coverage along with strengthening the program management, vaccine logistics and cold chain, introduce new vaccines while bringing greater efficiency and accountability in service delivery. To achieve these targets, the government of India has also drafted a roadmap document for states to focus on areas which are lagging and strengthen the programme through Mission Indradhanush (MI) (launched in December 2014) and Intensified Mission Indradhanush (IMI) (launched in October 2017). Together, MI and IMI resulted in vaccination of 31 million children in 537 districts across the country, where 8 million children achieved the full immunization. In addition, 8 million pregnant women received tetanus toxoid vaccine through this effort.

Madhya Pradesh And Its Performance In Immunization:

Madhya Pradesh and its Health System Madhya Pradesh is the second largest state in India after Rajasthan with an area of 308,252 km², and a population of 72 million (census 2011). The state is divided into 10 divisions and 52 districts for administrative purposes, with Indore and Bhopal as the largest cities with roughly 21 million and 18 million population respectively. The state is home to 46 tribal groups, the maximum in the country, residing in 89 (out of total 333) administrative blocks and constituting about 21% of total population of state.

The state has diverse physiography with large plateaus, numerous mountain ranges, meandering rivers and miles of forests with rich biodiversity. The thick forest cover constitutes 30% of the geographical area of the state which is also 12.30% of the forest area of India. The official language of the state is Hindi with a substantial amount of people also speaking Marathi, and several tribal languages in different tribal regions of the state (e.g. Nimari, Bhili, Gondi etc.). Madhya Pradesh is primarily an agrarian state, which is also rich in minerals and biodiversity. Between 2011-12 and 2019-20, the GDP of the state expanded at a CAGR of 12.72% to US\$ 118.20 billion³. However, in terms of GDP per capita, Madhya Pradesh has been continuously sliding in the last decade and currently stands at 27th position in the country with a GDP per capita (current prices) at INR 90,9984 (2018-19, approximately US\$ 1,447) which is less than country average of INR 1,26,406 (2018-19, approximately US\$ 2,010).

Madhya Pradesh is a high focus state for the central government since 2001, when the government of India established an Empowered Action Group (EAG) under the Ministry of Health and Family Welfare, to provide special focus and monitoring of eight states which were demographically behind in India, and supporting them to achieve national health goals. The health system of Madhya Pradesh is designed as per India's federal structure and federal state division of responsibilities and financing, where Madhya Pradesh is responsible for organizing and delivering health services to its residents.

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Presently, the UIP is in its third Multi Year Strategic Plan (2018-22); where the key objective is to achieve and sustain the target of 90% full immunization coverage along with strengthening the program management, vaccine logistics and cold chain, introduce new vaccines while bringing greater efficiency and accountability in service delivery. Immunization in Madhya Pradesh In the last two decades of implementation of UIP in India, several surveys and evaluation have found Madhya Pradesh to be one of the weakest states in the country to reach the immunization coverage targets. Low immunization coverage has been deemed as one of the primary reasons for high IMR and U5MR in the state in the least two decades. The immunization programme is critical for the state to bring these indices down, and it has an ambitious annual target of immunizing 1.9 million children and 2.2 million pregnant women. In the latest national roadmap for achieving 90% FIC, majority of the districts of Madhya Pradesh are mandated to; prioritize and focus their immunization strategies on the districts with poorest performance, improve their routine immunization plans (focusing on comprehensive microplanning), conduct gap assessments in those districts, generate demand for immunization while reducing fear of AEFIs, taking a comprehensive health systems approach to strengthen immunization system.

Gap Analysis

Performance of districts are variable as per their immunization coverage. Also, the AEFI events reported are variable district-wise. Hence, the gap in performance of each district needs to be done and prioritizing and focusing on the immunization strategies on the districts with poor performance to improve their routine immunization plans (focusing on comprehensive microplanning), conduct gap assessments in those districts, generate demand for immunization while reducing fear of AEFIs and taking a comprehensive health systems approach to strengthen immunization system is needed.

A sound monitoring and supervision of the RI is needed to achieve the targets. Medical colleges and tertiary private setups can be involved to create a model of public-private partnership for Monitoring and supervision of immunization coverage.

Challenges faced during routine immunization in

Madhya Pradesh

Assets of Immunization practices in MP: Infrastructure like availability of vaccines and cold chain equipment are up to 100 % covering entire Madhya Pradesh. Immunization sessions are carried out as per prescribed guidelines involving all the required staff for ideal immunization. Training programs are regularly conducted for newly appointed staff to train them in handling the immunization sessions and acquire the skills of administering vaccines. Aganwadis (ICDS Centres) are involved in immunization and Anganwadi workers are oriented towards the role they play during immunization. Contribution coming from NGOs working in the field is significant in increasing the awareness among general public regarding the need for immunization. Strong microplanning is done in planning the immunization sessions so that area-wise sessions can be conducted and maximum coverage is achieved.

All the hospital deliveries are monitored and the couples are counselled so that so that couples know the need of immunization and follow it for their kids. An MCP card is created for each new-born so that the dates mentioned on it are followed by the parents. Immunization conducted by government setup is being relied by general population. Increased awareness and improved literacy have led to better acceptability and reliance on the immunization services provided by the state.

Pitfalls towards achieving ideal Immunization practices in MP

Migrating population has always been a big hurdle towards achieving complete immunization coverage. In particular the tribal community that moves from one district to other or even moves crossing state borders, with such tribal population having more under five children due to lack of awareness towards family planning and spacing methods, always poses the challenge to achieve full immunization coverage.

Religious taboos and cultural limitations for acceptance of immunization leads to inadequate coverage in areas particularly where literacy is also low. It is observed that immunization coverage is optimal up-to two years of age but as the child grows in age, the immunization for age is incomplete. This is because parents' awareness and compliance towards following immunization is decreased and they expect Aganwadis to take over the responsibility of getting the child immunized.

Need for Supervisory system in Immunization Programme:

As a Public Health Manager, a public health administrator should oversee all the processes related to the delivery of immunization and child health services in the identified field practice area.

It is necessary for the underperforming districts within a state to establish sound supervisory systems and mechanisms for the area catered to under the administrator. It will be needed to supervise all processes related to the delivery of child health / immunization services and not just the final activities. That means for immunization, supervision will include

1. visiting of session sites to oversee the administration of vaccines
2. visiting household to assess beneficiaries
3. Overseeing the quality of household surveys for enlisting of beneficiaries (Community needs assessments/ surveys),
4. Ensuring the completeness and quality of micro plan preparation,
5. Helping in team building with ASHAs and Aganwadis for mobilization,
6. Overseeing and supervising the logistics movement process till all required vaccines and commodities are available at the immunization site,

7. Observing actual vaccination of beneficiaries and their counselling,
8. Supervising the disposal of immunization related wastes,
9. Supervising the proper recording and tracking of immunization status and final report preparation
10. Overseeing cold chain maintenance at storage level,
11. Making best use of review meetings to provide proper supervisory feedback and initiate corrective action.

Therefore, in order to supervise all these processes, it has to be ensured that suitable supervisory systems are in place. A good system for supervision should have the following components:

1. A supervisory team of persons who are well versed with the program and activity and have clear terms of reference for supervision of field workers and volunteers.
2. Supervisory tools including checklists, handbooks and job aids and
3. Resources such as mobility arrangements.

Event-wise a supervisor needs to look at supervision in the following order:

With an intent to achieve success of the RI activity and overcome the challenges faced, it is important that a well thought of supervisory plan is prepared, written down and communicated to all concerned. All the activities mentioned, beginning from initiation to the finish of a health program need good supervision. However, the benchmarks of all plans for supervision need to fulfil the basic information of who undertakes the supervision, when, where and of what since supervision is the successor of regular monitoring.

The methodology of the supervision is also important. A well-rounded visit should have several components. Although the attitude of supervision as being supportive rather than authoritarian has been discussed at the outset, other practical mechanisms such as collecting information, corrective problem solving, providing on the job training and recording the results of supervision are essentials methods to be adopted.

A structured and well-planned systematic approach is needed for compiling the information gathered from various supervisory visits and should be utilized for taking corrective action. Often review and feedback meetings organized on a regular basis with an intention to take review of implementation of immunization and challenges faced during the process, would help the larger group of supervisors and health workers learn from individual experiences.

Proposed Model For Supervision Of Routine Immunization-

An ideal model for implementing monitoring and supervision of immunization practices can follow the hierarchy as mentioned-

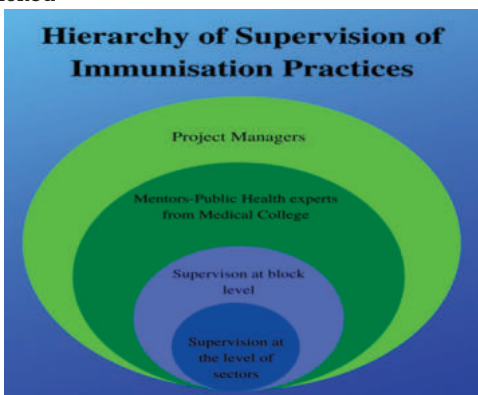


Figure: Hierarchy of Supervision of Immunization Practices

REFERENCES

1. Supervision and Monitoring Health Managers Modules for Immunization. Compiled by NIPi-UNOPS and NCHRC-NIHFW, Delhi, India for Child health managers/Block program managers under NRHM.
2. Immunization Handbook for Medical Officers. Reprint 2017. Ministry of Health and Family Welfare, Government of India.
3. Training for mid-level managers (MLM) 4. Supportive supervision. World Health Organization Department of Immunization, Vaccines and Biologicals (2008)
4. Immunization Handbook for Medical officers (Revised Edition 2009) Department of Health and Family Welfare, Government of India.
5. Immunization Essentials: A Practical Field Guide (October 2003), Technical writing group, USAID
6. Guidelines for Implementing Supportive Supervision A step-by-step guide with tools to support immunization, PATH 2003
7. Making Supervision Supportive and Sustainable: New Approaches to Old Problems MAQ Papers Office of Population and Reproductive Health/Service Delivery Improvement Division USAID
8. Effective Supportive Supervision in Immunization. Health Systems Strengthening Case Study Madhya Pradesh, India April 2020, UNICEF.
9. GAVI. 2019. Baseline Assessment of Gavi supported Health System Strengthening Project, 2017-2021
10. Ministry of Health & Family Welfare and NHM. July 2017. Madhya Pradesh Fact Sheet, Immunization Cold Chain and Vaccine Logistics Network
11. Sample Registration System, Census India. 2019. SRS Bulletin
12. NITI Aayog (2019). Maternal Mortality Ratio. 2014-16. Available from (Accessed 20 January 2019)
13. Indian Journal of Public Health. 2020. Farooqui HH, Zodpey S. Private sector vaccine share in overall immunization coverage in India: Evidence from private sector vaccine utilization data (2012-2015)