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India's successful journey in immunization program

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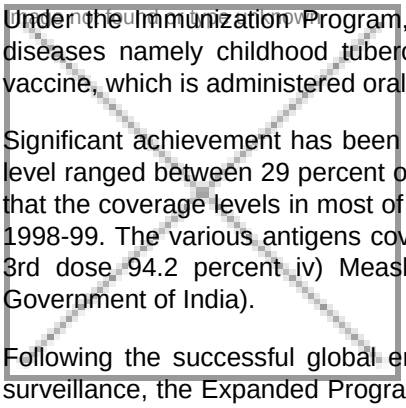
Delivering effective and safe vaccines through an efficient delivery system is one of the most cost-effective public health interventions. Immunization programs aim to reduce mortality and morbidity due to vaccine preventable diseases (VPDs). The Immunization Program was started in India in 1978 as Expanded Program on Immunization. This gained momentum in 1985 as Universal Immunization Program (UIP). It was implemented in a phased manner to cover all districts in the country by 1989-90.



Under the Immunization Program, vaccines are given to infants and pregnant women for controlling vaccine preventable diseases namely childhood tuberculosis, diphtheria, pertussis, poliomyelitis, measles and neonatal tetanus. Except polio vaccine, which is administered orally, all other vaccines are given as injections.

Significant achievement has been made under this program. At the beginning of the program in 1985-86, vaccine coverage level ranged between 29 percent of BCG and 41 percent for DPT. The household survey conducted in 2002-03 has indicated that the coverage levels in most of the districts have been declining with respect to district level coverage reported in the year 1998-99. The various antigens coverage for the year 2004-05 are i) BCG 99.9 percent ii) DPT 3rd dose 93 percent iii) Polio 3rd dose 94.2 percent iv) Measles 90.3 percent (annual report -2005-06, Department of Health and Family Welfare, Government of India).

Following the successful global eradication of smallpox in 1975 through effective vaccination programs and strengthened surveillance, the Expanded Program on Immunization (EPI) was launched in India in 1978 to control other VPDs. Initially, six diseases were selected: diphtheria, pertussis, tetanus, poliomyelitis, typhoid and childhood tuberculosis. The aim was to cover 80 percent of all infants. Subsequently, the program was universalised and renamed as Universal Immunization Program (UIP) in 1985. Measles vaccine was included in the program and typhoid vaccine was discontinued. The UIP was introduced in a phased manner from 1985 to cover all districts in the country by 1990, targeting all infants with the primary immunization schedule and all pregnant women with tetanus toxoid immunization.

UIP

The UIP envisages achieving and sustaining universal immunization coverage in infants with three doses of DPT and OPV and one dose each of measles vaccine and BCG, and, in pregnant women, with two primary doses or one booster dose of TT. The UIP also requires a reliable cold chain system for storing and transporting vaccines, and attaining self-sufficiency in the production of all required vaccines.

In 1992, the UIP became a part of the Child Survival and Safe Motherhood Program (CSSM), and in 1997, it became an important component of the Reproductive and Child Health Program (RCH). The cold chain system was strengthened and training programs were launched extensively throughout the country. Intensified polio eradication activities were started in 1995-96 under the Polio Eradication Program, beginning with National Immunization Days (NIDs) and active surveillance for Acute Flaccid Paralysis (AFP). The Polio Eradication Program was set up with the assistance of the National Polio Surveillance Project.

Routine immunization program

India's immunization program is one of the largest in the world in terms of quantities of vaccines used, numbers of beneficiaries, and the numbers of immunization sessions organized, the geographical spread and diversity of areas covered. Under the immunization program, six vaccines are used to protect children and pregnant mothers against tuberculosis, diphtheria, pertussis, polio, measles and tetanus. It is also proposed to include Hepatitis B vaccine in UIP in a phased manner.

For a complex and extensive program like immunization, an efficient management information system is necessary to get timely reports at the state and national levels. It is also equally important to provide feedback to the states and districts for undertaking management interventions. At present the program has to depend upon routine reports received as part of the reporting under the Reproductive and Child Health (RCH) program. This system provides feedback on coverage data only. Important information regarding the vaccines and cold chain logistics, which are high cost areas does not get captured in the present system and a lot of effort and time is required in getting the critical data on these issues for planning and forecasting requirements and monitoring the status of vaccine supply and availability. To address these issues now and to collect data from district/PHC level, a computer-based monitoring system (RIMS software) is under development for implementation throughout the country. A prototype of this software to assess practical applicability in the field has been developed.

The government has undertaken measures to strengthen the routine immunization program in the country. It has framed a multi-year strategic plan (2005-09) with definite sets of goals, strategies and indicators. "Monitoring immunization" is a major step under the newly launched National Rural Health Mission. Introduction of Auto Disable Syringes to encourage safe injection practices in the immunization sector, also forms part of the new initiatives.

The government has also increased its planned budget outlay for 2005-06 for routine immunization program from Rs 149.23 crore (actual) to Rs 507 crore. However, for Pulse Polio Immunization program, the government has still kept Rs 877 crore as against actual annual expenditure of Rs 924.83 crore in 2004-05, out of the total budget of Rs 6817.83 crore for 2004-05 and Rs 6453.49 crore for 2005-06 for the department of health and family welfare.

Although there is a difference in the estimates of coverage of different vaccines between the government and the world bodies, one has to agree to the fact that India has achieved tremendous success in implementing the immunization program in the last two decades.

India has to emphasize more on preventive, rather than curative solutions. And there is a need to strengthen our public health system, especially at the village level for more coverage and for the successful implementation of the National Immunization Program.