

Polio Eradication in India: Pulse Polio Immunization

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The magnitude of the public health program for the eradication of poliomyelitis launched by the Government of India and the State Governments has few parallels. Over 87.77 million children, including 79.29 million children less than three years of age, were given a dose of oral polio on one day throughout the country on 9 December 1995. In the second round on 20 January 1996 over 93.118 million children including 85 million children less than three years were immunized.

The program reached out to children in more than 5,57,000 villages and nearly 4000 towns. More than 500,000 immunization posts were set up to avoid over-crowding and to ensure easy accessibility, even to children from the remote villages and difficult terrain. More than 2 million persons manned the posts, many of them volunteers from the community and other government departments (Table I).

It is estimated that half the families in the country have a small child and thus directly benefited from the program. Others participated as neighbors, teachers, social workers and responsible citizens. The major achievement of the programme was to bring together all sections of the society, various government departments, voluntary organizations, medical and nursing professional bodies, religious leaders, children

TABLE I—Scale of Operations

Total population	9199,77,300
Estimated number of families	1839,95,460
Number of villages	5,57,137
Number of towns	3,949
Number of children to be immunized	750,00,000 +
Number of immunization posts	5,00,000
Manpower for the posts	20,00,000 +
Oral polio vaccine (doses)	2500,00,000 +
Additional vaccine carriers	1,60,000
Additional day carriers	32,000
Thermocol vaccine carriers	25,100 +

and youth for an activity perceived to be in the interest of the children of the country.

The central and state health ministries provided the logistics support, trained manpower for administration of oral polio vaccine and demand generation for pulse polio immunization. Several high level meetings were held in New Delhi and the state capitals to generate support for polio eradication efforts, assign responsibilities and to make sure that the programme did not fail due to a 'weak' link anywhere. A National Steering Committee under the chairpersonship of the Cabinet Secretary, with the secretaries of the concerned central ministries as members,

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was constituted. Similar State steering committees under the chairpersonship of the chief secretary of the state were also constituted. The initiative for polio eradication was launched in July 1995 with the organization of a national level meeting of the state health ministers' chaired by the Union Minister for Health and Family Welfare.

The Ministry of Health and Family Welfare, Government of India supplied nearly 250 million additional doses of oral polio vaccine and the state health authorities arranged for the storage and timely distribution of the vaccines to all the pulse polio immunization posts. Almost 130 million doses were estimated to have been used on 9 December 1995 and 140 million doses on 20th January 1996.

Pulse Polio Immunization on 9 December was auspiciously flagged off by the President of India, the Prime Minister of India, the Union Minister for Health and Family Welfare, the Minister of State for Health and Family Welfare, Chief Ministers and State Health Ministers from different parts of the country. According to reports received, in all states and union territories, coverage levels in children under three years of age, exceeded 93%. Nagaland with an estimated 99565 children under three years reported coverage of 86%. In all 79,293,998 children under three years and 8,477,345 above three years of age were immunized on 9 December (*Table II*). The proportion of children above three years was around 10% nationally as well as in most states, except in Tamil Nadu where 3.6 million were under three years and 2.5 million above three years. In the second round on 20 January, less than 9% of the total belonged to the age over 3 years.

No major problems were encountered. In some posts there was temporary stock

out of the vaccine which were quickly replenished. In many immunization posts, the peak period was early in the morning around 9 a.m. against the more convenient expected time of around 11a.m. Some supervisory officers on routine rounds to the posts in their areas received an initial rude shock of finding these empty only to learn that all children in the area had been immunized by around 12 noon.

While the programme was monitored through the existing channels of supervisory officers, independent observers were requested to send feedback on the successful implementation of the rounds and to identify areas that will need strengthening in the future rounds. Nearly 1000 forms from independent observers were received and analyzed. The analysis confirms the effective organization of Pulse Polio immunization on 9th December in the 25 states which were visited. (See accompanying article in this section for further details).

The help and support of the community, government departments, NGOs, school teachers, district administration and others was overwhelming and contributed substantially towards the success of the programme. School children actively and enthusiastically participated. They not helped to prepare lists

TABLE II-Children Immunized

Age (yrs)	9 December 1995	20 January 1996
0-3		
Rural	54,358,272	56,254,592
Urban	16,825,403	18,825,867
Total	79,293,998	85,080,459
> 3	8,477,345	8,038,120
Total	87,771,343	93,118,579

of eligible children, spread the message of pulse polio immunization but were also active in bringing children to the immunization posts in their areas.

The World Bank, UNICEF and SIDA are supporting the Child Survival and Safe Motherhood Programme under which high level of immunization coverage has been sustained and over 85% of polio incidence brought under control. The cold chain system has also been established which enabled the effective use of 130 million doses of oral polio vaccine on a single day. Additional financial support for the Pulse Polio Immunization was provided by the Rotary International, the British Overseas Development Agency and the USAID. The funds were used for procuring 50 million doses of oral polio vaccine, IEC activities and for logistic support. The Government of India earmarked an additional Rs 500 million for the pulse polio immunization.

The ultimate success of the pulse polio immunization will be evaluated in its impact on polio incidence and the documentation of absence of clinical cases of poliomyelitis. The surveillance of acute flaccid paralysis and the

strengthening of the differential diagnosis for eliminating polio as a cause of paralysis is an important step in polio eradication activities. Follow-up activities to improve surveillance have been initiated.

Discussions are planned with the concerned state officers so that the experience could be used for the next round at the end of 1996. Some of the areas that could be assessed are: (i) Vaccine utilization rates and if these could be increased through training of non-health personnel or other measures; (ii) Optimal number of immunization posts which would need to be balanced between accessibility, avoidance of large crowds with the rational use of the resources, including vaccine and cold chain equipment; (iii) Assessment of immunization coverage by blocks so that pockets with less than the state/ district average are identified. Special attention is to be given to urban areas where generally overall coverage levels were less than the rural areas; and (iv) The most effective communication channels for demand generation and information sharing so that funds for IEC activities are accordingly allocated.

