

The Andhra Pradesh Partnership Project on Immunization

Summary

The Andhra Pradesh Partnership Project on Immunization's successful use of innovation and technology made Andhra Pradesh the first state in India to protect the vast majority its children against hepatitis B—a major health problem throughout the country. The Project's training and supportive supervision system involving local medical colleges and regional coordinating officers succeeded both in improving the health infrastructure of Andhra Pradesh and in providing policymakers with metrics that paint a clear picture of the need for, and impact of, immunization services. The Project is being replicated in other states in India and provides a transferable model for immunization programs outside the country.

Objectives

Problem. Initial assessments exposed systemic failures of management of immunization initiatives, including:

- insufficient knowledge and skills among health workers
- insufficient on-the-job supervision and monitoring
- insufficient logistics and supplies

Objectives. The Project tackled these problems head-on through a five-year initiative implemented by PATH and the Government of Andhra Pradesh established in 2001 with the following objectives:

- introduce the hepatitis B vaccine as a part of routine immunization
- improve injection safety
- strengthen routine immunization services
- establish a name-based registry for effective immunization status tracking
- provide technical support for the control of Japanese encephalitis in the Andhra Pradesh State

Funding & Sustainability

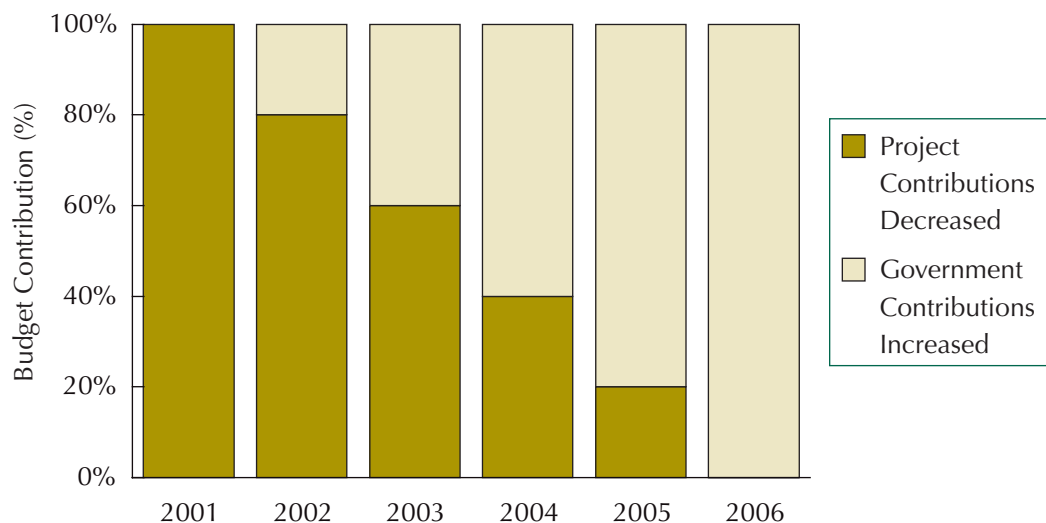
Financial Responsibility Shifted Steadily from the Project to the Government of Andhra Pradesh

- **Project Funding Sources.** Private foundation¹ and state government.
- **Year 1.** Funds for supportive supervision were provided from the Project with the stated aim to secure—and maintain—the long-term sustainability.

¹ Support from the Bill & Melinda Gates Foundation.

- **Year 5.** The State Government covered all recurrent costs for hepatitis B vaccine and auto-disable (AD) syringes.²
- **Post-Project.** After the Project's conclusion in 2006, all activities have continued in full force, managed by Government of Andhra Pradesh, primary health centers (PHCs), and local medical colleges.

Immunization Program Funding Sources, Year 1–5



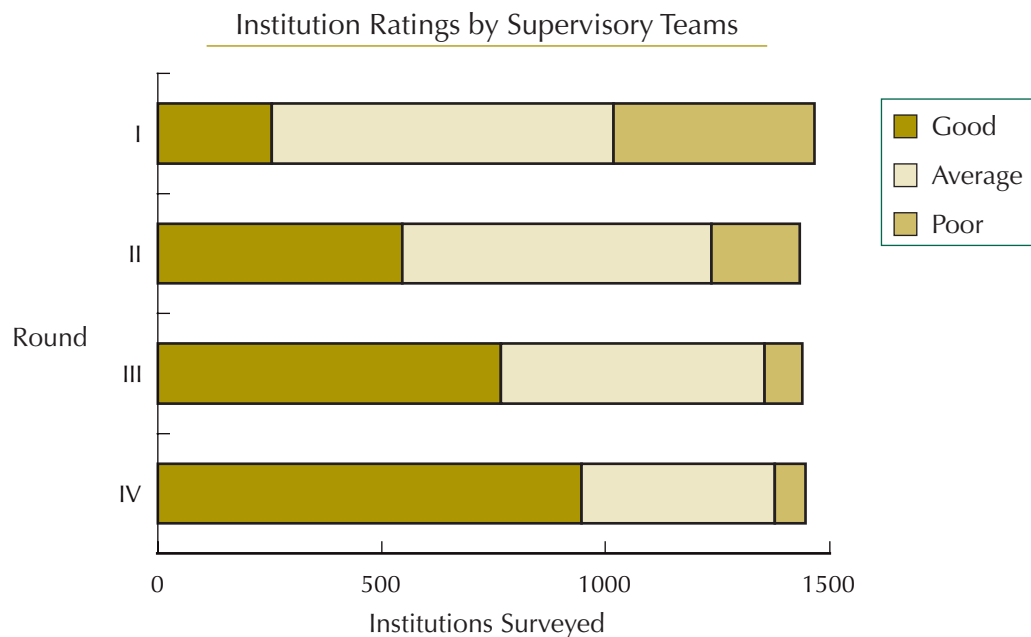
Technology—Leveraging Existing Resources

Hardware	Existing hardware available at the primary health center (personal/desktop computers).
Software	Existing software from Microsoft Office Suites, which had already been installed on all computers.
VCDs	Video CDs (VCDs) containing 25-minute video clips demonstrated the usage of new needle cutters that were introduced to cut the needles properly. Since the PHCs had desktop computers, the Project could run VCD training sessions for the whole staff in each PHC.
Immunization Technology	AD syringes are the immunization delivery system of choice. In 2003 the Project team field-tested needle removers, a new technology designed to remove the needle from a used syringe safely to further reduce risk of accidental needle-sticks.

² Adapted from figure in “Andhra Pradesh: Building a Model Immunization System,” PATH, Seattle, WA, December 2004.

Key Strategy: Supportive Supervision

Project assessments during the first three years revealed that there was no system of supportive supervision to help frontline immunization workers in Andhra Pradesh (AP). Many workers admitted that they had never had a face-to-face visit from higher ups, and they felt they had no experts to guide them in solving problems and utilizing the technologies they had to their full potential. To address this disjointed system, in the fourth and fifth years of the Project, the AP government and PATH introduced a formal process for supportive supervision, outlined below.



Immunization Service Delivery Support

- The Project contracted with three local medical colleges to conduct regular supervision and support visits to primary health centers and immunization sites.
- Six to seven consultants made regular visits to PHCs in each district along with district officials. Visits to a single PHC were planned six months apart and all centers in a district were covered over a 3-4 day period.
- By the end of 2004, approximately 1,400 primary health centers had had at least two supervisory visits.
- The new system was institutionalized to ensure continuation after the end of the project.

Data Capture

- Project staff, consultants from local colleges, and district officials surveyed PHCs and immunization sites using pre-formatted check lists, which they filled out each day.
- Preformatted check lists enabled rapid tabulation of data on quality and performance.
- The supervisory team's data provided a clear picture of how each center was faring against defined indicators and ranges (e.g., very good, good, average, and poor).³

³ These were calculated on a point system of 75, with weighed criteria and the centre is graded as "Good" or "Average" or "Poor".

- Results—As illustrated by the figure titled “Institution Ratings by Supervisory Teams,” the number of institutions ranked “Good” increased significantly from Round I to Round IV.

Training

The supervisory visits also provided training for key health personnel on such tasks as:

- Vaccine Storage Methods
- Waste Disposal
- Stock maintenance
- Computer reporting
- New equipment training (e.g., needle cutters)

Old System Challenges

Sustaining the efficient use of information technology and its adoption was the hardest part of this intervention. Users at the primary health center level needed very simple tools for data collection. Over time, more training and better analytical tools could be incorporated to further address this limiting factor. Field visits during the first three years of the project also indicated some major gaps in routine immunization pertaining especially to holes in:

Planned Session Achievement	Immunization sessions were not planned according to the population load.
Logistics and Cold Chain Handling	<ul style="list-style-type: none"> • Improper vaccine storage resulting in irregular supplies, some health centers with too much stock, and some with no stock at all. • Inconsistent temperature in vaccine storage containers (frozen vaccines)
Injection Safety	<ul style="list-style-type: none"> • Needles reused without proper sterilization. • No disposal system in place for syringes and needles. • Dumping of sharps in open areas exposed the community to the hazardous waste.
Program Management	Management focus on family planning and outpatient department (OPD) areas without any real supervision or monitoring in place for immunization programs.
Adverse Events Following Immunization (AEFI)	There was no specific system that captured or followed-up on the AEFI, which resulted in low levels of preparedness when such events occurred.

New System Benefits

Coverage	Increase in hepatitis B vaccine coverage in Andhra Pradesh from 10% statewide to 60% in some districts. Previously hepatitis B vaccine was available only through the private sector and less than 10% of infants—those from rich and urbanized families—were vaccinated annually. Coverage now ranges from 40-60%, depending on the district.)
Quality and Safety	<ul style="list-style-type: none"> • More effective planning of sessions; • Better cold chain management; • Safer handling and disposal of sharps, and • Improved dropout tracking.
Staff Satisfaction and Effectiveness	<ul style="list-style-type: none"> • Higher levels of satisfaction as a result of increased technical support. • More effective corrective actions and record keeping processes as a result of more accurate records. • Improvements in the technical skills of key primary health center staff, most visibly in the skills and learning of nursing staff—the main health service interface for communities. • Increased awareness about new techniques and the importance of immunization.
Standards	The Supportive Supervision system set up a competitive grading system that rated primary health centers on the agreed upon criteria, which contributed to enhanced local leadership and adherence over time to high standards for effective delivery of immunization services.

Policy Impact

The rapid turnaround of results and tabulation of the data into meaningful, aggregated analysis became a critical tool for policymakers in the short term. These metrics enabled policymakers to understand the need for, and importance of, improved immunization services and support in Andhra Pradesh.

The Project has catalyzed the following policy measures:

- Government decisions pertaining to the introduction of safe injection devices such as Auto Disable syringes, needle cutters, safety pits; and
- Government-approved guidelines on VCDs and posters to educate proper needle cutting techniques and biomedical waste disposal.

Scalability and Transferability

The Project's systematic data collection and regular supportive supervisory visits can be easily transferred to other health programs in the country. The templates and data collection modules are also simple to adapt to other programs. Furthermore, since the technology is easy to use and limited training is required, the Project can be easily replicated. PATH has, in fact, used the same templates for other projects with a few modifications. Additionally, the

Project's immunization checklists are used as an input in designing the Ministry of Health's PHC quality improvement project in Uttar Pradesh, Karnataka, Uttarakhand, Maharashtra, Assam, and West Bengal.

The Government of Andhra Pradesh is extremely enthusiastic about expanding this strategy to other program areas such as family planning, mother and newborn care, TB, and HIV in the health sector. The model has also been shared in different state and national level forums.