

## Original Research

# Birth Dose Vaccination in Private Hospitals and Nursing homes– A Public Private Partnership (PPP) Model implemented in the Urban Areas of West Tripura District

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## ABSTRACT

**Background:** Timeliness of birth dose vaccination is a prerequisite to ensure early protection of the child from vaccine preventable diseases. So, a Public Private Partnership (PPP) Model was introduced w.e.f 25th June 2019 which ensures free of cost birth dose vaccines for all new born delivered at private nursing homes and hospital supplied from government designated cold chain point maintaining strict cold chain system. **Aim:** To ensure timely birth dose vaccination for every newborn in all Private Nursing Homes and Hospital of urban areas of West Tripura district. **Result:** The birth dose vaccination achievement has drastically improved after implementation of the model. 95% babies received Hepatitis B and OPV 0 dose, 42.4 % received BCG birth dose vaccines in the year 2021-2022. **Implications:** This Model has become an integral part under Routine Immunization Program with existing manpower, no additional financial involvement and government private partnership towards health care of children.

## KEYWORDS

Birth Dose Vaccination, OPV, BCG, Hepatitis B

## INTRODUCTION

Immunization is one of the vital public health interventions. Timely receipt of immunization is an essential prerequisite to ensure early protection of the child from vaccine preventable diseases.(1) Vaccine timeliness should be a core indicator of the immunization program with greater focus on groups with higher chances of delayed or missed vaccination i.e. home birth, births took place in institutions other than government hospitals, low birth weight newborns, poor family, children of mothers with lower education.(2) So implementation of birth dose vaccinations as per National Immunization schedule i.e Hepatitis-B (can be given maximum by 24 hours of birth), Oral polio vaccine (OPV) 0 dose (maximum 15 days of birth) and BCG (maximum upto 1 year of age) should be ensured for every new born delivered at private nursing home and hospitals as it assures essential protection against childhood tuberculosis, poliomyelitis and hepatitis B

infection. There is also higher risk of chronic liver diseases if infected with hepatitis virus at birth. A birth dose is the most effective tool to decrease the complications on the long term.(3,4,5) The Government of India has also urged an expanded role for the private sector to achieve universal immunization coverage as universal immunization coverage is still poor in the country. Any tendency to deliver vaccines using the public sector poses many challenges to the goals of Universal Immunization Program. To accomplish improvements, extensive reforms need to be enforced like streamlining vaccine supply chains management, improving health governance and administration, monitoring of the outcome and increasing public demand for vaccinations through effective and massive information–education–communication activities (6,7,8)

**RATIONALE:** There are total 11 private Nursing Homes and 01 Private Hospital in the Agartala Municipal Corporation. As per HMIS report total

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deliveries conducted in private nursing homes and hospital in the year 2019-2020 was 4587 in west Tripura district, which was 23.2% of total deliveries conducted in the district. Out of that only 312 babies (6.8%) received OPV-0 dose and 748 (16.3%) received Hepatitis-B birth dose and 300 (6.5%) received BCG at birth only. All private Nursing Homes and hospitals were not ensuring birth doses. So, a Public Private Partnership (PPP) Model was introduced to ensure birth doses for every newborn in all Private Nursing Homes and Hospital of Agartala Municipal corporation w.e.f 25th June 2019 onwards. This model ensures free of cost birth dose vaccines which are supplied from government designated cold chain point maintaining strict cold chain system.

**AIM:**To ensure timely birth dose vaccination of all new born babies at private Nursing homes and private hospital.

### STRATEGIES FOR IMPLEMENTATION OF THE PPP MODEL

The Public Private Partnership (PPP) Model implementation strategies are as follows-

- **Advocacy Meetings** held with all proprietors and managers of Private Nursing Homes and hospital and resolution taken to start Birth Dose vaccination.
- Indira Gandhi Memorial (IGM) Hospital, a Government recognised cold chain point (CCP) and Hospital was made the “**Vaccine Supply Chain Management Hub**” as it is situated centrally and easily accessible for all private nursing homes and hospital. Vaccines are provided from IGM CCP and transported on daily basis to all nursing homes and the unused or semi used vaccine vials are returned back to IGM CCP on the same day maintaining cold chain system. (Image 3 and 4)
- **Capacity building-** One Day **Certified Training Program** for Vaccinators of all private nursing homes, hospital and cold chain handlers was conducted by District immunization officer West Tripura in 2 Parts— Theory and Practical Demonstration. The training program was technically supported by WHO and UNDP Tripura. (Image 1 and 2)
- **Vaccines and logistics** (vaccine carriers, MCP Cards, syringes) are provided from District vaccine/General store to IGM Hub and from IGM Hub the private nursing homes

and hospital collects vaccine and logistics via Alternate vaccine delivery system.

- For Alternate vaccine delivery 1-2 dedicated trained persons identified from each private Nursing homes and hospital transports vaccines on daily basis maintaining cold chain system. (Image 5)
- **Vaccine supply Chain** is maintained through Electronic Vaccine Intelligence Network (eVIN) and vaccine efficacy is also ensured by temperature loggers attached to Ice-lined refrigerators where vaccines are stored at IGM Hub. (Image 3 and 4)
- **Logistics related to immunization** like vaccine carriers, Mother and child protection cards, syringes are supplied from IGM Hub to private hospital AND nursing homes.
- **Birth dose vaccination-**
  - **Vaccinators** (Medical officers/staff nurses/ANM/GNM) from private nursing homes and hospital ensure **free of cost** vaccination for each newborn within 24 hours of birth and fills up the MCP card. (Image 5, 6 and 7)
  - The babies are later on tracked and vaccinated as per National Immunization schedule by Health care providers of respective health institutions where the baby resides.
- **Reporting-** Monthly HMIS Reporting and Daily reporting in prescribed format is IGM Hub and also there is also a Whatsapp group which is used for sharing reports, queries, Imagegraphs which is monitored by District immunization officer, West Tripura directly. (Image 9)
- **Supportive Supervision and Monitoring-** Team formed under leadership of District immunization officer, West Tripura for monitoring the immunization service delivery and Vaccine preventable disease surveillance at the private nursing homes and hospitals. (Image 10 and 11)
- Roles and responsibilities of Human Resources assigned from both Government and private sectors ([Table 01](#))
- **Massive IEC** was done for public awareness regarding the availability of service through print and social media platforms. (Image 8)
- **Mandatory display** of “Free of cost availability of birth dose vaccines” is to be done in waiting areas in local languages.



**TABLE 01: ROLES AND RESPONSIBILITIES OF HUMAN RESOURCES ASSIGNED FROM BOTH GOVERNMENT AND PRIVATE SECTORS**

Human resources	Government/private sector	Roles and responsibilities
Cold Chain Handlers from IGM Hub	Government	Supply chain management
Alternate Vaccine Delivery	Private	Vaccine delivery
Vaccinators (staff nurses/ANM/GNM)	Private	Vaccination, Record keeping and Reporting
Medical officers and health workers of Health institutions	Government	Tracking of babies at community level
Manager/Proprietor	Private	Reporting
District immunization officer	Government	Supervision monitoring, AEFI and VPD surveillance



Image 1 and 2: Certified Training Program (theory and practical) for Vaccinators and cold chain handlers

Image 3: Logistic management at IGM Hub



Image 4: Issuing Vaccine in eVIN portal at IGM Hub

Image 5: Alternate vaccine delivery system

Image 5: Birth doses of vaccines being administered at Nursing homes



Image 6: Birth doses of vaccines being administered at Nursing homes

Image 7: Giving key messages to mother post vaccination and MCP card filling up.

Image 8: Newspaper advertisement



Image 9: Daily reporting forms submission in Whatsapp group

Image 10: Supportive supervision by District Immunization officer and team, West Tripura

Image 11: Supportive supervision by District Immunization officer and team, West Tripura

**METHODOLOGY**

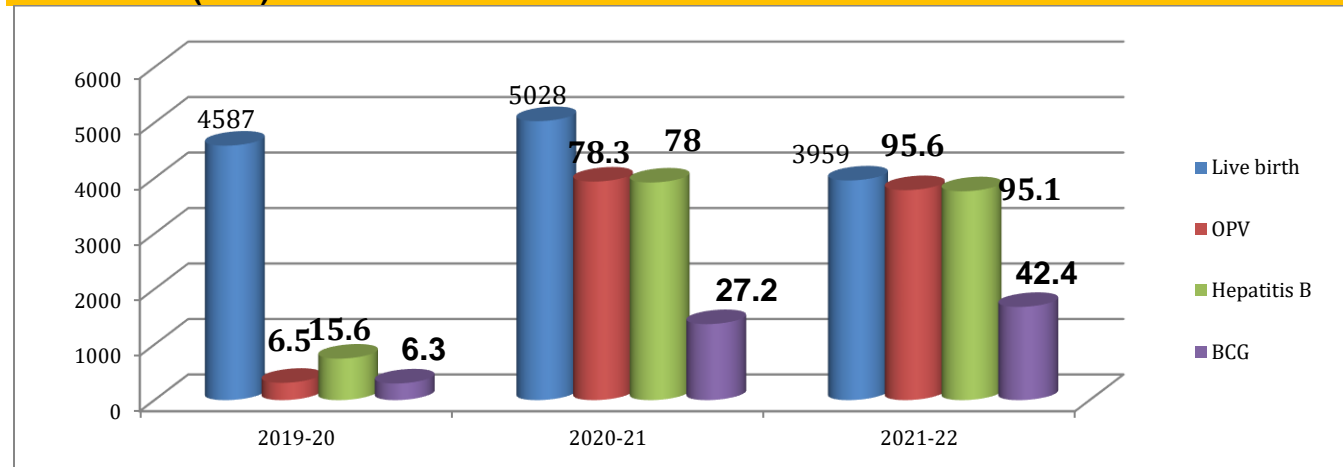
For the purpose of this study, ‘private-sector vaccine coverage’ is defined as the percentage of all vaccinated children who received birth doses of BCG,OPV and Hepatitis B vaccines in private nursing homes and hospitals.

**DATA SOURCES:** Using Health Management Information System (HMIS) data on yearly private-sector vaccine coverage, we have estimated the number of children vaccinated in the private sector in West Tripura district from 2019 to 2022.

**RESULTS**

This initiative has been very advantageous for all newborn as they have been vaccinated with birth doses within 24 hours of birth, which will ultimately help them to avert some dreaded vaccine preventable diseases in their future lives. Moreover the full immunization coverage has also been drastically improved in the district. This Bar diagram shows the improvement of Birth Doses vaccination (OPV 0 dose, Hepatitis-B 0 dose and BCG) in all Private nursing homes and hospital under Agartala Municipal Corporation Area in comparison to their achievement before implementation of the PPP model.(Figure1)

**FIGURE 01: BIRTH DOSE VACCINATION STATUS BEFORE AND AFTER IMPLEMENTATION OF THE PUBLIC PRIVATE PARTNERSHIP (PPP) MODEL**



**FINANCIAL IMPLICATIONS**

- No additional financial involvement as vaccines and other logistics are provided from Government of India under Routine Immunization Program.
- Alternate vaccine delivery system has been set up completely by Private Hospital and Nursing homes.
- IEC activities have been done from IEC approval under ROP under Routine Immunization Program.

**CHALLENGES**

- Low awareness about the initiative in the community.
- BCG vaccination cannot be done as numbers of delivery is very less per day in most of the nursing homes. So considering the vaccine wastage BCG vaccination could not be done but each newborn are tacked at community level and vaccinated with BCG at earliest.

- Voluntary participation of all newly established private institutions should be encouraged.
- Strict enforcement of Clinical Establishment Act to ensure vaccination at all delivery points to be done.

**DISCUSSION**

Studies suggest that Gujarat has achieved good vaccination coverage by involving the private sectors (9,10). Using 1995–96 national household survey data, the study conducted by Howard and Roy (2004) found that the private sector contributed 17% towards BCG, 13% towards DPT3, and 13% OPV3 towards overall (public plus private) vaccination coverage. (11) 10% of all vaccinations in India were in the private sector.(12) Similarly our study results are also showing improved birth dose vaccination coverage involving the private sectors.

**CONCLUSION AND IMPLICATIONS**

- This Model has become an integral part under Routine Immunization Program in

West Tripura district with existing manpower, no additional financial involvement and government private partnership towards health care of children.

- It has potential to be scaled up in the other parts of the district and state to improve the immunization coverage and ensuring birth doses for every newborn.
- Conflict of Interest-NIL

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