WRITTEN ON BEHALF OF AGENCIES TAKING PART IN THE UIP REVIEW:

GOVERNMENT OF INDIA AND THE STATE GOVERNMENTS OF BIHAR, JHARKHAND, MADHYA PRADESH, ORISSA, RAJASTHAN AND UTTAR PRADESH.

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
CARE
CENTERS FOR DISEASE CONTROL (ATLANTA, USA)
CHILDREN'S VACCINE PROGRAMME PROGRAMME FOR ALTERNATIVE TECHNOLOGIES IN HEALTH
INDIAN COUNCIL OF MEDICAL RESEARCH
SHRISTI (ENVIRONMENTAL)
UK DEPARTMENT FOR INTERNATIONAL DEVELOPMENT
UNITED NATIONS CHILDREN'S FUND,
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
WORLD HEALTH ORGANIZATION

Universal Immunization Programme Review

(25 August to 8 September 2004)

BIHAR

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2. BACKGROUND

Bihar is located in the north of India. The neighbouring states of Jharkhand and Uttar Pradesh also have low coverage (<30%); but Bihar's coverage rate is less than half that of its neighbours.

DEMOGRAPHY (DATA FROM 2001 CENSUS)
Total 2001 population was 82 998 509, making it the 3rd most populous state in India. The population growth was 28% since the 1991 census; the 11th highest growth rate of the 35 States and Union Territories; the 2nd highest of large States (>2.5 million population).

Bihar population is 90% rural (72% for India). The overall gender imbalance is the 14th worst of the 35 States and Union Territories with 919 females for every 1000 males (933 per 1000 for India). Overall literacy rate is 47% (65% for India), with substantial female educational disadvantage as shown by a male to female literacy rate ratio of 1.8 (1.4 for India). Children aged under-five-years comprise 13% of the Bihar population (11% for India).

IMMUNIZATION
The Universal Immunization Programme (UIP) is a national programme established in 1985, built upon the Expanded Programme on Immunization (EPI) started in 1978. The UIP is delivered as part of the Reproductive and Child Health (RCH) programme. Private practitioners also deliver the UIP and offer additional vaccines.

The UIP had its last comprehensive review in 1989, with more recent but less comprehensive reviews undertaken in 1999. The 2004 UIP review was undertaken in six States. Bihar was selected because it is a state with very low immunization coverage.

STATE IMMUNIZATION PERFORMANCE
There is perceived political pressure for districts to report over 90% coverage, as this is one of the '20 points' for which each district is assessed. As a result reported coverage has become unreliable, especially in states with low coverage. For example, 2001/2 BCG coverage in Bihar was reported at 60% compared to evaluated coverage of 32%.

Coverage performance is thus assessed through surveys. UNICEF conducted national cluster surveys covering most or all states every year from 1999 to 2002. Bihar's data shows awful perfromance with both extremely poor access with very high dropout. Estimated full immunization rate in Bihar was 13%, 13%, 10%, and 12% for 1999, 2000, 2001, and 2002, respectively. Dropout contributes to the problem, as shown by the BGC to measles dropout rate of 53%, 44%, 58%, and 65% for 1999, 2000, 2001, and 2002, respectively. However, access is the major problem as indicated by BCG coverage rate of 33%, 37%, 32%, and 39% for 1999, 2000, 2001, and 2002, respectively.

In 2001, Bihar contributed 2.6 million unimmunized infants to the pool of susceptible children: the 2nd largest in India. [Estimate from 2001 coverage survey and 2001 census]

BACKGROUND FOR DISTRICTS VISITED
Kishanganj District has a population of

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THE KEY RECOMMENDATIONS TO STRENGTHEN ROUTINE IMMUNIZATION

1. **Fund Flow:** Provide clear guidelines and flexibility for utilizing existing funds at all levels.
2. **Inter-sectoral Coordination:** Engage PRI, ICDS, literacy workers and the private sector to tap their potential.
3. Improve **cold chain and logistics** management by providing sufficient additional funds at regular intervals for mobility of vaccine and logistics and running the cold chain (i.e., POL for vehicles and generators, icepacks (or ice from factories).
4. Develop and implement **supportive supervision** [1] to monitor and train staff.
5. Rationalize **human resources,** hire staff on contract (e.g., ANMs, Mos, drivers, etc.) to fill vacant posts and pay salaries on time.

[1] Monitoring to include regular review of performance and managerial data; training is needed at all levels, using modular learning materials and simple tools/job aids

1. SUMMARY

Immunization coverage in Bihar is abysmal with services in dire condition.

Nevertheless, there are some bright spots. The team was impressed with how much is being achieved in spite of difficult work conditions. Many lower level staff are working hard and trying their best without much support.

This report provides many practical and low-cost organizational, managerial and technical suggestions that (after discussion, debate and implementation by State and District staff and their partners) should improve routine immunization coverage and quality, by using the existing resources and infrastructure. Expanded vision and critical thinking are needed.

The review team believes that at present the immunization program is too narrow.
In a poor-performing state like Bihar with many competing priorities, the immunization program seems to be viewed from below as something of an external imposition.

In a country as huge and diverse as India, with many administrative layers, the review team is convinced that authority and decision-making must become more decentralized and more flexible to bring about ownership at each successive level down the system. Rather than issuing instructions/orders that may de-motivate people and lead to passivity and fatalism, the program at central and state levels should encourage local problem-solving at district and block levels, so that customized approaches are identified and implemented to address local problems.

At all levels, more focus is needed to concentrate on getting the program to work at the most peripheral level by strengthening the links between the ANMs and the communities they serve. With limited resources, the health sector must broaden its vision and partner with other programs that have enormous human resources already present in the communities. For example, the ICDS has a work force nationwide of nearly 600,000 community-based AWWs who each cover 1000 population, conduct regular name-based head counts, and have a stated program objective of improving immunization coverage.

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GLOSSARY & ACRONYMS

AD	Auto-Disabled syringe
AEFI	Adverse Events Following Immunization
ANM	Auxiliary Nurse Midwife: key health worker delivering UIP and other primary health care
AWW	Anganwadi worker
AWC	Anganwadi centre
BDCS	Border District Cluster Strategy
BCG	Bacille Calmette Guerin; vaccine against tuberculosis
CDC	Centers for Disease Control (Atlanta, USA)
CIP	Coverage Improvement Plan
CSSM	Child Survival Safe Motherhood
CVP PATH	Children's Vaccine Programme – Programme for Alternative Technologies in Health
DFID	UK Department for International Development
DIO	District Immunization Officer
DPT	Diphtheria, Pertussis and Tetanus vaccine
DT	Diphtheria & Tetanus vaccine
EAG	Empowered Action Group of States
EPI	Expanded Programme on Immunization: WHO programme adopted by countries.
EU	European Union
FI	Full immunization or fully immunized
GoI	Government of India
IAP	Indian Academy of Paediatrics
ICC	Interagency Coordination Committee
ICDS	Integrated Child Development Scheme
IEC	Information Education and Communication
ILR	Ice-lined refrigerator: used for storing vaccines.
IMA	Indian Medical Association
IMR	Infant Mortality Rate
INCLEN	Indian National Clinical Epidemiology network
IPC	Inter Personal Communication
ISP	Immunization Strengthening Project (World Bank Supported)
LHV	Lady Health Visitor
MMR	Measles, mumps and rubella vaccine
MNTE	Maternal and Neonatal Tetanus Elimination
MO	Medical Officer
MYP	Multi-year plan. The strategic plan for the UIP covering 2005 to 2010.
NGO	Non Governmental Organization
NIHFW	National Institute of Health and Family Welfare
NNT	Neonatal Tetanus
NPSP	National Polio Surveillance Project
NTAGI	National Technical Advisory Group on Immunization.
OPV	Oral Polio Vaccine
PHC	Primary Health Centre
POL	Petrol, Oil and Lubricants
PPC	Post Partum Centre
PPI	Pulse Polio Immunization
PRI	Panchayati Raj Institute
RCH	Reproductive & Child Health
RED	Reach Every District strategy
SC	Sub-centre (of the PHC)
SITF	State Immunization Taskforce
TT	Tetanus Toxoid vaccine
UIP	Universal Immunization Programme. The Indian National Immunization Programme
UHC	Urban Health Centre
UNICEF	
USAID	

ACKNOWLEDGEMENTS

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CARE,
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WORLD HEALTH ORGANIZATION

ANNEX 2 : TEAM MEMBERS, ITINERARY, AND PERSONS MET

TEAM MEMBERS

TEAM 1: (TRAVELLED TO STATE LEVEL AND AURANGABAD DISTRICT)

Dr. S. Vivek Adish, NIHFW, Delhi
Dr. Sumant Mishra,WHO, Ranchi
Pranita Achyut, UNICEF, Delhi
Dr. Robert Steinglass, USAID Global Immunization Project, Washington

TEAM 2: (TRAVELLED TO KISHANGANJ DISTRICT)

Dr. Sanjay Rai, AIIMS, Delhi
Dr. R.K. Pal, WHO, Delhi
K.A. Balaji, CVP at PATH, Delhi
Dr. Narayan Gaonkar, UNICEF, Karnataka

DATES OF REVIEW IN THE FIELD
28 August to 6 September 2004

State: DFW, Patna Medical College Hospital (cold stores at Public Health Institute)		
District	Aurangabad	Kishanganj
Block PHCs	Madanpur and Goh	Kochadhaman, Bahadurganj, Kishanganj (Belwa), Thakurganj, Pothia, Chatargarh-FRU
Additional PHCs	Bangare in Madanpur, Uphara in Goh	Damalbari, Alta & Gangi.
Sub-centers	Manika in Madanpur; Dadar and Murwan in Goh	Deramarhi & Kanhiabar, Belwa, Halamala, Ghachpara, Taibpur, Patesari, Singhari Gobindpur & Chanamana
Other	CDPO in Madanpur, BDO in Madanpur, Khiriwan Dharamsala vaccination site in Madanpur, Red Cross (Sadar Hospital)	NGO-Raahat, & Koshi Vikas Parishad Village Panchayati Raj team comprising of

PLACES VISITED

PEOPLE MET

State of Bihar:

Dr. R.K. Choudhary, State Immunization Officer, Government of Bihar
Mr. S.S. Verma, Secretary, FW, Government of Bihar
Dr. Vijayakumar Moses, Project Officer (Health and Nutrition), UNICEF
Dr. Shivanand Sinha, Deputy Director (Training), FW, Government of Bihar
Mr. Ashok Kumar Moti, Deputy Director (Mass Education & Communication), FW, Government of
Bihar
Dr. Dewan, SIHFW
Cold Chain Officer
Dr. Rajeev Gera, Regional Coordinator, WHO NPSP, Patna

1,406,657 with 52,609 children under 12 months of age. The birth rate for the district is 37.4 and the death rate is 9.2 per thousand. Most immunization sessions are held only within the block PHC and very few are held at sub center level. Even at block level, some PHCs have not held a single immunization session in the past year. The present reported immunization coverage for fully immunized children is only 3.2% (calculated from coverage data provided by the district). Detailed antigen-wise coverage rates are given in the data analysis section. The dropout rate from BCG to measles is 64.5% and from DPT1 to DPT3 is 43.2%. A micro-plan for routine immunization was developed in 2003.

Aurangabad District has a population of 2,055,084, according to the District statistician (computer) with 53,000 children less than 12 months of age. However, the target for less than 12 months last year available at State level was around 72,179. The birth rate is 36.0 per thousand. Most immunization is conducted through outreach, supplemented by sessions at the block PHC. The present reported immunization coverage for measles is 42% (calculated from the coverage data provided by the district and using the denominator of 72,000). The dropout rate from BCG to measles is 45% and from DPT1 to DPT3 is 19%. A micro-plan for routine immunization was developed in 2003.

3. METHOD

The review provides qualitative and selective information on the immunization programme. It is not intended to be either quantitative or statistically representative. The aim was to identify strengths, weaknesses, and bottlenecks to develop practical strategies for improving routine immunization. The review also aimed to help prioritise implementation of the multi-year plan (MYP: the 2005-2010 strategic plan).

The state review was undertaken following a protocol and questionnaires developed by the national UIP review team. Annex 1 details the protocol. Aurangabad and Kishanganj districts were each visited by one team, with the first team also visiting the State Headquarters. Annex 2 details the team members, their itinerary, and the main persons met.

More facilities were reviewed than in the protocol to get the requiste information. The Kishanganj team was also able to visit additional blocks (not on original list). Specific functions, such as delivery of vaccine and icepacks from the district to the block and early morning collection of vaccine by ANMs were also observed. The interviews were typically conducted with one member leading the discussion and the second member recording information and observations. To elicit common information from ANMs, a focus group discussion was held.

More detailed observations and recommendations made by the teams are in Annex 3. These observations, the completed questionnaires, and discussions between team members generated up to three successes, barriers, conclusions, and recommendations for:

- Strengthening routine immunization at every level (section 4)
- Eight technical areas of protocol, to aid
  Prioritisation for the MYP (section 5)

Further discussion led the team to agree on up to five key recommendations to strengthen routine immunization (presented in the summary); and the priority actions for the MYP (section 5).

The teams prepared a state presentation summarising the findings and initial recommendations (Annex 4). National level discussion with the other teams, and subsequent synthesis were used to finalise the state report.

ANNEX 1: METHOD USED FOR THE UIP REVIEW OF SIX STATES

The national UIP review team developed the methodology, and recruited 56 national and international experts (in a range of areas) to participate in the review in 13 teams reviewing six states (two in each State and three in UP). The 56 experts represented the GOI (4); CARE (6); CVP PATH (2); DFID (1); USAID (3); EU (1); CDC (2); UNICEF (13); WHO (13); STATES / ACADEMICS (10); and SHRISTI (1).

Questionnaire modules for each level (including for urban and rural health facilities and for private physicians) provided a framework to elicit information and guide observations in a standardised way. The national team developed and pre-tested questionnaires to cover eight technical areas relevant to the multi-year plan.

The teams' primary information source was through observation and questioning (as per the questionnaires). Immunization sessions were observed including at outreach sessions, wherever possible. However, the opportunity to observe sessions was limited, so most observations were based on records and the overall situation of each facility, and from discussions with the health workers. Observations included review of immunization records and reports, vaccine stocks and storage, injection supplies and disposal. Records were used to provide additional insights and validate information given to the teams, and to cross check data (eg, coverage and vaccine utilisation data).

In addition, where possible, teams sought information from the community (mothers) and local representatives (e.g. *Gram Panchayats)* to understand their perception of the immunization services and their perceived needs

Each team was designed to include four (and in some cases five) individuals with a range of knowledge and skills to provide a comprehensive review of immunization in each district, and at the state level for one of the teams. Within each district, the team split into two to assess two blocks per district. The national team pre-selected the two districts to be reviewed in each State (three for UP): one with high coverage and one with low coverage (from those districts included in the 2002-3 coverage survey data).

Each team randomly selected two blocks to review. The selection was not from all the blocks, but from four blocks pre-selected by the national team. After reviewing the block Primary Health Centre (PHC), one randomly selected PHC in that block, and two subcentres (SCs) of the PHC were to be reviewed by each half of the team.

Each team had a briefing and debriefing at State and District levels, as well as giving feedback to all sites visited. The two (three for UP) teams consolidated their findings in their feedback to the state at the end of the visit. All teams shared their findings in Delhi to come to a consensus on the key recommendations for national level.

	SUCCESSES	BARRIERS	CONCLUSIONS	RECOMMENDATIONS
TRN	one district. ▪ Staff mostly want to improve performance, despite tough working conditions. ▪ Most ANMs trained on UIP in one district last year, but still need reorientation training	are vacant/ absconded. ▪ Shortage and unequal distribution of ANMs. ▪ No supervision at any level; training opportunity at regular meetings not used. ▪ Training on UIP only as part of RCH: not enough on UIP. ▪ Not using simple tools.	staff. ▪ Inadequate staff for workload. ▪ Low morale: late payment and no feedback. ▪ Most ANMs need training on all aspects of UIP [2]. ▪ Previous trainings do not appear to have been sufficient.	ANM work load & place additional AMN if required. ▪ Recognize/reward good performance ▪ Develop training materials and simple tools/job aids and implement training [2]. ▪ Test feasibility/effectiveness of video to teach injection technique. ▪ Involve private practitioners in Govt training programs.
IEC	▪ Demand for immunization exists. ▪ PRI eager to support and	▪ Little attempt to engage community resources/	▪ Scope for further	▪ Develop social mobilisation plan that engages community resources to inform and mobilise communities (incl. forming a community team for mobilisation); DM to use Panchayat

NOTES:

[1] Register using AWW's name-based head counts; use standard register and other simple tools to track newborns and beneficiaries together with AWW; simplify and facilitate reporting; use cumulative monitoring graph at block level and above for monitoring and feedback.

[2] Training should be through supportive supervision (on-the-job training). ANMs, Block officers, AWWs, MOs attend regular monthly/weekly meetings. These meeting are opportunities for training that should be used. Areas where training is the priority include injection safety; injection technique; record keeping, tracking; and micro planning.

4. STRENGTHENING ROUTINE IMMUNIZATION

The state review team identified up to three key successes, barriers, conclusions and recommendations for strengthening routine immunization, for each level. (Annex 3 includes more detailed observations and recommendations, as well as some illustrative case studies)

	SUCCESSES	BARRIERS	CONCLUSIONS	RECOMMENDATIONS
STATE	▪ Coverage data available. ▪ Cold chain maintained. ▪ Health workers mostly motivated, despite constraints.	▪ Poor implementation: rigid system and poor management. ▪ Policies not clearly Articulated. ▪ Lack of funds; available funds not used; salaries not paid; ANM travel allowance not paid.	▪ Potential to better use existing resources; and more benefit from PPI. ▪ Poor quality of services;. ▪ No use of data at any level; inadequate supervision and monitoring.	▪ Encourage local solutions for each level (and flexible fund release) to reach every child, and use AWW register to ensure no left outs or dropouts. ▪ Include routine immunization in an expanded State immunisation core group (e.g., PRI, ICDS, etc.). ▪ Develop an operational approach at block level to improve coverage [1].
DISTRICT	▪ Micro-plan available ▪ Good system design; data are collected. ▪ Most ANM positions filed in one District.	▪ Unfilled positions (one district); vaccine shortages in 2003/4; power cuts; delayed CC equipment repairs. ▪ Limited coordination. ▪ Programme costs not covered.	▪ Change in management approach needed. ▪ Focus on inputs instead of Outcomes. ▪ Potential to better use private practitioners.	▪ Improve resource use through better planning and coordination (e.g., engaging *Panchayat Samiti* and others to focus on UIP) . ▪ Strengthen supervision; upgrade block officers at regular meetings [2]. ▪ Alternate ice pack freezing facility, running of gen set.
URBAN	▪ Private practitioners providing UIP vaccines. ▪ Private hospital provides high quality service, including injection safety.	▪ Private not reporting statistics and storing vaccines without temperature monitoring.	▪ Sale of other vaccines can attract people for UIP vaccines.	▪ Involve interested private sector practitioners in Government training programs.
PHC	▪ Regular staff meetings. ▪ Waste disposal good at some sites. ▪ Local innovation on staff rotation and vaccine collection at some sites.	▪ Lack of coordination with DMC/ICDS. ▪ 30% sessions missed ▪ Cold chain equipment mostly non-functional (lack power/POL/maintenance)	▪ Poor planning, implementation, and monitoring of services which are thus variably delivered and generally of poor quality.	▪ Improve coverage [1]. ▪ Use meetings for planning, monitoring and training [2]. ▪ Health representative should attend monthly ICDS meeting ▪ Alternate ice pack freezing facility, running of gen set.
SC	▪ Microplans in place; registers mostly used; cards used. ▪ AWWs have name-based head counts.	▪ Lack/poor use of tools to identify & track infants. ▪ Failure to inform and mobilise community. ▪ Poor injection technique	▪ ANMs need supportive supervision; materials (e.g., monitoring charts and registers) ; and resources to improve their service.	▪ ANM & AWW to coordinate registration & follow-up; use tally sheets for monthly reporting.

Notes:

[1] Coverage improvement should be a sustainable, low resource and replicable operational approach to improve coverage block by block (i.e. working at the lowest administrative level). Efforts need to initially focus on only one or a few blocks to work out the best approach to implement in each area. The basic principle is that in RED strategy: to use data, community links, and supportive supervision to increase coverage supported by simple tools, job aids for planning, monitoring, registration and follow-up of births and drop outs (such as the cumulative monitoring graph for systematic feedback, the work plan to plan and monitor the number of sessions held). The network of SMO could help develop and monitor efforts, and to strengthen active system of monitoring, data analysis and use at each level of collection.

[2] The regularly scheduled meetings should be used for training to upgrade skills; training needs to be skills-based using adult learning techniques and using simple modular learning materials

5. PRIORITY AREAS FOR IMPLEMENTATION OF THE MULTI YEAR PLAN

The state review team identified up to three key successes, barriers, conclusions and recommendations on eight technical areas, detailed below. From these (and the complete set of observations and detailed recommendations, detailed in Annex 3), the national team identified priority actions from a subset of the recommendations. With many potential priorities, the final list was limited to feasible actions most likely to have an impact in relation to the overall goal protecting children from disease.

Each priority action was linked, if possible, to one of the 20 objectives in the MYP. The objectives are numbered and given a short title here, with the full description and associated goal in Annex 5. Implementing the priority action for that

PRIORITY ACTIONS	MYP OBJECTIVE
1. Provide support to help each district, block, PHC, and SC develop coverage improvement plan (CIP) (see Table 4, footnote 1)	1.1: regular sessions
2. Develop and provide simple tools and job-aids to register newborns and track each child, and to monitor progress, and to validate coverage	6.3: coverage monitoring
3. Provide flexibility of funding and clear instructions for operational costs	1.1: regular sessions 3.1: adequate finance
4. Ensure that staff attend their duty station; recognise/reward good performance; use contracted staff to cover vacant positions. Develop supportive supervision to provide monitoring and on-the-job training, and use regular meetings as training opportunities using modular learning materials	1.2: adequate staffing 1.1: regular sessions

objective provides a focus for implementing the MYP

In the table describing the eight technical areas, the abbreviation use is in square brackets:
Service delivery & injection safety [DEL]; Surveillance & monitoring [S&M]; Vaccine distribution & logistics [LOG]; Programme management [MGT]; Cold chain

	SUCCESSES	BARRIERS	CONCLUSIONS	RECOMMENDATIONS
DEL	▪ AWWs present at immunization sessions. ▪ Immunization registers used at some sites. ▪ awareness of injection safety; and practice in some areas.	▪ Operational guide lines not available. ▪ No plans to serve hard-to-reach; plans not adequate; no flexibility/innovation. ▪ Unsafe injection (and disposal) common from lack of supplies.	▪ Huge unmet demand (and resentment) in community. ▪ Health workers cover UIP costs from own pocket some tomes. ▪ Male Health Workers positive for delivery; poor supervision.	▪ Plan sessions rationally, and ensure that they are held as planned, at user-friendly sites. ▪ Provide ANMs needed supplies (incl. ADs) & funds to safely deliver UIP. ▪ Develop block level operational approach to improve coverage [see section 4 table].
S&M	▪ Coverage data are collected and largely available for review ▪ Immunization cards available and used. ▪ AWW Head count of target population.	▪ Denominators unknown or inaccurate; catchment areas not linked to Panchayat pop. ▪ Reported coverage data inflated; no tracking. ▪ VPD and AEFI not reported.	▪ Lack of supervision, support, monitoring, analysis & feedback at all levels. ▪ Data not used for fed back at any level for planning and management.	▪ Provide simple tools for ANM to register and track [1]. ▪ Use CNA for setting targets & should be reviewed, followed at all levels. ▪ Rationalise and make more effective use of meetings (to train, monitor & coordinate); DM meet quarterly to review performance.
LOG	▪ Sufficient, uninterrupted supply since April 04 ▪ Extra vaccine depot in 2 blocks aids ANM collection	▪ Supply interruptions for several months in 2003 ▪ No funds/driver to use available vehicles. ▪ Microplans not used to improve logistics.	▪ PHC and SC staff would welcome any initiative for alternative vaccine delivery. ▪ Innovative use of available transport resources can overcome constraints.	▪ GOI provide funds for vaccines delivery to immunization site. ▪ Better use existing District and PHC resources for vaccine delivery. ▪ Ensure all antigen are available at all sessions & .Vaccinate all children attending the sessions.
MGT	▪ State Cell created for UIP; State task force meetings held weekly (mainly for PPI). ▪ Good organization in some places; microplans in place. ▪ Data collected at each level.	▪ Lack of funding for few key area &; available funds for identified areas not used; delayed salary payment. ▪ Data inaccurate and not used for planning ▪ Rigidities prevent appropriate local solutions	▪ Operational costs devolved but unfunded;Fund flow is a problem ▪ Missed opportunities for coordination with other sectors (incl. Private). ▪ Too many meetings: interfere with service delivery.	▪ Increase managerial capacity, funding, and administrative flexibility that focuses on outcomes. ▪ Improve data quality and use for programme management. ▪ Improve effectiveness of meetings for training and monitoring; reduce unnecessary workload of staff; improve coordination for routine immunization.
CC	▪ State cold chain room has good power supply. ▪ Inventory of equipment needing repair. ▪ CC infrastructure at district level; equipment mostly functioning; temp records kept.	▪ Power cuts and generators non-operational (not funded/maintained). ▪ Delays in repairs; lack of trained staff for CC. ▪ Private sector CC - no temperature records.	▪ Innovative logistic solutions in some areas to overcome cold chain constraints. ▪ CC and logistic failures lead to immunization sessions not being held.	▪ Provide sufficient POL and fund for maintenance of cold chain equipment and generators. ▪ Provide flexibility and clear guidelines to use of funds to maintain CC and procure ice.
HR	▪ ANM rotation plan in one district. ▪ ANM positions mostly filled in	▪ Many state and district level posts for UIP unfilled. ▪ In one district, half MO posts	▪ MO's absence means no supervision or motivation for	▪ Ensure MO attends duty regularly; fill vacant posts with contracted staff if required. ▪ Replenish staffing levels (,Rationalize

- Ample opportunities to upgrade ANMs and block officers during regularly scheduled meetings at minimal cost are not utilized.
- Most of the MOs and ANMs have received some sort of training a couple of years ago in one of the visited districts, which does not seem to be sufficient.
- Most of the ANMs need instruction in topics such as injection safety, injection technique, record keeping, beneficiaries tracking and use of microplanning.
- There is very little coordination with other departments such as PRI, ICDS and Education. However, if properly coordinated, they have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).

4. PHC

3.1 OBSERVATIONS

- One hospital was willing to work with government in providing some support to outreach immunization services in the district. Regular daily immunization services are provided free of cost with Government-provided vaccines at the one observed medical college hospital.
- Injection safety is exceptionally being maintained by one private practitioner, using disposable syringes and safely disposing the used syringes through the regular hospital waste incinerator.
- Trained dedicated staff are available for immunization and ANC services at one of the private hospitals in one of the visited districts.
- Use of domestic refrigerators by private practitioners may lead to gaps in the cold chain. Also, there is no temperature record being maintained and services statistics are not reported to authorities.
- High quality regular services provided in the presence of a senior doctor attract good number of beneficiaries (both poor and well to do).
- Optional expensive vaccines are being provided on a payment basis to those who can afford, thus helping the hospital attract beneficiaries and generate revenue. This can be a good model for more private practitioners to also provide "traditional"

4.2 RECOMMENDATIONS

- Seek organizational and managerial solutions from workers for improving performance even within the existing low levels of resources.
- Block meetings should be used to identify and target hard to reach areas with financial support provided; identify and solve local problems; plan to reach uncovered populations; monitor achievements against targets; and agree on effective messages to give the public.
- Block should decide which microplan to follow to rationalize the location, number and frequency of vaccination sites based on such factors as workload, distance, density, and population.
- Provide funding for transport of vaccine, mobility for supervision, and maintenance of cold chain needs to be regularized at each level.
- Supervision strengthened to provide proper direction and feedback. Ensuring the availability of posted doctors is key to the success of this.
- Ensure there are no missed vaccination sessions, so as to maintain the confidence of beneficiaries and community leaders and thereby boost coverage levels.
- ANM should select site within designated village that is convenient for public.
- Introduce cumulative monitoring graph for systematic feedback, along with number of sessions held versus conducted.

AURANGABAD DISTRICT

Mr. S.S. Thakur, District Magistrate
Dr. Uma Shankar Prasad Srivastava, Civil Surgeon
Dr. Shailesh Yadav, SMO, NPSP, WHO
Dr. Chandra Shekhar Prasad, private pediatrician,
Aurangabad
Dr. D.K. Choudhary, Medical Officer I/C, Madanpur
Block
Dr. Baijyanath, Singh, Medical Officer, Teldiha APHC,
Madanpur Block
Dr. Y.N. Prasad, Medical Officer, Madanpur Block
Dr. R.B.Agrawal,MO I/C Haspura.
Dr. A.K.Gupta ,MO Aurangabad Urban.
Dr. S.M.Ashraf,MO I/C, Nabinagar
Dr. Meena Kumari MO I/C Kutamba.
Mr. P. Pandey ,D.W.O. Aurangabad,
Mrs.Sangita Kumari ,C.D.P.O. Haspura
Mrs. Manju Rani, CDPO Kutamba and Nabinagar,
Mr. Satyender, CDPO Barun,
Mr. D.I.Khan, CDPO Rafigang,
Mrs.Majda Khatoon, CDPO Madanpur and Deo
Mr.A.N.Roy,Electrical Executive Engineer,
Mr.G.P.S ingh,Asstt. Electrical Engineer,
Mr. Anil Kumar Singh, Pharmacist (looking after cold chain), Madanpur Block
Mr. Devendra Kumar Singh, Computer, Madanpur
Block
Mr. Arun Kumar Singh, Basic Health Inspector, Madanpur Block
Mr. Kapildeo Mahto, Block Development Officer,
Madanpur Block
Ms. Majda Khatoon, CDPO, Madanpur Block
Mr. Shashi Kant, Health Educator, Madanpur Block
Mrs. Basanti Devi, Lady Health Visitor, Madanpur Block
Mr. Sidhnath Sahu, Mukhia, Khiriwan Panchayat, Madanpur Block
Ms. Kunti Devi, ANM, Khiriwan Panchayat,

KISHANGANJ DISTRICT

Mr. A. Senthil Kumar, IAS District Magistrate, Kishanganj
Dr. Bhagwan Majhi Acting Civil Surgeon, Kishanganj
Dr. S.M.Mishra Acting District Immunization Officer
Dr. Rafat Hussain MoIC, Pothia Block PHC
Dr. Shabbir Ahmad, MO, Pothia block PHC
Dr. Manjhar Alam MoIC Tahakurganj Block PHC
Dr. Dinanath Poddar MoIC Kochadhaman Block PHC
Dr. R.P.Yadav MoIC, Bahadurganj Block PHC,
Dr. R. Y. Singh-MO I/C, Chatarpur FRU
Dr. Lalan Kumar Rai , Surveillance Medical Officer,
NPSP,Kishanganj
Dr. Dinanath Poddar, acting MoIC,
Dr.R.P.Yadav,MoIC,
Dr. Naval Kishore Prasad, MoIC, Gaqngi, Jagat Pandey,
Mr. Shrikanth Sharma Computor & head clerk
Mr. Gulab Prasad Gupta, Cold Chain handler
Md. Rustam Ansari, Health Worker(Male)
Sudarshan Lal Das, Clerk
Urmila Kumar, LHV
Shipra Sarkar, LHV
Vandana Chakraborty, LHV,
Sumitra Devi, LHV,
Sandhya Dhar, ANM.
Baby Rani Ghosh, ANM.
Sutapa Rai, ANM.
Manju Kumari, ANM.
Kalpana Das, ANM.
Majumdar Kalyani, ANM.
Kalpana Das, ANM.
Santi Sinha, ANM.
Rekha Rai, ANM.
Urmila Kumari, ANM.
Usha Rai, ANM.
Mona Kumari, ANM.
Nirodha Das, , ANM.
Sarda Kumari,, ANM.
Savitri Upadhyay, ANM
Sneh Lata Sharma, ANM
Rustam Ansari, Health Worker(Male)
Majumdar Kalyani, ANM
Mrs. Sajoga, ANM.
Mrs. Manjula Ram-A Grade Nurse,

Madanpur Block
Mrs. Nirmala Devi, AWW, Khiriwan Panchayat, Madanpur Block
Mr. Ramanand Goswami, Member, Panchayat Committee, Khiriwan Panchayat, Madanpur Block
Dr. Jitendra Kumar Bhagat, Medical Officer, Bangare APHC, Madanpur Block
Ms. Sunita Kumari, ANM, Bangare APHC, Madanpur Block
Ms. Manju Kumari, ANM, Bangare APHC, Madanpur Block
Ms. Geeta Kumari, Ward Attendant, Bangare APHC, Madanpur Block

AURANGABAD DISTRICT

Mr. Vinod Ram, Sweeper, Bangare APHC, Madanpur Block
Ms. Babita, Kumari, ANM, Manika Sub-Center, Madanpur Block
Mr. Ramnath Prasad, husband of ANM, Manika Sub

Mithlesh Kr Verma-FP Worker,
Mr. Jinarain Goshwami-Clerk
Jambvati Devi, ANM.
Kranti Kumari, ANM.

KISHANGANJ DISTRICT

Parul Lata, ANM
Archana Kumari ANM,
Chhabi Nandi- ANM,
Arunkumar Modi- Block Health Educator
Ajit Kumar - Extension Educator
Awdheshkumar Datta- Panchayat Pradhan Halamala

expenses for generators.

- Delays in repairing cold chain equipment and insufficient routine maintenance.
- No DPT vaccine was received last year for 3 months and measles vaccine for 5 months.
- High BCG wastage.
- Cold chain functions performed at most levels by staff with little training and no supervision. Sanctioned cold chain vacancies unfilled.
- In one visited district, about 50% of the MO posts are either vacant or the MOs have absconded, resulting in three PHCs and all nine APHCs without any doctor for more than one year.
- In one visited district, an extreme shortage and unequal distribution of ANMs results in a number of unattended subcentres.
- Many program costs are not covered and are instead passed to lower levels for them to somehow manage (e.g., fuel to sterilize syringes, ANM travel to collect and return vaccine, parents buying disposable syringes).
- Reluctance and delay in using the detailed district-specific micro planning exercise to advocate for more resources.
- The burden of accounting for GOI funds is perceived at lower levels as a disincentive to request/receive funds.
- Some private practioners willing to provide routine immunization services are not effectively tapped by the Government. For example, joint sharing of an ILR loaned by Government to an active private practitioner willing to run his own generator could be considered.
- There is lack of supervision, direction, monitoring, analysis and feedback, which is reflected in poor knowledge of basic concepts such as coverage levels, dropouts, calculation of vaccine requirements and target beneficiaries, etc. Data are therefore not used for management, quality and performance improvement.
- Unwillingness of recruited MOs to work in health facilities is leading to a total lack of supervision and motivation among the remaining health workers, besides depriving the population of access to a doctor.
- Significant shortage of ANMs/Health Workers and lack of lack motivation among health care providers is severely hampering immunization services.

3. PRIVATE PRACTITIONERS

3.2 RECOMMENDATIONS

- Involve interested private sector practitioners in Government programs

- Inventory exists of equipment needing repair.
- In one visited district, regular supply of vaccine and icepacks from district has recently improved with "push" system using delivery van and transportation funds.
- Vaccine well stored and since April in sufficient uninterrupted quantity with register maintained.
- The districts have recently received 100,000 Rs from GOI for cold chain.
- In one visited district, sanctioned ANM positions are mostly filled.
- Data are not used for analysis of weaknesses, improvement of performance, feedback.
- Bottlenecks and lack of guidelines in disbursement of funds.
- District provides demographic targets not related to local counts.
- Regular meetings across departments to discuss performance and requirements are held for polio only (missed programmatic opportunity). Health staffs at district and above exhibit little appreciation of advantages of engaging other departments or systems (e.g., ICDS and community-based resources).
- Opportunities for intersectoral coordination (e.g., using the PPI model) are missed (e.g., ICDS, PRI, Education).
- Detailed district microplans do not include innovative approaches. They are largely supplydriven listings of inputs without evident focus on how services will be improved.
- High rates of leftout and dropout.
- Supply of vaccines to PHCs is based on historical supply, not on requirement.
- Plans to reach hard to reach areas unavailable.
- Microplan available in Block is followed but is not consistent with District/State microplan
- High quality regular services provided in the presence of a senior doctor attract good number of beneficiaries (both poor and well to do).
- Targets and coverage performance are conflicting, nor tracked
- Data not used for actively monitoring, managing and improving program performance; and feedback is entirely absent.
- Frequent and prolonged electric power cuts at all levels and (at subdistrict level) nonavailability of POL and maintenance

- District should monitor commercial hepatitis B vaccination camps to ensure public safety.
- Provide possible facilities such as repair and maintenance of existing buildings wherever ANMs are residing or willing to reside.
- Civil Surgeon should oversee that consistent targets are being used in blocks.
- Introduce cumulative monitoring graph for systematic feedback, along with number of sessions held versus conducted.
- District Magistrate and Civil Surgeon should hold a meeting at least quarterly to review health priorities, including immunization performance.
- Consider holding only one sectoral (APHC) meeting (including ICDS, PRI, others) and one BPHC meeting per month; and a quarterly joint review at block level of data and performance between ICDS and DFW for collaborative problem identification and problem solving.
- District should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.
- Network of polio officers should do monitoring of coverage (not just AEFI and AFP) to assist GOI to strengthen active system of monitoring, data analysis and use at each level of collection.
- Innovative use of delivery vans and transportation funds and careful icepack management can be used to overcome some of the cold chain constraints.
- Stricter management for making (e.g. pre-chilling stock of icepacks in WIC), storing and distributing fully frozen icepacks using existing DFs and cold boxes is needed at each level.
- Make the existing PHC vehicles available to transport vaccines and icepacks so as to contribute towards reaching the unreached.
- Review options including offering BCG only at alternate sessions.
- District Magistrate should put health on agenda of monthly Panchayat Samiti meetings and also instruct blocks to include routine immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).

ANNEX 3: SELECTED OBSERVATIONS AND RECOMMENDATIONS

1. OBSERVATIONS BY LEVEL

1. STATE

1.1 OBSERVATIONS

- State Routine Immunization Cell has been created. State Inter Agency Coordination Committee Meetings are held weekly among DFW, WHO and UNICEF to discuss mainly PPI.
- Coverage data are collected and largely available for review
- State cold chain room has good electric supply due to location at PMCH, cold chain mechanics present, and stock register used.
- In spite of shortage of manpower, undue delay in payment of salary and burden of collecting vaccines from long distances, and inadequate supervision, field staff generally were willing to work and improve.
- In one of the visited districts, most of the ANMs received training for routine immunization last year, although they need to be updated on newer topics such as injection safety and microplanning.
- Inaccurate and conflicting numerator and denominator data
- Bottlenecks and lack of guidelines in disbursement of funds. Funds from GOI to support state level mobility for supervision and ANM mobility for outreach were unspent and funds for review meetings were only partially spent. Funds for ANM outreach weren't released and never reached districts. Salaries are not paid on time at almost any level; and no travel allowance is paid to ANMs.
- Promotions are rare at junior level.
- Rigid topdown guidelines do not encourage customized local solutions to local problems and encourages passivity.
- Opportunities for intersectoral coordination (e.g., using the PPI model) are missed (e.g., ICDS, PRI, Education).
- Routine immunization has trouble attracting investments directly versus indirect investments through PPI. Placement of refrigerators and generators and POL availability is not considered in light of the needs of both the routine immunization and PPI programs.
- Complementarity between programs is lacking.

1.2 RECOMMENDATIONS

- Organizational and managerial solutions should be sought from the districts for improving performance even within the existing low levels of resources by proper allocation and reorganization of available personnel, cold chain equipment and vehicles, supervision, monitoring, etc.
- The process of release of funds needs simplification. The State should provide Civil Surgeons with clear instructions and flexibility regarding fund utilization.
- Expand the agenda of Interagency Coordination Committee meetings to include routine immunization and invite other technical partners.
- Routine immunization cell should provide consistent newborn and PW targets for use in districts and blocks until the block staff is trained to calculate targets themselves.
- Broaden discussion and implementation of solutions beyond health staff and beyond polio to include PRI, ICDS, etc.
- Provide funding for transport of vaccine, mobility of officials, and maintenance of cold chain needs to be regularized at each level.
- Develop and introduce a sustainable, low-resource and replicable operational approach at block and village level in one block per State (with a plan for scale up) to jointly use data, tools, job aids for improved convergence of planning, monitoring, registration and followup of births/defaulters, delivery and quality of services.
- Introduce cumulative monitoring graph for systematic feedback, along with number of sessions held versus conducted.
- Network of polio officers should do monitoring of coverage (not just AEFI and AFP) to assist GOI to strengthen active system of monitoring, data analysis and use at each level of collection.
- State and District should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.
- GOI should provide funds for distribution of vaccines directly to immunization site.
- The Government should provide flexibility

- High rates of left out and dropout.
- Policies regarding vaccine eligibility of children more than 12 months of age are uncertain.
- Unnecessarily delayed measles vaccination due to unclear policies.
- District did not receive funds for outreach.
- Very little flexibility on spending POL funds on creation of depots (e.g., hiring vehicle locally to establish depot).
- Many program costs are not covered and are instead passed to lower levels for them to manage somehow (e.g., fuel to sterilize syringes, ANM travel to collect and return vaccine, parents buying disposable syringes)
- Targets and coverage performances are conflicting.
- Sanctioned positions at State level are unfilled: no Additional Director of FW, no Joint Director of FW, no State Demographer, no State cold chain officer. There is no sanctioned S.I.O. position. (Additional shortages are listed in the Bihar strategic plan.) A similar situation exists at district levels.
- At many levels, salaries are not paid on time, promotions are not given on time, and travel allowance is not payable.
- Immunization training is subsumed within broader RCH training, resulting in little time spent on immunization.
- Owing to their absence from training materials, some innovations that have been used in other countries for decades are unfamiliar (e.g., cumulative monthly monitoring chart) and some skills may be lacking (e.g., shake test). Periodic reorientation training on immunization is not planned and conducted.
- No State plan exists for IEC for immunization.
- Problem with proper allocation, utilization and accountability for the available fund. The system is rigid and there is often no flexibility of inter head transfers for effective use of available resources. The statements of expenditure/utilization are often not sent on time resulting in delayed disbursement of funds.
- While resources are made available off and on for PPI rounds in areas like cold chain and mobility of the vaccines and other logistics, similar resources have not been made available year-round to improve routine immunization.

and clear guidance to permit efficient and effective use of funds for maintaining the cold chain.

- The Government should regularly provide sufficient POL and fund for maintenance of cold chain equipment and generators.
- Until the AD syringes are introduced it may be ensured that KOL money reaches to all the ANMs so that there is proper sterilization. Adding this amount as special allowance in their salary may be considered.
- As done by PPI, Government should permit expenditure to procure ice on each Wednesday.
- Design and introduce simple tracking, monitoring, IEC and motivational tools to take advantage of name-based head counts conducted regularly by AWWs.
- Operational guidelines and IEC materials are needed to clarify vaccine eligibility for older age groups and timely measles vaccination.
- The vaccination card should show due date for return visit. The immunization register can also show the due date, so the AWW can be used to motivate the parent to come to the appropriate session.
- Take appropriate action to ensure that doctors not attending their duty start working regularly. In the interim, the option of filling the vacant posts (ANMs, drivers, Doctors, etc) by local administration on contract basis should be seriously explored/introduced on a trial basis.
- Replenish staffing levels (filling the vacant post, sanction additional post) to the extent possible in the long run.
- Recognizing well performing MOs and Health Workers will encourage others to do well.
- Design and introduce modular learning materials and use simple tools/job aids as continuing education (on issues like injection safety, injection technique, record keeping, beneficiaries tracking and use of microplanning) to refresh ANMs, Block officers, AWWs, MOs at their regular monthly/weekly meetings.
- Video films should be used to demonstrate the injection technique for the ANMs on experimental basis to test its feasibility.

- There is huge unmet demand and an under current of resentment along with a feeling of being under served among the population for routine immunization services.
- ANM living in the premises of facility helps to a great extent in minimizing the missing sessions. It also builds up rapport and confidence among the beneficiaries leading to increase coverage and service delivery levels.
- Sterilization is tedious and is often of doubtful quality in the absence of uniform provision of KOL money. In some cases, the ANM was found using her personal resources for sterilizing.
- There is lack of supervision, direction, monitoring, analysis and feedback at all levels which is reflected in poor knowledge of basic concepts such as coverage levels, dropouts, calculation of vaccine requirements and target beneficiaries, etc. Data are therefore not used at any level for management, quality and performance improvement.
- Despite annual maintenance contracts and notifications to State, long delays in repairing cold chain equipment.
- There is very little coordination with other departments such as PRI, ICDS and Education. However, if properly coordinated, they have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).

2. DISTRICT

2.1 OBSERVATIONS

- The system of immunization and logistics well-designed from top in one of the two districts.
- Data are collected at each level.
- Daily Immunization Sessions are conducted regularly. BCG and Measles are given on Monday and Saturday at one District Hospital.
- At the district levels, cold chain infrastructure exists (WIC in one district, DFs, cold boxes, ice packs, fuel, voltage stabilisers, generator, vaccine delivery vans), equipment is mostly functioning, and temperature records are maintained.

2.2 RECOMMENDATIONS

- Seek organizational and managerial solutions at each level for improving performance even within the existing low levels of resources.
- Broaden discussion and implementation of solutions beyond health staff and beyond polio to include PRI, ICDS, etc.
- District Magistrate should put health on the agenda of monthly Panchayat Samiti meetings and also instruct blocks to include routine immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).
- Efforts should be made to address infrastructural problems such as lack of electricity by, for example, strategically locating vaccine supply positions, provision of POL and amount for maintenance of generators.
- District should ensure that GOI policies on engaging the private sector are implemented (e.g., vaccine supply, reporting, monitoring quality.)
- Supervision should strengthened at all levels (district to PHC levels) to provide proper direction and feedback. Ensuring the availability of posted doctors is key to the success of this.
- Roping in more private practitioners in to routine immunization should be explored, as there is a lot of interest and untapped potential in the private sector contrary to general perceptions.

were expecting the session.

- Microplan available in Block is followed but is not consistent with District/State microplan.
- Vaccine registers (neither ANM nor AWW registers) and counterfoils are not used to identify and target children in need of vaccination.
- Widespread gap between policy and practice (interrupted DPT series is restarted; all vaccinations are reported as <12 months despite many older at sessions; measles vaccine not given to ageeligible children as soon as possible at 9 months if receiving DPT or BCG for fear of giving multiple injections since belief is that it can always be postponed to 9-12 months).
- Policies regarding vaccine eligibility of children more than 12 months of age are uncertain.
- Unnecessarily delayed measles vaccination due to unclear policies.
- Dates were recorded on the vaccination card before the vaccinations were given, but some were not given.
- District did not receive funds for outreach.
- Very little flexibility on spending POL funds on creation of depots (e.g., hiring vehicle locally to establish depot).
- Many program costs are not covered and are instead passed to lower levels for them to manage somehow (e.g., fuel to sterilize syringes, ANM travel to collect and return vaccine, parents buying disposable syringes)
- Injections are administered unsafely and syringes are disposed unsafely. ANMs know many of their injection practices are unsafe. However, the block had not requested more syringes, instead passively awaiting the push system to supply more.
- In most cases, the doctors take turns staying at the health facility and are rarely present for more than 2 days per week.
- There is huge unmet demand and an under current of resentment along with a feeling of being under served among the population for routine immunization services.
- Where they were found, Male Health Workers were seen to be involved in immunization sessions within the PHC level.
- Sterilization is tedious and is often of doubtful quality in the absence of uniform provision of KOL money. In some cases, the ANM was found using her personal resources for sterilizing.

VACCINE

- Require BPHC, APHC and ANMs to keep a copy for themselves of last year's vaccination data and current year's cumulative totals for review and action.
- Introduce tally sheets to facilitate monthly reporting and reduce current work load.
- Civil Surgeon should oversee that consistent targets are being used in blocks.
- Consider holding only one sectoral (APHC) meeting (including ICDS, PRI, others) and one BPHC meeting per month; and a quarterly joint review at block level of data and performance between ICDS and DFW for collaborative problem identification and problem solving.
- Network of polio officers should do monitoring of coverage (not just AEFI and AFP) to assist GOI to strengthen active system of monitoring, data analysis and use at each level of collection.
- State and District should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.
- Design and introduce simple community based monitoring and tracking tools for ANM and AWW to take advantage of systematic name based head counts (enumeration/registration of denominator) done by AWW.
- District Magistrate and Civil Surgeon should hold a meeting at least quarterly to review health priorities, including immunization performance.

RECOMMENDATIONS

- GOI should provide funds for distribution of vaccines directly to immunization site.
- Innovative use of delivery vans and transportation funds and careful icepack management can be used to overcome some of the cold chain constraints.
- Stricter management for making (e.g. prechilling stock of icepacks in WIC), storing and distributing fully frozen icepacks using existing DFs and cold boxes is needed at each level.
- Making available the existing PHC vehicles to transport vaccines and icepacks will contribute towards reaching the unreached.
- If required locally, provide budget to make

vaccines along with the new vaccines.

4.1 OBSERVATIONS

- Regular staff meetings are held within the block in one of the two districts.
- A few proper immunization registers (and many hand-drawn ones) were with the ANMs and also in the Block PHC (although they were not necessarily carried to the immunization site).
- Used syringes were not seen lying on the ground around the PHC and, in one site, used syringes were disposed in an existing deep dry protected well.
- Two blocks took the initiative of establishing an additional depot for several ANMs to collect vaccine Wednesday morning to avoid longer travel to the Block PHC.
- In one visited district, a plan has been made to rotate ANM staff to cover all areas under each PHC for immunization.

- Procurement of vaccines at PHCs is being decided by ANMs, based on earlier indents. The MO, PHC & DIO have no idea how to make this indent more realistic.
- Reluctance to flexibly adapt guidelines to cover all villages and full population (e.g., using 2monthly schedules, two places within one village, etc.)
- No distinction is made between sites with, for example, populations of 6000 and 200 both are visited with same frequency. Location of vaccination sessions not always client-friendly.
- Sessions were found routinely skipped/missed in many HSCs visited. For example, less than 75% of Madanpur ANMs collect vaccine weekly but collection rates by ANM are not tracked. This causes considerable resentment among the beneficiaries gathered for the service who were expecting the session
- In most cases, the doctors take turns staying at the health facility and are rarely present for more than 2 days per week.
- Targets and coverage performance are not known (or conflicting), nor tracked at most levels.
- Data not used for actively monitoring, managing and improving program performance; and feedback is entirely

- Design and introduce simple community-based monitoring and tracking tools for ANM and AWW to take advantage of systematic name-based head counts (enumeration/registration of denominator) done by AWW.
- Block should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.
- Require to keep a copy for themselves of last year's vaccination data and current year's cumulative totals for review and action.
- Consider holding only one sectoral (APHC) meeting (including ICDS, PRI, others) and one BPHC meeting per month; and a quarterly joint review at block level of data and performance between ICDS and DFW for collaborative problem identification and problem solving.
- Block health representative should attend every monthly ICDS meeting.
- Available IEC posters should be put to use.

absent.

- There is no system of recording/tracking VPD (nonAFP) and AEFI
- Frequent and prolonged electric power cuts at all levels and (at subdistrict level) non-availability of POL and maintenance expenses for generators.
- In one district, even where vehicles exist, there is no provision for putting the vehicles to use (POL, driver, insurance of vehicle etc. are not available). Non-availability/diversion of sanctioned PHC vehicles to other departments is also hampering vaccine distribution.
- Icepacks were neither fully frozen, nor sufficient in number at time of distribution to one of the blocks.
- Microplans not being used to improve logistics.
- Cold chain functions performed at most levels by staff with little training and no supervision. Sanctioned cold chain vacancies unfilled.
- BCG wastage is very high.
- Inservice supervision is absent at all levels. Opportunities to upgrade ANMs and block officers are not taken advantage of.
- Convergence between DFW and DMC/ICDS is largely absent at block level and above.
- All PHCs have vehicles but efforts to mobilize the vehicles by deputing drivers are found lacking.
- Improved service delivery is evident where the doctor is visiting regularly. Still efforts to mobilize the doctors posted but not attending the duty seemed missing.
- Where they were found, Male Health Workers were seen to be involved in immunization sessions.
- There is lack of supervision, direction, monitoring, analysis and feedback at all levels, which is reflected in poor knowledge of basic concepts such as coverage levels, dropouts, calculation of vaccine requirements and target beneficiaries, etc. Data are therefore not used at any level for management, quality and performance improvement.
- Supportive supervision from the MO I/C as observed in an exceptional instance goes a long way in improving the motivational levels of ANMs and improve service delivery.
- Staff at PHC and sub centre levels such as ANMs and Medical Officers welcome any

5. SC

5.2 RECOMMENDATIONS

- ANM and AWW should update their respective immunization registers after the session to determine who needs come next time so AWW can target them.
- Transfer names of newborns from prenatal register into vaccination register immediately after birth.
- Include on reporting and recording formats the number of fully vaccinated children.
- Introduce tally sheets to facilitate monthly reporting and reduce current workload.
- Require to keep a copy for themselves of last year's vaccination data and current year's cumulative totals for review and action.
- A community team can be formed including AWWs, PRI and any women's groups to mobilize the village for each vaccination session.
- Implement simple methods to inform the community and more distant attached hamlets that the ANM has arrived.
- The date and time of vaccination sessions should be displayed at health facilities and outreach sites

OBSERVATION

- Awareness of injection safety issues has been observed at most places among both public and staff.
- Where they exist, AWWs were present at the immunization sessions.
- In several cases, the ANM's family members were found to be helping her to perform her duties, including carrying the vaccine from PHC, recordkeeping, transporting her on bicycle/motorcycle, and mobilizing the public.
- The hospital was willing to work with government in providing some support to outreach immunization services in the district.
- The opportunity to provide vitamin A at the immunization site was taken.
- A few proper immunization registers (and many hand drawn ones) were with the ANMs and also in the Block PHC (although they were not necessarily carried to the immunization site).
- Regular daily immunization services are provided free of cost with Government provided vaccines at the one observed medical college hospital.
- Injection safety is exceptionally being maintained by one private practitioner, using disposable syringes and safely disposing the used syringes through the regular hospital waste incinerator.
- Used syringes were not seen lying on the ground around the PHC and, in one site, used syringes were disposed in an existing deep dry protected well.
- Plans to reach hard to reach areas unavailable.
- Reluctance to flexibly adapt guidelines to cover all villages and full population (e.g., using 2monthly schedules, two places within one village, etc.)
- No distinction is made between sites with, for example, populations of 6000 and 200 both are visited with same frequency.
- Location of vaccination sessions not always client friendly.
- Sessions were found routinely skipped/missed in many HSCs visited. For example, less than 75% of Madanpur ANMs collect vaccine weekly but collection rates by ANM are not tracked. This causes considerable resentment among the beneficiaries gathered for the service who

SURVEILLANCE AND MONITORING

RECOMMENDATIONS

- ANM and AWW should update their registers after the vaccination session to determine who needs to come next time so AWW can target them.
- Transfer names of newborns from prenatal register into vaccination register immediately after birth.
- Include on reporting and recording formats the number of fully vaccinated children.
- Introduce cumulative monitoring graph at block level and above for systematic feedback, along with number of sessions held versus conducted.

and encourages passivity.

- Routine immunization has trouble attracting investments directly versus indirect investments through PPI. Placement of refrigerators and generators and POL availability is not considered in light of the needs of both the routine immunization and PPI programs. Complementarity between programs is lacking.
- District provides demographic targets not related to local counts
- Regular meetings across departments to discuss performance and requirements are held for polio only (missed programmatic opportunity). Health staff at district and above exhibit little appreciation of advantages of engaging other departments or systems (e.g., ICDS and community based resources).
- The rates of leftout and dropout are high.
- Vaccine indents are not made realistically.
- Insufficient and poor quality residential facilities (e.g., leaking roof in residence, no windows).
- Many program costs are not covered and are instead passed to lower levels for them to somehow manage (e.g., fuel to sterilize syringes, ANM travel to collect and return vaccine, parents buying disposable syringes)
- Reluctance and delay in using the detailed districtspecific microplanning exercise to advocate for more resources.
- The burden of accounting for GOI funds is perceived at lower levels as a disincentive to request/receive funds.
- Some private practitioners willing to provide immunization are not effectively tapped by the Government. For example, joint sharing of an ILR loaned by Government to an active private practitioner willing to run his own generator could be considered.
- Convergence between DFW and DMC/ICDS is largely absent at block level and above.
- Few PHCs have vehicles but efforts to mobilize the vehicles by deputing drivers are found lacking.
- Improved service delivery is evident where the doctor is visiting regularly, but efforts to mobilize the doctors who are posted but do not attend seems missing.

considered.

- District should monitor commercial hepatitis B vaccination camps to ensure public safety.
- District should ensure that GOI policies on engaging the private sector are implemented (e.g., vaccine supply, reporting, monitoring quality.)
- Provide possible facilities such as repair and maintenance of existing buildings wherever ANMs are residing or willing to reside.
- Develop and introduce a sustainable, lowresource and replicable operational approach at block and village level in one block per State (with a plan for scale up) to jointly use data, tools, job aids for improved convergence of planning, monitoring, registration and followup of births/defaulters, delivery and quality of services.

initiative for alternative vaccine delivery mechanisms.

- Cold Chain equipment except (at district headquarters) is nonfunctional owing to acute power shortage and nonprovision of regular POL and fund for generator maintenance; however, innovative logistic solutions are being used in some areas to overcome these constraints.
- There is very little coordination with other departments such as PRI, ICDS and Education. However, if properly coordinated, they have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).

5.1 OBSERVATIONS

- Detailed microplans have been formulated down to level of immunization site.
- Awareness of injection safety issues observed at most places among both public and staff.
- Where they exist, AWWs were present at the immunization sessions.
- In several cases, the ANM's family members were found to be helping her to perform her duties, including carrying the vaccine from PHC, recordkeeping, transporting her on bicycle/motorcycle, and mobilizing the public.
- The opportunity to provide vitamin A at the immunization site was taken.
- A few proper immunization registers (and many handdrawn ones) were with the ANMs and also in the Block PHC (although they were not necessarily carried to the immunization site).
- AWW regularly updates head count.
- Cards available and used.
- Demand for services exists.
- The members of PRI are quite eager to provide social mobilization and support - if they were more confident that the ANM would turn up for the session as planned on every Wednesday).

2. OBSERVATIONS AND RECOMMENDATIONS BY TECHNICAL AREA

PROGRAM MANAGEMENT

- Community-based resources are available (AWW) in huge numbers.
- Too frequent meetings disrupt work of ANM.
- Insufficient and poor quality residential facilities (e.g., leaking roof in residence, no windows).
- Vaccine registers (neither ANM nor AWW registers) and counterfoils are not used to identify and target children in need of vaccination.
- Widespread gap between policy and practice (interrupted DPT series is restarted; all vaccinations are reported as <12 months despite many older at sessions; measles vaccine not given to age-eligible children as soon as possible at 9 months if receiving DPT or BCG for fear of giving multiple injections since belief is that it can always be postponed to 9-12 months)
- Dates were recorded on the vaccination card before the vaccinations were given, but some were not given.
- Injections are administered unsafely and syringes are disposed unsafely. ANMs know many of their injection practices are unsafe. However, the block had not requested more syringes, instead passively awaiting the push system to supply more.
- Targets and coverage performance are not known (or conflicting), nor tracked at most levels.
- Catchment areas difficult to determine as they do not correspond to known panchayat populations.
- There is no recordkeeping system in place for tracking/following up unregistered newborns and dropouts.
- There is no system of recording/tracking VPD (nonAFP) and AEFI
- Printed formats/registers are generally unavailable.
- Little systematic attempt to engage community resources and other programmes for improving performance, e.g. by stimulating demand and tracking leftout and dropout children.
- Screening, counseling, and public information is weak.
- No systematic attempt to inform community and attached hamlets that ANM has arrived.
- No wall paintings/posters were seen on the walls.
- The Sub Centres of the nearest PHC, though close to district hospital, are not being provided ice packs and vaccine from the hospital. Hence no immunization sessions are being held.
- There is very little coordination with other departments such as PRI, ICDS and Education. However, if properly coordinated, they have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).

RECOMMENDATIONS

- Organizational and managerial solutions should be sought at each level for improving performance even within the existing low levels of resources by proper allocation and reorganization of available personnel, cold chain equipment and vehicles, supervision, monitoring, etc.
- The process of release of funds needs simplification at each level. The State should provide Civil Surgeons with clear instructions and flexibility regarding fund utilization.
- Expand the agenda of Interagency Coordination Committee meetings to include routine immunization and invite other technical partners.
- Routine immunization cell should provide consistent newborn and PW targets for use in districts and blocks until the block staff is trained to calculate targets themselves.
- Broaden discussion and implementation of solutions beyond health staff and beyond polio to include PRI, ICDS, etc.
- Provide regular funding for transport of vaccine, mobility of officials, and running of the cold chain at each level.
- District Magistrate should put health on the agenda of monthly Panchayat Samiti meetings and also instruct blocks to include routine immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).
- Efforts should be made to address infrastructural problems such as lack of electricity by, for example, strategically locating vaccine supply positions, provision of POL and amount for maintenance of generators.
- Block meetings should be used to identify and target hard to reach areas with financial support provided; identify and solve local problems; plan to reach uncovered populations; monitor achievements against targets; and agree on effective messages to give the public.
- Block should decide which microplan to follow to rationalize the location, number and frequency of vaccination sites based on such factors as workload, distance, density, and population. At the very least, subcentres should provide immunization services at least once every month, if not more frequently.
- Supervision strengthened at all levels (district to PHC levels) to provide proper direction and feedback. Ensuring the availability of posted doctors is key to the success of this.
- Roping in more private practitioners in to routine immunization should be explored, as there is a lot of interest and untapped potential in the private sector contrary to general perceptions.

OBSERVATION

- State Routine Immunization Cell created.
- State InterAgency Coordination Committee meetings held weekly among DFW, WHO and UNICEF to discuss mainly PPI. Opportunities for intersectoral coordination (e.g., using the PPI model) are missed (e.g., ICDS, PRI, Education).
- The system of immunization and logistics well-designed from top in one of the two districts.
- Data are collected at each level but not used for analysis of weaknesses, improvement of performance, feedback. Targets and coverage performance are conflicting
- Daily Immunization Sessions are conducted, at one District Hospital.
- Regular staff meetings are held within the block in one of the two districts. Too frequent meetings disrupt work of ANM.
- Detailed microplans have been formulated down to level of immunization site but do not include innovative approaches. They are largely supply driven listings of inputs without evident focus on how services will be improved.
- Bottlenecks and lack of guidelines in disbursement of funds.
- Funds from GOI to support state level mobility for supervision and ANM mobility for outreach were unspent and funds for review meetings were only partially spent. Funds for ANM outreach weren't released and never reached districts.
- Salaries are not paid on time at almost any level; promotions are rare at junior level, as policies are not being implemented; and no travel allowance is paid to ANMs.
- Rigid topdown guidelines don't encourage customized local solutions to local problems

SERVICE DELIVERY AND INJECTION SAFETY OBSERVATIONS

RECOMMENDATIONS

- ANM should select site within designated village that is convenient for public.
- Ensure there are no missed vaccination sessions, so as to maintain the confidence of beneficiaries and community leaders and thereby boost coverage levels.
- Until such time the AD syringes are introduced it may be ensured that KOL money reaches to all the ANMs so that there is proper sterilization. Adding this amount as special allowance in their salary may be

other technical partners.
- For continuing education, design modular learning materials and simple tools/job aids to be used as continuing education to refresh ANMs, Block officers, AWWs, MOs at their regular meetings.
- Routine immunization cell should provide consistent newborn and PW targets for use in districts and blocks.

KEY RECOMMENDATIONS BY TECHNICAL AREA FOR STATE IMPLEMENTATION OF IMMUNIZATION MULTI-YEAR PLAN

(*Note: Some of the more important findings and recommendations have already been covered above and will not be repeated below.*)

4.1 PROGRAMME MANAGEMENT

- **Convergence** between DFW and DMC/ICDS is largely absent at block level and above.
- Many **program costs are not covered** and are instead passed to lower levels for them to somehow manage (e.g., fuel to sterilize syringes, ANM travel to collect and return vaccine, parents buying disposable syringes)
- PHCs have vehicles but efforts to mobilize the vehicles by **deputing drivers** are found lacking.

RECOMMENDATIONS

- **Organizational and managerial solutions** should be sought at each level for improving performance even within the existing low levels of resources by proper allocation and reorganization of available personnel, cold chain equipment and vehicles, provision of POL and amount for maintenance of generators supervision, monitoring, etc.
- The process of **release of funds needs simplification** at each level. The State should provide Civil Surgeons with clear instructions and flexibility regarding fund utilization. Provide regular funding for transport of vaccine, mobility of officials, and running of the cold chain at each level.
- **Broaden discussion** and implementation of solutions at each level beyond health staff and beyond polio to include PRI, ICDS, etc.

4.2 SERVICE DELIVERY AND INJECTION SAFETY

- **ANM living in the premises of facility** helps to a great extent in minimizing the missing sessions. It also builds up rapport and confidence among the beneficiaries leading to increase coverage and service delivery levels.

RECOMMENDATIONS

- Until such time the AD syringes are introduced it may be ensured that **KOL money** reaches to all the ANMs so that there is **proper sterilization**. Adding this amount as special allowance in their salary may be considered.
- District should ensure that **GOI policies on engaging the private sector** are implemented (e.g., vaccine supply, reporting, monitoring quality.) District should **monitor commercial hepatitis B vaccination camps** to ensure public safety.

4.3 SURVEILLANCE AND MONITORING

- There is **lack of supervision, direction, monitoring, analysis and feedback at all levels**, which is reflected in poor knowledge of basic concepts such as coverage levels, dropouts, calculation of vaccine requirements and target beneficiaries, etc.
- **Data are not used** at any level for management, quality and performance improvement.

RECOMMENDATIONS

- **District Magistrate and Civil Surgeon should hold a meeting at least quarterly** to review health priorities, including immunization performance.
- Consider holding only one sectoral (APHC) meeting (including ICDS, PRI, others) and one BPHC meeting per month; and a quarterly joint review at block level of data and performance between ICDS and DFW for collaborative problem identification and problem solving.
- **Introduce cumulative monitoring graph at block level and above** for systematic feedback, along with number of sessions held versus conducted.

4.4 VACCINE LOGISTICS

- Staff at PHC and sub center levels such as

- ANM living in the premises of facility helps to a great extent in minimizing the missing sessions. It also builds up rapport and confidence among the beneficiaries leading to increase coverage and service delivery levels.
- High quality regular services provided in the presence of a senior doctor attract good number of beneficiaries (both poor and well to do).
- Optional expensive vaccines are being provided on a payment basis to those who can afford, thus helping the hospital attract beneficiaries and generate revenue. This can be a good model for more private practitioners to also provide "traditional" vaccines along with the new vaccines.

additional ice, as with PPI.
- Review options including offering BCG only at alternate sessions.

COLD CHAIN MANAGEMENT

OBSERVATIONS

- Coverage data are collected and largely available for review.
- Cards available and used.
- Head count available and regularly updated by AWW.
- Targets and coverage performance are not known (or conflicting), nor tracked at most levels.
- There is no recordkeeping system in place for tracking/following up unregistered newborns and dropouts.
- Data not used at each level for actively monitoring, managing and improving program performance; and feedback is entirely absent leading to complacency and nonperformance.
- There is no system of recording/tracking VPD (nonAFP) and AEFI
- Printed formats/registers are generally unavailable.
- Catchment areas difficult to determine as they do not correspond to known panchayat populations.
- There is lack of supervision, direction, monitoring, analysis and feedback at all levels, which is reflected in poor knowledge

RECOMMENDATIONS

- The Government should provide flexibility and clear guidance to permit efficient and effective use of funds for maintaining the cold chain.
- The Government should regularly provide sufficient POL and fund for maintenance of cold chain equipment and generators.
- As done by PPI, Government should permit expenditure of funds to procure ice from the nearest ice factory on each Wednesday.

HUMAN RESOURCES

of basic concepts such as coverage levels, dropouts, calculation of vaccine requirements and target beneficiaries, etc. Data are therefore not used at any level for management, quality and performance improvement.

- Supportive supervision from the MO I/C as observed in an exceptional instance goes a long way in improving the motivational levels of ANMs and improve service delivery.

RECOMMENDATIONS

- Take appropriate action to ensure that doctors not attending their duty start working regularly. In the interim, the option of filling the vacant posts (ANMs, drivers, Doctors, etc) by local administration on contract basis should be seriously explored/introduced on a trial basis.
- Replenish staffing levels (filling the vacant post, sanction additional post) to the extent possible in the long run.
- Recognizing well performing MOs and Health Workers will encourage others to do well.

OBSERVATIONS

- In one visited district, regular supply of vaccine and icepacks from district has recently improved with "push" system using delivery van and transportation funds.
- Vaccine well-stored and since April in sufficient uninterrupted quantity with register maintained.
- Two blocks took the initiative of establishing an additional depot for several ANMs to collect vaccine Wednesday morning to avoid longer travel to the Block PHC.
- No DPT vaccine was received last year for 3 months and measles vaccine for 5 months.
- Icepacks were neither fully frozen, nor sufficient in number at time of distribution to the blocks and ANMs.
- In one district, even where vehicles exist, there is no provision for putting the vehicles to use (POL, driver, insurance of vehicle etc. are not available). Non availability/diversion of sanctioned PHC vehicles to other departments is also hampering vaccine distribution.
- Microplans not being used to improve logistics.
- BCG wastage is very high.
- Staff at PHC and sub centre levels such as ANMs and Medical Officers welcome any initiative for alternative vaccine delivery mechanisms.

TRAINING

ANNEX 4: STATE PRESENTATION

The team presented comments and recommendations to the state at the end of the review. This presentation is highlighted below.

GENERAL AND CROSS-CUTTING COMMENTS

- **Remarkable how much achieved** in spite of conditions of work, late pay, etc. Most lower level staff are working hard and trying their best without much support. Improve support to field staff.
- More resources required BUT even within existing resources, much can be done. Consider more the organizational and managerial solutions, as well as technical. Encourage critical thinking. Expand vision beyond getting by with limited resources within the health sector. E.G., nationwide India has nearly 600,000 community workers with placement at 1 per 1000 people. Expand concern from "anatomy" of cold chain to its "physiology."
- Top-down approaches are limited; encourage local problem-solving and customized approaches to address local problems instead of just instructions/orders that de-motivate people and lead to passivity. More decentralization and less rigid attempts at central control are needed to bring about ownership by local government and community groups. More focus needed at block level in the MYP, even if GOI can only focus its own efforts mostly at district.
- Focus more on getting the program to work at the most peripheral level the interface of the ANM with the community, including the huge human resources of AWW. Improve program convergence. Little systematic attempt to engage the community, despite ample resources and annual name-based registration/head counts by AWWs. Health has not been able to involve AWWs activity and utilize the information available with them. ANM and AWW should update their registers after the vaccination session todetermine who needs to come next time, so that the AWW can target them.
- There is very little coordination with other departments such as PRI, ICDS and Education which, if properly coordinated, have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Aangan Wadi, Village Pradhan etc.).
- Develop a sustainable and replicable operational model at block and village level in one block per District (with a plan for scale up) to jointly use data, tools, job aids for improved convergence of planning, monitoring, registration and follow-up of births/defaulters, delivery and quality of services.
- There is huge UNMET demand and an under current of resentment along with a feeling of being under served among the population for routine immunization services. This proves that ensuring that there are NO MISSED SESSIONS will in itself boost coverage levels and go a long way in increasing the confidence levels of beneficiaries.
- At each level where data are collected, the practice of active monitoring as an intervention (and not just a management function) is absent. Data are not used to make decisions. Developing a process and habit of local monitoring needs to be stressed. Feedback must also improve.
- Immediate steps are needed to fill up all vacant positions and persuade evading doctors to join duties at all PHCs. In the interim, the option of appointing ANMs and Doctors by local administration on contract basis to conduct immunization sessions should be seriously explored/introduced on a trial basis.

SOME OVERALL CONCLUSIONS FOR STATE LEVEL

- Reluctance and delay in using the detailed district-specific micro-planning exercise to advocate for more resources.
- The burden of accounting for GOI funds is perceived at lower levels as a disincentive to request/receive funds.
- Opportunities to upgrade ANMs and block officers are not taken advantage of.
- The process of release of funds needs simplification.

RECOMMENDATIONS DIRECTED TO STATE LEVEL

- Expand the agenda of Inter-agency Coordination Committee meetings to include routine immunization and invite

3. ILLUSTRATIVE CASE STUDIES

A) Failure to give measles vaccine (from immunization register)

- July: not immunized against measles at 9 months of age because it would have been the third

	FULL DISTRICT 2003-04 (FULL YEAR)	FULL DISTRICT APRIL-JULY 04 (4 MONTHS)	PHC THAKURGANJ 2003-04 (FULL YEAR)	PHC POTHIA 2003-04 (FULL YEAR)
Antigens	%	%	%	%
BCG	16.4	16.6	DNA	11.3
DPT1	11.1	18.2	48.3	8.5
Polio	12.2	17.9	33.5	8.5
DPT3	6.3	11.0	26.5	2.2
Polio3	7.5	9.9	26.5	2.2
Measles	5.8	9.2	18.1	4.7
PW TT (2doses)	8.7	5.2	DNA	4.2
Vit A	21.6	44.0	DNA	8.4
Fully				

DNA= Data not available

OBSERVATIONS

- State cold chain room has good electric supply due to location at PMCH, cold chain mechanics present, and stock register used.
- Inventory exists of equipment needing repair.
- At the district levels, cold chain infrastructure exists (WIC for one district, DFs, cold boxes, ice packs, fuel, voltage stabilisers, generator, vaccine delivery vans), equipment is mostly functioning, and temperature records are maintained.
- The districts have recently received 100,000 Rs from GOI for cold chain.
- Frequent and prolonged electric power cuts at all levels and (at subdistrict level) non-availability of POL and maintenance expenses for generators.
- Delays in repairing cold chain equipment and insufficient routine maintenance.
- Cold chain functions performed at most levels by staff with little training and no supervision. Sanctioned cold chain vacancies unfilled.
- Use of domestic refrigerators by private practitioners may lead to gaps in the cold chain. Also, there is no temperature record being maintained.
- Cold Chain equipment except (at district headquarters) is nonfunctional owing to acute power shortage and non-provision of regular POL and fund for generator maintenance; however, innovative logistic solutions are being used in some areas to overcome these constraints.
- Despite annual maintenance contracts and notifications to State, long delays in repairing cold chain equipment
- The Sub Centres of the nearest PHC, though close to district hospital, are not being provided ice packs and vaccine from the hospital. Hence no immunization sessions are being held.

RECOMMENDATIONS

- Design and introduce modular learning materials and use simple tools/job aids as continuing education (on issues like injection safety, injection technique, record keeping, beneficiaries tracking and use of microplanning) to refresh ANMs, Block officers, AWWs, MOs at their regular monthly/weekly meetings.
- Video films should be used to demonstrate the injection technique for the ANMs on experimental basis to test its feasibility.
- Involve interested private sector practitioners in Govt training programs

IEC AND SOCIAL MOBILIZATION

OBSERVATION

RECOMMENDATIONS

- Design and introduce simple tracking, monitoring, IEC and motivational tools to take advantage of name-based head counts conducted regularly by AWWs.
- District Magistrate to put health on agenda of monthly Panchayat Samiti meetings and also instruct blocks to include routine immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).
- Block health representative should attend every monthly ICDS meeting.
- A community team can be formed including AWWs, PRI and any women's groups to mobilize the village for each vaccination session.

- In one visited district, a plan has been made to rotate ANM staff to cover all areas under each PHC for immunization.
- In spite of shortage of manpower, undue delay in payment of salary and burden of collecting vaccines from long distances, and inadequate supervision, field staff generally were willing to work and improve.
- Trained dedicated staff are available for immunization and ANC services at one of the private hospitals in one of the visited districts.
- In one visited district, sanctioned ANM positions are mostly filled.
- Sanctioned positions for managing immunization program at State level are unfilled: no Additional Director of FW, no Joint Director of FW, no State Demographer, no State cold chain officer. There is no sanctioned S.I.O. position. (Additional shortages are listed in the Bihar strategic plan.) A similar situation exists at district levels.
- In one visited district, about 50% of the MO posts are either vacant or the MOs have absconded, resulting in three PHCs and all nine APHCs without any doctor for more than one year.
- In one visited district, an extreme shortage and unequal distribution of ANMs results in a number of unattended subcentres.
- At many levels, salaries are not paid on time, promotions are not given on time, and travel allowance is not payable.
- Unwillingness of recruited MOs to work in health facilities is leading to a total lack of supervision and motivation among the remaining health workers, besides depriving the population of access to a doctor.
- Significant shortage of ANMs/Health Workers and lack of lack motivation among health care providers is severely hampering immunization services.

OBSERVATIONS

- In one district visited, most ANMs received training on immunization last year, although they need to be updated on newer topics such as injection safety and microplanning.
- Inservice supervision is absent at all levels. Opportunities to upgrade ANMs and block officers are not taken advantage of.
- Immunization training is subsumed within broader RCH training, resulting in little time spent on immunization.
- Owing to their absence from training materials, some innovations that have been used in other countries for decades are unfamiliar (e.g., cumulative monthly monitoring chart) and some skills may be lacking (e.g., shake test). Periodic reorientation training on immunization is not planned and conducted.
- Ample opportunities to upgrade ANMs and block officers during regularly scheduled meetings at minimal cost are not utilized.
- Most of the MOs and ANMs have received some sort of training a couple of years ago in one of the visited districts, which does not seem to be sufficient.
- Most of the ANMs need instruction in topics such as injection safety, injection technique, record keeping, beneficiaries tracking and use of microplanning.

OBSERVATION

- Demand for services exists.
- The members of PRI are quite eager to provide social mobilization along with other facilities (if they were more confident that the ANM would turn up for the session as planned on every Wednesday).
- Community-based resources are available (AWW) in huge numbers.
- Little systematic attempt to engage community resources and other programmes for improving performance, e.g. by stimulating demand and tracking leftout and dropout children.

- No systematic attempt to inform community and attached hamlets that ANM has arrived.
- Screening, counseling, and public information is weak.
- No State plan exists for IEC for immunization.

Vaccine	Doses issued	Doses reported Given
BCG	1000	892
DPT	1100	1072
OPV	1100	1219
Measles	300	

- No wall paintings and posters were seen on the walls.
- There is very little coordination with other departments such as PRI, ICDS and Education. However, if properly coordinated, they have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).

STAFF	POSTS SANCTIONED	POSTS FILLED	POSTS FILLED BUT NOT ATTENDING	POSTS VACANT	TOTAL FUNCTIONAL POSTS
Civil Surgeon	1	0	0	0	1
DIO	0	1	0	0	1
M.Os at District Hospital	7	7	0	0	7
M.Os at PHCs	39	32	12	7	20 (51%)
LHVs	31	15	DNA	16	15 (48%)
Male Worker /Supervisor	46	28	DNA	18	28 (61%)

DNA= Data not available

MOs at PHC	POSTS SANCTIONED	POSTS FILLED	TOTAL MOs ATTENDING DUTY	POSTS FILLED BUT NOT ATTENDING DUTY	POSTS VACANT
Tehragach	3	3	1	2	0
Dighal Bank	3	2	1	1	1
Thakurganj	3	3	2	1	0
Pothia	3	2	1	1	1
Kishanganj	3	3	3	0	0
Belwa	3	1	1*	1	2
Kochadhaman	3	2	1*	0	1
Bahadurganj	8	8	7	1	0
2 FRUs	10	8	3	5	2
9 Add'lPHCs					

* The MO attending duty at Kochadhaman has been deputed temporarily from Bahadurganj

ANMs and Medical Officers welcome any initiative for **alternative vaccine delivery mechanisms**.

- **Acute power shortages and non-availability of funds for POL and maintenance of generators is leading to non functional cold chain** equipment and in some districts unnecessary trips to District. HQ for vaccine collection every Wednesday.

RECOMMENDATIONS

- **Innovative use of delivery vans using transportation funds with good icepack management** can be used to overcome some of the existing constraints (e.g. pre-chilling stock of icepacks in WIC), storing and distributing fully frozen icepacks using existing equipment is needed at each level.
- If required locally, **provide budget to make additional ice**, as with PPI**.**
- GOI should **provide funds for distribution of vaccines directly to immunization site.**

4.5 COLD CHAIN MANAGEMENT

- **Despite annual maintenance contracts and notifications to State, there are long delays in repairing cold chain equipment.**
- Cold Chain equipment except at district headquarters is **largely non-functional owing to acute power shortage and non-provision of POL, maintenance expenses for generators** but innovative are being used in some areas to improve cold chain functionality.

RECOMMENDATIONS

- Provide sufficient POL and maintenance of generators for cold chain to stabilize the cold chain infrastructure that is crumbling even though there is **NO SHORTAGE of equipment.**

4.6 HUMAN RESOURCES

- **Unwillingness of recruited MOs to work in health facilities** is leading to a total lack of supervision and motivation among the remaining health workers, besides depriving the population of access to a doctor.
- **Significant shortage of ANMs/Health Workers** and lack of lack motivation among health care providers is severely hampering immunization services.

RECOMMENDATIONS

- Take appropriate action to ensure that doctors not attending their duty start working regularly. In the interim, the option of **filling the vacant posts** (ANMs, drivers, Doctors, etc) by local administration on contract basis should be seriously explored/introduced on a trial basis.
- **Replenish staffing levels** (filling the vacant post, sanction additional post) to the extent possible in the long run.
- **Recognize well-performing staff** (MOs and Health Workers) to encourage others to do better.

4.7 TRAINING

- **Most ANMs need instruction** in topics such as injection safety, injection technique, record keeping, beneficiaries tracking and use of micro-planning.
- **Ample opportunities to upgrade ANMs and block officers during regularly scheduled meetings at minimal cost are not utilized**.

RECOMMENDATIONS

- **Design and introduce modular learning materials and use simple tools/job aids as continuing education** (on issues like injection safety, injection technique, record keeping, beneficiaries tracking and use of micro-planning) to refresh ANMs, Block officers, AWWs, MOs at their regular monthly/weekly meetings.

4.8 IEC AND SOCIAL MOBILIZATION

- The members of **PRI, ICDS, others have potential to provide excellent support**, if coordinated and willing to do so if they are more confident the ANM would turn up for the session as planned on every Wednesday.

RECOMMENDATIONS

- **District Magistrate to put health on agenda** of monthly Panchayat Samiti meetings and also instruct blocks to include routine immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).
- Block health representative should attend **every monthly ICDS meeting**.
- A **community team** can be formed including AWWs, PRI and any women's groups to mobilize the village for each vaccination session. -Implement simple

ANNEX 5: GOALS AND OBJECTIVES OF THE 2005-2010 MULTI-YEAR PLAN FOR THE UIP

GOAL 1 - DISTRICTS WILL PROVIDE EFFICIENT AND SAFE IMMUNIZATION SERVICE TO ALL INFANTS AND PREGNANT WOMEN	
Objective 1.1: [regular sessions]	To ensure regular quality immunization sessions are planned and held.
Objective 1.2: [adequate staffing]	To ensure adequate trained staff are empowered to provide essential quality immunization services.
Objective 1.3: [cold chain]	To keep an annually upgraded inventory of cold chain according to the levels of the network, allowing for new equipment, substitution, replacement, spare parts, fuel and others in order to maintain a functional status of 90%.
Objective 1.4: [logistics]	To ensure an efficient vaccine and injection equipment management and logistics system to forecast and deliver adequate supplies of vaccines in a timely manner.
	To ensure the implementation of safe injection practices and

GOAL 2 - CONTRIBUTE TO GLOBAL POLIO ERADICATION, MEASLES MORTALITY REDUCTION AND NEONATAL TETANUS ELIMINATION	
Objective 2.1: [polio eradication]	To achieve polio eradication certification by 2007
Objective 2.2: [MNTE]	To eliminate neonatal tetanus (NNT) by 2009
Objective 2.3: [measles]	To reduce measles mortality by two-thirds by 2010, compared to 2000 estimates.
Objective 2.4: [Vitamin A]	To achieve and maintain a level of 70% coverage with two doses of vitamin a supplementation to children under three.

GOAL 3 - THE UIP WILL HAVE SUFFICIENT AND SUSTAINABLE FUNDING WITH ESTABLISHED ADEQUATE, ACCOUNTABLE AND EFFICIENT FUND	
Objective 3.1: [adequate finance]	To ensure adequate and reliable financial resources at national, state and local levels for the UIP to achieve goals and objectives.
Objective 3.2: [political	To ensure political commitment for adequate annual funding

GOAL 4 - THERE IS SUSTAINED DEMAND AND REDUCED SOCIAL BARRIERS TO ACCESS IMMUNIZATION SERVICES	
Objective 4.1: [social mobilisation]	To ensure widespread support by all families and communities and to ensure that all eligible children and pregnant women are immunized.
Objective 4.2: [advocacy]	To ensure high level political and administrative support for immunization as the key public good.

GOAL 5 - ACCELERATED INTRODUCTION OF LICENSED NEW AND UNDER UTILIZED VACCINES AGAINST DISEASES WITH SIGNIFICANT MORTALITY AND MORBIDITY IN INDIA	
Objective 5.1: [new vaccine]	To ensure institutional mechanisms are in place to adequately obtain, review and utilize information for deciding on introduction of new and under utilized vaccines.
Objective 5.2: [consider MMR]	To review need for MMR or MR vaccine in India's immunization programme.
Objective 5.3: [consider JE]	To review need for introduction of Japanese encephalitis (JE) vaccine in selected states.
Objective 5.4: [implement	To implement a phased introduction of Hepatitis B vaccine.

GOAL 6 - TO MONITOR AND USE ACCURATE, COMPLETE AND TIMELY DATA ON VACCINE PREVENTABLE DISEASES, AEFIS AND ANTIGEN COVERAGE AND DROP OUT RATES BY DISTRICT	
Objective 6.1: [disease surveillance]	To institutionalize surveillance for vaccine-preventable diseases and early detection of any outbreaks.
Objective 6.2: [AEFI surveillance]	To strengthen vaccine quality and injection safety by developing a monitoring system for reporting and responding to adverse events following immunization (AEFI) by 2009.
Objective 6.3: [coverage monitoring]	To establish an effective, efficient, complete and timely immunization recording and local area monitoring system by 2009.