

**PARTICIPATION IN THE MULTI-AGENCY
REVIEW OF THE IMMUNIZATION
PROGRAM IN INDIA**

25 AUGUST – 19 SEPTEMBER 2004

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IMMUNIZATION *Basics*
AND
BASICS II**

This publication was made possible through support provided by the Office of Health, Infectious Disease and Nutrition, Bureau for Global Health, U.S. Agency for International Development, under the terms of Award No. GHS-A-00-04-00004-00. The project IMMUNIZATIONBasics is managed by John Snow Research & Training, Inc. and includes Abt Associates, Inc., the Academy for Educational Development, and The Manoff Group, Inc. as partners. The opinions expressed herein are those of the author and do not necessarily reflect the views of the U.S. Agency for International Development.

BASICS II is a global child survival project funded by the Office of Population, Health and Nutrition of the Bureau for global Programs, Field Support, and Research of the U.S. Agency for International Development (USAID). BASICS II is conducted by the Partnership for Child Health Care, Inc., under contract no. HRN-C-00-99-00007-00. Partners are the Academy for Educational Development, John Snow, Inc., and Management Sciences for Health. Subcontractors include Emory University, The Johns Hopkins University, The Manoff Group Inc., the Program for Appropriate Technology in Health, Save the Children Federation, Inc., and TSL.

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Background

The writer was invited by USAID/Delhi to participate in a multi-party review of the Universal Immunization Program (UIP) in six low-performing states of India. The review was organized by the Government of India (GOI) with support from partners. WHO took the principal technical lead.

The stated objective was that the findings from the review should influence the design of RCH II and the draft Multi-Year Plan (MYP) for immunization of the GOI. The timing of the review was crucial because India will soon start implementing a new 5-year immunization plan and donor partners had requested the review as part of the process to release funds to the GOI. The following six low-performing states were reviewed: UP, Bihar, MP, Rajasthan, Jarkhand, and Orissa.

A comparison of the full immunization coverage levels in the 236 districts surveyed in the national district household survey conducted in 1998/99 and again in 2002/03 indicates a decline in 74% of the districts. The percent of districts achieving >60% coverage decreased and those with <40% increased.

The overall objective of the review was to assess the current immunization system and immunization delivery practices to identify strengths, weaknesses, and bottlenecks in order that practical strategies for improving routine immunization can be strengthened.

The four main objectives targeting specific areas for review were stated to be:

- To review, analyze immunization service delivery at health facility and district levels and provide recommendations for improvement;
- To assess current Indian national level vaccine procurement, distribution mechanisms (to health facility level) and provide practical options for improvement;
- To review current immunization staffing levels and training requirements to provide guidance in realistic expansion in staffing levels and training needs; and
- To review the VPD surveillance systems, immunization service and coverage level monitoring, and AEFI monitoring at national and state levels and provide guidance for the next steps to improve the system.

In fact, no review of national level functions was conducted by any of the teams.

Partners in the review included MOHFW, USAID, WHO, UNICEF, AIIMS, CARE, CVP/PATH, and NIFHW. USAID was represented on the review by the writer and by Iqbal Hossain (BASICS II consultant), as well as by Chris Barrett (Infectious Diseases and HIV-AIDS Fellow) with USAID/Delhi.

In addition, the writer took the opportunity to learn more from the USAID Mission about their vision of the new immunization project's role in India. This discussion was limited due to the intense involvement on the immunization program review.

The writer's trip was co-financed between BASICS II (air fare and per diem) and the new IMMUNIZATION Basics Project (salary and overhead).

Scope of Work

The purpose of travel was to participate in the multi-partner EPI Review in India to help influence the practices of routine immunization and articulate CARE's potential role in establishing linkage between MOH, ICDS, and communities.

Activities

The writer participated in the following activities in India:

- Met with CARE staff before the start of the review to discuss their goals for participating in the review and assist in generating ideas for a presentation given by Usha Kieran at the opening ceremony;
- met briefly with USAID (Masse Bateman) at the opening ceremony for the review to seek his expectations for the visit;
- participated in the adaptation of the draft nodules to be used on the review;
- spent 10 days in the field visiting Bihar State, Aurangabad District, Madanpur Block, Bangare Additonal PHC Manika SubCenter and Khiriwan Panchayat outreach vaccination site;
- served as presenter and focal point for information (rapporteur) for the Bihar State team, consolidating the findings from the two Bihar State teams and preparing the team's final report;
- de-briefed with Aurangabad officials on district findings;
- de-briefed Bihar State officials on the team findings;
- served as co-chair in a working group to select and finalize practical recommendations to the national level;
- led a feedback session on Bihar State findings to Mr. Brarr, MOHFW at a final de-briefing of all team findings which included representatives from other agencies (EU, CDC, World Bank, USAID, German development agency, WHO/SEAR);
- met with Professor Aurora of the All Indian Institute of Medical Sciences' (AIIMS) India CLEN Program Network;
- met with Rajiv Tandon, MOST; and

- de-briefed with USAID, including Masee Bateman, Chris Barrett, and Meenakshi.

CARE was fully engaged in the review. The writer had hoped to participate in a post-mortem meeting with the six CARE staff who participated on the review, but the meeting had concluded by the time the writer arrived. In addition, the writer met with Sridarh Srikantiah, BASICS Country Coordinator.

Findings

Immunization Review:

The teams reported their findings by level and by technical area. Strengths, weaknesses, conclusions, and recommendations were recorded at the level of State, District, PHC, private provider, and sub-center. The strengths, weaknesses, conclusions, and recommendations were also recorded for eight technical areas: program management, service delivery and safe injections, surveillance and monitoring, cold chain, vaccine logistics, training, human resources, and IEC and social mobilization.

While the review was not a national level review, in the course of reviewing the six states, the teams came up with ten draft recommendations directed to the national level. These draft recommendations appear in Annex 1.

A summary of recommendations presented verbally at a de-briefing with Bihar State and partner officials appears in Annex 2. The full Bihar State report, which the writer drafted with input from the team members, appears in Annex 3.

Upon further reflection in Delhi, when challenged to offer only five key recommendations, the Bihar team came up with the recommendations that appear on page 2 of the Bihar State report (Annex 3). These five recommendations to strengthen routine immunization in Bihar State are as follows:

Fund Flow:

Provide clear guidelines and flexibility for utilizing existing funds at all levels.

Inter-sectoral Coordination:

Engage PRI, ICDS, literacy workers and the private sector to tap their potential.

Cold Chain and Vaccine Logistics:

Improve efficient and effective management of the existing cold chain 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), vehicles and drivers on contract).

Monitoring and Supervision:

Operationalize the system of supportive supervision and monitoring by requiring regular review (monthly or weekly depending on the level) of performance at all levels. This should include analysis of available performance data, using the results to take management decisions, and providing in-service upgrading of knowledge and skills using modular learning materials and simple tools/job aids.

Human Resources:

Rationalize the utilization of existing human resources by hiring manpower on contract (e.g., ANMs, MOs, drivers, etc.) to fill vacant posts and to replace staff not attending their duties for months without proper reason. Salary should be paid on time.

Disconnect between GOI policies and actual practices found in the field:

During the course of the review in Bihar State, the writer observed several areas where GOI policies are consistently and widely misunderstood in the field:

- belief that DPT series must be re-started if intervals between doses of greater than one month occur
- refusal to administer measles vaccine as soon as possible after 9 months of age if the child is due to receive other parenteral vaccinations on the same day
- fear to give more than one injection to the child on the same visit
- belief that measles vaccine can be deferred because it may be given between 9 and 12 months of age and not as soon as possible after nine months of age
- belief that measles must be the last vaccine given
- belief that 2 doses of TT are required in each pregnancy
- immunizations administered to children over 12 months of age are always reported as if given to infants
- confusion as to which vaccines are permitted to be given to children over 12 months of age.

One of the stated objectives of the review was to identify any weak areas in the GOI's draft multi-year plan. A few areas of weakness in the draft MYP are listed below:

- Monitoring needs of strengthening in light of the review findings. Currently, the draft MYP envisages only two activities under monitoring: improving data flow and improving the quality of data reporting. By comparison, the findings from Bihar State (similar to other State findings) were to focus on using the data at each level of their collection for improved management and decision-making. The Bihar recommendation is: "Operationalize the system of supportive supervision and monitoring by requiring regular review (monthly or weekly depending on the level) of performance at all levels. This should include analysis of available performance data, using the results to take management decisions, and

providing in-service upgrading of knowledge and skills using modular learning materials and simple tools/job aids.”

- Recognition of the value of using improved community linkages for strengthening tracking and monitoring at local levels is largely absent in the MYP.
- More attention should be directed to improving the functionality of block levels. The MYP is mostly silent about blocks, devoting its attention almost exclusively at the district level.
- The MYP, as well as various current WHO and UNICEF frameworks and strategic plans, practically bend over backwards to avoid mention of the potential role of AWWs, even as these documents are calling for better community engagement and improved tracking.

Prospects for “IMMUNIZATION Basics” in India:

USAID is widely and heavily supporting immunization activities in India through a variety of partners and funding sources. The examples below of USAID support are substantial but may not yet be complete. In some cases, the funding is directly in support of immunization, while in others the relation to immunization is less direct. The source and routine of the funds listed below needs to be further verified.

- from USAID/Global to WHO/HQ to WHO/India to co-fund (with other partners) an expatriate staff member (Craig Burgess) and five national staff in Bihar, UP (2 persons), Jharkhand, and Rajasthan States working on routine immunization.
- from USAID/Delhi to BASICS II in support of CARE INHP II (closing in September)
- from USAID for the CORE Group Polio Partners
- from USAID/Delhi to CARE’s INHP (some of which includes immunization)
- from USAID/Global (Ellyn Ogden) to UNICEF in Jharkhand and U.P.
- from USAID to INCLIN/AIIMS for separate studies (and follow-up developmental activities) on integrated disease surveillance, immunization service delivery, and model injection corners
- from USAID/Delhi to the new global immunization project
- from USAID/Delhi to DELIVER (although focus on vaccine logistics has been absent)
- from USAID/Global’s EHP for urban health (some of which includes immunization)

Given their substantial investment, USAID/India is in position to play a larger role in technical discussions on routine immunization in India. In light of the financial support provided by USAID for the creation of a Routine Immunization Cell at national level and in four states, the IMMUNIZATION Basics project could be a technical resource for these cells.

USAID/India would like the writer and Dr. Murray Trostle (USAID/Global/HIDN) to jointly visit in mid-November to program support from the IMMUNIZATION BASICS Project, and to assist the Mission in developing their immunization strategy. Given the level of resources, the new project will have to be highly focused to support the Mission.

The review identified many areas for potential involvement of USAID's new Global Immunization Project. Depending on which State the project would be involved in, the first order of business would be to review the findings and recommendations from that particular state review. Of the recommendations directed to the national levels, based on the findings of the six State reviews, the ones that are better matched for TA from IMMUNIZATION Basics are listed below (the numbers relate to the order in which the recommendations appear in Annex 1):

#2. Revitalize standard processes for active *monitoring and supervision practices*, for example through field visits, periodic reviews and reliable reports with a focus on district and sub district levels. The central / state monitoring teams should lead by example.

#3. Central level should review, update and disseminate *operational guidelines* for use by all UIP staff that include simple key messages on:

- a) Devising and implementing routine immunization micro plans
- b) Simple aspects of injection safety
- c) Vaccine logistics (ordering, storage, wastage and use)
- d) Immunization schedule and practices
- e) Cold chain logistics standards
- f) Record keeping and using data for action
- g) Defaulter tracing

#7. Central level should review, update and disseminate *training modules, simple tools and job aids* for possible adaptation at State level. Central level should also ensure the States implement 'on the job' and pre service / basic training for public and private health workers. These should contain such elements as:

- a) Interpersonal skills training (so that every immunization contact delivers key messages to reduce drop out rates: i) importance of immunization, ii) normal effects post immunization, iii) timing and place of child's next immunization, iv) preventive behavioural health messages including breast feeding and nutrition)
- b) Data recording and reporting practices and use for action
- c) Micro-planning to increase coverage rates and reduce drop outs
- d) Immunization safety, with special focus on syringe and needle disposal
- e) Cold chain maintenance and vaccine logistics, with specific reference to inappropriate vaccine freezing
- f) Supportive supervision skills

#8. Central level should provide technical support and resources for states to develop an evidence based *Social Mobilization Plan* (including logo and branding).

#9. In specific low performing States, a *district / block based operations research scheme* could be considered and scaled up if successful. This sustainable low cost scheme at district / block and village levels could be based on recommendations made

during the review. This could comprise data use, tools, job aids for improved convergence of planning, monitoring, registration and follow-up of births / defaulters, delivery and quality of services.

Some possible areas of interest for CARE INHP programming:

CARE INHP II may like to explore some of the following technical needs identified during the review:

- Develop and introduce a sustainable and replicable operational model 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 follow-up of births/defaulters, delivery and quality of services.
- 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.
- 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.
- Improve coordination on routine immunization at all levels with other departments and entities (such as PRI, ICDS and Education) that have the potential to provide excellent support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, Village Pradhan, etc.).

Recommendations

-Recommendations from all six state reviews directed to the national level appear in Annex 1; a summary of recommendations provided at a de-briefing with Bihar State and partner officials in Patna appears in Annex 2; and the full report for Bihar State, including recommendations, appears in Annex 3.

-A number of the State-specific and national level community-related recommendations provide an obvious entrée for CARE's INHP II, should they wish to seize the opportunity. As planned, a post-mortem review of CARE's experience and learning from the review would be an essential first step to provide a field perspective to INHP HQ about their future programming in routine immunization. The writer also recommends that CARE INHP II should plan to describe any of their successful efforts in routine immunization to achieve convergence among ICDS, PRI and health staff. In light of the review findings, such documentation will be very timely indeed.

ACTION: CARE INHP II

-The writer should keep up-to-date and inform the Mission on any plans in India for implementing the R.E.D. approach (Reaching Every District). **ACTION: Steinglass**

-The writer and Dr. Murray Trostle (USAID/Global/HIDN) should jointly visit India in mid-November to assist the Mission in developing their immunization strategy. Given the level of resources, the new project will have to be highly focused in programming its support to the Mission. **ACTION: Steinglass and Trostle**

-Follow up with Professor Arora on obtaining the results of the INCLEN/AIIMS qualitative study of immunization. **ACTION: Steinglass**

-Pursue the contact (between 8-31 October) made with Vance Dietz from CDC who was visiting India to explore working on routine immunization (the R.E.D. approach) as an OR approach in Assam with UNICEF. **ACTION: Steinglass**

ANNEX 1

(draft) Recommendations for the GOI Based on Findings from the Reviews of Routine Immunization in Six States

1. The existing national level *Inter Agency Coordination Committee* (ICC) needs to
 - a) increase its focus on routine immunization by specifically monitoring the implementation of the MYP
 - b) broaden its membership¹
 - c) meet at least quarterly

2. Revitalize standard processes for active *monitoring and supervision practices*, for example through field visits, periodic reviews and reliable reports with a focus on district and sub district levels. The central / state monitoring teams should lead by example.

3. Central level should review, update and disseminate *operational guidelines* for use by all UIP staff that include simple key messages on:
 - a) Devising and implementing routine immunization micro plans
 - b) Simple aspects of injection safety
 - c) Vaccine logistics (ordering, storage, wastage and use)
 - d) Immunization schedule and practices
 - e) Cold chain logistics standards
 - f) Record keeping and using data for action
 - g) Defaulter tracing

4. Ensure and monitor that *funds are appropriately released* in a timely way for operational costs, such as supervisors' mobility and locally appropriate vaccine delivery system to every immunization site (eg. cycles, mobility support for ANMs, per diems for helpers, rickshaw fares etc.) by providing clear, updated guidelines that allows flexibility.

5. Ensure an *uninterrupted supply of all antigens* to state level through a vaccine stock management system that includes annual forecasting (based on sessions planned - especially for BCG & measles) and wastage rates. To minimize the wastage and facilitate increased coverage 10 dose BCG vials should be procured.

6. Central level should provide the necessary policy, guidelines, training materials and supplies (auto-disable syringes (ADs) and disposal systems) for states to implement *safe injection practices* at all immunization sites.

7. Central level should review, update and disseminate *training modules, simple tools and job aids* for possible adaptation at State level. Central level should also ensure the States implement 'on the job' and pre service / basic training for public and private health workers. These should contain such elements as:
 - a) Interpersonal skills training²

¹ GoI, NTAGI, Development partners, ICDS, Ministries of Railways, Education and Defence, ESIS, Indian Academy of Paediatricians (IAP), Indian Medical Association (IMA) and key NGOs involved with immunization and State representation as appropriate

² so that every immunization contact delivers key messages to reduce drop out rates: i) importance of immunization, ii) normal effects post immunization, iii) timing and place of child's

- b) Data recording and reporting practices and use for action
- c) Micro-planning to increase coverage rates and reduce drop outs
- d) Immunization safety, with special focus on syringe and needle disposal
- e) Cold chain maintenance and vaccine logistics, with specific reference to inappropriate vaccine freezing
- f) Supportive supervision skills

8. Central level should provide technical support and resources for states to develop an evidence based ***Social Mobilization Plan*** (including logo and branding).

9. In specific low performing States, a ***district / block based operations research scheme*** could be considered and scaled up if successful. This sustainable low cost scheme at district / block and village levels could be based on recommendations made during the review. This could comprise data use, tools, job aids for improved convergence of planning, monitoring, registration and follow-up of births/defaulters, delivery and quality of services.

10. All ***hard-to-reach and urban slum areas*** should be reached at least four times per year with routine immunization or catch ups (where appropriate). Other packages of healthcare (eg. preventive health messages

ANNEX 2

BIHAR STATE REVIEW DE-BRIEFING/TALKING POINTS

1. 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 staff are unfamiliar with the significance of AWWs and their name-based head counts. Limited vision in the health sector. ANM and AWW should update their registers after the vaccination session to determine 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.

2. 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.

3. Recommendations Directed to State Level

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

4. Key Recommendations by Technical Area for State Implementation of the Immunization Multi-year Plan

(Note: Some of the more important findings and recommendations related to the following technical areas have already been covered above and will not be repeated below.)

4.1 Programme Management

CONCLUSIONS

-**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)

-All 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

CONCLUSIONS

-**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

CONCLUSIONS

-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

CONCLUSIONS

-Staff at PHC and sub center levels such as 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

CONCLUSIONS

-**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

CONCLUSIONS

-**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

CONCLUSIONS

-**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

CONCLUSIONS

-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 methods to inform the community that the ANM has arrived.

-**Design and introduce simple tracking, monitoring, and motivational tools to take advantage of AWW name-based head counts.**

-Implement simple methods to **alert the community** and more distant attached hamlets that the ANM has arrived.

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ANNEX 3

Draft IMMUNIZATION REVIEW FOR BIHAR STATE

1. SUMMARY

The Bihar State review team concluded that immunization coverage in the State is abysmal and the immunization services are in dire condition. Nevertheless, there are some bright spots as indicated in the report below. The team was impressed with how much is being achieved in spite of work conditions, late salary payment, etc. Many lower level staff are working hard and trying their best without much support.

More financial and human resources are required. Steps are required to fill vacant positions, ensure that posted staff report to their assigned duty, provide timely salary support, and provide financial and technical support for staff to do their jobs. Too frequently, the costs required to perform job responsibilities appear to be passed down the system from level to level and come to rest on the shoulders of the low-level and low-paid health staff.

However, much can be done even within the existing limited resources and infrastructure. But expanded vision and critical thinking beyond the usual formulations will be required. This immunization review 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.

The review team believes that at present immunization program is too narrowly conceived as top-down and supply-driven. 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 community 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.

Five key practical recommendations to strengthen routine immunization

Fund Flow:

Provide clear guidelines and flexibility for utilizing existing funds at all levels.

Inter-sectoral Coordination:

Engage PRI, ICDS, literacy workers and the private sector to tap their potential.

Cold Chain and Vaccine Logistics:

Improve efficient and effective management of the existing cold chain 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), vehicles and drivers on contract).

Monitoring and Supervision:

Operationalize the system of supportive supervision and monitoring by requiring regular review (monthly or weekly depending on the level) of performance at all levels. This should include analysis of available performance data, using the results to take management decisions, and providing in-service upgrading of knowledge and skills using modular learning materials and simple tools/job aids.

Human Resources:

Rationalize the utilization of existing human resources by hiring manpower on contract (e.g., ANMs, MOs, drivers, etc.) to fill vacant posts and to replace staff not attending their duties for months without proper reason. Salary should be paid on time.

2. BACKGROUND

Located in the north of India, the State of Bihar has a population in 2003 of 85,879,003, projected from the 2001 Census. Immunization is provided as a part of RCH. According to the Coverage Evaluation Survey conducted in 2002 by the Department of Family Welfare, GOI and UNICEF India, the percentage of fully immunized children below 12 months of age was 13% in Bihar compared to 56.6% for the country as a whole. By comparison, the percentages in the neighbouring states of Jharkhand, Uttar Pradesh and West Bengal are 26, 27 and 78 percent, respectively. The percent distribution of beneficiaries receiving immunization by source of facility appears in the data analysis section.

Kishanganj District has a population of 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. METHODOLOGY

The immunization review in Bihar State has been conducted by two teams with staff representing AIIMS, NIHF, WHO, UNICEF, CVP/PATH, and USAID. The composition of the teams was determined in Delhi to reflect a proper mix of knowledge and skills.

Before arrival of the teams, the two visited districts had been randomly selected by the GOI from among the universe of well-performing and poorly performing districts within the State. Some of the visited blocks were chosen based on distance and performance criteria from a pre-determined listing of blocks randomly chosen initially by an EPI Review coordination team that included representatives of GOI and development agencies. One team also visited the Bihar State level as well as Aurangabad District, while the other team visited Kishanganj District. At each level, modules that were prepared in Delhi were applied to elicit information and guide observations.

Block PHCs and Additional PHCs were selected for review to reflect the true picture of the district and represent all possible scenarios. Health facilities were selected carefully after discussions and deliberations analyzing various factors such as the population served, location, performance, staffing situation, cold chain availability, etc. In the event, more facilities were reviewed than planned in Delhi. Immunization sessions within sub centres and at fixed day outreach points were observed. Urban health centres and private practitioners were also visited. The Kishanganj team was also able to visit additional blocks not on the original list.

To maintain the flow of discussion with respondents, the team members thoroughly familiarized themselves with the modules beforehand. After the initial district review meetings, each team split into two subgroups and headed to different field locations to

be able to cover all selected blocks and facilities. The interviews were typically conducted with one member leading the discussion and the second member recording information and observations. In some cases, where there were comparatively larger number of respondents, the subgroup split into two with each member individually interviewing/discussing with different sets of respondents such as MO I/C, LHVs, ANMs, Male Health Workers, Statistician (computer) etc. The opportunity was also taken to observe specific functions, such as delivery to the block of vaccine and icepacks from the district and early morning collection of vaccine by ANMs.

Immunization records were observed routinely to determine how well they were maintained, how they were used, and the staff's understanding of basic concepts such as micro-planning, targets, coverage/drop out rates, vaccine indenting, etc. Records were also used to provide additional insights and validate information given to the teams. Use of immunization cards and registers during immunization sessions were also observed. Where the officers and workers were found unaware of basic concepts, the same were explained to them. In cases where discrepancies were observed between different data sets provided to the team, the same were cross-checked with other relevant data (such as vaccination coverage and vaccine doses received in the same period) to reconcile and arrive at a logical interpretation of the data. To elicit common information from ANMs, a focus group discussion was held to capture their opinion on issues like alternate vaccine delivery methods.

Wherever possible, the team also interacted with the community (parents/mothers carrying infants and others) and local representatives (e.g. *Gram Panchayats*) to understand their perception of the immunization services and their perceived needs.

4. COVERAGE IMPROVEMENT PLAN TABLE

Based on this situational analysis, the teams have achieved consensus on priority points for each of the successes, barriers, conclusions and recommendations for a coverage improvement plan at the five different levels (State, District, Block PHC, PHC and subcentre). The plan appears below.

	Strengths	Weaknesses	Conclusions	Recommendations
STATE	<p>-State Routine Immunization Cell has been created.</p> <p>-State Inter Agency Coordination Committee Meetings are held weekly among DFW, WHO and UNICEF to discuss mainly the PPI.</p> <p>-Coverage data are collected and largely available for review.</p> <p>-State cold chain room has good electric supply due to location at PMCH, cold chain mechanics present, and stock register used.</p> <p>-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</p>	<p>-Targets and coverage performances are conflicting.</p> <p>-Bottlenecks and lack of guidelines in disbursement of funds.</p> <p>-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.</p> <p>Funds for ANM outreach weren't released and never reached districts.</p> <p>-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.</p> <p>-Rigid top-down guidelines do not encourage customized local solutions to local problems and encourages passivity.</p> <p>-Opportunities for inter-sectoral coordination (e.g., using the PPI model) are missed (e.g., ICDS, PRI,</p>	<p>-More than the paucity of resources, the problem lies with proper allocation, utilization and accountability for the available fund. The system is also 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.</p> <p>-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.</p> <p>-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.</p>	<p>-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.</p> <p>-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.</p> <p>-Expand the agenda of Inter-agency Coordination Committee meetings to include routine immunization and invite other technical partners.</p> <p>-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.</p> <p>-Broaden discussion and</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>generally were willing to work and improve.</p> <p>-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 micro-planning.</p>	<p>Education).</p> <p>-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.</p> <p>-Complementarity between programs is lacking.</p> <p>-High rates of left out and dropout.</p> <p>-Policies regarding vaccine eligibility of children more than 12 months of age are uncertain.</p> <p>-Unnecessarily delayed measles vaccination due to unclear policies.</p> <p>-District did not receive funds for outreach.</p> <p>-Very little flexibility on spending POL funds on creation of depots</p>	<p>-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.</p> <p>-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.</p> <p>-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</p>	<p>implementation of solutions beyond health staff and beyond polio to include PRI, ICDS, etc.</p> <p>-Provide funding for transport of vaccine, mobility of officials, and maintenance of cold chain needs to be regularized at each level.</p> <p>-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 follow-up of births/defaulters, delivery and quality of services.</p> <p>-District should ensure that GOI policies on engaging the private sector are implemented (e.g., vaccine supply, reporting, monitoring quality.)</p> <p>-Introduce cumulative monitoring</p>

	Strengths	Weaknesses	Conclusions	Recommendations
		<p>(e.g., hiring vehicle locally to establish depot).</p> <p>-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)</p> <p>-Targets and coverage performances are conflicting.</p> <p>-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.</p> <p>-At many levels, salaries are not paid on time, promotions are not given on time, and travel allowance</p>	<p>for management, quality and performance improvement.</p> <p>-Despite annual maintenance contracts and notifications to State, long delays in repairing cold chain equipment.</p> <p>-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.).</p>	<p>graph for systematic feedback, along with number of sessions held versus conducted.</p> <p>-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.</p> <p>-State and District should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.</p> <p>-GOI should provide funds for distribution of vaccines directly to immunization site.</p> <p>-The Government should provide flexibility and clear guidance to permit efficient and effective use of funds for maintaining the cold chain.</p> <p>- The Government should regularly provide sufficient POL and fund for maintenance of cold chain</p>

	Strengths	Weaknesses	Conclusions	Recommendations
		<p>is not payable.</p> <p>-Immunization training is subsumed within broader RCH training, resulting in little time spent on immunization.</p> <p>-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 re-orientation training on immunization is not planned and conducted.</p> <p>-No State plan exists for IEC for immunization.</p>		<p>equipment and generators.</p> <p>-As done by PPI, Government should permit expenditure of funds to procure ice from the nearest ice factory on each Wednesday.</p> <p>-Design and introduce simple tracking, monitoring, IEC and motivational tools to take advantage of name-based head counts conducted regularly by AWWs.</p> <p>-Operational guidelines and IEC materials are needed to clarify vaccine eligibility for older age groups and timely measles vaccination.</p> <p>-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.</p> <p>-Take appropriate action to ensure that doctors not attending their duty</p>

	Strengths	Weaknesses	Conclusions	Recommendations
				<p>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.</p> <p>-Replenish staffing levels (filling the vacant post, sanction additional post) to the extent possible in the long run.</p> <p>-Recognizing well performing MOs and Health Workers will encourage others to do well.</p> <p>-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.</p> <p>-Video films should be used to demonstrate the injection technique</p>

	Strengths	Weaknesses	Conclusions	Recommendations
				for the ANMs on experimental basis to test its feasibility.
DISTRICT	<p>The system of immunization and logistics well-designed from top in one of the two districts.</p> <p>-Data are collected at each level.</p> <p>-Daily Immunization Sessions are conducted regularly. BCG and Measles are given on Monday and Saturday at one District Hospital.</p> <p>-At the district levels, cold</p>	<p>-Data are not used for analysis of weaknesses, improvement of performance, feedback.</p> <p>-Bottlenecks and lack of guidelines in disbursement of funds.</p> <p>- District provides demographic targets not related to local counts.</p> <p>-Regular meetings across departments to discuss performance and requirements are held for polio only (missed programmatic opportunity). Health staffs at</p>	<p>-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).</p> <p>-Reluctance and delay in using the detailed district-specific micro planning exercise to advocate for more resources.</p> <p>-The burden of accounting for</p>	<p>-Organizational and managerial solutions should be sought at each level for improving performance even within the existing low levels of resources.</p> <p>-Broaden discussion and implementation of solutions beyond health staff and beyond polio to include PRI, ICDS, etc.</p> <p>-District Magistrate should put health on the agenda of monthly Panchayat Samiti meetings and also instruct blocks to include routine</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>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.</p> <p>-Inventory exists of equipment needing repair.</p> <p>-In one visited district, regular supply of vaccine and icepacks from district has recently improved with “push” system using delivery van and transportation funds.</p> <p>-Vaccine well-stored and since April in sufficient uninterrupted quantity with register maintained.</p> <p>-The districts have recently received 100,000 Rs from</p>	<p>district and above exhibit little appreciation of advantages of engaging other departments or systems (e.g., ICDS and community-based resources).</p> <p>-Opportunities for inter-sectoral coordination (e.g., using the PPI model) are missed (e.g., ICDS, PRI, Education).</p> <p>-Detailed district micro-plans do not include innovative approaches. They are largely supply-driven listings of inputs without evident focus on <u>how</u> services will be improved.</p> <p>-High rates of left-out and drop-out.</p> <p>-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.</p> <p>-Plans to reach hard to reach areas unavailable.</p>	<p>GOI funds is perceived at lower levels as a disincentive to request/receive funds.</p> <p>-Some private practitioners 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.</p> <p>-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.</p>	<p>immunization in monthly block convergence meetings (including CDPO, MOIC, Education, PRI, others).</p> <p>-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.</p> <p>-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.</p> <p>-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.</p> <p>-District should monitor commercial</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>GOI for cold chain.</p> <p>-In one visited district, sanctioned ANM positions are mostly filled.</p>	<p>-Micro-plan available in Block is followed but is not consistent with District/State micro-plan</p> <p>-High quality regular services provided in the presence of a senior doctor attract good number of beneficiaries (both poor and well to do).</p> <p>-Targets and coverage performance are conflicting, nor tracked</p> <p>-Data not used for actively monitoring, managing and improving program performance; and feedback is entirely absent.</p> <p>-Frequent and prolonged electric power cuts at all levels and (at sub-district level) non-availability of POL and maintenance expenses for generators.</p> <p>-Delays in repairing cold chain equipment and insufficient routine maintenance.</p>	<p>-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.</p> <p>-Significant shortage of ANMs/Health Workers and lack of lack motivation among health care providers is severely hampering immunization services.</p> <p>-Ample opportunities to upgrade ANMs and block officers during regularly scheduled meetings at minimal cost are not utilized.</p> <p>-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.</p>	<p>hepatitis B vaccination camps to ensure public safety.</p> <p>-Provide possible facilities such as repair and maintenance of existing buildings wherever ANMs are residing or willing to reside.</p> <p>-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.</p> <p>-Civil Surgeon should oversee that consistent targets are being used in blocks.</p> <p>-Introduce cumulative monitoring graph for systematic feedback, along with number of sessions held versus conducted.</p> <p>-District Magistrate and Civil Surgeon should hold a meeting at least quarterly to review health</p>

	Strengths	Weaknesses	Conclusions	Recommendations
		<p>-No DPT vaccine was received last year for 3 months and measles vaccine for 5 months.</p> <p>-High BCG wastage.</p> <p>-Cold chain functions performed at most levels by staff with little training and no supervision. Sanctioned cold chain vacancies unfilled.</p> <p>-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.</p> <p>-In one visited district, an extreme shortage and unequal distribution of ANMs results in a number of unattended sub-centres.</p>	<p>-Most of the ANMs need instruction in topics such as injection safety, injection technique, record keeping, beneficiaries tracking and use of micro-planning.</p> <p>-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.).</p>	<p>priorities, including immunization performance.</p> <p>-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.</p> <p>-District should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.</p> <p>-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.</p> <p>-Innovative use of delivery vans and transportation funds and careful icepack management can be used to overcome some of the cold chain</p>

	Strengths	Weaknesses	Conclusions	Recommendations
				<p>constraints.</p> <ul style="list-style-type: none"> -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).

	Strengths	Weaknesses	Conclusions	Recommendations
PRIVATE PRACTITIONERS	<p>-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.</p> <p>-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.</p> <p>-Trained dedicated staff are available for immunization and ANC services at one of the private hospitals in one of the visited districts.</p>	<p>-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.</p>	<p>-High quality regular services provided in the presence of a senior doctor attract good number of beneficiaries (both poor and well to do).</p> <p>-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.</p>	<p>-Involve interested private sector practitioners in Government training programs</p>

	Strengths	Weaknesses	Conclusions	Recommendations
PHC	<p>- Regular staff meetings are held within the block in one of the two districts.</p> <p>-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).</p> <p>-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.</p> <p>-Two blocks took the initiative of establishing an additional depot for several ANMs to collect vaccine Wednesday morning to</p>	<p>-Regular staff meetings are not held within the block in one of the two districts.</p> <p>-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.</p> <p>-Reluctance to flexibly adapt guidelines to cover all villages and full population (e.g., using 2-monthly schedules, two places within one village, etc.)</p> <p>-No distinction is made between sites with, for example, populations of 6000 and 200 – both are visited -</p> <p>-Location of vaccination sessions not always client-friendly. With same frequency.</p> <p>-Sessions were found routinely</p>	<p>-Convergence between DFW and DMC/ICDS is largely absent at block level and above.</p> <p>-All PHCs have vehicles but efforts to mobilize the vehicles by deputing drivers are found lacking.</p> <p>-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.</p> <p>-Where they were found, Male Health Workers were seen to be involved in immunization sessions within the PHC level.</p> <p>-There is lack of supervision, direction, monitoring, analysis and feedback at all levels,</p>	<p>-Organizational and managerial solutions should be sought at each level for improving performance even within the existing low levels of resources.</p> <p>-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.</p> <p>-Block should decide which micro-plan 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, sub-centres should provide immunization services at least once</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>avoid longer travel to the Block PHC.</p> <p>-In one visited district, a plan has been made to rotate ANM staff to cover all areas under each PHC for immunization.</p>	<p>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</p> <p>-In most cases, the doctors take turns staying at the health facility and are rarely present for more than 2 days per week.</p> <p>-Targets and coverage performance are not known (or conflicting), nor tracked at most levels.</p> <p>-Data not used for actively monitoring, managing and improving program performance; and feedback is entirely absent.</p> <p>-There is no system of recording/tracking VPD (non-AFP) and AEFI</p>	<p>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.</p> <p>-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.</p> <p>-Staff at PHC and sub centre levels such as ANMs and Medical Officers welcome any initiative for alternative vaccine delivery mechanisms.</p> <p>-Cold Chain equipment except (at district headquarters) is non-functional owing to acute power shortage and non-provision of regular POL and fund for</p>	<p>every month, if not more frequently.</p> <p>-Provide funding for transport of vaccine, mobility of officials, and maintenance of cold chain needs to be regularized at each level.</p> <p>-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.</p> <p>-Ensure there are no missed vaccination sessions, so as to maintain the confidence of beneficiaries and community leaders and thereby boost coverage levels.</p> <p>-ANM should select site within designated village that is convenient for public.</p> <p>-Introduce cumulative monitoring graph for systematic feedback, along with number of sessions held versus</p>

	Strengths	Weaknesses	Conclusions	Recommendations
		<p>-Frequent and prolonged electric power cuts at all levels and (at sub-district level) non-availability of POL and maintenance expenses for generators.</p> <p>-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.</p> <p>-Icepacks were neither fully frozen, nor sufficient in number at time of distribution to the blocks and ANMs.</p> <p>-Micro-plans not being used to improve logistics.</p> <p>-Cold chain functions performed at most levels by staff with little training and no supervision. – Sanctioned cold chain vacancies</p>	<p>generator maintenance; however, innovative logistic solutions are being used in some areas to overcome these constraints.</p> <p>-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.).</p>	<p>conducted.</p> <p>-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.</p> <p>-Block should promote the use of Community Need Assessment Approach for setting targets and monitoring achievement.</p> <p>-Require to keep a copy for themselves of last year's vaccination data and current year's cumulative totals for review and action.</p> <p>-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.</p>

	Strengths	Weaknesses	Conclusions	Recommendations
		<p>unfilled.</p> <p>-BCG wastage is very high.</p> <p>-In-service supervision is absent at all levels. Opportunities to upgrade ANMs and block officers are not taken advantage of.</p>		<p>-Block health representative should attend every monthly ICDS meeting.</p> <p>-Available IEC posters should be put to use.</p>
SC	<p>-Detailed micro-plans have been formulated down to level of immunization site.</p> <p>-Awareness of injection safety issues has been observed at most places among both public and staff.</p> <p>-Where they exist, AWWs were present at the immunization sessions.</p> <p>-In several cases, the</p>	<p>-Too frequent meetings disrupt work of ANM.</p> <p>-Insufficient and poor quality residential facilities (e.g., leaking roof in residence, no windows).</p> <p>-Vaccine registers (neither ANM nor AWW registers) and counterfoils are not used to identify and target children in need of vaccination.</p> <p>-Widespread gap between policy</p>	<p>-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.</p> <p>-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</p>	<p>-ANM and AWW should update their respective immunization registers after the session to determine who needs come next time so AWW can target them.</p> <p>-Transfer names of newborns from prenatal register into vaccination register immediately after birth.</p> <p>-Include on reporting and recording formats the number of fully vaccinated children.</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>ANM's family members were found to be helping her to perform her duties, including carrying the vaccine from PHC, record-keeping, transporting her on bicycle/motorcycle, and mobilizing the public.</p> <p>-The opportunity to provide vitamin A at the immunization site was taken.</p> <p>-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).</p> <p>-Head count available and regularly updated by AWW.</p> <p>-Cards available and used.</p> <p>-Demand for services exists.</p>	<p>and practice (interrupted DPT series is re-started; 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)</p> <p>-Dates were recorded on the vaccination card before the vaccinations were given, but some were not given.</p> <p>-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.</p> <p>-Targets and coverage performance are not known (or conflicting), nor</p>	<p>support through their existing schemes and personnel (Jan Siksha Abhiyan, Anganwadi, village Pradhan, etc.).</p>	<p>-Introduce tally sheets to facilitate monthly reporting and reduce current workload.</p> <p>-Require to keep a copy for themselves of last year's vaccination data and current year's cumulative totals for review and action.</p> <p>-A community team can be formed including AWWs, PRI and any women's groups to mobilize the village for each vaccination session.</p> <p>-Implement simple methods to inform the community and more distant attached hamlets that the ANM has arrived.</p> <p>-The date and time of vaccination sessions should be displayed at health facilities and outreach sites.</p>

	Strengths	Weaknesses	Conclusions	Recommendations
	<p>-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).</p> <p>-Community-based resources are available (AWW) in huge numbers.</p>	<p>tracked at most levels.</p> <p>-Catchment areas difficult to determine as they do not correspond to known panchayat populations.</p> <p>-There is no record-keeping system in place for tracking/following up unregistered newborns and dropouts.</p> <p>-There is no system of recording/tracking VPD (non-AFP) and AEFI</p> <p>-Printed formats/registers are generally unavailable.</p> <p>-Little systematic attempt to engage community resources and other programmes for improving performance, e.g. by stimulating demand and tracking left-out and drop-out children.</p> <p>-Screening, counseling, and public information is weak.</p> <p>-No systematic attempt to inform</p>		

	Strengths	Weaknesses	Conclusions	Recommendations
		community and attached hamlets that ANM has arrived. -No wall paintings and posters were seen on the walls.		

5. KEY RECOMMENDATIONS FOR STATE IMPLEMENTATION OF THE IMMUNIZATION MULTI-YEAR PLAN

A prioritized consensus on the strengths, weaknesses, conclusions and recommendations for each of eight key technical components of the multi-year plan appears in the listing below. The list is based on the teams' experiences and analysis of the data and information available through application the review modules.

Strengths

Program Management

- A State Routine Immunization Cell has been created.
- State Inter-Agency Coordination Committee meetings are held weekly among DFW, WHO and UNICEF to discuss mainly the PPI.
- 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.
- Regular staff meetings are held within the block in one of the two districts.
- Detailed micro-plans have been formulated down to level of immunization site.

Service Delivery and Injection Safety

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, record-keeping, 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.

Surveillance and Monitoring

-Coverage data are collected and largely available for review.

-Cards available and used.

-Head count available and regularly updated by AWW.

Vaccine logistics

-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.

Cold Chain Management

-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.

Human Resources

-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.

Training

-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 micro-planning.

IEC and Social Mobilization

-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.

Weaknesses

Program Management

-Targets and coverage performance are conflicting

-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 top-down guidelines don't encourage customized local solutions to local problems and encourages passivity.

-Opportunities for inter-sectoral 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.

-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 staff at district and above exhibit little appreciation of advantages of engaging other departments or systems (e.g., ICDS and community-based resources).

-Detailed district micro-plans do not include innovative approaches. They are largely supply-driven listings of inputs without evident focus on how services will be improved.

-The rates of left-out and drop-out are high.

-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.

-Regular staff meetings are not held within the block in one of the two districts.

-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.

-Too frequent meetings disrupt work of ANM.

-Insufficient and poor quality residential facilities (e.g., leaking roof in residence, no windows).

Service Delivery and Injection Safety

-Plans to reach hard to reach areas unavailable.

-Reluctance to flexibly adapt guidelines to cover all villages and full population (e.g., using 2-monthly 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.
- Micro-plan available in Block is followed but is not consistent with District/State micro-plan.
- 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 re-started; 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).
- 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.

Surveillance and Monitoring

- Targets and coverage performance are not known (or conflicting), nor tracked at most levels.
- There is no record-keeping 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 non-performance.

-There is no system of recording/tracking VPD (non-AFP) and AEFI

-Printed formats/registers are generally unavailable.

-Catchment areas difficult to determine as they do not correspond to known panchayat populations.

Vaccine Logistics

-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.

-Micro-plans not being used to improve logistics.

-BCG wastage is very high.

Cold Chain Management

-Frequent and prolonged electric power cuts at all levels and (at sub-district 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.

Human Resources

-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 sub-centres.

-At many levels, salaries are not paid on time, promotions are not given on time, and travel allowance is not payable.

Training

-In-service 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 re-orientation training on immunization is not planned and conducted.

IEC and Social Mobilization

-Little systematic attempt to engage community resources and other programmes for improving performance, e.g. by stimulating demand and tracking left-out and drop-out 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.

-No wall paintings and posters were seen on the walls.

Conclusions

Program Management

- 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 practitioners 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.
- 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, but efforts to mobilize the doctors who are posted but do not attend seems missing.

Service Delivery and Injection Safety

- 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.
- 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.

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 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.

Vaccine Logistics

-Staff at PHC and sub centre levels such as ANMs and Medical Officers welcome any initiative for alternative vaccine delivery mechanisms.

Cold Chain Management

-Cold Chain equipment except (at district headquarters) is non-functional 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.

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.

Training

-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 micro-planning.

IEC and Social Mobilization

-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

Program Management

-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 Inter-agency 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 micro-plan 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, sub-centres 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.

Service Delivery and Injection Safety

-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 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, 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 follow-up of births/defaulters, delivery and quality of services.

Surveillance and Monitoring

-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.
- 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.

Vaccine Logistics

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

Cold Chain Management

-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

-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.

Training

-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.

-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 Government training programs

IEC and Social Mobilization

-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.
- ANM and AWW should update their respective immunization registers after the session to determine who needs come next time so AWW can target them.
- 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.
- Implement simple methods to inform the community and more distant attached hamlets that the ANM has arrived.
- Operational guidelines and IEC materials are needed to clarify vaccine eligibility for older age groups and timely measles vaccination.
- The date and time of vaccination sessions should be displayed at health facilities and outreach sites.
- Available IEC posters should be put to use.

6. CASE STUDIES

a) **Cautionary tale about one child's measles vaccination history according to the immunization register:**

- July: not immunized against measles at 9 months of age because it would have been the third shot at the session (child got only BCG and DPT)
- August: not immunized because PPI interrupted the outreach schedule
- September: not immunized because ANM ran out of vaccine
- October (??): maybe won't be immunized because over 12 months of age!

b) **Case study: Evidence of inflexibility/passivity in customizing local solutions to fix problems:**

An ANM has a population of 8000 scattered in 22 villages with 8 AWCs. She conducts vaccination sessions at the same four AWCs each month, and she states that children from the other four AWCs (with 40% of her total population) do not come. Nobody has proposed an alternating scheme in which the four AWCs are visited one month and the other four the following month. Staff are fearful to propose such a solution even though public health would be improved. The Block PHC MO does not feel he has the authority to make such a change. Staff are also concerned that the interval between successive doses of DPT and polio would be more than one month, and that the currently visited four villages would be angry. Instead, a counter-proposal would (unrealistically) require the overworked ANM to visit 6 AWCs each month (four on Wednesdays and two on Saturdays). But this would still require that two AWCs be visited with a two month interval and would also be logistically difficult to implement, since the cold chain is only predictably functional with

icepacks on Wednesdays at the Block PHC. They proposed that they would insist that the AWWs in the four non-visited villages should refer children to the existing four sites despite considerable distances. In any event, the health officials felt that the Civil Surgeon would need to order any change in scheduling. This is the sort of topic that is ideal for presentation by health staff and discussion within the panchayat meetings where all the ward leaders attend. However, the default for health staff is to do nothing due to: reluctance to propose change, lack of empowerment, fear of blame, perceived absence of authority for decentralized customized solutions, rigidity in the system, and fear of raising demand in more villages than can be met.

c) More flexibility is needed in how GOI monies can be spent within the districts so that solutions can be customized to the operational realities and needs.

The GOI recently sent 40,000 RS to districts for POL. But some districts have no vehicles and they are not permitted to use these funds to rent one. Or a vehicle may be present but no driver, but the funds cannot be spent on hiring a driver. The State and districts are requesting that clearer instructions be sent with such funds. Also, the process of releasing funds needs simplification.

7. SOME KEY QUANTITATIVE DATA ANALYSES:

7.1 Funds needed at State level went unspent

Funds from GOI to support State level mobility for supervision, conduct review meetings, and support ANM mobility for vaccine collection and outreach went largely unspent. The funds do not appear to have ever been released by the State and certainly never reached the districts, as shown below:

Support for:	Funds given to State:		
	2000/01	2001/02	2002/03
State level mobility for supervision:	--	126,700 Rs None spent	240,000 Rs None spent
Review meetings:	--	--	266,800 Rs { 76,059 spent '03) 66,755 spent in '03/04 }
Outreach for 16 districts: (mobility for ANM to collect vaccines and travel to outreach)	4,224,000 Rs (9 districts) (None spent)	4,752,200 Rs (16 districts) (None spent)	--

The explanation provided by the State was that the micro-plan was not ready so the funds could not be released. However, it appears that the burden of accounting for these funds may have been perceived at lower levels as a disincentive to request/receive them in the first place.

7.2 Percent distribution of beneficiaries receiving immunization by source of facility

	Government Municipal Hospital	PHC	Outreach including Sub Center	Private Nursing Home/Clinic	Other
All India	36.5	15.9	32.0	10.4	5.2
Bihar	27.9	18.9	30.9	18.7	3.6
Uttar Pradesh	19.0	21.5	32.4	10.3	16.8

Source: Department of Family Welfare, GOI and UNICEF India. Coverage Evaluation Survey, 2002.

7.3 The difference between number of sanctioned and vacant posts is significant

The problem is further aggravated due to the number of staff posted but not attending to their duties. Hence the implementation of services is severely affected. In general, this problem is more serious in case of Medical Officers than for field staff.

Staff	Posts sanctioned	Posts Filled	Post 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 Workers /Supervisors	46	28	DNA	18	28 (61%)
ANMs	169	101	DNA	68	101 (60%)

DNA= Data not available

7.4 PHC-wise status according to information received by the review team

MOs at PHC	Posts Sanctioned	Posts Filled	Total MOs attending duty	Post filled but not attending duty	Posts Vacant
District Hospital	8	8	8	0	0
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 Belwa	3	3	3	0	0
Kochadhaman	3	1	1*	1	2
Bahadurganj	3	2	1*	0	1
2 FRUs	8	8	7	1	0
9 Add'l PHCs	10	8	3	5	2
Total	47	40	28	12	7
% Filled and Vacant Posts		85%			15%
Out of filled %			70%	30%	

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

7.5 PHC-wise status, according to information received by the review team

	District Hospital	Tehragach	Dighal Bank	Thakurganj	Pothia	Kishanganj Belwa	Kochadhaman	Bahadurganj	Total
Posts of Driver Sanctioned	2	1	1	1	1	1	1	1	9
Posts Filled	2	0	0	0	0	0	0	0	2
Vehicle Available	4	1*	1	3+1*	1*	1*	1*	2+1*	10+6*

* All vehicles marked with * are attached with district administration except one each at Belwa and Tehragach, which are out of order.

7.6 Immunization coverage in Kishanganj District, worked out from the data received

	District 2003-04	District April-July 04	PHC Thakurganj 2003-04	PHC Pothia 2003-04
Antigens	%	%	%	%
BCG	16.4	16.6	DNA	11.3
DPT1	11.1	18.2	48.3	8.5
Polio 1	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 Immunized	3.2	DNA	DNA	DNA

DNA= Data Not Available

7.7 Doses administered versus vaccine doses received, Pothia PHC, 2003-04

Antigen	Doses Received	Doses Administered	Target Beneficiaries
BCG	1000	892	7964
DPT	1100	1072	7964 x 3
OPV	1100	1219	7964 x 3
Measles	300	370	7964

ANNEX 1

Team members

Team 1: (travelled to State level and Aurangabad District)

Dr. S. Vivek Adish, NIHFWD, Delhi

Dr. Sumant Mishra, WHO, Ranchi

Pranita Achyut, UNICEF, Delhi

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

Places visited

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- <i>FRU</i>
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 <i>Village Pradhan and Executive Members</i> , Members of community, Private Practitioners, MGM Medical College & LSK Hospital. Parents, general community

	member.
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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
 Dr. K.K. Chodhary, SMO, Pakur (Jharkhand), NPSP, WHO
 Dr. Praveer Chatterjee, SMO, Godda (Jharkhand), NPSP, WHO

Aurangabad	Kishanganj
Mr. S.S. Thakur, District Magistrate	Mr. A. Senthil Kumar, IAS – <i>District Magistrate, Kishanganj</i>
Dr. Uma Shankar Prasad Srivastava, Civil Surgeon	Dr. Bhagwan Majhi – <i>Acting Civil Surgeon, Kishanganj</i>
Dr. Shailesh Yadav, SMO, NPSP, WHO	Dr. S.M.Mishra – <i>Acting District Immunization Officer</i>
Dr. Chandra Shekhar Prasad, private pediatrician, Aurangabad	Dr. Rafat Hussain – <i>MoIC, Pothia Block PHC</i>
Dr. D.K. Choudhary, Medical Officer I/C, Madanpur Block	Dr. Shabbir Ahmad, MO, Pothia block PHC
Dr. Baijyanath, Singh, Medical Officer, Teldiha APHC, Madanpur Block	Dr. Manjhar Alam – <i>MoIC Tahakurganj Block PHC</i>
Dr. Y.N. Prasad, Medical Officer, Madanpur Block	Dr. Dinanath Poddar <i>MoIC Kochadhaman Block PHC</i>
Dr. R.B.Agrawal,MO I/C Haspura.	Dr. R.P.Yadav – <i>MoIC, Bahadurganj Block PHC,</i>
Dr.A.K.Gupta ,MO Aurangabad Urban.	Dr. R. Y. Singh-MO I/C, Chatarpur FRU
Dr.S.M.Ashraf,MO I/C, Nabinagar	Dr. Lalan Kumar Rai , <i>Surveillance Medical Officer, NPSP,Kishanganj</i>
Dr.Meena Kumari MO I/C Kutamba.	Dr. Dinanath Poddar, acting MoIC,
Mr. P. Pandey ,D.W.O. Aurangabad,	Dr.R.P.Yadav,MoIC,
Mrs.Sangita Kumari ,C.D.P.O. Haspura	Dr. Naval Kishore Prasad, MoIC, Gaqngi, Jagat Pandey,
Mrs. Manju Rani, CDPO Kutamba and Nabinagar,	Mr. Shrikanth Sharma – <i>Computer & head clerk</i>
Mr. Satyender, CDPO Barun,	Mr. Gulab Prasad Gupta, Cold Chain handler
Mr. D.I.Khan, CDPO Rafigang,	Md.Rustam Ansari, Health Worker(Male)
Mrs.Majda Khaton, 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	

<p>Mr. Arun Kumar Singh, Basic Health Inspector, Madanpur Block</p> <p>Mr. Kapildeo Mahto, Block Development Officer, Madanpur Block</p> <p>Ms. Majda Khatoon, CDPO, Madanpur Block</p> <p>Mr. Shashi Kant, Health Educator, Madanpur Block</p> <p>Mrs. Basanti Devi, Lady Health Visitor, Madanpur Block</p> <p>Mr. Sidhnath Sahu, Mukhia, Khiriwan Panchayat, Madanpur Block</p> <p>Ms. Kunti Devi, ANM, Khiriwan Panchayat, Madanpur Block</p> <p>Mrs. Nirmala Devi, AWW, Khiriwan Panchayat, Madanpur Block</p> <p>Mr. Ramanand Goswami, Member, Panchayat Committee, Khiriwan Panchayat, Madanpur Block</p> <p>Dr. Jitendra Kumar Bhagat, Medical Officer, Bangare APHC, Madanpur Block</p> <p>Ms. Sunita Kumari, ANM, Bangare APHC, Madanpur Block</p> <p>Ms. Manju Kumari, ANM, Bangare APHC, Madanpur Block</p> <p>Ms. Geeta Kumari, Ward Attendant, Bangare APHC, Madanpur Block</p> <p>Mr. Vinod Ram, Sweeper, Bangare APHC, Madanpur Block</p> <p>Ms. Babita, Kumari, ANM, Manika Sub-Center, Madanpur Block</p> <p>Mr. Ramnath Prasad, husband of ANM, Manika Sub-Center, Madanpur Block</p> <p>Mr. Ramnath Prasad, villager Manika Sub-Center, Madanpur Block</p> <p>Dr. Ashrafi, Medical Officer I/C, Nabinagar Block</p> <p>Dr. Nirmal Kumar Singh, Medical Officer I/C, Goh Block</p> <p>Dr. Ram Bhuyan Ayurvedic MO Goh Block</p> <p>Dr. S. Prasad MO Goh</p> <p>Mr. Anil Kumar Verma, Acting Block Extension Educator</p> <p>Mr. Ramanand Ram, Accounts Clerk (looks after cold chain)</p> <p>Mrs. Pratima Kumari, LHV, Urban Immunization Center (Red Cross Society Blood Bank), Aurangabad</p> <p>Mrs. Shiv Kumari Sinha, Trained Dai,</p>	<p>Sudarshan Lal Das, Clerk</p> <p>Urmila Kumar, LHV</p> <p>Shipra Sarkar, LHV</p> <p>Vandana Chakraborty, LHV,</p> <p>Sumitra Devi, LHV,</p> <p>Sandhya Dhar, ANM.</p> <p>Baby Rani Ghosh, ANM.</p> <p>Sutapa Rai, ANM.</p> <p>Manju Kumari, ANM.</p> <p>Kalpana Das, ANM.</p> <p>Majumdar Kalyani, ANM.</p> <p>Kalpana Das, ANM.</p> <p>Santi Sinha, ANM.</p> <p>Rekha Rai, ANM.</p> <p>Urmila Kumari, ANM.</p> <p>Usha Rai, ANM.</p> <p>Mona Kumari, ANM.</p> <p>Nirodha Das, , ANM.</p> <p>Sarda Kumari,, ANM.</p> <p>Savitri Upadhyay, ANM</p> <p>Sneh Lata Sharma, ANM</p> <p>Rustam Ansari, Health Worker(Male)</p> <p>Majumdar Kalyani, ANM</p> <p>Mrs. Sajoga, ANM.</p> <p>Mrs. Manjula Ram-A Grade Nurse,</p> <p>Mithlesh Kr Verma-FP Worker,</p> <p>Mr. Jinarain Goshwami-Clerk</p> <p>Jambvati Devi, ANM.</p> <p>Kranti Kumari, ANM.</p> <p>Parul Lata, ANM</p> <p>Archana Kumari –ANM,</p> <p>Chhabi Nandi- ANM,</p> <p>Arunkumar Modi- Block Health Educator</p> <p>Ajit Kumar - Extension Educator</p> <p>Awdheshkumar Datta- Panchayat Pradhan</p> <p>Halamala</p>
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Urban Immunization Center (Red Cross Society Blood Bank), Aurangabad Mr. Bhajeshwar Mishra, BCG Team Leader, Urban Immunization Center (Red Cross Society Blood Bank), Aurangabad Dr. K.M. Prasad, Pediatrician, District Hospital, Aurangabad	
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