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Joint International and National Review of the Polio Eradication Initiative in Nepal

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CONTENTS

Page

Acknowledgement

1. INTRODUCTION	1
1.1 Background.....	1
1.2 Terms of Reference for the Joint Review Team	2
1.3 Review Process.....	3
2. AFP SURVEILLANCE.....	3
2.1 Background.....	3
2.2 Findings.....	6
2.3 Recommendations.....	9
3. ROUTINE IMMUNIZATION.....	10
3.1 Background.....	10
3.2 Findings.....	12
3.3 Recommendations.....	13
4. POLIO SUPPLEMENTAL IMMUNIZATION ACTIVITIES.....	14
4.1 Background.....	14
4.2 Findings.....	15
4.3 Recommendations.....	16
Annex: Districts Visited by Joint National and International Review of Polio Eradication, Nepal 16-27 April 2001	22

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1. INTRODUCTION

1.1 Background

Globally, there has been an over sixty percent (>60%) reduction in polio cases between the years 1999 and 2000. During this time, many polio-endemic countries accelerated their supplemental immunization activities and further strengthened their polio surveillance systems. As a result, the number of polio reservoir countries has declined from 30 in the beginning of the year 2000 to about 10 by early 2001.

In South-East Asia, there has been significant progress in polio eradication between 1999 and 2000. During this time, the number of virologically confirmed polio cases declined from 1160 to 272, with 265 cases coming from India, two cases from Myanmar, one from Bangladesh and four cases from Nepal. The Acute Flaccid Paralysis (AFP) surveillance systems continued to improve during the year 2000 and all countries (except DPRK) achieved the non-polio AFP rate of at least one per 100000 children under 15 years of age (>1/100,000) and an adequate stool collection rate of at least 80%. As a result, all of these countries have shifted to the virological case classification of polio in 2001.

In view of this unprecedented decline in polio cases and with continued improvement in the quality of Supplemental Immunization Activities (SIA) and AFP surveillance throughout the South-East Asian countries, the goal of reaching zero polio transmission by the end of 2001 is very much within reach in this Region. To ensure achievement of this goal, the Regional Office, in collaboration with its polio eradication partners, is organizing a series of AFP and Polio Eradication Initiative (PEI) reviews in the polio endemic countries of Nepal, India, Bangladesh, DPR Korea and Myanmar in the year 2001.

The early interruption of wild poliovirus and sustaining zero-transmission in Nepal is of particular significance not only to the global polio eradication

initiative, but also for more immediate regional considerations. Nepal shares a long border with China, which has been polio-free since 1994, and with the three states of Uttar Pradesh (UP), Bihar and West Bengal in India, which still experience intense polio transmission. Despite Nepal's proximity to these states, only four cases of wild polioviruses were detected in Nepal during the year 2000. All these cases were in districts bordering India, in a region known as the Terai. In order to protect Nepal from the importation of wild virus from India, and in turn, China from wild virus importation from Nepal, there is a critical need for not only implementation of high quality supplementary immunization activities but also the existence of a highly sensitive AFP surveillance system in Nepal.

1.2 Terms of Reference for the Joint Review Team

The following were the terms of Reference for the Joint Review Team:

- (1) New the status of polio eradication in Nepal and assess whether the current strategies and structure in place for polio eradication have the potential to achieve zero transmission by the end of the year 2001;
- (2) To assess whether the AFP surveillance system is functioning adequately at all levels and in all geographical areas, especially high-risk areas. This includes assessment of the reporting units, active case searches, weekly case reporting including "zero reporting," case investigations and 60-day follow-ups, outbreak responses, stool collection and reverse cold chain, case classification and documentation;
- (3) To assess whether standard procedures are in place and are being properly implemented at all levels of reporting, and active case searches conducted in selected regional, district, and private hospitals (or reporting units) to find AFP cases;
- (4) To assess whether the information collected, documentation and record-keeping for polio eradication activities at the national, regional and district levels are adequate to meet the certification requirements;
- (5) To review the status of the National Certification Committee for Polio Eradication (NCCPE) and the National Expert Review Committee;

- (6) To review the working relationships, operational linkages and information flow between the PEN offices and the health system at different levels and to assess if the information is being properly used to guide programme activities (information for action);
- (7) To assess the feasibility of integrating the surveillance of neonatal tetanus (NT) and measles with AFP surveillance, and
- (8) To prepare a report and provide recommendations for improving the programme.

1.3 Review Process

Nepal is divided into five development regions with each region having three distinct topographical zones of mountainous, hilly and Terai areas. Forty-eight percent of the total population of Nepal lives in Terai, which constitutes only 23% of Nepal's land mass.

The team members first met in Kathmandu for briefing and then travelled to all five development regions. During the review, teams met with the health officials and visited various reporting units. During the field visits, the team members also investigated new AFP cases reported and sixty days follow-up, observed immunization and vitamin A administration sessions, and visited high-risk communities. List and map of the places visited is attached as Annex 1. The selection of districts to be visited by the review team was based on the history of wild virus circulation, performance of AFP surveillance, high-risk districts bordering with UP and Bihar and those districts with major AFP reporting units.

The team was unable to travel to three districts due to strikes and bad weather conditions.

2. AFP SURVEILLANCE

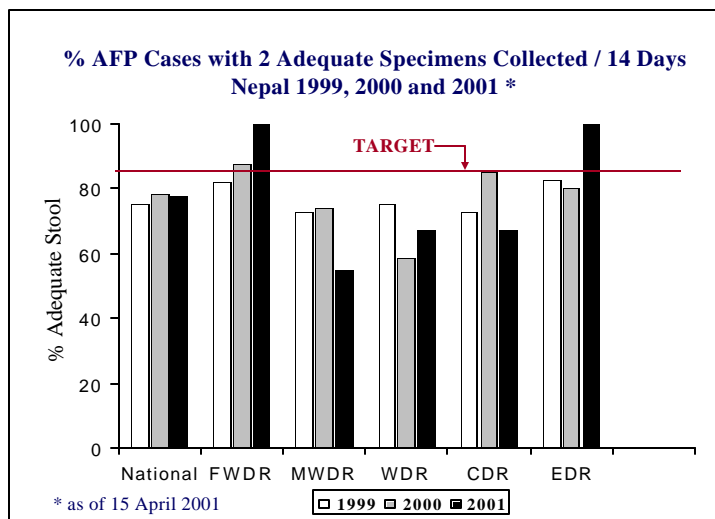
2.1 Background

The Acute Flaccid Paralysis (AFP) surveillance effort in Nepal started through the network of the Early Warning and Reporting System (EWARS) in 1995. The EWARS system reported six diseases, including AFP, from 24 sentinel

surveillance sites around the country. In 1998, Polio Eradication Nepal (PEN), in collaboration with WHO and HMG/MoH, formalized active and standard reporting of AFP cases.

The polio surveillance network, funded by USAID, NORAD, CDC, Rotary International, UN Foundation, DFID, and the Government of the Netherlands, comprises six Regional Surveillance Officers (RSO), the national WHO Polio Eradication Nepal unit and 260 active weekly reporting units across the country. Given the scale of operation, difficult terrain and expansion of the role of RSOs, the HMG and WHO have decided to expand the AFP network by recruiting nine additional RSOs to make a total of 15. These newly recruited RSOs will mainly be concentrating their activities in the high-risk districts of the Terai region.

With the establishment of this network, Nepal achieved international performance standards within a year and has consistently maintained this achievement to date. The non-polio AFP rate increased from a low of 0.3 per 100000 population aged less than 15 years of age in 1997, to over 1.93 per 100000, in 2000. Similarly the adequate stool specimen collection rate increased from 40% to close to 80% in the same period. Having met the global standards for non-polio AFP and stool collection, the WHO South-east Asia Regional Technical Consultative Group agreed to allow Nepal to move to the virological classification scheme, beginning January 2001.



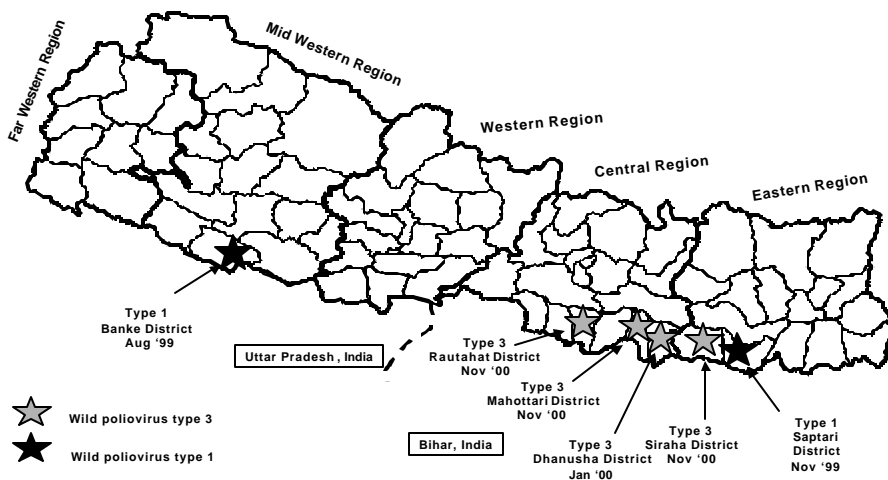
Surveillance Performance Indicators Nepal 1998 – 2001 *

Indicator	Target	1998	1999	2000	2001
Total AFP-rate		0.74	2.44	2.28	1.21
Non-polio AFP rate	≥	0.41	2.00	1.93	0.58
% - any stool	-	64	97	99	100
% - 2 stools/14d	>80%	35	76	78	82
% - 60d F/U	≥80%	100	100	99	25
% - NPEV isolation	≥10%	35	33	31	21

The long and open border with the Indian states of UP and Bihar, which together have one of the highest wild poliovirus transmission rates in the world, have always been of concern for those who have been involved with the polio eradication programme in Nepal. Despite improvement in AFP surveillance, no wild poliovirus had been detected in the Terai region of Nepal by mid-1999. To increase confidence in the sensitivity of the AFP system, an ad hoc decision was made to collect five contact stool samples for every case of AFP. As of today, no wild viruses were isolated from these contact samples. The NPEV isolation rate is above 30%, which indicates the good condition of stool specimens.

In August 1999, the first case of virologically confirmed polio since 1997 was detected in Banke district bordering UP. This 37-month old child had no history of polio immunization. By November 1999, another case of wild poliovirus was detected in a 20-month old girl from Saptari district bordering the state of Bihar. Both of these cases had P1 viruses and no history of travel to India. The number of virologically confirmed polio cases increased to four (P3 viruses) in the year 2000. All these cases came from the Terai region bordering Bihar. In-depth epidemiological investigation of these four cases revealed that two of these cases were zero-dose children. Furthermore, each of these cases came from a "minority" community, indicating that both routine immunizations as well as NIDs had not reached these communities adequately. It appears that local transmission of wild poliovirus is most likely taking place in some parts of the Terai region.

Polio Cases Caused by Wild Polioviruses Nepal 1999-2000



Polio Eradication Nepal Surveillance & Support Team
Data as of 8 Feb 2001

2.2 Findings

AFP surveillance in Nepal has made tremendous progress since it was formally established in mid-1998. The review team was particularly impressed with the quality of work at the regional level, degree of dedication of the field staff and the widespread network of reporting units across the country. The case detection rate is increasing and at the national level, target rates for non-polio AFP and stool collection have been achieved. Orientation of health staff in 1999 has paid dividends by increasing the number of units reporting correctly on a weekly basis. Formal orientations and refresher training for reporting units and district level officials began in February, 2001 by RSOs.

The AFP reporting units are distributed both geographically and by population uniformly in the country. Of the total of 211 AFP cases in 2000, RSOs carried out more than 95% of the investigations and 60-day follow-ups. This is indeed an extraordinary achievement given the difficult terrain of Nepal, with some districts totally inaccessible by road and poor communication/transportation facilities. Through WHO, Rotary International has provided motorcycles and fax machines to some of the reporting units

and remote districts to facilitate AFP reporting. The RSOs also reimburse the reporting units for the cost of fax, telephone calls and postage charges for some of the reporting units. These too have been instrumental in timely weekly reporting.

Although the knowledge and willingness of field staff were quite high in some of the reporting units visited, the review teams noted that in some district hospitals, there is insufficient understanding of AFP and the need for immediate case reporting. Many staff trained in 1999 have either already been transferred or have lost interest in AFP reporting. In addition, lack of clarity on roles and procedures also contributes to delayed weekly reporting and loss of AFP cases. Kanti Children's Hospital, one of the largest health facilities in Kathmandu and having reported more than 60% of all AFP cases from the CDR in 2000, has stopped reporting to EWARS and subsequently to the RSO's office since August 2000. The RSO has continued to complete active surveillance visits to Kanti Children's Hospital at least twice weekly.

Currently, the AFP system is using different channels for receiving AFP reports, i.e. immediate reporting, weekly reporting units, EWARS and HMIS monthly reporting. In addition, RSOs are completing active surveillance visits to many reporting units, with a priority given to larger hospitals. The review team noted that very few, if at all any, AFP cases have been reported through HMIS monthly reporting. The sentinel sites for EWARS are reporting AFP cases but their weekly reports are not always sent to the RSOs directly. The review team believes that having these different reporting systems are often confusing and blurs the focus of AFP activity.

The review team notes that the HMG/MOH, recognizing the importance of a surveillance network for eradication of polio in Nepal, has been responsive to the need for expansion of the PEN staff and the deployment of additional RSOs for the high-risk areas of the Terai region. The team also notes that while the reporting unit staff are actively involved in AFP surveillance, the surveillance is often seen as the responsibility of the PEN office and RSOs, with little or no involvement at national or regional health directorate levels.

AFP case classification seems not to be fully understood at the regional level. During 2000, it appears that due to the lack of proper data and in-depth investigation, a few cases classified clinically as polio may have resulted

in mistaken classification. At the regional level, there is a need to strengthen analytical skills and reporting of AFP information. As Nepal has moved to virological classification since the beginning of 2001, it is important that the RSOs are equipped with appropriate knowledge to carry out data analysis and in-depth investigation properly.

Although the cross-notification between RSOs (inter regional) and RSO/SMOs (inter-country with India) is taking place, it is weak. Delayed notification coupled with inadequate information of case histories and addresses, in a few occasions, have resulted in a loss to follow-up of suspected AFP cases.

At the national level, the target rates for non-polio AFP and stool collection have already been achieved. However, there are disparities between regions. Furthermore, there are districts that have not reported any cases of AFP since the start of the programme. At the regional level, the information on timeliness and completeness of the reporting units are not reviewed or verified properly by the RSOs. This may have resulted in the over-estimation of the timeliness and completeness of the system. Currently, the Regional Surveillance Assistants are solely responsible for collection/follow-up and analysis of the weekly reports. Hospitals continue to report the majority of AFP cases.

The team also notes that AFP surveillance data are not often being used to guide the programme at the regional and district levels, i.e. focusing the AFP surveillance to the areas of high est-priority, those with low performance reporting units, or targeting the high -risk areas during the immunization activities. Weak programme and operational linkages of the AFP surveillance system with the routine EPI service delivery system at all levels has rendered valuable surveillance information somewhat useless. The recent addition of deputy coordinators for surveillance and immunization, and support staff at the PEN office is aimed at addressing above issues.

At present, the review team believes that it would be premature to add active NT and measles surveillance to the current AFP surveillance system. The RSOs will increasingly become involved in supporting district health officials to strengthen routine and supplemental immunization activities.

2.3 Recommendations

- (1) AFP surveillance should be an integral part of the Polio Eradication Initiative in Nepal. Information derived from the surveillance system should be used to guide policy development, programme planning and the targeting of activities. In order to maximize effectiveness and improve coordination, a monthly working meeting of the polio technical partners under the chairmanship of DG should take place. Ongoing coordination between the CHD and the PEN offices is critical to the success of the programme.
- (2) At the Regional Health Directorate level, there should be a focal person for coordinating polio eradication activities. The regional directors should reactivate the regional taskforce for polio eradication and EPI. The task force should meet regularly to review progress and develop local strategies and solutions to address identified shortcomings. These senior officials, in coordination with the RSOs, should periodically analyze surveillance information for action. RSOs should assure that DHO/DPHOs receive weekly updates on AFP surveillance, including case line lists and surveillance-related data for action.
- (3) Because Nepal has shifted to a virological classification in 2001, it is important that the Expert Review Committee be reactivated and meets on a monthly basis to classify those AFP cases with inadequate stool collection. Any further delay will result in compilation of pending cases and implementation of mop-ups in response to “hot” compatible cases. There is a need to develop and give clear guidelines to the RSOs on working up cases with inadequate specimens that are to be reviewed by the Expert Review Committee.
- (4) The National Certification Committee should meet regularly to review certification activities by assembling and preparing national documentation and conducting field visits.
- (5) As active AFP surveillance, case investigation and follow-up of each suspected case of AFP is a daunting task for the existing network of RSOs, there is an urgent need for recruitment of additional RSOs. HMG/MoH should grant clearance for additional RSOs as quickly as possible.
- (6) The PEN office should not only train the new RSOs but also organize updated orientation workshops for the existing RSOs. The training workshop should include the principles of AFP surveillance, techniques

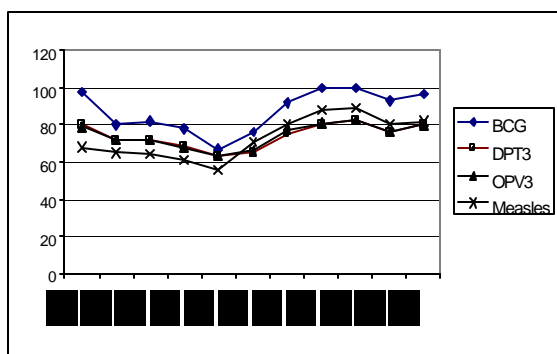
for data analysis at the regional, district and sub-district levels, use of information for action, operational and management linkages of the AFP surveillance system with the EPI service delivery, and improving the quality of routine and supplementary immunization activities.

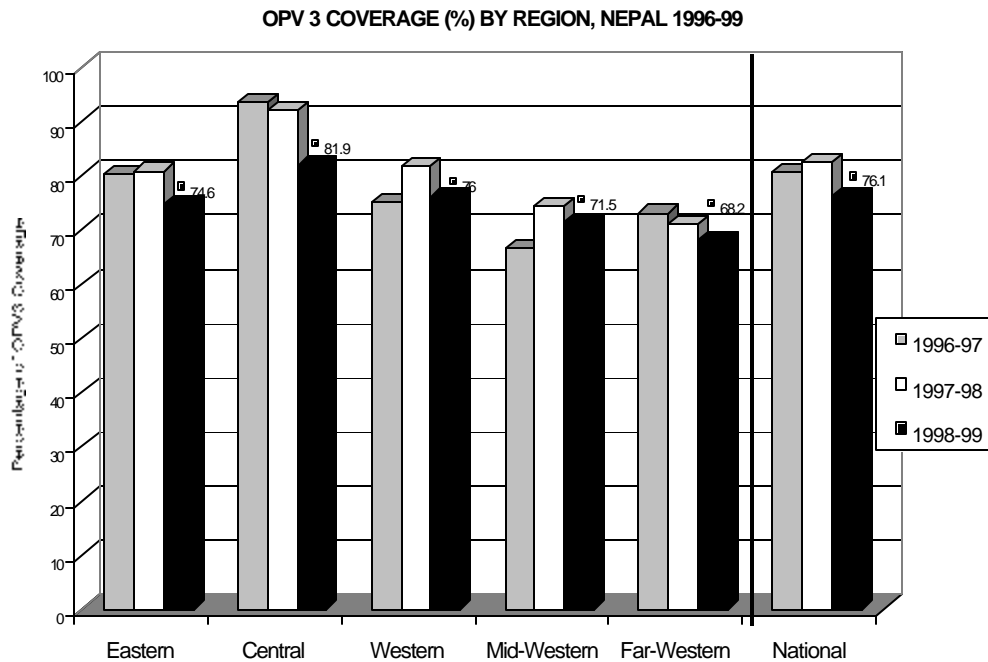
- (7) The PEN office should take a more proactive role in oversight, monitoring and supervision of the field activities, and on-the-job training of the RSOs. The information collected and analyzed by the field staff should be reviewed and scrutinized for validity and relevance.
- (8) Orientation and refresher courses should be continued for major reporting units and prioritized for those low-performing reporting units and districts. The RSOs should take every opportunity during the active surveillance visits to conduct on-the-job briefing of the personnel.
- (9) Active surveillance should focus on high-priority reporting units. The RSOs should clearly understand how to prioritize the reporting units in order to guide their actions. The HMIS monthly reporting system should not be considered an AFP reporting system. However, all EWARS facilities should be better integrated with the PEN AFP surveillance reporting network.
- (10) The review team recommends that the MOH/DHS ensure that the Kanti Children's Hospital remains as an active AFP reporting unit.
- (11) In order to facilitate early reporting and timely investigation, the RSOs should make an effort to involve the private practitioners and traditional healers as informers for AFP.

3 ROUTINE IMMUNIZATION

3.1 Background

Nepal introduced immunizations with the six primary-series antigens to all 75 districts in 1979. In 1990, according to routine administrative data, coverage was increased to 80 per cent, except for measles, through UCI





campaigns. However, the coverage gained through campaigns could not be sustained and the following years saw a steady decline in coverage. This trend continued until 1994. From 1995, coverage started to improve, and since 1998, the overall coverage has stabilized at around 76 per cent. Three independent coverage surveys confirm the improving trend but also show that the official reporting is higher than the actual coverage. The reasons for this discrepancy are unclear, but could include underestimation of the population, inaccurate recording during immunization sessions, etc. Data show that around 10% of the target population is not reached at all. These unreached children are among the most vulnerable.

The Ministry of Health is committed to improving the routine immunization programme. In 1999, with UNICEF and WHO support, the MOH revised the National Immunization Policy, providing a long-term vision and operational strategies to improve the routine immunization programme. The new Strategic Guideline outlines the goals, objectives and strategies for Nepal's national immunization program. It takes into account recent

developments in immunization strategies and current limitations of the programme.

Given the difficult terrain and sparsely populated areas in most parts of the country, Nepal has adopted a two-pronged strategy for implementation of routine immunization activities. Fixed immunization sessions are conducted through Primary Health Centers (PHC), Health Posts (HP), Sub-Health Posts (SHP) and hospitals. Monthly outreach sessions are also conducted on specified dates in different locations of each Village Development Committee (VDC). These outreach immunization sessions have been effective in reaching children in remote areas. The system enjoys the active support of the community, in particular the Female Community Health Volunteers (FCHV) and Traditional Birth Attendance (TBA).

3.2 Findings

The review team was impressed with the detailed action plan for immunization sessions, the planning/operational knowledge and the dedication of health personnel at DHOs, PHCs, HPs and SHPs. At all levels, there are adequate cold chain equipment and vaccines. Most district level cold stores had generators and had sufficient cold store capacity to store vaccine for supplemental immunization activities. It is the combination of all of the above that has kept the system operating efficiently despite obstacles faced in the past couple of years. The VHWs and MCHWs, with assistance from FCHVs, play a critical role in conducting outreach sessions. These efforts are indeed commendable.

The review team notes that both the reported and survey coverage rates in hilly areas are often higher than in the Terai region. The Terai region has the largest population density in the country and a much easier physical access to the people. Children living in Terai districts, particularly in areas bordering UP and Bihar of India, are at the greatest risk of polio infection, as well as other vaccine-preventable diseases. The low routine immunization among these highly susceptible children is indeed negatively affecting the polio eradication drive in Nepal.

During the field visits, review teams discussed with district and PHC health officials about potential causes of disparity and/or drop in routine

immunizations. The following list outlines some of the immediate or underlying causes of this situation. The great achievements of the EPI programme, and the system as a whole, are at risk if actions are not taken to address these issues in a planned and systematic way.

- > While there is an overall understanding of the programme goals, there is inadequate use of the data to identify and address issues in areas of low coverage and high drop-out rates.
- > In some areas, shortage of funds is the immediate cause of poor performance. For example, while the price of kerosene increased by more than 100% nationwide, the year 2000 witnessed a 4-fold slash of funds for kerosene. This has negatively affected the cold chain management.
- > The lack of funds to reimburse travel costs for transportation of vaccines and supervision for outreach immunization activities may affect the regularity of immunization sessions.
- > Inadequate prioritization of activities and areas to be targeted. The densely populated high-risk areas are not sufficiently targeted with additional immunization sessions. In municipalities, often the number of and locations of immunization clinics are not addressing the problem of accessibility.
- > It is believed that in the hilly region, there is a sharper focus on immunization sessions. Planning and supervision is stronger and there is generally much more active involvement of the senior health officials in the EPI program.
- > In some areas, up to 40% of VHW, MCHW and peon posts at PHCs, HPs, and SHPs are vacant.
- > Inadequate planning and coordination between the supply and program units are another major factor in disruption of immunization sessions.

3.3 Recommendations

- (1) There is an urgent need to strengthen routine immunization with special focus on the Terai districts and the unreached and under served communities in all districts. The information generated by the AFP

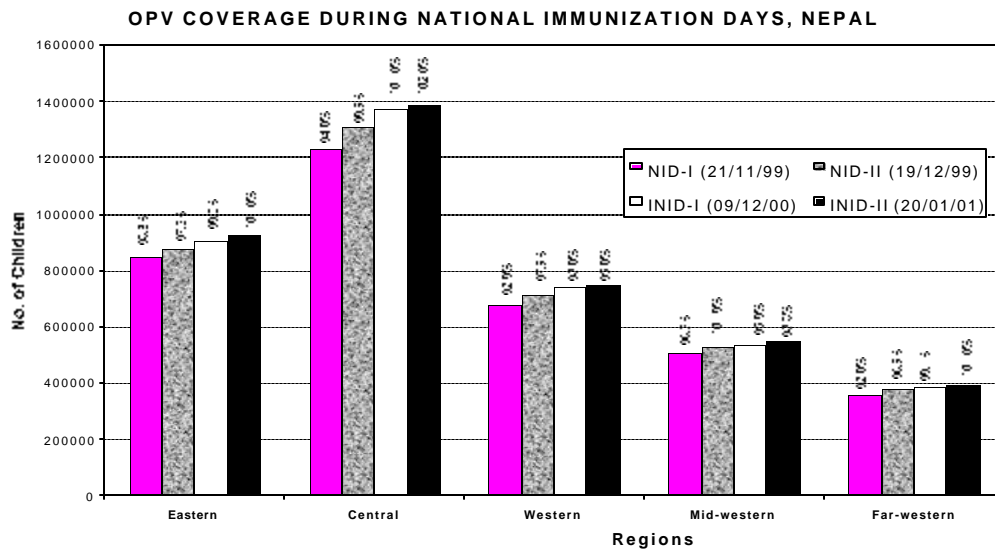
surveillance system should be used to target routine immunization activities in high-risk districts and among high-risk communities.

- (2) There is a need for immediate strengthening of the planning, management and logistic support systems at the national and regional levels. There is also a need for districts to review the micro-plans for outreach immunization activities (number sessions per month), including those of municipalities. The EPI Section of the CHD should be strengthened through deployment of additional staff to coordinate field demand and supply with the LMD and information/data management. Coverage data at sub-district level should be analyzed to strengthen the immunization activities.
- (3) Until adequate government funding for kerosene/electricity and travel costs is identified, as an interim measure, other source of funding should be identified to cover these costs immediately.
- (4) While the applied operational training/orientation is needed for all mid-level managers, priority should be given to the high-risk districts. The Strategic Guideline for EPI developed by the CHD is an excellent framework for these orientations.
- (5) Under the chairmanship of the Child Health Division, a working group with key EPI partners (e.g., WHO and UNICEF) should be established to conduct regular meetings in order to exchange information on operational issues, with intermittent reports to the D.G. on the status of the programme.
- (6) Community-based strategies should be implemented to stimulate demand in high-risk communities. MCHWs and FCHVs can be used to motivate the local mothers' groups or any other mechanism.

4. POLIO SUPPLEMENTAL IMMUNIZATION ACTIVITIES

4.1 Background

Nepal conducted its first National Immunization Days (NID) for polio eradication in 1996, and since then it has continued with annual rounds of NIDs reaching more than 95% of the target population. In line with global intensification of polio eradication activities, in addition to two rounds of



Source: Child Health Division, Department of Health Services.

NIDs in November and December 1999, Nepal conducted three rounds of sub-national immunization days (SNIDs) in the winter of 1999 and spring of 2000, in the high-risk districts bordering India. In order to improve quality, the intensified NIDs incorporated the house-to-house strategy, as a result close to 400,000 more children (about 10% of the total under five population) were reached during the house to house search and vaccinate campaign.

In response to the three wild-virus isolates of November 2000 and also in coordination with the mop-ups in UP and Bihar, Nepal is conducting two rounds of exclusive house-to-house mop-up immunizations in April and May of 2001. The 20 districts of the Terai region, and urban areas of Kathmandu valley, are targeted for these mop-ups. Responsive mop-ups will also be conducted in areas where wild poliovirus is isolated.

4.2 Findings

Nepal has recently conducted two rounds of intensified NIDs followed by the first round of exclusive house-to-house mop-up in April 2001. The house-to-house activities in large municipalities and in the Terai districts enabled the vaccination teams to reach up to 10% additional children than reported

through the NIDs. However, reviews of the INID-reported coverage rates at district and sub-district levels indicate that very few additional children were reached by house-to-house activities in the mountainous and hilly regions. In these areas, with good interpersonal communication, local planning and proper placement of immunization posts, almost all children are reached during the fixed day activities.

The health personnel we met with during the field visits agreed that the quality of the April Mop-Up round was better than the December and January rounds of NIDs. As a result, many more children were reached during this round. Some of the factors contributing to the success of the first round of the mop-up campaign are:

- Timely distribution of sufficient funds, training materials and vaccines etc;
- Clear guidelines on planning and implementation;
- Good micro planning, training and orientation at all levels;
- Using the ward as a unit for planning and the FCHV as a vaccinator, which not only resulted in better accessibility but also increased community participation and involvement;
- Deployment of monitors and supervisors from national/regional/district, NGO and local levels; and
- Involvement of RDs, their regional staff, and international consultants in advocacy, planning and support of field level training.

The National Vitamin A programme was underway during the PEI review. The team members had an opportunity to observe and discuss the vitamin A plan with the field staff. The team was impressed with the quality of planning, active involvement of the FCHV, good community participation and above all, the knowledge and demand for vitamin A from the community. The two-day vitamin A campaign seems to have achieved very high coverage according to the preliminary reports by the districts.

4.3 Recommendations

- (1) There is an urgent need to develop policy/operational guidelines for implementation of responsive mop-ups (in response to wild poliovirus

isolation). The guidelines should also include activities in response to polio cases detected in the neighbouring districts of Bihar and Uttar Pradesh.

- (2) Drawing from lessons learnt from the current mop-up campaign and the vitamin A programme, in future NIDs, wards should be the unit for programme/logistic planning.
- (3) The high-risk areas (municipalities, areas bordering with India, communities with low routine immunization, areas with clinically or virological confirmed cases, areas with minority communities, etc) should receive highest attention during the SIA. The RSOs should continue to play a proactive role in planning, training and monitoring of SIAs in these areas.
- (4) The monitoring of SIAs should include timely feedback to facilitate immediate and mid-course action.

List of Abbreviations

AFP	Acute Flaccid Paralysis
CDC	Centers for Disease Control and Prevention
CHD	Child Health Division
DFID	Department for International Development (UK)
DG	Director-General
DHO	District Health Office(r)
DPHO	District Public Health Office(r)
DPRK	Democratic People's Republic of Korea
EPI	Expanded Programme on Immunization
EWARS	Early Warning and Reporting System
FCHV	Female Community Health Volunteer
HP	Health Post
HMG	His Majesty's Government
ICCPE	International Certification Committee for Polio Eradication
LMD	Logistic Management Division
MCHW	Maternal and Child Health Worker
MoH	Ministry of Health
NCCPE	National Certification Committee for Polio Eradication
NORAD	Norwegian Agency for Development Cooperation
NPEV	Non-polio enterovirus
NID	National Immunization Days
PEI	Polio Eradication Initiative
PEN	Polio Eradication Nepal
PHC	Primary Health Centre
RD	Regional Health Director
RSO	Regional Surveillance Officer
SEARO	Southeast Asia Regional Office

SHP	Sub Health Post
SIA	Supplementary Immunization Activities
SMO	Surveillance Medical Officer
SNID	Sub National Immunization Day
TA/DA	Travel Assistance/Direct Assistance
UCI	Universal Childhood Immunization
UNICEF	United Nations Children's Fund
UP	Uttar Pradesh
USAID	United States Agency for International Development
VDC	Village Development Committee
VHW	Village Health Worker
WHO	World Health Organization
CDR	Central Development Region

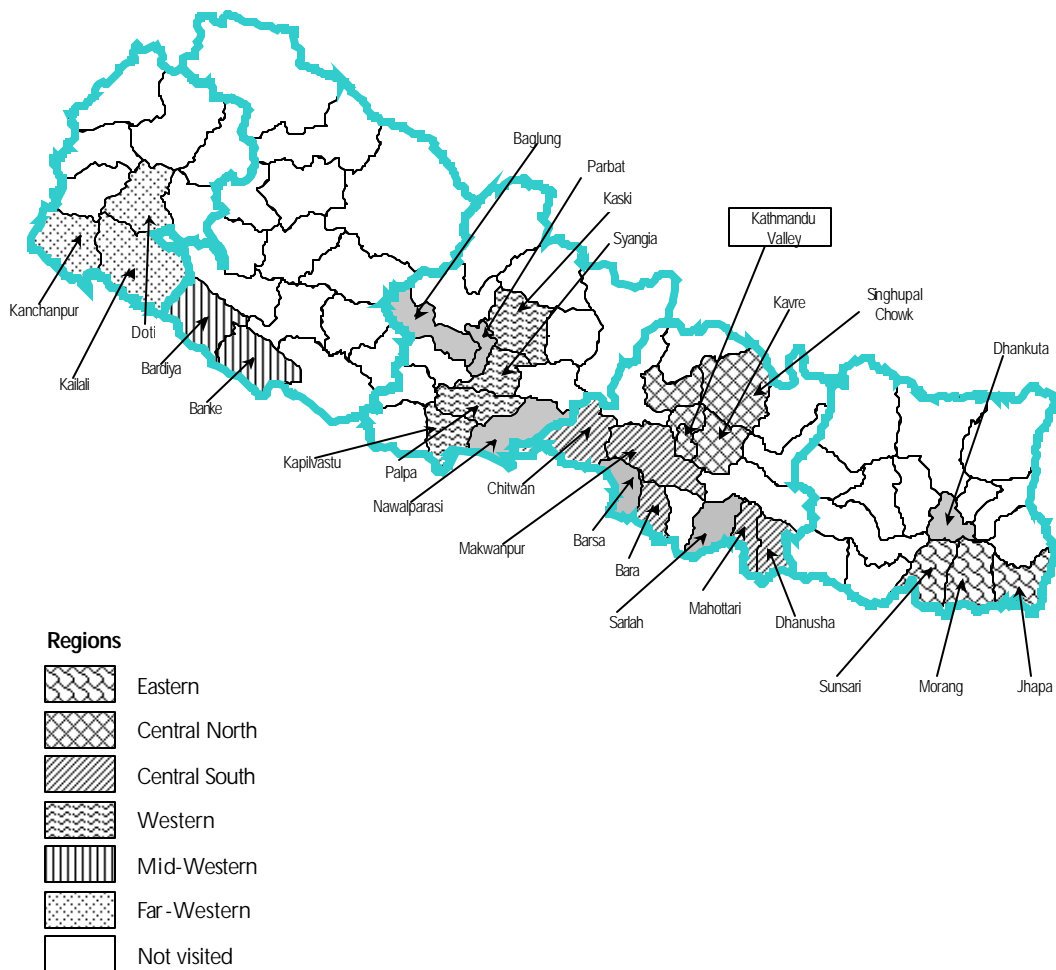
List of Places Visited by the Review Team

Eastern Development Region	
Budhnagar HP, Morang	Inaruwa Hospital, Sunsari
Sunsari DHO	BP Koirala IHS
Dhankuta DHO	Regional Health Director
Eastern Regional Store	Morang DPHO
Local NGOs, INGOs	Koshi Zonal Hospital, Morang
Kademaha VDC community	Nocha VDC community
AMDA Hospital, Jhapa	Jhapa DHO
Mechi Zonal Hospital, Jhapa	Majhari/Govindpur communities
Biratnagar Municipal Office	Biratnagar Municipality communities
Jukhia PHC, Morang	Traditional healer, Gauriganj
Bardunga SHP and community	Gauriganj PHC and communities
Central Development Region (North)	
RHD for CDR	DPHO Kathmandu
Kanti Children's Hospital	Patan Hospital, Lalitpur
DPHO Bhaktapur	Police Hospital
Nepal Medical College	Friends of Santa Bhawan
Rural Health Education and Service	DHO Nuwakot
Nuwakot HP	Barabise PHC
Tatopani HP	DHO Sindupalchowk
Sheer Memorial Hospital, Banepa	Rehabilitation Centre, Banepa
Central Development Region (South)	
Makvanpur DHO	HP- Padampokri
PHC- Monari, Makvanpur district	Chitwan DPHO
Shree Mahendra Adarsh Zonal Hospital	HP-Shardanagar
SHP – Parvatipur	Parsa DPHO
Sub Regional Hospital, Birganj	Raxaul(India) Block Med. Officer
Duncan Hospital, Raxaul, India	Rautahat DHO

Sarlahi DPHO Dhanusha DPHO Mahottari DHO and District Hospital	PHC- Haripur Regional Hospital, Dhanusha
Western Development Region	
Regional Health Director Walling PHC Palpa DHO Lumbini Zonal Hospital Rupendehi DPHO Parabat DHO Kaski DPHO Monipal Medical College Hospital	Syangja DHO United Mission Hosp-Palpa AMDA Hospital, Butwal Nawalparasi DHO HP-Naudanda Baglung DHO Regional Hospital, Pokhara
Midwestern and Far Western Development Region	
Regional Health Director-MWDR Banke DPHO PHC-Mugargadi Bheri Zonal Hospital, Banke Kailali DPHO PHC-Choumala Seti Zonal Hospital Police Hospital, Doti	Regional Health Director-FWDR PHC-Bankota Nepalganj Medical College Bardiya DHO and Hospital HP-Malakheta HP-Ballia Suzan Korean Hospital, Doti Local NGOs/INGOs

Annex

DISTRICTS VISITED BY JOINT NATIONAL AND INTERNATIONAL REVIEW OF POLIO ERADICATION, NEPAL 16-27 APRIL 2001



Joint Review Team Members:

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- (4) Dr. N.K. Shah, Member of the ICCPE and WHO consultant
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- (7) Dr. H.D. Shah, Director of Child Health Division, Nepal
- (8) Dr. B.K. Suvedi, Chief of EPI, Nepal
- (9) Mr. S.K. Bhatta, Senior Public Health Officer, EPI Section, Nepal
- (10) Dr. R. Bohara, PEN, Nepal
- (11) Dr. G.R. Chaudhary, PEN, Nepal
- (12) Dr. Fatima Coronado, WHO Consultant, PEN Nepal
- (13) Ms. Alice Pope, Consultant, Centers for Disease Control and Prevention