

## PROGRAMME FOR IMMUNIZATION PREVENTABLE DISEASES

A Collaboration of Government of Nepal/MoHP and World Health Organization (WHO)

Volume 9, Issue 2

April – September, 2007

### Re-introduction of Wild Poliovirus type 1 in Nepal

Nepal was polio free from 2001-2004. In 2005, four poliomyelitis cases were detected along the Indo-Nepal border. In 2006, a poliomyelitis case was detected from Dailekh, a hilly district in the Mid-Western Development Region, and another four poliomyelitis cases were detected along Indo-Nepal border. The onset of the last poliomyelitis case was on 22 December 2006. There have been no poliomyelitis cases detected in 2007 to date.

Dr. Ganga Ram Choudhary  
Surveillance Coordinator, WHO-IPD

viruses from East Champaran, India. It is not clear if there was ongoing transmission within Nepal (i.e. between Parsa and Rautahat) or if there were multiple importation events from India.

- 2006 Kapilvastu virus that was related to a virus circulation in Gonda, UP, India in 2006.

*Cont.. on page 2*

#### Establishment of community network to strengthen routine immunization services in Janakpur Municipality, Nepal

Dr. Nirmal K Jha  
SMO - Janakpur

#### Background:

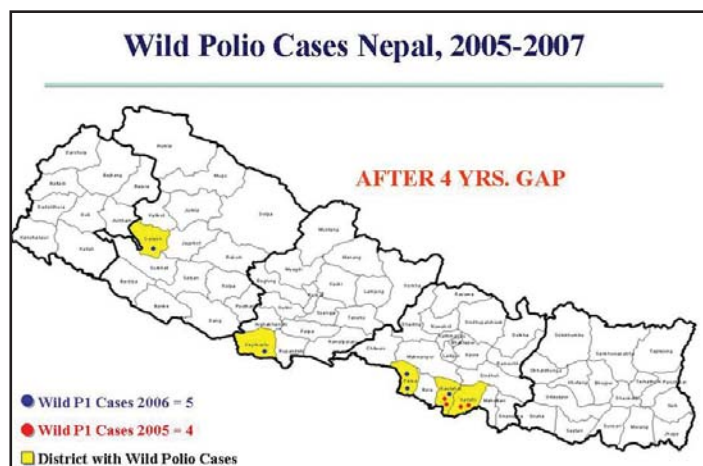
Janakpur, popular as Janakpurdham among the pious Hindus and the capital city of rich Mithila culture, holds a significant place in the cultural geography of Nepal. It is a center of reverence for the Hindu world owing to its religious and historical importance for being the holy land where Goddess Sita (Janaki), Lord Ram's consort, was born.

Janakpur municipality, a town of medium size, is located within Dhanusha district, Janakpur zone of the Central Development Region of Nepal. It is the administrative headquarters of Dhanusha district. Among the 58 municipalities of Nepal, Janakpur municipality is one of the old, but unplanned and poorly developed municipalities.

Characteristics of Janakpur Municipality	
No. of Wards	16
Total Population	71292 (2058 Censu)
Under 1 Population	2529
Under 5 Population	12674
Expected Pregnancies	3035
No. of Schools	93
No. of slums/hard to reach areas	21
No. of immunization clinics	18
No. of HW for immunization	1
No. of FCHV	37

Within Janakpur, there is only one government clinic run by the District Public Health Office (DPHO) that is providing immunization services to the area, and these services are provided only 2 days per week. This clinic always comes under category 4 or 3, reflecting the problems of both accessibility and utilization. The major cause behind this status

*Cont.. on page 2*



The polio cases in 2005 and 2006 were importation events, which was not unexpected, since Nepal shares a border with northern states of India (Bihar and Uttar Pradesh), which have had continuous circulation of wild poliovirus. There is strong socio-cultural relationship across the border, so there is frequent and free movement of people with their children for business, healthcare, religious events, employment, and socialization.

Genetic sequencing shows that the wild poliovirus detected in Nepal have been importations. The phylogenetic tree of Nepal and closely related India viruses show that there was one importation event in 2005 and at least three importation events in 2006. The events numbered on the tree are described as follows:

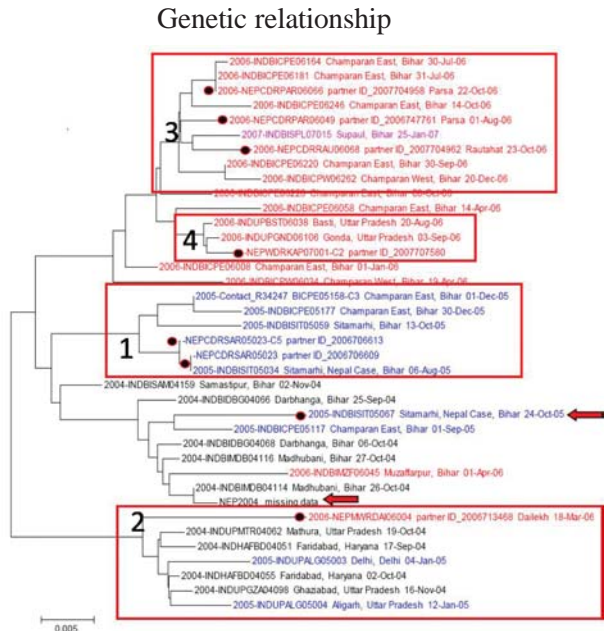
- 2005 Sarlahi virus that was related to viruses from Sitamarhi and East Champaran, India.
- 2006 Dailekh virus that was related to viruses circulation in Western UP, India in 2004 and 2005. A relative of this virus was also isolated from a case in Delhi, India in 2005.
- 2006 Parsa and Rautahat viruses that were related to

**Editorial Board**

Advisor: Dr. Jeffrey M Partridge  
 Chief Editor: Dr. G.R. Choudhary  
 Editors: Dr. R. Bohara, Dr. J.N. Giri, Dr. B. Lamichhane and  
 Mr. T. R. Sedai

**Re-introduction of...cont.**

← Additional viruses that were isolated from cases detected in Nepal, but the cases were assigned to India.



**Supplementary Immunization Activities**

In response to the poliomyelitis cases in 2005 and 2006, Nepal conducted several rounds of mop-ups and supplementary immunization activities as reflected in the table. Mop-up rounds were conducted at and around the infected districts. National and sup-national immunization activities were conducted to increase population immunity to reduce the risk of wild poliovirus circulation within Nepal.

Year	Activity	No. of district covered
2005	Mop Up	4
	Mop Up	4
	SNID	17
	Mop Up	9
	Mop Up	5
2006	Mop Up	5
	Mop Up	5
	SNID	15
	SNID	15
	SNID	6
2007	NID	6
	NID	75
	NID	75
	NID	75
2007	SNID	5
	SNID	20

**Establishment of community network...cont.**

is the lack of outreach clinics for routine immunization (RI) within the municipality.

During SIAs, children from the poor and vulnerable as well as the socially excluded group are always missed. Transfer of one ward secretary leads to the changing of the whole set of volunteers in the ward. Hence, due to the lack of a community network, RI, SIAs and surveillance are sub-optimal. The establishment of a network is essential to strengthen these activities.

To address these issues, the following activities were carried out:

**Activities**

1. In 2007, 37 mothers groups and Mothers Groups Management Committee (MGMC) meetings were conducted in the municipality for mobilization. Also, 37 female community health volunteers (FCHV) were selected and trained. A health unit in the municipality was established and an ANM was hired to conduct outreach immunization clinics and other services.
2. After a series of informal meetings with municipality authorities and supporting partners, a meeting with the Municipal Immunization Coordination Committee (MICC) was conducted. In the MICC meeting a technical task force was formed for the development of a proposal for immunization activities. This task force was under the chairmanship of the DPHO and included three members from the municipality, WHO-IPD, and CARE-Nepal. The task force prepared the proposal, then took conditional approval from the Family Health Division of the Department of Health Service and the National Health Training Center, Kathmandu.
3. A focal person orientation to develop a common understanding of the municipality immunization program, including DPHO and the focal persons from DPHO (3), the Executive Officer and the focal persons from municipality (3), the ward secretaries from all wards (16), and the focal persons from supportive organizations (3).
4. To make the selection process more inclusive and according to the national guideline, a committee was formed to organize the tole bhela under the chairmanship of ward secretary for the following activities: formation of the mothers groups, formation of the MGMC, selection of FCHVs, finalization of date and place of monthly mothers group meeting (MGM), and orientation of the mothers groups on immediate AFP/VPD case reporting.
5. The total number of events of the tole bhela was more than planned. The FCHV selection committee facilitated 48 events of MGM. In the tole bhela, the mothers groups were formed involving the entire reproductive age group women and then the MGMC were selected from each tole, caste, and religion.
6. The MICC decided to conduct baseline data collection through newly trained FCHVs in their catchment areas in order to assess the immunization status, to establish the actual targets for RI & SIA, to do active VPD surveillance, to orient the FCHVs with their working areas, and to give the FCHVs the opportunity to introduce themselves to the community.
7. A health unit was established in the municipality, and one ANM was hired to run the outreach immunization clinics in each ward.
8. The schedule of the immunization clinic was finalized and based upon the first day of each Nepali month being in Ward 1, second day of the calendar in Ward 2, etc, so that it will be easy to communicate and remember. The selection of places for the outreach clinics was based upon the suitability of the public places that were central to the target population. The majority

of immunization clinics were planned to be at ward offices.

**Achievements:**

The newly established health unit and RI system is functional and a supportive environment has been created.

**The key achievements are:**

- Strengthened co-ordination mechanism between the DPHO and the municipality that will definitely add value in improving the health status of the people of Janakpur municipality. The roles of the municipality and the DPHO were clearly defined and they have internalized the need and importance of the program

and have expressed their commitment.

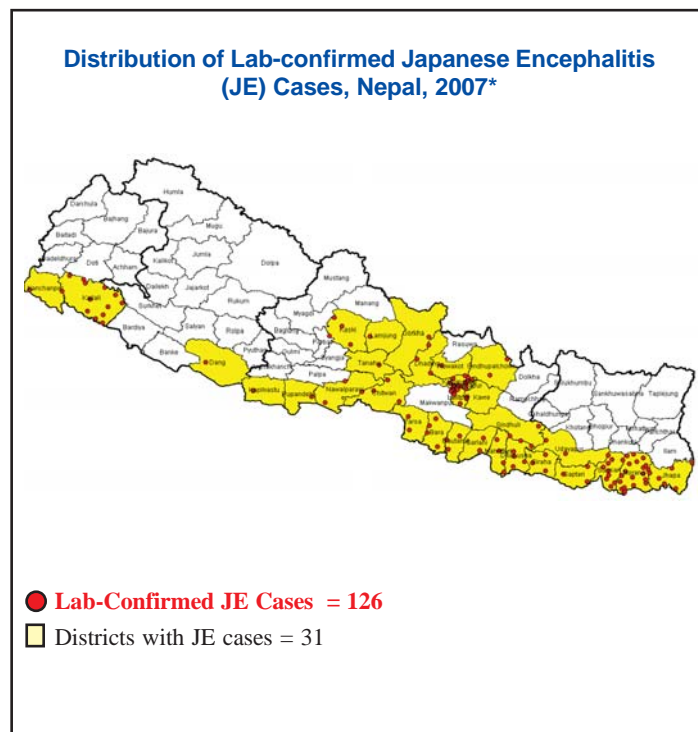
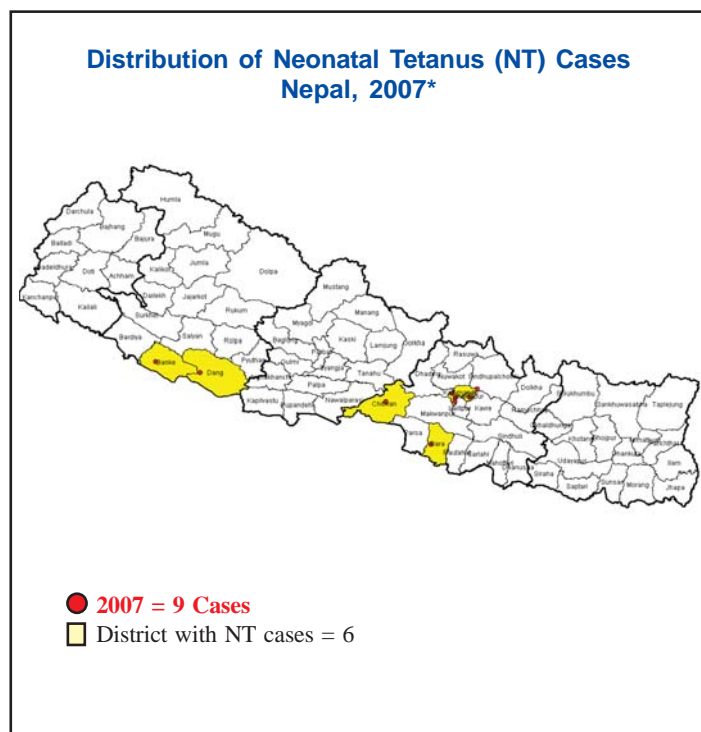
- Strengthening of the MICC and the establishment of a coordination mechanism among the DPHO, the municipality and supportive agencies-a written agreement between municipality and DPHO was signed.
- Establishment of a health unit in the municipality.
- Establishment of 16 outreach RI clinics with 37 volunteers and a community network for social mobilization in SIAs and VPD surveillance.

**Comment:**

There is an urgent need for a national strategy and guidelines to strengthen the community network of public health in urban areas.

**Measles Like Cases, Nepal, 2003-2007\***

Region	2003		2004		2005		2006		2007																	
	No. of Outbreaks	Total cases	No. of Outbreaks	Total cases	No. of Outbreaks	Total cases	No. of Outbreaks	Total cases	Routine source						Outbreak investigation					Lab Result						
									Total cases	Cases	Sex		Vaccine taken	Hospitalized	Died	No. of Outbreaks	Cases	Sex		Vaccine taken	Hospitalized	Died	No. of blood spec.	Measles		Rubella Positive
											M	F						M	F					Positive	Negative	
Eastern	14	880	45	1709	8	240	3	83	97	15	8	7	5	2	0	6	82	39	43	71	3	1	29	0	26	10
Central	21	2570	62	2587	27	875	20	744	163	139	97	42	104	17	2	2	24	11	13	17	0	0	114	5	101	23
Western	15	1005	23	1620	5	267	4	138	136	49	28	21	39	4	0	5	87	40	47	72	1	0	30	2	25	13
Mid-western	11	731	50	2075	4	253	0	24	56	17	9	8	6	6	1	4	39	21	18	18	7	0	39	14	24	10
Far-western	6	291	16	681	2	63	4	52	113	41	32	9	17	1	0	3	72	36	36	49	0	0	52	0	35	19
<b>National</b>	<b>67</b>	<b>5477</b>	<b>196</b>	<b>8672</b>	<b>46</b>	<b>1698</b>	<b>31</b>	<b>1041</b>	<b>565</b>	<b>261</b>	<b>174</b>	<b>87</b>	<b>171</b>	<b>30</b>	<b>3</b>	<b>20</b>	<b>304</b>	<b>147</b>	<b>157</b>	<b>227</b>	<b>11</b>	<b>1</b>	<b>264</b>	<b>21</b>	<b>211</b>	<b>75</b>



\*Data as of 28 Sep 2007

WHO-IPD, Nepal

Table 1: AFP surveillance performance indicators, Nepal, 2006-2007

Region	2006										2007											
	AFP cases	Case Classification				AFP Rate		Surveillance Indicators				AFP cases	Case Classification				AFP Rate		Surveillance Indicators			
		Confirmed Polio	Compatible	Discarded (non-polio AFP)	Pending	AFP rate	Non-Polio AFP rate <sup>1</sup>	% Invest., w/in 48 hrs of notification	% 2 specimens coll. w/in 14 days <sup>2</sup>	% 60 days F/up exam.	Confirmed Polio		Compatible	Discarded (non-polio AFP)	Pending	AFP rate	Non-Polio AFP rate <sup>1</sup>	% Invest., w/in 48 hrs of notification	% 2 specimens coll. w/in 14 days <sup>2</sup>	% 60 days F/up exam.		
Eastern	70	0	0	70	0	3.04	3.04	100	91	91	59	0	0	53	6	3.35	3.01	93	86	57		
Central	179	3	1	175	0	5.16	5.04	97	89	100	104	0	0	91	13	3.90	3.42	96	79	92		
Western	52	1	1	50	0	2.57	2.47	98	90	100	35	0	0	33	2	2.26	2.13	86	86	83		
Mid-Western	37	1	0	36	0	2.66	2.59	92	70	100	34	0	0	29	5	3.19	2.72	97	97	100		
Far-Western	26	0	0	26	0	2.54	2.54	96	65	100	28	0	0	26	2	3.57	3.31	86	89	100		
<b>National</b>	<b>364</b>	<b>5</b>	<b>2</b>	<b>357</b>	<b>0</b>	<b>3.57</b>	<b>3.50</b>	<b>97</b>	<b>86</b>	<b>99</b>	<b>260</b>	<b>0</b>	<b>0</b>	<b>232</b>	<b>28</b>	<b>3.32</b>	<b>2.96</b>	<b>93</b>	<b>85</b>	<b>86</b>		

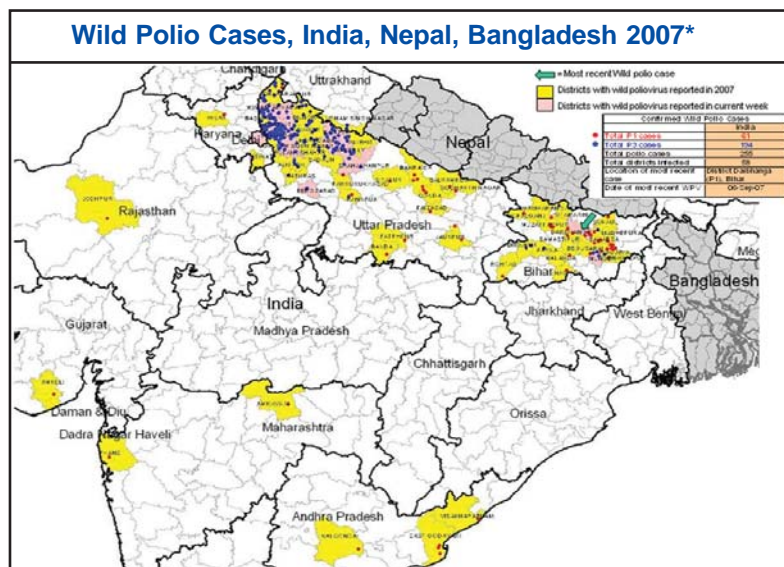
1 Expected rate: At least 2 non-polio AFP case per 100,000 children aged <15 yrs.

2 Stool specimen collection: 2 adequate specimens within 14 days of paralysis onset from at least 80% of cases

Source of data: WHO, as of 03 Oct 2007

Table 2: AFP surveillance performance indicators in South East Asia Region (SEAR) countries, 2006-2007

Region	2006 (onset)										2007* (onset)									
	AFP						Surveillance Indicators				AFP						Surveillance Indicators			
	Case Classification						AFP Rate		Specimen		Case Classification						Annualized		Specimen	
	AFP cases	Confirmed Polio	Wild Poliovirus Cases	Compatible	Discarded (non-polio AFP)	Total Pending	AFP rate	Non-Polio AFP rate	% with 2 spec., 24 hrs apart, w/in 14 days	% with any specimen	AFP Cases	Confirmed Polio	Wild Poliovirus Cases	Compatible	Discarded (non-polio AFP)	Total Pending	AFP rate	Non-Polio AFP rate	% with 2 spec., 24 hrs apart, w/in 14 days	% with any specimen
Bangladesh	1619	18	18	2	1599	0	2.91	2.87	93	99	1420	0	0	0	1284	136	3.34	3.02	92	99
Bhutan	6	0	0	0	6	0	2.86	2.86	33	100	0	0	0	0	0	0.00	0.00	0	0	
DPR Korea	113	0	0	0	90	23	1.84	1.47	100	100	88	0	0	0	53	35	1.91	1.15	100	100
India	32194	676	676	494	31024	0	7.63	7.35	82	97	28701	255	255	75	24057	4314	8.95	7.50	85	97
Indonesia	1527	2	2	15	1510	2	2.48	2.45	83	98	1183	0	0	1	1073	109	2.58	2.32	85	98
Maldives	1	0	0	0	1	0	0.99	0.99	0	100	0	0	0	0	0	0.00	0.00	0	0	
Myanmar	410	1	0	0	409	1	2.13	2.12	95	100	258	14	11	8	204	32	1.79	1.41	92	100
Nepal	364	5	5	2	357	0	3.57	3.50	86	98	247	0	0	0	223	24	3.16	2.85	85	96
Sri Lanka	125	0	0	0	125	5	2.36	2.36	78	99	62	0	0	0	59	3	1.58	1.49	87	100
Thailand	305	0	0	0	305	1	2.26	2.26	81	99	143	0	0	0	125	18	1.41	1.23	78	97
Timor-Leste	1	0	0	1	0	1	0.24	0	0	100	1	0	0	0	1	0.33	0.00	0	100	
<b>Total</b>	<b>36665</b>	<b>702</b>	<b>701</b>	<b>514</b>	<b>35426</b>	<b>33</b>	<b>6.17</b>	<b>28.2</b>	<b>83</b>	<b>97</b>	<b>32103</b>	<b>269</b>	<b>266</b>	<b>84</b>	<b>27078</b>	<b>4672</b>	<b>7.12</b>	<b>6.01</b>	<b>85</b>	<b>97</b>



Global case count

Total cases	Year-to-date 2007	Year-to-2006	Total in 2006
Globally	519	1306	1997
- in endemic countries:	454	1205	1869
- in non-endemic countries:	65	101	128

Country	Year-to-date 2007	Year-to-date 2006	Total in 2006	Date of onset of most recent case
India	241	323	676	1 September 2007
Niger	3	10	11	16 August 2007
Nigeria	191	836	1122	12 August 2007
DRC	29	7	13	7 August 2007
Pakistan	13	20	40	7 August 2007
Chad	5	0	1	2 August 2007
Afghanistan	9	26	31	1 August 2007
Angola	9	1	2	8 July 2007
Myanmar	11	0	0	28 May 2007
Somalia	8	31	35	25 March 2007
Nepal	0	2	5	22 December 2006
Cameroon	0	0	2	6 December 2006
Bangladesh	0	13	18	22 November 2006
Kenya	0	0	2	13 November 2006
Ethiopia	0	14	17	7 November 2006
Namibia	0	20	19	26 June 2006
Indonesia	0	2	2	20 February 2006
Yemen	0	1	1	2 February 2006

\*Source of data: WHO, as of 01 Oct 2007