



Vol. 9 No.8

EPI Surveillance Bulletin

Epidemiologic Week 50: Dec 10 – 16, 2006



November 2006

Intensify Child to Child Search Activities in 2nd Round of 14th NID

The first round of the 14th NID has been just completed. As before, Independent Observers monitored the NID and Child to Child search activities of this 14th NID with a checklist. Observers from JICA, UNICEF, EPI, GoB, GAVI, NGO and WHO observed 1565 NID sites and 1435 Child to Child search activities. The review of Independent Observers' (IO) checklists of the 1st round of 14th NID has already been done and shared in the national review meeting on 9 December 2006. As per the analysis of the Independent Observers' checklists, it was found that 96.8% children were vaccinated nationally in this round. This coverage is more than the coverage of 4th round of the 13th Special NID. This time 10% of the NID sites and 28% of the Child to Child sites visited by the independent observers were in hard to reach areas.

Among 96.8% national coverage, NID site coverage was 87.7% and Child to Child search coverage was only 9.1%, which speaks of poor performance of Child to Child search activities. Generally speaking, this time Child to Child search coverage is less than that of any four rounds of the 13th Special NID. Child to Child search coverage is the lowest in City Corporation areas. As far as the divisional coverage is concerned, it is found that Rajshahi is on the top of the list with 98% coverage followed by Barisal (97.7%) and Dhaka (97.3%). Sylhet remains at the 4th position with 96.7% coverage while Chittagong with 95.3% coverage stands at the 5th position ahead of Khulna which has the lowest coverage of 95.2%. This lowest coverage of Khulna division is attributed to poor coverage during Child to Child search activities (only 5.2%).

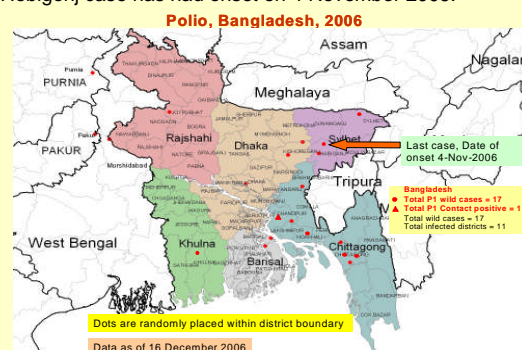
The theme of the 1st round of 14th NID was to reach the unreachable. So, hard to reach areas were given special attention by preparing special microplanning and implementing pragmatic supervision plan for these areas. The coverage has also been increased in hard to reach areas which is evidenced by the analysis of IO checklists. It is seen that 1st round coverage in hard to reach areas is 96.5% which is the highest than any round of the 13th Special NID. This coverage in hard to reach areas is very close to the coverage of non hard to reach areas which is 97.3%.

The most important cause for not vaccinating the children at NID site was found to be 'traveling' (28.9%) followed by 'didn't know' (20.9%) and 'busy' (15.7%). Again 9.4% children were not vaccinated at NID sites because their guardians did not pay attention to vaccinating their children and 6.3% children were not vaccinated at NID site as their guardians waited for the Child to Child search team to come at house for vaccinating their children.

IO checklist findings reveal that most of the parents came to know about 14th NID from TV campaigns in urban areas and field workers' visit in rural areas. Other important modes of communication were mobile miking

and mosque miking. This time TV played a great role in disseminating the messages of NID as well as motivating people for vaccinating their children and providing with Vit A and deworming tablet. Poster was found to be the least effective mode of communication.

In the mean time two more wild polio cases have been reported; one from Comapongonj of Sylhet district and the other from Nobigonj of Hobigonj district. The sylhet case has had onset of paralysis on 29 October and the Hobigonj case has had onset on 4 November 2006.



It is evident that the transmission of wild polio virus is going on in the country amid of four rounds of the 13th Special NID. Now, with these two cases total polio cases in Bangladesh stand at 17 and altogether 4 cases have been reported following 4th round of the 13th Special NID. On the other hand, we could not vaccinate all children in the 1st round of 14th NID. 3.2% children were not reached during this round and if it is translated into number, it becomes 741,986. So, this is the challenge of the 2nd round to vaccinate **all** target children no matter the child is living in hard to reach areas or not. Along with this, special strategies need to be taken to vaccinate 'traveling' children and above all, messages must be disseminated through IPC that traveling children can be vaccinated from anywhere in Bangladesh.

Once we fared polio very well from our country. Now, we need to do it once again. With all our strengths and efforts we need to fight against polio because we don't have any choice than to kick polio out of Bangladesh.

Surveillance Summary for 1999-2006 (through Epidemiologic Week 50, December 10 – 16, 2006)

	1999	2000	2001	2002	2003	2004	2005	2006 ¹
Number of AFP cases	761	1138	1287	1365	1128	1301	1458	1547
No. of clinically confirmed polio cases	322	197	NA	NA	NA	NA	NA	NA
No. of compatible cases according to virologic classification system	NA	NA	36	0	0	2	0	1
No. of cases with isolation of wild poliovirus	29	1	0	0	0	0	0	17
No. of discarded polio cases (i.e., non-polio AFP)	439	941	1251	1365	1128	1299	1458	1398
No. of cases pending classification	0	0	0	0	0	0	0	131
Expected annual number of non-polio AFP cases (1/100,000 children <15 yr)*	505	515	533	549	556	563	1094	1114

AFP Surveillance Performance Indicators:

Indicator	Target	1999	2000	2001	2002	2003	2004	2005	2006
1. Annual Non-Polio AFP rate in children < 15 years old	≥ 2.0	0.87	1.82	2.34	2.49	2.03	2.31	2.66	2.61
2. Completeness of passive reporting from facilities	≥ 90%	66%	83%	65%	62%	67%	82%	92%	88%
3. Timeliness of passive reporting from facilities	≥ 80%	30%	58%	38%	36%	62%	75%	84%	82%
4. Suspected AFP cases investigated within 48 hours of notification	≥ 80%	83%	93%	96%	96%	98%	98%	99%	100%
5. Confirmed AFP cases with 2 stool specimens collected ≤ 14 days after paralysis onset	≥ 80%	49%	68%	80%	89%	90%	90%	92%	93%
6. Stool specimens arriving at laboratory ≤ 3 days after collection	≥ 80%	81%	92%	97%	98%	99%	99%	99%	98%
7. Stool specimens arriving at laboratory in "good" condition "good" = 1. Presence of unmelted ice or temperature <8°C 2. Adequate volume (≥ 8 grams or size of ½ thumb) 3. No evidence of leakage 4. No evidence of desiccation (drying)	≥ 90%	97%	100%	100%	99%	100%	100%	100%	100%
8. Confirmed AFP cases receiving a follow-up exam at least 60 days after paralysis onset	≥ 80%	97%	95%	93%	99%	100%	98%	99%	91% ²
9. Stool specimens with laboratory results ≤ 28 days after specimen receipt	≥ 80%	58%	94%	99%	100%	100%	100%	100%	98% ³
10. Stool specimens from which non-polio enterovirus (NPEV) was isolated	≥ 10%	13%	21%	29%	28%	23%	20%	20%	15%

¹ Data as of December 16, 2006; ² among cases occurring up to October 2, 2006; ³ as of November 18, 2006; * Prior to 2005 NPAFP rate calculated as 1/100,000 children.

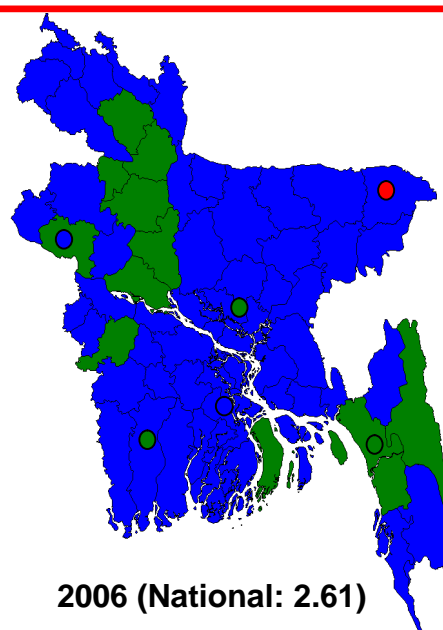
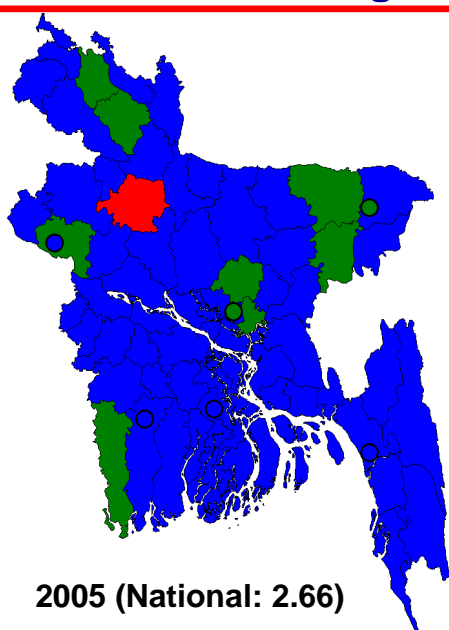
Please provide your feedback and comments to Dr. Md. Tazul Islam, DPM-EPI or Dr. Abdul Quader Mian, Program Manager,
Child Health & Limited Curative Care, EPI Bhaban, Mohakhali, Dhaka 1212 Telephone: 9880530 or 9898797
Chief Advisor to the Editorial Board: Dr. Md. Shukuruddin Mridha, Director PHC & Line Director ESD, DGHS, Mohakhali Dhaka.

District	Minimum operational target of non-polio AFP		Total # AFP ¹		Wild polio-virus isolated		# Compatible cases		Non- Polio AFP cases ¹		Pending final classif. ¹		Annualized Non-polio AFP Rate ¹		Notification within 10 d after paralysis onset ¹		Investigation within 48 h after notification ¹		% with 2 stools within 14 days ¹		Stool sample arriving to lab within 72 hrs ¹		% with 60-day follow-up ²	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
Dhaka Division																								
Dhaka (non DCC)	25	26	47	41		1			47	37	0	3	3.82	2.98	89%	95%	100%	100%	87%	95%	98%	98%	94%	82%
DCC only	61	64	54	54					54	45	0	9	1.76	1.46	96%	93%	98%	100%	93%	89%	100%	98%	93%	79%
Faridpur	15	16	23	29					23	27	0	2	3.01	3.62	96%	90%	100%	100%	96%	100%	100%	93%	96%	75%
Gazipur	18	18	15	23					15	20	0	3	1.70	2.32	100%	91%	100%	100%	93%	96%	100%	96%	100%	100%
Gopalganj	10	10	24	27					24	26	0	1	4.87	5.44	100%	96%	100%	100%	100%	96%	100%	100%	100%	100%
Jamalpur	18	19	32	26					32	21	0	5	3.48	2.34	88%	81%	97%	100%	88%	92%	97%	96%	100%	100%
Kishoreganj	22	22	33	48		2			33	38	0	8	2.99	3.54	88%	94%	100%	100%	94%	92%	100%	100%	97%	89%
Madaripur	10	10	22	22					22	20	0	2	4.59	4.31	91%	95%	100%	100%	95%	100%	100%	100%	100%	100%
Manikganj	11	11	17	24					17	21	0	3	3.03	3.85	82%	100%	100%	96%	88%	100%	100%	100%	100%	100%
Munshiganj	11	11	31	24					31	21	0	3	5.64	3.94	97%	92%	100%	100%	97%	96%	100%	100%	100%	100%
Mymensingh	39	39	51	46					51	42	0	4	2.63	2.23	80%	91%	98%	100%	84%	96%	100%	98%	100%	89%
Narayanganj	19	20	16	28					16	25	0	3	1.66	2.64	94%	89%	100%	100%	100%	89%	100%	100%	100%	88%
Narsingdhi	17	17	19	22					19	21	0	1	2.24	2.52	89%	91%	100%	100%	89%	95%	100%	100%	100%	100%
Netrokona	17	17	26	27					26	27	0	0	3.03	3.22	100%	93%	100%	100%	96%	96%	96%	100%	100%	100%
Rajbari	8	8	11	21					11	19	0	2	2.65	4.70	100%	86%	100%	100%	100%	90%	100%	100%	100%	60%
Sariatpur	9	10	26	34					26	32	0	2	5.52	6.97	96%	97%	100%	100%	92%	97%	96%	100%	100%	100%
Sherpur	11	11	15	21					15	19	0	2	2.74	3.57	100%	86%	93%	95%	100%	90%	100%	100%	100%	100%
Tangail	28	28	32	37					32	35	0	2	2.30	2.59	91%	92%	100%	100%	91%	97%	100%	100%	100%	100%
Total-DHAKA	349	357	494	554	0	3	0	0	494	496	0	55	2.83	2.89	92%	92%	99%	100%	92%	95%	99%	99%	98%	91%
CTG Division																								
Bandarban	3	3	3	4					3	4	0	0	2.19	2.96	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Brahmanbaria	21	21	25	38		1			25	33	0	4	2.43	3.30	92%	84%	92%	100%	88%	82%	100%	95%	100%	100%
Chandpur	20	21	21	25		1			21	23	0	1	2.06	2.28	95%	100%	95%	100%	86%	96%	90%	100%	95%	100%
Chittagong (non CCC)	38	38	46	35		4			46	26	0	5	2.43	1.41	98%	100%	100%	100%	96%	94%	100%	100%	100%	100%
CCC only	20	21	22	18					22	16	0	2	2.17	1.59	100%	94%	100%	100%	95%	89%	100%	100%	100%	67%
Comilla	40	41	50	64					50	61	0	3	2.50	3.13	98%	94%	98%	100%	90%	95%	98%	100%	98%	93%
Cox's Bazar	16	16	19	25					19	25	0	0	2.39	3.20	89%	100%	100%	100%	89%	96%	100%	96%	100%	100%
Feni	10	11	26	13					26	11	0	2	4.96	2.15	96%	92%	100%	100%	92%	85%	96%	100%	100%	100%
Khagrachari	5	5	7	8					7	6	0	2	2.75	2.34	86%	88%	100%	100%	86%	88%	100%	100%	100%	0%
Lakshmipur	13	13	24	19					24	18	0	1	3.71	2.86	88%	100%	100%	100%	88%	95%	96%	100%	96%	100%
Noakhali	23	23	43	25		1			43	23	0	1	3.81	2.09	95%	92%	100%	100%	95%	96%	100%	100%	98%	78%
Rangamati	5	5	7	4					7	3	0	1	2.89	1.25	57%	75%	100%	100%	71%	75%	100%	100%	100%	100%
Total-CTG	214	218	293	278	0	7	0	0	293	249	0	22	2.74	2.38	94%	94%	99%	100%	91%	92%	98%	99%	99%	93%
Sylhet Division																								
Habiganj	15	16	14	21		2			14	16	0	3	1.83	2.15	79%	86%	100%	100%	86%	95%	100%	100%	100%	86%
Moulvi Bazar	14	14	15	17					15	15	0	2	2.11	2.15	100%	94%	100%	100%	100%	94%	100%	100%	100%	75%
Sunamganj	18	18	14	35					14	29	0	6	1.60	3.39	100%	80%	100%	97%	93%	80%	86%	97%	100%	93%
Sylhet (non SCC)	19	20	25	37		1			25	34	0	2	2.57	3.59	92%	97%	100%	100%	88%	92%	100%	100%	100%	100%
SCC only	4	4	3	2					3	1	0	1	1.57	0.49	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Total-SYL	70	72	71	112	0	3	0	0	71	95	0	14	2.02	2.75	93%	89%	100%	99%	92%	89%	97%	99%	100%	91%
Raj Division																								
Bogra	26	27	13	28					13	25	0	3	0.99	1.95	85%	89%	100%	100%	92%	93%	100%	96%	100%	67%
Dinajpur	23	24	27	24				1	27	23	0	0	2.32	2.02	78%	79%	100%	100%	89%	83%	100%	96%	100%	100%
Gaibandha	18	18	20	17					20	15	0	2	2.19	1.69	90%	82%	100%	100%	90%	76%	85%	94%	100%	100%
Joypurhat	7	7	13	5		1			13	4	0	0	3.52	1.12	85%	80%	100%	100%	85%	80%	92%	100%	100%	100%
Kurigram	15	15	16	23					16	23	0	0	2.11	3.12	81%	78%	100%	96%	94%	91%	100%	96%	100%	100%
Lalmonirhat	10	10	13	12					13	12	0	0	2.68	2.54	85%	83%	100%	100%	77%	92%	100%	100%	100%	100%
Natore	13	13	13	20					13	19	0	1	2.00	3.01	100%	95%	100%	100%	100%	90%	100%	100%	100%	80%
Nilphamari	14	14	12	16					12	14	0	2	1.75	2.09	100%	94%	100%	100%	100%	94%	100%	100%	100%	100%
Noagoan	21	21	31	27					31	26	0	1	3.01	2.60	100%	85%	97%	93%	87%	85%	87%	93%	100%	100%
Nowabganj	13	13	19	22					19	20	0	2	2.99	3.21	89%	91%	100%	100%	84%	95%	100%	100%	100%	100%
Pabna	19	19	25	20					25	18	0	2	2.66	1.97	100%	95%	100%	100%	100%	95%	100%	100%	100%	75%
Panchagharh	7	8	11	11					11	11	0	0	2.97	3.04	100%	100%	100%	100%	100%	100%	100%	100%	100%	80%
Rajshahi (non RCC)	17	17	16	18					16	16	0	2	1.92	1.96	75%	94%	100%	100%	69%	94%	88%	100%	100%	100%
RCC only	3	4	5	4					5	4	0	0	2.88	2.35	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Rangpur	22	23	15	17					15	16	0	1	1.35	1.47	100%	94%	100%	100%	93%	94%	87%	100%	100%	100%
Sirajganj	24	24	25	23					25	20	0	3	2.12	1.73	88%	91%	100%	100%	96%	91%	100%	100%	100%	22%
Thakurgoan	11	11	12	13					12	11	0	2	2.24	2.10	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total-RAJ	263	268	286	300	0	1	0	1	286	277	0	21	2.17	2.16	91%	89%	100%	99%	91%	91%	96%	98%	100%	87%
Khulna Division																								
Bagerhat	13	13	25	24					25	22	0	2	3.89	3.54	100%	100%	96%	100%	100%	92%	100%	88%	100%	100%
Chuadanga	9	9	11	13					11	13	0	0	2.42	2.91	82%	100%	100%	92%	73%	100%	100%	100%	100%	NA
Jessore	22	22	31	29					31	28	0	1	2.85	2.63	97%	83%	100							

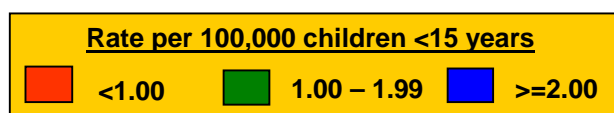
District	Neonatal Tetanus						Measles								AEFI	
	# of case reported by Active Surveillance		# of case reported by Passive Surveillance		# of case Investigated		# of case reported by Active Surveillance		# of case reported by Passive Surveillance		Outbreak*					
											Number of Outbreak (% Investigated)		# of cases		# of case Reported	
2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005		
Dhaka Division																
Dhaka (non DCC)	4	2	4	2	4	1	28	16	62	36	3(100%)	1(100%)	480	191	31	25
DCC only	11	5	15	8	11		204	95	241	90	20(100%)	1(100%)	2791	247	7	31
Faridpur	2	3	5	4	5	3	5	3	58	31	1(100%)	1(100%)	79	24	80	75
Gazipur	3		3		2		15	22	44	22	1(100%)	1(100%)	79	80	7	4
Gopalganj	7	2	8	1	7	2	5	31	157	72	3(100%)	1(100%)	144	30	51	34
Jamalpur			2	2		1	4	3	36	9					17	43
Kishoreganj	26	11	28	11	16	6	58	21	153	21	8(100%)	1(100%)	431	94	28	42
Madaripur		2	1	1		2	16	19	183	72	7(100%)	6(100%)	510	690	61	35
Manikganj	2		1	1		1	3	6	46	104	7(100%)	1(100%)	1211	38	40	22
Munshiganj	2		5		2		4	2	291	16	3(100%)		175		18	25
Mymensingh	21	24	12	16	20	25	41	31	206	44	6(100%)		582		82	34
Narayanganj			1				83	27	84	34	1(100%)		73		31	57
Narsingdhi	1	1					22	15	46	15	1(100%)		53		10	28
Netrokona	2	8	8	9	8	8	6	2	199	68	8(100%)		986		28	43
Rajbari	1		3		2			4	50	22					8	38
Shariatpur	3	3	5	1	3	2	6	1	152	35	5(100%)		314		52	29
Sherpur	3	3	8	9	7	3		1	75	14	1(100%)		146		31	22
Tangail	4	7	3	6	5	6	15	13	27	23					26	29
Total-DHAKA	92	71	112	71	92	60	515	312	2110	728	75(100)%	13(100)%	8054	1394	608	616
CTG Division																
Bandarban							2	1	8	5					19	13
Brahmanbaria	9	7	18	7	11	7	2	4	61	14	3(100%)		269		7	13
Chandpur	4		3		3		7	6	91	16	4(100%)	2(100%)	103	57	44	35
Chittagong (non CCC)	1	1	7		1		17	17	76	23	1(100%)		17		7	10
CCC only	8	2	4	3	7	2	78	42	60	42	2(100%)		161		6	14
Comilla	8	8	6	6	2		9	18	219	69	9(100%)	1(100%)	1045	74	6	10
Cox's Bazar	7	3	8	9	7	3	7	15	24	23	1(100%)	1(100%)	183	42	8	17
Feni	2	1	4	1	2	1	5	1	211	26	5(100%)	1(100%)	412	25	11	15
Khagrachari							2		29	1					2	8
Laxmipur	6	13	10	8	6	10	4	11	78	35	2(100%)	1(100%)	41	31	55	22
Noakhali	7	7	11	6	8	2	27	20	86	18	1(100%)		80		20	6
Rangamati			1				1	2	53	7					3	2
Total-CTG	52	42	71	41	47	25	161	137	996	279	28(100%)	6(100%)	2311	229	188	165
Sylhet Division																
Habiganj	9	12	12	10	2	2	23		131	29	5(100%)		399		38	20
Maulvibazar	7	3	7	2	1		27	6	174	25	3(100%)		317		16	43
Sunamganj	8	16	12	12	6	8	285	23	354	43	2(100%)		730		28	33
Sylhet (non SCC)	4	3	4	2	6	3	162	27	326	81	4(100%)		204		20	18
SCC only	1	1	1	1	2	1	165	20	182	21					1	3
Total-SYL	29	35	36	27	17	14	662	76	1167	199	14(100%)	0	1650	0	103	117
Raj Division																
Bogra	2	4	6	6	3	1	7	5	28	25	2(100%)		75		169	104
Dinajpur	7	4	8	6	7	4	3	3	18	42	1(100%)	1(100%)	63	209	59	42
Gaibandha	2	1	5		8				28	4	1(100%)	7(100%)	61	541	44	43
Joypurhat	1		1		1		4	2	28	20		1(100%)		26	27	19
Kurigram		1	5	1	7	3		1	14	28		1(100%)		52	21	12
Lalmonirhat	1		1		1				21	4					2	15
Natore	4		4		4	1	16	4	180	39	7(100%)		703		27	90
Nilphamari	3		1	3	2	2	2	1	10	6					44	62
Noaogon	4		4	1	5	1	3	2	114	4	3(100%)		273		42	31
Nowabganj	6		3	1	6		6	1	8	1					10	27
Pabna	2	1	2		2	1	11		42	22					13	12
Panchagarh	1	2	3	2	2	2	2		75	3					10	13
Rajshahi (non RCC)	4	3	6	5	5	3	5	8	12	21	1(100%)	1(100%)	266	223	14	34
RCC only							14	5	242	215	5(100%)	1(100%)	329	50	47	38
Rangpur	10	5	8	3	9	6	7	1	7	1	2(100%)		47		31	22
Sirajganj	1	4	2	4	1	1	4		18	5	1(100%)		127		17	21
Thakurgaon							18	3	22	3	3(100%)		453		7	27
Total-RAJ	48	25	59	32	63	25	102	36	867	443	26(100%)	12(100%)	2397	1101	584	612
Khulna Division																
Bagerhat	4	2	4		2	1	8	9	305	59	13(100%)	10(100%)	674	480	24	62
Chuadanga	4	1	6	4	5	1	1	2	24	20		2(100%)		136	38	28
Jessore	5	8	4	7	3	8	10	40	44	74		1(100%)		60	62	37
Jhenaidah	2	4	2	3	2	2	3	4	20	13	2(100%)	1(100%)	99	148	37	16
Khulna (non KCC)	2	2	4	2	2	2	6	2	717	176	14(100%)	2(100%)	918	132	62	48
KCC only	1		1	1	1		3	5	127	19	14(100%)	1(100%)	1161	35	11	9
Kushtia	1	1		1	1	1	4	3	74	14	2(100%)	1(100%)	176	251	16	19
Magura	1		2	1	1	1	2	3	18	34		1(100%)		50	20	13
Meherpur	2	1	3	1	2	1	3	4	34	7	1(100%)		108		9	9
Narail	10	1	9	3	10	1	1	6	22	3	1(100%)		66		15	16
Satkhira	3	2	3	1	2	2		1	20	16	2(100%)	1(100%)	176	47	39	64
Total-KHU	35	22	38	24	31	20	41	79	1405	435	49(100%)	20(100%)	3378	1339	333	321
Barisal Division																
Barguna		2	1	2			9	5	84	37					5	9
Barisal (non BCC)	4	7	6	5	2		33	20	72	14	1(100%)		48		18	29
BCC only	2		1		2		29	13	21	10					1	3
Bhola	4	1	8	6	6	3	3	2	72	11	1(100%)		108		29	42
Jhalakhati	3	2	3	3	1	2	24	11	29	11	1(100%)		68		19	19
Patuakhali	3	4	3	4	2	2	41	28	70	47	3(100%)		331		6	13
Pirojpur		2	3	1	2		15	2	32	7	5(100%)		665		33	27
Total-BAR	16	18	25	21	15	7	154	81	380	137	11(100%)	0	1220	0	111	142
National	272	213	341	216	265	151	1,635	721	6,925	2,221	203(100%)	51(100%)	19,010	4,063	1,927	1,973

Data as of Epidemiologic Week 50, December 16, 2006, * Only lab confirmed measles and mixed outbreaks

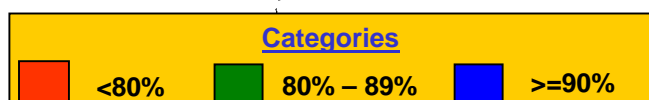
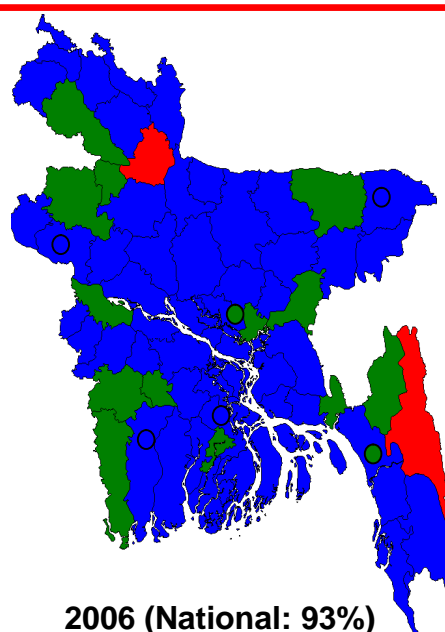
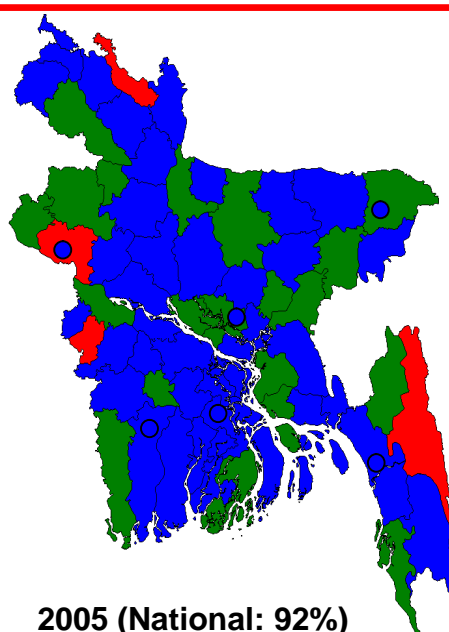
Annualized Non-Polio AFP Rate, by District, Bangladesh 2005-2006*



*Data as of Epidemiologic Week 50, December 16, 2006



Percentage of AFP Cases with Two Stool Samples Collected within 14 days of Paralysis Onset, by District, Bangladesh 2005-2006*



*Data as of Epidemiologic Week 50, December 16, 2006

International Developmental Partners for Polio Eradication in Bangladesh include Centers for Disease Control and Prevention, Atlanta, Governments of Japan, the Netherlands, USAID, Rotary International, U.K. DFID, UN Foundation, UNICEF and WHO