



EPI Surveillance Bulletin



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Another Success in the History of EPI Bangladesh has introduced new Hib Vaccine in the form of Pentavalent Vaccine

Bangladesh EPI has introduced a new conjugate vaccine that will protect children against five killer diseases in one injection which include the deadly bacterium *Haemophilus influenzae* type b (Hib) that causes some severe forms of pneumonia and meningitis. The new combination or 5-in-1 vaccine will protect children against **Hib** and four other **deadly diseases: diphtheria, tetanus, pertussis, and hepatitis B**.

The Launching ceremony for introduction of Hib vaccine in the form of Pentavalent vaccine (DPT, Hep-B and Hib) was held on 15 January 2009 at Khulna District and Khulna City Corporation. In the launching ceremony, the Hon'ble Minister, Ministry of Health and Family Welfare, Prof A.F.M Ruhul Haque along with Special Guests and Representatives of other UN agencies and partners administered the first shots of the combination vaccine to the children.

As Government planned to introduce this Hib pentavalent vaccine phase wise all over the country by July 2009, the trainers of EPI HQ in collaboration with WHO and UNICEF conducted 11 batches of Training of Trainers (TOT) at EPI HQ. The Deputy Civil Surgeons, Medical Officer-CS Office from the districts and Health Officers, Assistant Health Officers, Zonal Medical Officers from the City Corporations, all DIMOs, SMOs and EPI DCs were participated in the TOT. The national level TOT completed by May 2009. Following TOT at national EPI HQ, all district level training of trainers were held where Upazila Health and Family Planning Officer, Medical Officer Disease control, Medical Technologist-EPI, District EPI Supervisors, Cold Chain Technicians and EPI store Keeper participated. Subsequently, District, Upazila and City Corporation's trainers conducted 2 days training for the all field workers and 1st line supervisors at Upazila, Municipality and City Corporation level and training completed by July 2009. About 55,000 health and family planning workers were trained up before introduction of pentavalent vaccine. All DIMOs, SMOs and EPI DCs facilitated training at all level and provided technical support to the GoB counterparts.

After completion of all level training, advocacy and local level launching ceremony were held in all districts, municipalities, upazilas and City Corporations with the participation of all multi-sectoral partners and service providers to create awareness in the community and for successful implementation *Haemophilus influenzae* type b (Hib) vaccine. The introduction of Hib vaccine in the form of pentavalent vaccine was completed in all Upazilas, Municipality and City Corporations by July 2009.

Hib vaccine is a safe and highly cost-effective intervention. Instead of three different injections (DPT, Hepatitis B and Hib), children will only need one injection at three definite intervals during their first year of life: at the age of 6 weeks, 10 weeks and 14 weeks. This will make it easier for health workers who will need less time and less logistics to immunize all children. At the same time, the use of the conjugate vaccine containing five antigens in one shot will assist to achieve and sustain the global immunization goal 80% coverage of all antigens in all districts and 90% nationally by 2010.

The introduction of the 5-in-1 pentavalent vaccine in Bangladesh is carried out with the financial and technical support from the GAVI Alliance and its key partners including UNICEF, WHO and the Hib Initiative. GAVI supported the training of about 55,000 health and family planning workers together with WHO and UNICEF for introduction of this vaccine. This life-saving vaccine represents an important step forward in preventing childhood diseases in Bangladesh.

Surveillance Summary										
Description	2001	2002	2003	2004	2005	2006	2007	2008	2009 ¹	
Number of AFP cases	1287	1365	1128	1301	1458	1619	1844	1790	940	
No. of compatible cases according to virologic classification system	36	0	0	2	0	2	0	0	0	
No. of cases with isolation of wild poliovirus	0	0	0	0	0	18	0	0	0	
No. of discarded polio cases (i.e., non-polio AFP)	1251	1365	1128	1299	1458	1599	1844	1790	867	
No. of cases pending classification	0	0	0	0	0	0	0	0	73	
Expected annual number of non-polio AFP cases (1/100,000 children <15 yr)*	533	549	556	563	1094	1114	1135	1153	1178	
AFP Surveillance Performance Indicators										
Indicators	Target	2001	2002	2003	2004	2005	2006	2007	2008	2009 ¹
01 Annual Non-Polio AFP rate in children < 15 years old	≥ 2.0	2.34	2.49	2.03	2.31	2.66	2.87	3.25	3.10	2.32
02 Completeness of passive reporting from facilities	≥ 90%	65%	62%	67%	82%	91%	89%	90%	93%	92%
03 Timeliness of passive reporting from facilities	≥ 80%	38%	36%	62%	75%	84%	83%	85%	87%	88%
04 Suspected AFP cases investigated within 48 hours of notification	≥ 80%	96%	96%	98%	98%	99%	100%	99%	99%	99%
05 Confirmed AFP cases with 2 stool specimens collected within 14 days after paralysis onset	≥ 80%	80%	89%	90%	90%	92%	93%	92%	92%	94%
06 Stool specimens arriving at laboratory within 3 days after collection	≥ 80%	97%	98%	99%	99%	98%	99%	100%	100%	100%
07 Stool specimens arriving at laboratory in "good" condition "good" = 1. Presence of unmelting 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%	100%	99%	100%	100%	100%	100%	100%	100%	100%
08 Confirmed AFP cases receiving a follow-up exam at least 60 days after paralysis onset	≥ 80%	93%	99%	100%	98%	99%	100%	100%	99%	100% ²
09 Stool specimens with laboratory results:										
- Within 28 days after specimen receipt (old algorithm)	≥ 80%	99%	100%	100%	100%	100%	98%	100%	-	-
- Within 14 days after specimen receipt (new algorithm)	≥ 80%							80%	93%	96%
10 Stool specimens from which non-polio enterovirus (NPEV) was isolated	≥ 10%	29%	28%	23%	20%	20%	15%	15%	23%	18%

¹ Data as of August 15, 2009; ² among cases occurring up to May 31, 2009; * Prior to 2005 NPAFP rate calculated as 1/100,000 under 15 children

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AFP Surveillance Performance Indicators, 2008 - 2009

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 with 14 days ¹		Stool sample arriving to lab within 72 hrs ¹		% with 60-day follow-up ²	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Barisal Division																								
Barguna	7	7	12	6					12	6	0	0	3.23	2.52	100%	83%	100%	100%	100%	83%	100%	100%	100%	100%
Barisal (non BCC)	18	18	51	20					51	19	0	1	5.61	3.27	94%	100%	98%	100%	92%	100%	100%	100%	100%	100%
BCC only	2	2	4	2					4	2	0	0	3.80	2.94	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Bhola	16	16	62	27					62	26	0	1	7.95	5.18	94%	100%	100%	100%	97%	96%	100%	100%	100%	100%
Jhalakati	6	6	13	6					13	6	0	0	4.42	3.20	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Patuakhali	13	14	25	8					25	7	0	1	3.73	1.62	88%	75%	100%	100%	88%	88%	100%	100%	100%	100%
Perojpur	10	10	21	18					21	18	0	0	4.38	5.86	90%	94%	100%	100%	90%	94%	100%	100%	100%	100%
Total_BAR	72	73	188	87	0	0	0	0	188	84	0	3	5.21	3.63	94%	95%	99%	100%	94%	95%	100%	100%	100%	100%
CTG Division																								
Bandarban	3	3	4	3					4	3	0	0	2.71	3.12	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Brahmanbaria	21	22	35	18					35	18	0	0	3.29	2.64	94%	94%	97%	89%	97%	100%	100%	100%	100%	100%
Chandpur	22	23	34	18					34	17	0	1	3.04	2.32	94%	89%	100%	100%	88%	78%	100%	100%	100%	100%
Chittagong (non CCC)	39	40	43	21					43	21	0	0	2.19	1.67	86%	95%	100%	100%	84%	100%	100%	100%	100%	NA
CCC only	22	23	23	11					23	11	0	0	2.07	1.51	87%	100%	100%	100%	87%	100%	100%	100%	80%	100%
Comilla	42	42	61	30					61	27	0	3	2.93	2.01	100%	97%	100%	97%	98%	93%	98%	100%	93%	100%
Cox's Bazar	17	17	20	14					20	14	0	0	2.35	2.54	95%	100%	100%	100%	95%	100%	100%	100%	100%	100%
Feni	11	11	18	7					18	7	0	0	3.28	1.98	100%	86%	100%	100%	94%	100%	100%	100%	100%	100%
Khagrachari	6	6	7	5					7	4	0	1	2.40	2.06	100%	80%	100%	100%	86%	100%	100%	100%	NA	100%
Lakshmipur	13	14	20	10					20	9	0	1	2.98	2.08	90%	100%	100%	100%	85%	100%	100%	100%	100%	100%
Noakhali	24	24	27	12					27	10	0	2	2.28	1.31	96%	83%	96%	100%	85%	83%	100%	100%	100%	100%
Rangamati	5	5	3	2					3	2	0	0	1.13	1.16	67%	100%	100%	100%	67%	100%	100%	100%	100%	100%
Total-CTG	225	230	295	151	0	0	0	0	295	143	0	8	2.61	1.96	94%	94%	99%	98%	91%	95%	100%	100%	98%	100%
Dhaka Division																								
Dhaka (non DCC)	28	30	46	28					46	26	0	2	3.23	2.74	89%	100%	100%	100%	87%	93%	100%	100%	100%	100%
DCC only	71	74	88	43					88	36	0	7	2.50	1.53	86%	93%	100%	100%	90%	95%	100%	100%	100%	100%
Faridpur	16	16	34	9					34	7	0	2	4.25	1.36	88%	78%	97%	100%	88%	78%	100%	100%	100%	NA
Gazipur	19	19	27	14					27	13	0	1	2.92	2.18	93%	86%	100%	100%	93%	86%	100%	96%	100%	100%
Gopalganj	10	10	31	16					31	15	0	1	6.13	4.63	74%	88%	94%	100%	74%	88%	100%	100%	100%	100%
Jamalpur	19	20	53	39					53	33	0	6	5.51	5.33	96%	97%	92%	97%	98%	92%	100%	99%	100%	100%
Kishoreganj	23	23	40	18					40	17	0	1	3.51	2.32	93%	94%	100%	94%	95%	94%	100%	100%	100%	100%
Madaripur	10	10	20	14					20	12	0	2	4.08	3.83	100%	86%	100%	79%	95%	86%	100%	100%	100%	100%
Manikganj	12	12	18	17					18	17	0	0	3.11	4.58	94%	94%	100%	100%	100%	94%	100%	100%	100%	100%
Munshiganj	11	11	28	8					28	8	0	0	4.97	2.22	100%	100%	96%	100%	100%	100%	100%	100%	100%	NA
Mymensingh	40	41	47	19					47	17	0	2	2.34	1.32	83%	95%	98%	100%	87%	89%	100%	100%	100%	100%
Narayanganj	20	21	27	10					27	9	0	1	2.64	1.36	93%	100%	100%	100%	93%	100%	100%	100%	100%	NA
Narsingdhi	18	18	25	9					25	8	0	1	2.76	1.36	100%	100%	100%	100%	100%	89%	100%	100%	100%	100%
Netrokona	18	18	28	13					28	11	0	2	3.13	1.91	89%	92%	100%	100%	96%	100%	100%	100%	100%	100%
Rajbari	9	9	14	6					14	5	0	1	3.24	1.80	86%	83%	93%	100%	86%	83%	100%	100%	100%	NA
Sariatpur	10	10	29	10					29	8	0	2	5.91	2.54	86%	80%	97%	100%	93%	80%	100%	100%	100%	100%
Sherpur	11	11	18	16					18	16	0	0	3.18	4.41	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Tangail	29	29	46	25					46	22	0	3	3.21	2.40	87%	80%	100%	100%	91%	92%	100%	100%	100%	100%
Total-DHAKA	374	382	619	314	0	0	0	0	619	280	0	34	3.32	2.31	90%	92%	98%	98%	92%	92%	100%	100%	100%	100%
Khulna Division																								
Bagerhat	13	13	19	11					19	10	0	1	2.90	2.39	100%	82%	100%	100%	100%	91%	100%	100%	100%	100%
Chuadanga	10	10	23	9					23	9	0	0	4.73	2.85	96%	100%	100%	100%	87%	100%	100%	100%	100%	100%
Jessore	23	23	34	18					34	16	0	2	2.98	2.17	88%	100%	100%	100%	82%	89%	100%	100%	100%	100%
Jhenaidah	14	15	20	12					20	12	0	0	2.79	2.60	95%	92%	100%	100%	85%	100%	100%	100%	100%	100%
Khulna (non KCC)	13	13	22	11					22	11	0	0	3.40	2.66	95%	100%	100%	100%	95%	100%	100%	100%	100%	100%
KCC only	8	9	8	5					8	5	0	0	1.90	1.84	88%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Kushtia	16	16	27	14					27	12	0	2	3.37	2.32	96%	93%	89%	93%	93%	93%	100%	100%	100%	100%
Magura	8	8	14	5					14	5	0	0	3.67	2.03	86%	100%	100%	100%	86%	100%	100%	100%	100%	NA
Meherpur	6	6	13	4					13	3	0	1	4.71	1.68	92%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Narail	6	6	19	4					19	4	0	0	6.35	2.09	84%	75%	100%	100%	89%	100%	100%	100%	100%	100%
Satkhira	17	17	28	26					28	25	0	1	3.32	4.60	100%	96%	100%	100%	93%	96%	100%	100%	100%	100%
Total-KHU	134	136	227	119	0	0	0	0	227	112	0	7	3.40	2.61	93%	95%	99%	99%	91%	96%	100%	100%	100%	100%
Raj Division																								
Bogra	27	28	32	24					32	21	0	3	2.33	2.38	88%	88%	100%	100%	84%	88%	100%	100%	100%	100%
Dinajpur	24	25	24	16					24	16	0	0	1.96	2.03	88%	94%	100%	100%	83%	100%	100%	100%	100%	100%
Gaibandha	19	19	30	13					30	12	0	1	3.20	2.00	83%	100%	93%	100%	90%	100%	100%	100%	100%	100%
Joypurhat	8	8	11	6					11	5	0	1	2.89	2.05	82%	100%	100%	100%	91%	100%	100%	100%	100%	100%
Kurigram	16	16	20	11					20	11	0	0	2.55	2.19	100%	91%	90%	100%	95%	100%	100%	100%	100%	NA
Lalmonirhat	10	10	12	12					12	12	0	0	2.37	3.67	83%	100%	100%	100%	92%	100%	100%	100%	100%	100%
Natore	13	14	27	11					27	11	0	0	4.03	2.56	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Nilphamari	14	15	27	8					27	8	0	0	3.75	1.73	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Noagoan	21	21	23	19					23	18	0	1	2.16	2.64	100%	89%	100%	100%	96%	100%	100%	100%	100%	100%
Nowabganj	13	14	27	14					27	13	0	1	4.01	2.98	85%	93%	100%	100%	93%	93%	100%	100%	100%	100%
Pabna	20	20	24	14					24	11	0	3	2.46	1.75	96%	93%	100%	100%	92%	100%	100%	96%	100%	100%
Panchagarh	8	8	16	7					16	7	0	0	4.11	2.79	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
Rajshahi (non RCC)	18	18	22	11					22	9	0	2	2.50	1.58	95%	91%	100%	100%</						

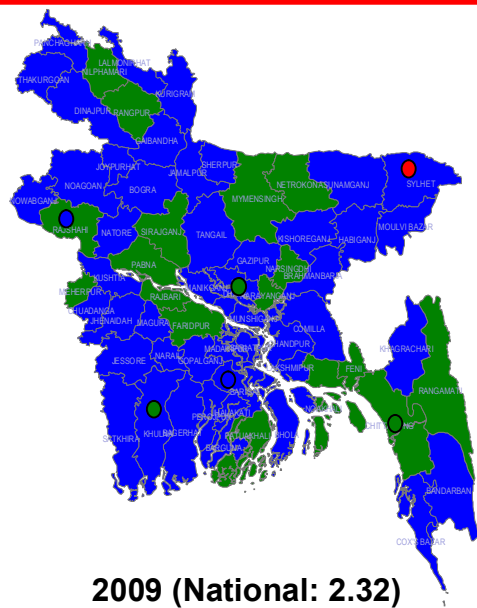
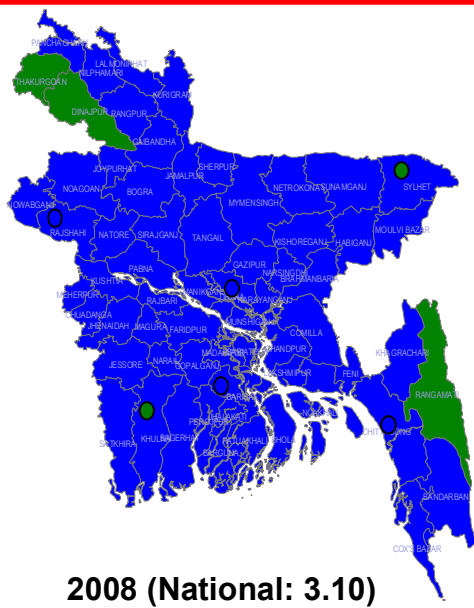
¹Data as of Epidemiologic Week 33, August 15, 2009. ²for cases occurring upto 31 May 2009 which has inadequate stool or positive isolate at NPL or NPEV

Disease Surveillance, 2008 - 2009

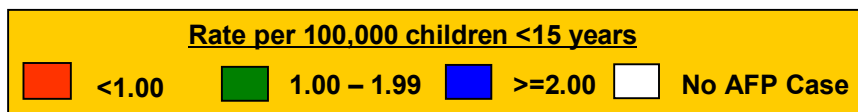
District	Neonatal Tetanus						Measles								AEFI		
	# of case reported by Active Surveillance		# of case reported by Passive Surveillance		# of case Investigated		# of case reported by Active Surveillance		# of case reported by Passive Surveillance		Outbreak*				# of case Reported		
											Number of Outbreak (% Investigated)		# of cases				
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	
Barisal Division																	
Barguna		1	1	1			1		18	13					15	4	
Barisal (non BCC)	2	1	7	1	2	1	2		22						46	16	
BCC only																1	
Bhola	3		8	2	6	2			5	1					14	2	
Jhalakhati	3		2		3		2		2	1					7	6	
Patuakhali		1		1			4	1	15	1					6	1	
Pirojpur			1						9						17	6	
Total BAR	8	3	19	5	11	3	9	1	71	16			0	0	105	36	
CTG Division																	
Bandarban										1					6	4	
Brahmanbaria	5	2	5	4	7	1		1	18	16					25	9	
Chandpur			2		2		3	5	46	37					53	19	
Chittagong (non CCC)	1	1		3		1	4		10	1					10	7	
CCC only	2		3		2		8	2	6	3					7	3	
Comilla	1				1		1		12	6					10	4	
Cox's Bazar		2	1	2		2									5	4	
Feni								1	19	12					17	3	
Khagrachari	1	1	1					1	1	6					5	1	
Laxmipur	3	3	3	3	3	4		1	46	8					22	12	
Noakhali	4	2	3	2	4	4	2	2	9	25					12	3	
Rangamati									1								
Total-CTG	17	11	18	14	19	12	18	13	168	115			0	0	172	69	
Dhaka Division																	
Dhaka (non DCC)	2	2	2	1	1	2	1		63	6					41	11	
DCC only	2	1	4		5	1	25	8	594	189		1 (100%)		76	176	87	
Faridpur	1		1		1	1			29	4					85	39	
Gazipur	3		1		3		3		3	1					17	14	
Gopalganj	2	1	5		3		1		22	4					26	1	
Jamalpur	2		5	1	2				58	117					41	19	
Kishoreganj	7	3	9	3	3	2	13	13	31	15					46	16	
Madaripur	4		3		4		3	7	48	15					79	26	
Manikganj	2		1		1			2	89	5					45	19	
Munshiganj	2		1		1		2		176	40					69	38	
Mymensingh	4	6	5	4	5	8	1	2	73	55					83	36	
Narayanganj	1						1		68	9					39	15	
Narsingdhi	4		2		3		3		3						11	6	
Netrokona	1		5	1	2				33	27					36	17	
Rajbari									40	45					109	31	
Shariatpur	1		1				2	2	23	8					63	26	
Sherpur		1	2	2		1			30	13					26	10	
Tangail	4		8		6		9	4	19	18					68	52	
Total-DHAKA	42	14	55	12	40	15	64	38	1,402	571		1 (100%)	0	76	1,060	463	
Khulna Division																	
Bagerhat	3		5	1	2		2		51	1					41	14	
Chuadanga	1	1	1	2	1	1	2		31	1					22	11	
Jessore							14	3	63	10					23	16	
Jhenaidah								1	22	8					26	12	
Khulna (non KCC)	1	1	1	1	1		1		11						34	12	
KCC only	1				1		3		8						16	9	
Kushtia	3		1		3				45	4					26	11	
Magura		1				1	5		76	11					21	11	
Meherpur								6	11	22					6	8	
Narail	3	1	3	1	4	1	1	1	14	6					13	10	
Satkhira	2		1		3				7						26	10	
Total-KHU	14	4	12	5	15	3	28	11	339	63			0	0	254	124	
Raj Division																	
Bogra	2	1	3		3	1	2	3	24	19					121	60	
Dinajpur	4		4		4		6		19	10					56	31	
Gaibandha	1	2	2	3	4	1		1	3	2					44	19	
Joypurhat							2		14	2					25	11	
Kurigram		3				2	3	2	7	10					16	10	
Lalmonirhat	2	1		2	1	1	1	2	1						24	12	
Natore	4		3	1	4		5	2	74	44		1(100%)		132	0	51	9
Nilphamari	1		1		2			1		1					25	7	
Noagoan	2		3		2		7	4	90	45					43	14	
Nowabganj	2		2		2		4	3	38	13					24	14	
Pabna	3		2		1		20	15	65	51					44	19	
Panchagarh	1		2		1		2		5	1					19	9	
Rajshahi (non RCC)	3		3		3		8		31	28					43	23	
RCC only							3	3	64	65					48	26	
Rangpur	3	1		1	3	1	1		2	5					32	12	
Sirajganj		2				2			3	6					15	8	
Thakurgaon	1	1	1	2	1	1	4	1	5	3					35	23	
Total-RAJ	29	11	26	9	31	9	68	37	445	305		1(100%)		132	0	665	307
Sylhet Division																	
Habiganj	3	2	4	3	6	2			10	4					25	12	
Maulvibazar	7	2	6	3	5	1		1	15	10					10	5	
Sunamganj	8	1	7		8	1	28	1	40	4					20	10	
Sylhet (non SCC)	5		5	1	7		6	1	32	13					7	3	
SCC only	1						19	13	6	8					4	1	
Total-SYL	24	5	22	7	26	4	53	16	103	39			0	0	66	31	
National	134	48	152	52	142	46	240	116	2,528	1,109		1(100%)	1(100%)	132	76	2,322	1,030

Data as of 13 August 2009, * Only Lab Confirmed Measles and Mixed Type outbreak Cases

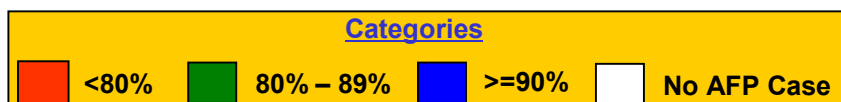
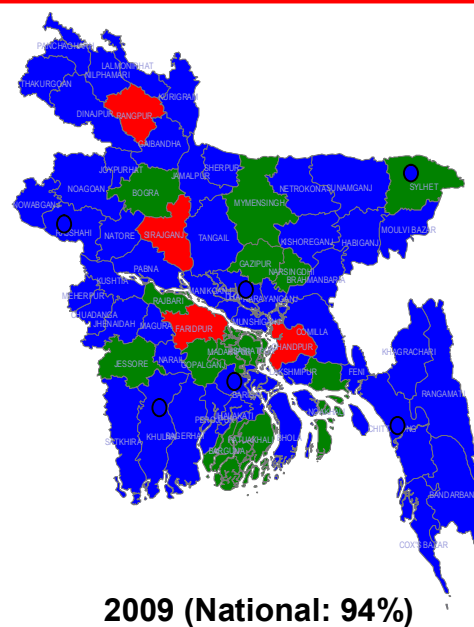
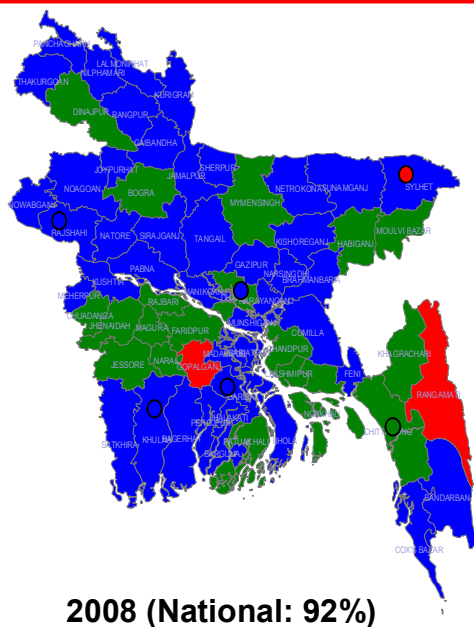
Annualized Non-Polio AFP Rate, by District, Bangladesh 2008-2009*



*Data as of 15 August 2009



Percentage of AFP Cases with Two Stool Samples Collected within 14 days of Paralysis Onset, by District, Bangladesh 2008-2009*



*Data as of 15 August 2009

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