



# EPI Surveillance Bulletin

## 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 Ruhal 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 1<sup>st</sup> 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 <sup>1</sup>		
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 <sup>1</sup>	
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 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%	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%	
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%	

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

**AFP Surveillance Performance Indicators, 2008 - 2009**

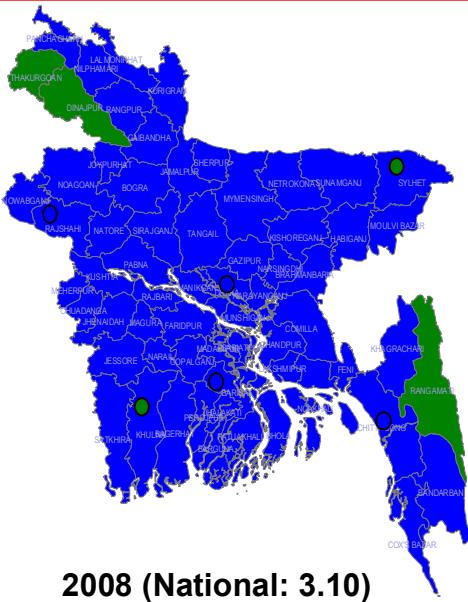
District	Minimum operational target of non-polio AFP		Total # AFP <sup>1</sup>		Wild polio-virus isolated		Compatible #		Non- Polio AFP cases <sup>1</sup>		Pending final classif. <sup>1</sup>		Annualized Non-polio AFP Rate <sup>1</sup>		Notification within 10 d after paralysis onset <sup>1</sup>		Investigation within 48 h after notification <sup>1</sup>		% with 2 stools within 14 days <sup>1</sup>		Stool sample arriving to lab within 72 hrs <sup>1</sup>		% with 60-day follow-up <sup>2</sup>				
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009			
<b>Barisal Division</b>																											
Barguna	7	7	12	6					12	6	0	0	3.23	2.52	100%	83%	100%	100%	83%	100%	100%	100%	100%	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%	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%	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%	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%	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%	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%	100%	100%	100%
<b>Total_BAR</b>	<b>72</b>	<b>73</b>	<b>188</b>	<b>87</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>188</b>	<b>84</b>	<b>0</b>	<b>3</b>	<b>5.21</b>	<b>3.63</b>	<b>94%</b>	<b>95%</b>	<b>99%</b>	<b>100%</b>	<b>94%</b>	<b>95%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	
<b>CTG Division</b>																											
Bandarban	3	3	4	3					4	3	0	0	2.71	3.12	100%	100%	100%	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%	97%	100%	100%	100%	100%	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%	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%	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%	100%	100%	
Comilla	42	42	61	30					61	27	0	3	2.93	2.01	100%	97%	100%	97%	98%	93%	98%	100%	93%	100%	100%	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%	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%	100%	100%	
Khagrachari	6	6	7	5					7	4	0	1	2.40	2.06	100%	80%	100%	100%	86%	100%	100%	100%	100%	100%	100%	NA	
Lakshmpur	13	14	20	10					20	9	0	1	2.98	2.08	90%	100%	100%	100%	85%	100%	100%	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%	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%	100%	100%	
<b>Total-CTG</b>	<b>225</b>	<b>230</b>	<b>295</b>	<b>151</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>295</b>	<b>143</b>	<b>0</b>	<b>8</b>	<b>2.61</b>	<b>1.96</b>	<b>94%</b>	<b>94%</b>	<b>99%</b>	<b>98%</b>	<b>91%</b>	<b>95%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		
<b>Dhaka Division</b>																											
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%	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%	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	100%	100%	
Gazipur	19	19	27	14					27	13	0	1	2.92	2.18	93%	86%	100%	100%	93%	86%	100%	96%	100%	100%	100%	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%	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%	100%	100%	100%
Kishoreganj	23	23	40	18					40	17	0	1	3.51	2.32	93%	94%	100%	94%	95%	94%	94%	100%	100%	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%	100%	100%	100%
Manikganj	12	12	18	17					18	17	0	0	3.11	4.58	94%	100%	100%	94%	100%	100%	100%	100%	100%	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%	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%	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	100%	100%	100%
Narsinghdi	18	18	25	9					25	8	0	1	2.76	1.36	100%	100%	100%	100%	89%	100%	100%	100%	100%	100%	100%	100%	100%
Netrokona	18	18	28	13					28	11	0	2	3.13	1.91	89%	92%	100%	96%	100%	100%	100%	100%	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	100%	100%	100%
Sariatpur	10	10	29	10					29	8	0	2	5.91	2.54	86%	80%	97%	100%	93%	80%	100%	100%	100%	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%	100%	100%	100%
Tangail	29	29	46	25					46	22	0	3	3.21	2.40	87%	80%	100%	91%	92%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Total-DHAKA</b>	<b>374</b>	<b>382</b>	<b>619</b>	<b>314</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>227</b>	<b>112</b>	<b>0</b>	<b>7</b>	<b>3.40</b>	<b>2.61</b>	<b>93%</b>	<b>95%</b>	<b>99%</b>	<b>99%</b>	<b>91%</b>	<b>96%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		
<b>Raj Division</b>																											
Bogra	27	28	32	24					32	21	0	3	2.33	2.38	88%	88%	100%	100%	84%	88%	100%	100%	100%	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%	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%	100%	100%	100%
Joypurhat	8	8	11	6					11	5	0	1	2.89	2.05	82%	100%	100%	91%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Kurigram	16	16	20	11			</td																				

Disease Surveillance, 2008 - 2009

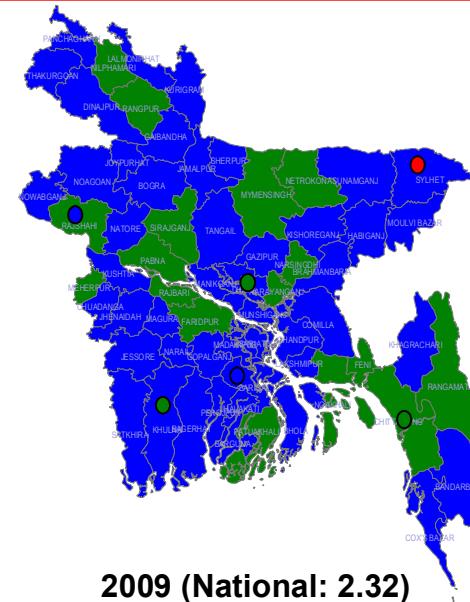
District	Neonatal Tetanus						Measles						AEFI				
	# of case reported by Active Surveillance		# of case reported by Passive Surveillance		# of case Investigated		# of case reported by Active Surveillance		# of case reported by Passive Surveillance		Outbreak*		Number of Outbreak (%) Investigated)	# of cases	# of case Reported		
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009					
<b>Barisal Division</b>																	
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	
<b>Total-BAR</b>	<b>8</b>	<b>3</b>	<b>19</b>	<b>5</b>	<b>11</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>71</b>	<b>16</b>			<b>0</b>	<b>0</b>	<b>105</b>	<b>36</b>	
<b>CTG Division</b>																	
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								
<b>Total-CTG</b>	<b>17</b>	<b>11</b>	<b>18</b>	<b>14</b>	<b>19</b>	<b>12</b>	<b>18</b>	<b>13</b>	<b>168</b>	<b>115</b>			<b>0</b>	<b>0</b>	<b>172</b>	<b>69</b>	
<b>Dhaka Division</b>																	
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	
Narsingdi	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	
<b>Total-DHAKA</b>	<b>42</b>	<b>14</b>	<b>55</b>	<b>12</b>	<b>40</b>	<b>15</b>	<b>64</b>	<b>38</b>	<b>1,402</b>	<b>571</b>	<b>1 (100%)</b>	<b>0</b>	<b>76</b>	<b>1,060</b>	<b>463</b>		
<b>Khulna Division</b>																	
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	
<b>Total-KHU</b>	<b>14</b>	<b>4</b>	<b>12</b>	<b>5</b>	<b>15</b>	<b>3</b>	<b>28</b>	<b>11</b>	<b>339</b>	<b>63</b>		<b>0</b>	<b>0</b>	<b>254</b>	<b>124</b>		
<b>Raj Division</b>																	
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	
<b>Total-RAJ</b>	<b>29</b>	<b>11</b>	<b>26</b>	<b>9</b>	<b>31</b>	<b>9</b>	<b>68</b>	<b>37</b>	<b>445</b>	<b>305</b>	<b>1(100%)</b>	<b>132</b>	<b>0</b>	<b>665</b>	<b>307</b>		
<b>Sylhet Division</b>																	
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	
<b>Total-SYL</b>	<b>24</b>	<b>5</b>	<b>22</b>	<b>7</b>	<b>26</b>	<b>4</b>	<b>53</b>	<b>16</b>	<b>103</b>	<b>39</b>		<b>0</b>	<b>0</b>	<b>66</b>	<b>31</b>		
<b>National</b>	<b>134</b>	<b>48</b>	<b>152</b>	<b>52</b>	<b>142</b>	<b>46</b>	<b>240</b>	<b>116</b>	<b>2,528</b>	<b>1,109</b>	<b>1(100%)</b>	<b>1(100%)</b>	<b>132</b>	<b>76</b>	<b>2,322</b>	<b>1,030</b>	

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\*



2008 (National: 3.10)



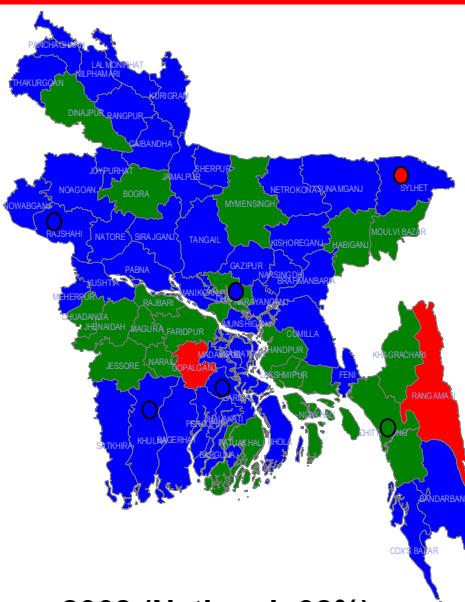
2009 (National: 2.32)

\*Data as of 15 August 2009

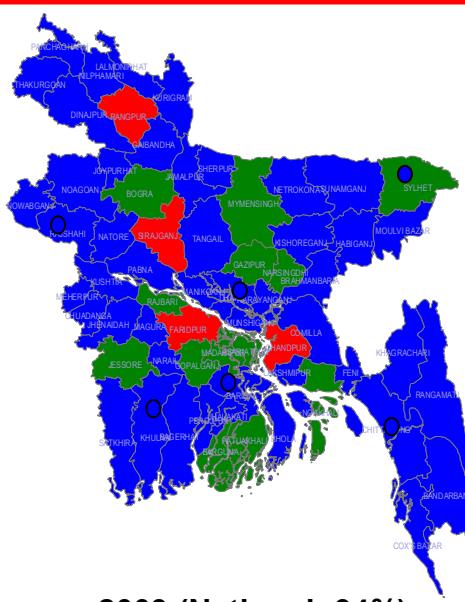
**Rate per 100,000 children <15 years**

<span style="color: red;">■</span> <1.00	<span style="color: green;">■</span> 1.00 – 1.99	<span style="color: blue;">■</span> >=2.00	<span style="color: white;">■</span> No AFP Case
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## Percentage of AFP Cases with Two Stool Samples Collected within 14 days of Paralysis Onset, by District, Bangladesh 2008-2009\*



2008 (National: 92%)



2009 (National: 94%)

**Categories**

<span style="color: red;">■</span> <80%	<span style="color: green;">■</span> 80% – 89%	<span style="color: blue;">■</span> >=90%	<span style="color: white;">■</span> No AFP Case
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\*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