



# EPI Surveillance Bulletin

## Bangladesh introduces new MR and MCV2 vaccine to prevent Measles, Rubella & Congenital Rubella Syndrome

In September 2012, Bangladesh EPI has introduced a combination MR (Measles and Rubella) and Measles containing vaccine second dose (MCV2) that will protect children and adolescent girls or child bearing age women against Measles and Rubella diseases. The Government of Bangladesh through its national EPI programme had been providing measles containing vaccine (MCV1) to all under one year children along with other EPI vaccines since 1979. The measles first dose is replaced by MR vaccine and MR single dose is given to children after 9 months and adolescent girls at 15 years. MCV2 is given to children at 15-18 months.

Rubella is an acute, usually mild viral disease traditionally affecting susceptible children and young adults. Its public health importance is due mainly to the teratogenic potential of the virus. Rubella infection of the foetus during early pregnancy may result in abortion, miscarriage, fetal death, or birth of an infant with serious congenital defects known as congenital rubella syndrome (CRS). CRS is an important cause of blindness, deafness, congenital heart disease and mental retardation. Through implementation of rubella vaccination strategies the incidence of rubella has been substantially reduced in many countries. Regions that had achieved high coverage with rubella vaccine had reduced incidence of CRS.

The Launching ceremony for introduction of MR (Measles and Rubella) and MCV2 vaccine was held in the Auditorium of Dhaka Shishu Hospital, Dhaka on 26 September 2012. In the launching ceremony, the Hon'ble Minister, Ministry of Health and Family Welfare, Prof A.F.M Ruhal Haque was the Chief Guest. In this occasion, Professor (Dr.) Syed Modasser Ali, the Advisor to the Hon'ble Prime Minister for Health and Family Welfare and Social Welfare Affairs Ministry was the special guest. Director General of Family Planning, Director-Dhaka Shishu Hospital, WHO Representative to Bangladesh and Representative, UNICEF, Bangladesh were also present as guests of honor. The meeting was chaired by Director General of Health Services. Programme Manager-EPI and Surveillance presented the key notes on MR and MCV2 vaccine introduction in Bangladesh. Following the speeches, the Chief Guest along with Special Guests and Representatives of UN agencies and partners administered the first shot of the MR vaccine to the children and inaugurated the event.

The vaccine will be provided under the routine immunization programme to nearly 3.8 million children born in Bangladesh every year. **MR and MCV2 vaccine are safe, effective and highly cost-effective intervention.** Children will only need one MR injection after 9 months, one MCV2 injection at 15 months and adolescent girls/ women need one MR injection at 15 years of age with TT dose eligibility.



The introduction of MR vaccine was funded by the Government of Bangladesh. MCV2 is provided through GAVI funds. 60,000 health and family planning workers, supervisors and Mid Level Managers were trained prior to introduction. Hence this was an another opportunity to improve their skills. WHO and UNICEF also provided technical and financial assistance for this introduction. Sentinel surveillance for congenital rubella syndrome (CRS) will be initiated in November 2012 at neonatology, pediatric, ENT, cardiology and ophthalmology units where cases of CRS are likely to be reported.

EPI life-saving vaccines represent an important step forward in preventing childhood diseases in Bangladesh.

### Surveillance Summary

Description	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 <sup>1</sup>
Number of AFP cases	1287	1365	1128	1301	1458	1619	1844	1790	1502	1537	1610	1207
No. of compatible cases according to virologic classification system	36	0	0	2	0	2	0	0	0	0	0	0
No. of cases with isolation of wild poliovirus	0	0	0	0	0	18	0	0	0	0	0	0
No. of discarded polio cases (i.e., non-polio AFP)	1251	1365	1128	1299	1458	1599	1844	1790	1502	1537	1610	1067
No. of cases pending classification	0	0	0	0	0	0	0	0	0	0	0	140
Expected annual number of non-polio AFP cases (2/100,000 children <15 yr)*	533	549	556	563	1094	1114	1135	1153	1151	1203	1220	1236

### AFP Surveillance Performance Indicators

Indicators	Target	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 <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	2.61	2.63	2.72	2.37
02 Completeness of passive reporting from facilities	≥ 90%	65%	62%	67%	82%	91%	89%	90%	93%	91%	91%	92%	97%
03 Timeliness of passive reporting from facilities	≥ 80%	38%	36%	62%	75%	84%	83%	85%	87%	86%	84%	86%	87%
04 Suspected AFP cases investigated within 48 hours of notification	≥ 80%	96%	96%	98%	98%	99%	100%	99%	99%	99%	99%	99%	98%
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%	95%	95%	95%
06 Stool specimens arriving at laboratory within 3 days after collection	≥ 80%	97%	98%	99%	99%	98%	99%	100%	100%	100%	100%	100%	99%
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%	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%	99%	99%	100%	94%
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%	95%	96%	91%
10 Stool specimens from which non-polio enterovirus (NPEV) was isolated	≥ 10%	29%	28%	23%	20%	20%	15%	15%	23%	19%	19%	18%	16%

<sup>1</sup> Data as of September 30, 2012; <sup>2</sup> among cases occurring up to July 15, 2012; \* Prior to 2005 NPAFP rate calculated as 1/100,000 under 15 children

**AFP Surveillance Performance Indicators, 2011 - 2012**

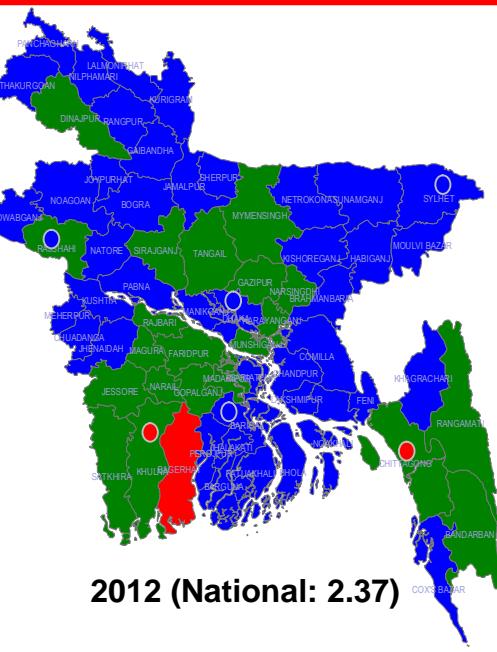
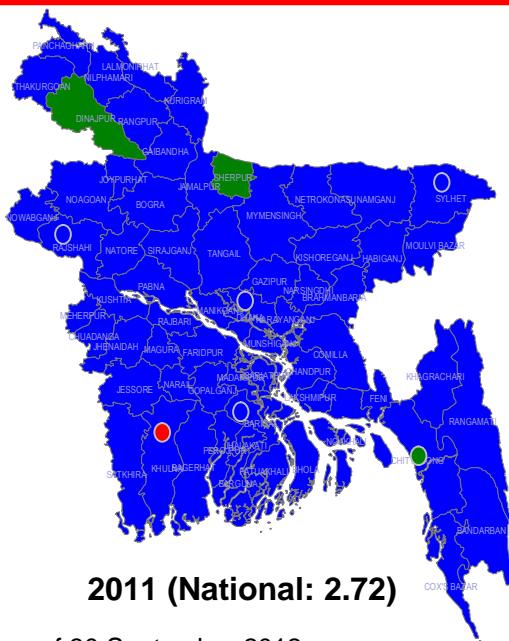
District	Minimum operational target of non-polio AFP		Total # AFP <sup>1</sup>		Wild polio-virus isolated		Compatible #		Non- Polio AFP cases <sup>1</sup>		Pending final classif. <sup>1</sup>		Annualized Non-polio AFP Rate <sup>1</sup>		Notification within 10 d after paralysis onset <sup>1</sup>		Investigation 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>			
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012		
<b>Barisal Division</b>																										
Barguna	9	9	10	8					10	7	0	1	2.48	2.28	100%	100%	100%	100%	88%	100%	100%	100%	100%	100%	100%	100%
Barisal (non BCC)	21	21	24	21					24	18	0	3	2.36	2.33	100%	95%	100%	100%	95%	100%	100%	100%	100%	100%	100%	86%
BCC only	3	3	3	2					3	2	0	0	2.79	2.45	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA	NA
Bhola	17	17	34	31					34	29	0	2	4.18	4.68	100%	100%	100%	100%	100%	97%	100%	100%	100%	100%	100%	100%
Jhalakati	7	7	10	10					10	10	0	0	3.02	3.97	100%	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Patuakhali	15	15	19	12					19	11	0	1	2.71	2.07	100%	92%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Perojpur	11	11	22	13					22	13	0	0	4.19	3.25	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Total BAR</b>	<b>83</b>	<b>83</b>	<b>122</b>	<b>97</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>122</b>	<b>90</b>	<b>0</b>	<b>7</b>	<b>3.13</b>	<b>3.04</b>	<b>100%</b>	<b>97%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>97%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>96%</b>		
<b>Chittagong Division</b>																										
Bandarban	3	3	5	3					5	2	0	1	3.48	1.83	100%	67%	100%	100%	67%	100%	100%	100%	100%	100%	50%	
Brahmanbaria	23	24	31	24					31	23	0	1	2.73	2.66	100%	96%	100%	100%	92%	97%	100%	100%	100%	100%	100%	100%
Chandpur	22	22	33	39					33	39	0	0	3.08	4.79	94%	100%	100%	100%	88%	100%	100%	100%	100%	100%	100%	100%
Chittagong (non CCC)	42	43	42	35					42	31	0	4	2.01	1.95	98%	97%	98%	100%	93%	97%	100%	100%	100%	100%	100%	100%
CCC only	21	22	20	8					20	6	0	2	1.93	0.76	100%	100%	100%	100%	90%	100%	100%	100%	100%	100%	100%	100%
Comilla	44	45	61	42					61	38	0	4	2.78	2.28	98%	100%	100%	98%	97%	98%	100%	100%	100%	100%	100%	100%
Cox's Bazar	17	18	26	17					26	14	0	3	3.09	2.19	100%	94%	100%	94%	100%	100%	100%	100%	100%	100%	100%	100%
Feni	12	12	20	19					20	17	0	2	3.47	3.88	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Khagrachari	5	6	8	9					8	7	0	2	3.24	3.72	88%	100%	100%	78%	88%	100%	94%	100%	100%	100%	100%	100%
Lakshmipur	15	15	18	17					18	17	0	0	2.53	3.14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Noakhali	25	25	43	31					43	27	0	4	3.50	2.89	95%	100%	98%	97%	98%	100%	100%	100%	100%	100%	100%	100%
Rangamati	6	6	8	4					8	3	0	1	3.19	1.57	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Total-CTG</b>	<b>235</b>	<b>241</b>	<b>315</b>	<b>248</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>315</b>	<b>224</b>	<b>0</b>	<b>24</b>	<b>2.73</b>	<b>2.55</b>	<b>98%</b>	<b>98%</b>	<b>99%</b>	<b>98%</b>	<b>96%</b>	<b>98%</b>	<b>100%</b>	<b>100%</b>	<b>98%</b>			
<b>Dhaka Division</b>																										
Dhaka (non DCC)	24	25	44	27					44	26	0	1	3.70	2.88	93%	96%	95%	96%	93%	100%	100%	100%	100%	100%	100%	100%
DCC only	59	60	66	59					66	55	0	4	2.25	2.47	94%	92%	100%	100%	95%	90%	98%	99%	95%	100%	100%	100%
Faridpur	17	17	17	15					17	11	0	4	2.04	1.74	82%	93%	100%	93%	100%	93%	100%	97%	100%	100%	100%	100%
Gazipur	20	20	24	18					24	14	0	4	2.48	1.90	92%	94%	100%	89%	92%	89%	100%	94%	100%	67%	100%	
Gopalganj	12	12	15	10					15	8	0	2	2.72	1.91	100%	90%	100%	100%	90%	100%	100%	100%	100%	100%	100%	100%
Jamalpur	21	21	32	19					32	18	0	1	3.18	2.35	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Kishoreganj	25	25	36	30					36	28	0	2	2.95	3.01	98%	97%	100%	97%	78%	100%	100%	100%	100%	100%	100%	100%
Madaripur	11	11	14	9					14	7	0	2	2.59	1.70	93%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Manikganj	13	13	18	13					18	10	0	3	2.89	2.11	100%	92%	100%	100%	94%	92%	97%	96%	100%	100%	100%	100%
Munshiganj	13	13	17	10					17	7	0	3	2.76	1.49	88%	100%	100%	100%	88%	100%	97%	100%	100%	0%	100%	100%
Mymensingh	43	44	43	34					43	29	0	5	2.02	1.79	91%	91%	100%	97%	93%	91%	100%	96%	100%	100%	100%	
Narayanganj	21	22	31	15					31	13	0	2	2.99	1.65	90%	93%	100%	100%	90%	93%	100%	100%	100%	100%	100%	100%
Narsinghdi	19	19	20	16					20	13	0	3	2.20	1.88	95%	75%	100%	100%	85%	81%	100%	100%	100%	100%	75%	100%
Netrokona	19	20	21	17					21	16	0	1	2.23	2.23	90%	100%	100%	100%	90%	94%	100%	94%	100%	100%	100%	100%
Rajbari	10	10	10	7					10	6	0	1	2.20	1.73	100%	100%	100%	86%	90%	100%	100%	100%	100%	100%	100%	
Sariatpur	11	11	12	12					12	12	0	0	2.32	3.05	100%	92%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sherpur	13	13	12	15					12	13	0	2	1.98	2.82	92%	93%	100%	100%	100%	100%	100%	96%	100%	100%	100%	
Tangail	32	32	44	22					44	17	0	5	2.82	1.43	89%	100%	98%	86%	95%	100%	100%	98%	100%	100%	100%	
<b>Total-DHAKA</b>	<b>383</b>	<b>388</b>	<b>476</b>	<b>348</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>476</b>	<b>303</b>	<b>0</b>	<b>45</b>	<b>2.55</b>	<b>2.14</b>	<b>93%</b>	<b>94%</b>	<b>99%</b>	<b>97%</b>	<b>93%</b>	<b>94%</b>	<b>99%</b>	<b>98%</b>	<b>99%</b>	<b>96%</b>		
<b>Khulna Division</b>																										
Bagerhat	15	15	23	7					23	5	0	2	3.17	0.91	91%	86%	91%	100%	87%	86%	100%	100%	100%	100%	100%	100%
Chuadanga	10	10	21	12					21	9	0	3	4.37	2.46	100%	75%	100%	100%	95%	75%	100%	100%	100%	100%	100%	100%
Jessore	24	24	29	14					29	12	0	2	2.46	1.34	93%	100%	100%	97%	86%	100%	100%	100%	100%	100%	100%	100%
Jhenaidah	15	16	30	16					30	15	0	1	4.00	2.63	100%	94%	100%	100%	93%	100%	98%	100%	100%	100%	100%	67%
Khulna (non KCC)	15	15	17	14					17	10	0	4	2.42	1.87	82%	86%	100%	86%	82%	86%	100%	100%	100%	100%	100%	NA
KCC only	9	9	2	2																						

**Disease Surveillance, 2011 - 2012**

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		
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	Number of Outbreak Investigated	# of cases			
<b>Barisal Division</b>															
Barguna							28	4	37	18			1	1	
Barisal (non BCC)	1		1		1		5	3	14	3			40	17	
BCC only							2	1	3					1	
Bhola	2		2		2		10	2	25	6	1		25	2	
Jhalakhati							12	1	14	7			15	12	
Patuakhali	1	1	1	1	1	1	40	20	36	16	2	1	67	46	
Pirojpur	1	1	1	1	1	1	17	5	23	21			14	4	
<b>Total-Barisal</b>	5	2	5	2	5	2	114	36	152	71	2	2	67	71	
<b>CTG Division</b>													74	37	
Bandarban							1	2	2	4	3		109	5	
Brahmanbaria	1	3	1	1			1	1	34	8	3	1	69	12	
Chandpur		1			2	1	5	1	19	16	4		49	74	
Chittagong (non CCC)			1		1		8	2	20	7	2		53	7	
CCC only	1	1	1		1		24	1	21		5		201	7	
Comilla	1	3	1	1	1	1	2	1	23	13	1	1	29	35	
Cox's Bazar	1	3	1	2	1	2	5	3	9	7		1	222	2	
Feni		4		4			5	9	4	22	18		7	10	
Khagrachari							17	2	28	9	2		57	3	
Laxmipur	4	2	5	2	4	2	11	3	51	14	3	1	53	12	
Noakhali	5	6	6	6	6	7	15	10	46	18			8	21	
Rangamati							11	1	19	1	2		40	2	
<b>Total-Chittagong</b>	13	23	16	16	16	19	109	33	294	115	25	4	660	281	
<b>Dhaka Division</b>													172	300	
Dhaka (non DCC)	2	2				2		104	29	106	26			35	31
DCC only	2	4		1		1	377	133	506	175	13	5	355	102	
Faridpur	2	3	3	3	2	2	4	1	25	6			26	19	
Gazipur	2	2			2		35	5	58	29			22	14	
Gopalganj	3	2	5		1	2	6		17	1	2		70	4	
Jamalpur	1						4		81	59			13	15	
Kishoreganj	6	2	9	1	4	2	4	2	43	16			15	16	
Madaripur	4	1	8		1		3	1	14	4	1		12	33	
Manikganj		1					3	3	52	18	2	1	67	9	
Munshiganj	1	1	1		1		12	2	37	9			13	11	
Mymensingh	6	2	5	1	6	2	21	9	90	32	2	1	77	36	
Narayanganj	1				1		9	6	14	13			18	28	
Narsinghdi	1						4	5	40	5		1	67	34	
Netrokona	1		3	2	1	2			28	8	2		37	2	
Rajbari							1	1	23	16	1		74	32	
Shariatpur	1						2	2	25	15	1	2	126	72	
Sherpur	1		1	1	1		4	2	32	7	1		23	5	
Tangail	2			1	2		24	1	52	36			53	35	
<b>Total-Dhaka</b>	36	20	35	10	24	11	617	202	1,243	475	25	10	841	286	
<b>Khulna Division</b>													388	333	
Bagerhat	3	2	3	4	1	3	1	1	22	25	2		42	56	
Chuadanga		1		1			4	1	24	11	2		57	10	
Jessore	1		2		2		25	22	124	60	2	1	38	17	
Jhenaidah		2		1		2	52	36	56	75	1	2	13	35	
Khulna (non KCC)	3	1	5	1	2	1	4	3	27	25		1	46	42	
KCC only							2	6	11	7			11	8	
Kushtia	2	1	2	1	2		17	11	27	53	2	1	52	45	
Magura	3	1	2	1	2	1	12		37	9	1		11	17	
Meherpur	1	1	1	1		1	6	7	15	11			3	2	
Narail	2	1	3	1	1		37	5	47	14	1		20	12	
Sathkira							8	4	26	32			20	19	
<b>Total-Khulna</b>	15	10	18	11	10	8	168	96	416	322	11	5	233	143	
<b>Rajshahi Division</b>													207	321	
Bogra	4	2	3	3	5	2	6	4	62	28	1		7	48	
Joypurhat							19	9	25	15	1		24	20	
Natore	1		1		1		1	1	42	35			25	20	
Noagoan	1	1		1	1	1	38	27	79	42	5	3	128	76	
Nowabganj	2		2		3		1	2	24	23			18	19	
Pabna	1				1		2		156	82	2	1	38	37	
Rajshahi (non RCC)		1		1	1	1	30	23	1	2	13	56	38	34	
RCC only		1		1	1		28	13	41	22	5		115	0	
Sirajganj	1	2			1	2	3	7	14	2	2		48	55	
<b>Total-Rajshahi</b>	10	7	6	6	12	7	96	60	466	284	17	8	373	224	
<b>Rangpur Division</b>													216	246	
Dinajpur	1	1	1		1	1	14	1	114	27	3		45	23	
Gaibandha	3	1	3		5	1	5	1	16	10	3	1	99	8	
Kurigram	1	1		2	2	1	14	6	12	12			5	11	
Lalmirhat							10	3	13	1			16	35	
Nilphamari							3		5	7			10	27	
Panchagarh							4	3	4	2	1		9	16	
Rangpur							2	6	11			1	7	18	
Thakurgaon	1				1		3	13	44	14			13	9	
<b>Total-Rangpur</b>	6	3	4	2	9	3	55	33	219	73	7	2	153	15	
<b>Sylhet Division</b>													129	132	
Habiganj	6	1	8	1	5		18	6	27	16			3	1	
Maulvibazar	1		2		2		34	14	69	31	2	1	156	18	
Sunamganj		4	2	3	2	5	23	3	46	6	2	1	319	54	
Sylhet (non SCC)	2		2	1	2	1	9	1	51	19			2		
SCC only							4		10				1		
<b>Total-Sylhet</b>	9	5	14	5	11	6	88	24	203	72	4	2	475	72	
<b>National</b>	94	70	98	52	87	56	1,247	484	2,993	1,412	91	33	2,802	1,092	
													1,197	1,377	

Data as of 30 September 2012. \* Only Lab Confirmed Measles

## Annualized Non-Polio AFP Rate, by District, Bangladesh 2011-2012\*

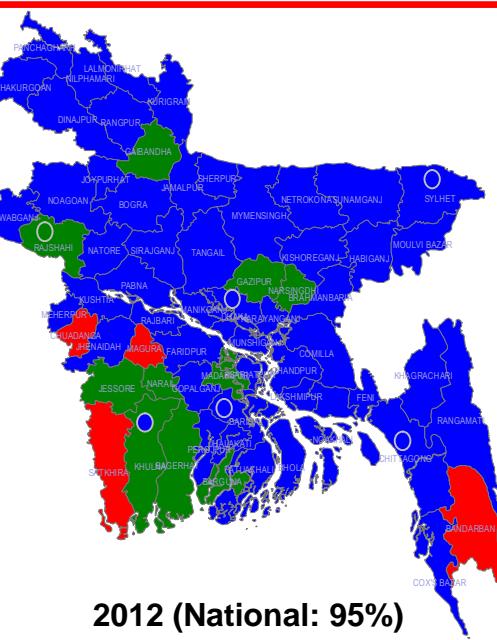
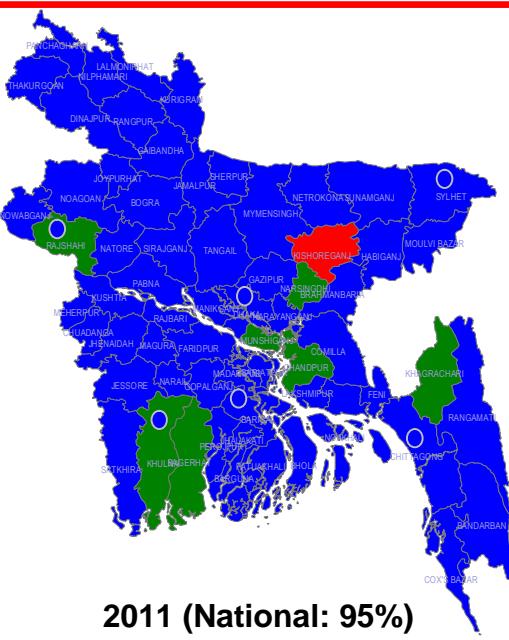


\*Data as of 30 September 2012

Rate per 100,000 children <15 years

■ <1.00   ■ 1.00 – 1.99   ■ >=2.00   ■ No AFP Case

## Percentage of AFP Cases with Two Stool Samples Collected within 14 days of Paralysis Onset, by District, Bangladesh 2011-2012\*



Categories

■ <80%   ■ 80% – 89%   ■ >=90%   ■ No AFP Case

\*Data as of 30 September 2012

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