WEEKLY EPIDEMIOLOGICAL REPORT

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Global Routine Vaccination Coverage, 2011

Background

In 1974, the World Health Organization (WHO) established the Expanded Programme on Immunization (EPI) to ensure all children had access to routinely recommended vaccines. Initially, those vaccines were limited to Bacille Calmette-Guérin vaccine (BCG), Diphtheria-Tetanus-Pertussis vaccine (DTP), Oral Poliovirus Vaccine (OPV) and measles-containing vaccine (MCV). Global coverage with the third dose of DTP (DTP3) increased from <5% in 1974 to 79% by 2005. However, one fifth of the world's children, especially those in low-income countries, still were not fully vaccinated during the first year of life with the four traditional EPI vaccines. In 2005, WHO and the United Nations Children's Fund (UNICEF) developed the Global Immunization Vision and Strategy (GIVS) to improve national immunization programs and decrease vaccine-preventable disease–associated morbidity and mortality. The goal was to reach a sustained national DTP3 coverage of 90% in all countries. This article summarizes global routine vaccination coverage during 2011.

Methods

Vaccination coverage is calculated as the percentage of those in the target age group who received a dose of a recommended vaccine by a given age. DTP3 coverage by age 12 months is a key indicator of immunization program performance, but coverage with other vaccines, such as the third dose of polio vaccine (Polio3) or first dose of measles-containing vaccine (MCV1), also are indicators. Administrative coverage estimates are derived by dividing number of

Table-1 **Vaccination coverage estimates, by vaccine & region* — worldwide, 2011**

WHO region	Vaccination coverage (%)							
	BCG	DTP3	Polio3	MCV1	Hep B3	Hib3	PCV3	Rota last†
Worldwide	**88**	**83**	**84**	**84**	**75**	**43**	**12**	**9**
African	80	71	76	75	71	61	12	2
Americas	95	92	93	92	90	90	43	66
Eastern Mediterranean	86	85	83	83	83	57	10	6
European	88	75	74	79	56	11	—	—
South-East Asia	88	75	74	79	56	11	—	—
Western Pacific	97	96	96	96	91	14	1	1

Abbreviations: BCG = Bacille Calmette-Guérin; DTP3 = 3 doses of diphtheria-tetanus-pertussis vaccine; Polio3 = 3 doses of polio vaccine; MCV1 = 1 dose of measles-containing vaccine; HepB3 = 3 doses of hepatitis B vaccine; Hib3 = 3 doses of *Haemophilus influenzae* type b vaccine, PCV3 = 3 doses of pneumococcal-containing vaccine; Rota last = last dose of rotavirus series (2-dose or 3-dose series).
* Weighted regional average.
† Second or third dose of rotavirus vaccine, depending on the vaccine presentation

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vaccine doses administered to children in the target age group by the estimated target population. These are reported annually to WHO and UNICEF by 194 WHO member states through the Joint Reporting Form (More precise estimates of vaccination coverage can be obtained from coverage surveys of a representative sample of households to identify children in the target age group)

Results

Estimated global DTP3 coverage among children aged <12 months in 2011 was 83%, ranging from 71% in the African Region to 96% in the Western Pacific Region, and representing 106.8 million vaccinated children (Table I). Estimated global coverage for BCG, Polio3, and MCV1 was 88%, 84% and 84% respectively. During 2011, 130 (67%) countries achieved ≥90% national DTP3 coverage and 46 (24%) achieved the GIVS goal of ≥80% DTP3 coverage in every district or equivalent administrative unit. DTP3 coverage was 80%–89% in 32 (17%) countries, 70%–79% in 13 (7%) countries, and <70% in 19 (10%) countries.

Among the 22.4 million children who did not receive 3 DTP doses during the first year of life, 11.8 million (53%) lived in three countries, India (32%), Nigeria (14%), and Indonesia (7%), and 16.2 million (72%) lived in 10 countries. Nearly 14 million (62%) of these children did not receive the first dose of DTP, whereas 8.4 million (38%) started, but did not complete the 3-dose DTP series.

Beyond the traditional four EPI vaccines, several newer vaccines are increasingly utilized by national immunization programs. By the end of 2011, hepatitis B vaccine had been introduced into routine childhood vaccination schedules in 180 (93%) countries; 94 (52%) countries recommended the first dose within 24 hours of birth to prevent perinatal transmission. Worldwide coverage (including countries that have not yet introduced the vaccine) with 3 doses of hepatitis B vaccine was 75% and ranged from 56% in the South-East Asia Region to 91% in the Western Pacific Region. Coverage with 3 doses of Haemophilus influenzae type b vaccine, which had been introduced into 177 (91%) countries by 2011, was 43% globally, ranging from 11% (South-East Asia Region) to 90% (Americas Region). By 2011, rotavirus vaccine had been introduced in 31 (16%) countries, and pneumococcal conjugate vaccine (PCV) in 73 (39%) countries. Coverage with completed rotavirus vaccination series was 9% globally, but reached 66% in the American Region. Coverage with 3 doses of PCV was 12% globally and was highest (43%) in the American Region.

Notes

- Sri Lanka has achieved both ≥90% national DTP3 coverage and GIVS goal of ≥80% DTP3 coverage in every district
- Among all incompletely vaccinated children worldwide, 14 million (62%) had not received the first DTP dose. Nearly 8.4 million received at least 1 DTP dose, but dropped out before completing the 3-dose series. Factors associated with undervaccination might be different from those associated with nonvaccination. For improvements in global vaccination coverage to occur, multifaceted and tailored strategies will be required by countries to address factors contributing to incomplete infant vaccination, particularly in countries with the largest numbers of unvaccinated children
- Strengthening routine immunization services, especially in countries with the greatest number of under-vaccinated children, should be a global priority to help achieve the fourth Millennium Development Goal of reducing mortality among children aged <5 years by two thirds from 1990 to 2015.

Source-Global Routine Vaccination Coverage, 2011, available from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6143a5.htm?s_cid=mm6143a5_w

Compiled by Dr. Madhava Gunasekera of the Epidemiology Unit

Table 3 : Water Quality Surveillance
Number of microbiological water samples - November 2012

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	36
Gampaha	15	90	29
Kalutara	12	72	25
NHIS	2	12	63
Kandy	23	138	13
Matale	12	72	27
Nuwara Eliya	13	78	NR
Galle	19	114	NR
Matara	17	102	0
Hambantota	12	72	NR
Jaffna	11	66	57
Kilinochchi	4	24	17
Manner	5	30	0
Vavuniya	4	24	NR
Mullatvu	4	24	0
Batticaloa	14	84	NR
Ampara	7	42	NR
Trincomalee	11	66	NR
Kurunegala	23	138	97
Puttalam	9	84	NR
Anuradhapura	19	114	7
Polonnaruwa	7	42	NR
Badulla	15	90	73
Moneragala	11	66	117
Rathnapura	18	108	NR
Kegalle	11	66	26
Kalmunai	13	78	NR

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Vaccine-preventable Diseases & AFP

08th – 14th December 2012 (50thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2012	Number of cases during same week in 2011	Total number of cases to date in 2012	Total number of cases to date in 2011	Difference between the number of cases to date in 2012 & 2011
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	01	00	00	00	01	00	73	85	- 14.1 %
Diphtheria	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Measles	02	00	00	00	00	00	03	00	00	05	02	71	129	- 45.0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	01	13	25	- 48.0 %
Whooping Cough	00	00	00	00	00	00	01	00	00	01	01	99	53	+ 86.8 %
Tuberculosis	42	34	00	00	03	35	08	00	05	127	79	8370	9186	- 07.1 %

Table 2: Newly Introduced Notifiable Disease

08th – 14th December 2012 (50thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2012	Number of cases during same week in 2011	Total number of cases to date in 2012	Total number of cases to date in 2011	Difference between the number of cases to date in 2012 & 2011
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	12	03	08	01	01	05	10	03	07	50	40	4293	4107	+ 05.3 %
Meningitis	03 KL=2 CB=1	01 ML=1	00	03 MN=3	01 AM=1	03 KN=2 PU=1	04 AP=1 PO=3	00	02 RP=2	17	18	815	865	- 07.6 %
Mumps	05	00	03	01	02	04	03	04	03	25	47	4231	3286	+ 40.7 %
Leishmaniasis	00	00	07 HB=5 MT=2	02 MN=1 MU=1	01 TR=1	01 KN=1	20 AP=16 PO=4	00	00	31	21	1176	905	+ 47.8 %

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

DPDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Influenza Surveillance in Sentinel Hospitals - ILI & SARI									
Month	Human						Animal		
	No Received	Infl A untyped	Infl B	A(H1N1)pdm09	A(H3N2)	RSV	Pooled samples	Serum Samples	Positives
November									

Source: Medical Research Institute & Veterinary Research Institute

Dengue Prevention and Control Health Messages

Reduce, Reuse or Recycle the plastic and polythene collected in your home and help to minimize dengue mosquito breeding.

Table 4: Selected notifiable diseases reported by Medical Officers of Health

08th – 14th December 2012 (50thWeek)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	148	9588	0	151	1	10	1	222	0	69	2	218	1	8	1	116	0	5	**85**
Gampaha	119	7686	3	92	0	18	1	62	2	47	3	317	0	23	6	322	0	1	**100**
Kalutara	28	2728	2	226	0	5	2	55	0	28	2	293	0	4	0	35	0	2	**85**
Kandy	39	2416	3	132	0	4	0	25	0	58	3	83	1	123	1	134	0	0	**83**
Matale	15	556	11	129	0	5	0	14	0	54	0	44	0	3	0	35	0	1	**67**
Nuwara	3	330	2	184	0	3	0	28	0	9	2	41	2	65	0	20	0	1	**69**
Galle	10	1490	0	129	1	7	0	18	0	17	3	138	2	75	0	4	0	0	**79**
Hambantota	6	584	0	50	0	3	1	12	0	31	2	94	0	59	0	28	0	0	**75**
Matara	28	1795	1	111	1	9	0	22	1	52	6	203	1	81	2	145	0	0	**100**
Jaffna	45	810	6	254	0	14	16	393	0	83	0	3	21	308	1	20	1	2	**100**
Kilinochchi	1	89	0	60	0	3	0	36	0	45	0	4	0	31	0	4	0	1	**25**
Mannar	9	168	1	86	0	4	4	71	0	17	0	27	0	44	0	2	0	0	**60**
Vavuniya	3	99	7	57	0	21	0	14	3	26	0	19	0	3	2	3	0	2	**100**
Mullaitivu	4	36	0	36	0	1	1	16	0	3	0	3	0	5	0	1	0	1	**80**
Batticaloa	10	695	4	229	0	5	0	16	1	308	0	11	0	0	0	9	0	0	**50**
Ampara	0	145	2	98	0	3	0	6	0	22	1	28	0	0	0	3	0	2	**29**
Trincomalee	6	157	10	262	0	2	0	16	0	15	0	41	0	18	0	4	0	0	**75**
Kurunegala	219	3251	5	244	0	17	1	102	2	43	2	156	1	38	0	134	0	4	**65**
Puttalam	73	1730	1	109	0	9	0	14	0	12	0	41	0	17	0	6	0	2	**75**
Anuradhapu	30	436	3	100	0	7	0	14	0	26	1	94	3	28	1	62	0	1	**68**
Polonnaruw	8	258	1	83	0	2	0	4	0	129	1	66	0	3	0	45	0	1	**57**
Badulla	15	402	3	136	0	4	0	51	0	6	0	37	1	118	0	44	0	0	**71**
Monaragala	2	275	4	177	0	6	0	27	0	24	0	70	0	86	0	175	0	2	**82**
Ratnapura	21	3831	10	300	0	25	0	51	0	14	0	302	2	43	1	136	0	3	**61**
Kegalle	41	2615	0	60	1	10	0	27	0	19	2	191	1	63	9	586	0	0	**100**
Kalmune	7	286	0	280	0	2	0	8	0	91	0	9	0	1	0	10	0	3	**38**
SRI LANKA	**890**	**42457**	**79**	**3845**	**04**	**199**	**27**	**1324**	**9**	**1248**	**30**	**2533**	**36**	**1247**	**24**	**2083**	**01**	**35**	**74**

Source: Weekly Returns of Communicable Diseases WRCD).
***Dengue Fever / DHF** refers to Dengue Fever / Dengue Haemorrhagic Fever.
****Timely** refers to returns received on or before 14thDecember , 2012 Total number of reporting units 329. Number of reporting units data provided for the current week: 247
A = Cases reported during the current week. **B** = Cumulative cases for the year.

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk.**

ON STATE SERVICE

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