WEEKLY EPIDEMIOLOGICAL REPORT

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Neglected Tropical Diseases - An overview Part II

This is the last in a series of two articles on Neglected Tropical Diseases—an overview

Examples of diseases under each category, with their mainstay control strategies are shown in the table below

Table 1: Classification of NTDs according to their control strategies

NTD	Status	Control Strategy
Diseases controllable by Mass Drug Administration (MDA)		**MDA control**
Soil transmitted helminths (STH)	Over 1 billion infected globally	Annual treatment with albendazole or mebendazole
Schistosomiasis (Bilharzia)	200 million infected – mostly in Africa from water contact	Treatment with praziquantel, improved water supplies
Lymphatic filariasis (elephantiasis)	120 million infected in Africa and the Indian sub continent, but elimination is possible	Elimination strategy by six annual Mass Drug Administrations with albendazole + Mectizan (in Africa) or albendazole + DEC (elsewhere)
Trachoma (preventable blindness)	80 million infected, 8 million visually impaired – eliminated from Morocco	Annual treatment with Zithromax, as part of a "SAFE" strategy
Onchocerciasis (River blindness)	50 million infections in Africa	Control of symptoms by annual treatment with Mectizan
		Provision of filtered water
Guinea worm	Close to eradication	Individual case finding and case containment, clean water provision and filtration, vector control (abate), Regular surveillance of endemic villages
Diseases requiring individual treatment		**Case control**
Leprosy	Close to elimination	Case finding followed by multi drug therapy (Novartis)
Buruli Ulcer	Endemic in 30 countries in the Americas, Africa and SE Asia	Early diagnosis, treatment with antibiotics or surgery
Chagas disease	Limited distribution in South America – a disease of poor housing	Control of the Bed bugs which carry the disease
Human African Trypanosomiasis	Narrow distribution in Africa dictated by Tsetse fly distribution	Case finding and treatment; vector control where appropriate
Cutaneous Leishmaniasis	1.5 million new cases for CL are considered to occur annually, with an estimated 12 million people presently infected worldwide. 90% of cutaneous leishmaniasis cases occur in Afghanistan, Brazil, Iran, Peru, Saudi Arabia and Syria.	Early diagnosis and prompt treatment; control of sandfly populations through residual insecticide spraying of houses and through the use of insecticide-impregnated bednets;
Visceral Leishmaniasis	500,000 cases per year. 90% of all visceral leishmaniasis cases occur in Bangladesh, Brazil, India, Nepal and Sudan; fatal if untreated.	Case finding and treatment with meglumine antimoniate (Glucantime) or sodium stibogluconate (Pentostam).
Dengue	250 million at risk and 50 million cases per year in over 100 countries	Effective clinical management. Fluids and possibly transfusions Vector control
		Animal zoonosis
Neuro-Cysticercosis	Up to 20% infections in rural Africa and South America	Tape worm control and strict pig meat inspection
Echinococcus	Unknown numbers with cysts in liver	Tape worm control in dogs and careful surgery plus albendazole to remove unbroken cysts
		Animal reservoir
Brucellosis		Pasteurisation of milk
Rabies	Transmitted by dog bites	Vaccination

Source: Report for the All-Party Parliamentary Group on Malaria and Neglected Tropical Diseases

The WHO road map – SDG

In 2007, the WHO convened its first meeting on combatting NTDs. This was followed by the development of a roadmap for control, elimination and eradication of NTDs for the period 2012-2020 (Savioli & Daumerie, 2012). This road map mainly concentrated on the 17 initial NTDs. A new road map for the decade 2021-2030 titled *"Ending the neglect to attain the Sustainable Development Goals"* has been developed by the WHO with the following overarching global targets for 2030:

- 90% reduction in people requiring interventions against neglected tropical diseases
- 75% reduction in disability-adjusted life years related to neglected tropical diseases
- 100 countries to have eliminated at least one neglected tropical disease
- 2 neglected tropical diseases to be eradicated

This road map has set specific, measurable targets for 2030 and also interim milestones for the years 2023 and 2025 for the eradication, elimination and control of the 20 NTDs (Table 2), which are in line with the Sustainable Development Goals. The map differs from the previous in three ways: i) increased accountability for impact by using impact indicators instead of process indicators; ii) instead of siloed, disease-specific programmes, cross-cutting perspectives centered on the needs of patients and communities, with monitoring and evaluation have been preferred; and iii) ensures greater ownership of

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programmes by countries.

Table 2 – Stage of prevention and control planned for the 20 NTDs by 2030

Target	Diseases
Eradication	Dracunculiasis Yaws
Elimination	Human African trypanosomiasis Leprosy Onchocerciasis
Elimination as a public health problem	Chagas disease Human African trypanosomiasis Visceral Leishmaniasis Lymphatic filariasis Rabies Schistosomiasis Soil-transmitted helminthiasis Trachoma
Control	Buruli ulcer Dengue Echinococcosis Food-borne trematodiases Cutaneous Leishmaniasis Mycetoma, chromo blasto-mycosis and other deep mycoses Scabies and other ectoparasitoses Snakebite envenoming Taeniasis/cysticercosis

Prevention and control

Many NTDs are preventable, and can be eliminated with improved sanitation, vector control, available treatments and mass drug administration (MDA) campaigns.
The WHO presents 5 broad strategies for control, prevention and elimination of NTDs (Uniting to Combat NTDs, 2017):

- Preventive chemotherapy and transmission control (PCT) (Table 3)
- Innovative and intensified disease management (IDM) (Table 3)
- Vector ecology and management – targets mosquitoes, flies, ticks, bugs and other vectors that transmit pathogens.
- Veterinary public health at the human-animal interface – are especially important with regard to the control of zoonoses

Provision of safe water, sanitation and hygiene (WASH)

Table 3: Difference between PCT and IDM

PCT	IDM
Focuses on the availability of safe and efficacious drugs for regular, coordinated large scale administration of single dose medication for treatment. Mainly targets helminthiases and trachoma	Intensified management directed at NTDs for which simple treatments and tools are not yet available. The goal is to manage diseases within primary healthcare systems. Mainly targets protozoan and complex bacterial diseases
Examples Schistosomiasis Soil-transmitted helminthiases Foodborne trematode infections Lymphatic filariasis Onchocerciasis trachoma	Buruli ulcer endemic treponematoses (yaws) leprosy (Hansen disease) Chagas disease Human African trypanosomiasis Leishmaniasis Cysticercosis Echinococcosis

While majority of the NTDs can be controlled with either the PCT or the IDM methods, it is worthwhile to note that most diseases (especially vector-borne diseases and zoonoses) need cross-cutting interventions which involve a combination of the 5 strategies mentioned above for effective prevention and control.

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 18th– 24th July 2020 (30th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	47	3456	0	20	0	8	0	4	0	14	3	213	0	1	0	3	0	0	1	183	0	31	0	2	**55**	**100**
Gampaha	18	2059	0	8	0	4	0	5	0	19	1	160	0	1	0	5	0	0	2	226	1	18	1	39	**44**	**96**
Kalutara	22	1477	0	9	1	5	0	4	0	4	9	471	0	13	1	5	0	0	0	247	0	33	0	0	**50**	**100**
Kandy	87	2287	0	18	0	1	0	8	0	11	5	148	0	76	0	4	0	0	0	139	0	19	0	53	**63**	**100**
Matale	5	509	0	6	0	3	1	5	0	6	2	82	0	4	0	6	0	1	0	46	0	2	3	209	**64**	**97**
NuwaraEliya	3	145	0	22	0	1	0	1	1	9	2	78	0	66	0	3	0	0	0	69	0	10	0	0	**22**	**100**
Galle	0	1129	0	17	0	11	0	2	0	12	1	264	0	34	0	3	0	0	0	224	0	23	0	3	**46**	**68**
Hambantota	6	312	0	7	0	4	0	2	0	38	5	161	2	37	0	2	1	1	3	155	3	35	26	448	**68**	**100**
Matara	0	356	0	11	0	3	0	0	0	0	0	149	0	4	0	6	0	0	0	71	0	7	0	117	**43**	**39**
Jaffna	10	1960	1	67	0	0	1	20	0	20	1	20	3	492	0	0	0	1	0	90	0	9	0	0	**31**	**93**
Kilinochchi	1	120	1	36	0	2	0	10	2	13	1	18	1	27	0	1	0	0	0	12	0	10	3	13	**63**	**100**
Mannar	1	128	0	0	0	0	0	1	0	2	0	6	0	1	0	0	0	0	0	2	0	6	0	0	**39**	**100**
Vavuniya	0	246	0	10	0	0	0	5	0	2	1	40	0	1	0	0	0	0	0	29	0	4	0	1	**66**	**100**
Mullaitivu	0	79	2	8	0	0	0	6	0	2	0	20	0	9	0	3	0	2	0	9	0	4	0	6	**41**	**94**
Batticaloa	14	2261	0	60	1	4	0	1	0	45	0	25	0	0	0	5	0	1	1	78	0	18	0	1	**51**	**100**
Ampara	2	303	0	14	0	3	0	0	0	0	2	79	0	0	0	2	0	0	0	99	0	15	0	4	**66**	**100**
Trincomalee	1	2261	0	12	0	0	0	0	0	2	1	28	0	6	0	0	0	0	0	81	0	8	0	0	**46**	**90**
Kurunegala	7	780	0	18	1	7	0	3	0	36	1	153	0	24	0	4	1	3	0	281	2	23	5	286	**46**	**99**
Puttalam	0	412	0	8	0	4	0	3	0	1	0	48	0	14	0	0	0	1	0	70	0	39	0	5	**56**	**100**
Anuradhapur	0	374	0	16	0	1	0	4	0	26	1	200	0	17	0	10	0	1	0	162	1	38	1	149	**43**	**93**
Polonnaruwa	1	220	0	5	0	0	0	0	0	5	2	115	1	1	0	17	0	1	0	115	1	13	6	165	**62**	**91**
Badulla	1	420	1	15	0	5	0	3	0	3	2	238	0	64	2	13	0	0	0	125	1	29	0	17	**59**	**97**
Monaragala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ratnapura	32	1499	1	62	0	22	0	5	1	25	15	1064	1	31	0	13	0	0	0	152	0	81	1	83	**49**	**100**
Kegalle	4	617	0	16	0	7	0	3	0	17	1	307	0	36	1	9	0	0	0	139	0	38	0	19	**58**	**97**
Kalmune	0	861	2	45	0	3	0	0	0	3	0	15	0	2	0	3	0	0	0	266	0	33	0	0	**70**	**100**
SRILANKA	**262**	**24271**	**8**	**510**	**3**	**98**	**2**	**95**	**4**	**315**	**56**	**4102**	**8**	**961**	**4**	**117**	**2**	**12**	**7**	**3070**	**9**	**546**	**46**	**1620**	**52**	**90**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 24 th July , 2020 Total number of reporting units 356 Number of reporting units data provided for the current week: 270 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

18th– 24th July 2020 (30th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2020	Number of cases during same week in 2019	Total number of cases to date in 2020	Total number of cases to date in 2019	Difference between the number of cases to date in 2020 & 2019
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	01	00	00	00	01	01	25	47	- 47.8 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	01	00	00	00	00	00	00	00	01	04	107	206	- 48 %
Measles	00	00	01	00	00	00	00	00	00	01	08	35	209	- 83.2 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	01	03	12	- 75 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	01	00	00	00	29	10	190 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	05	36	- 86.1 %
Tuberculosis	118	06	02	00	05	00	00	04	11	146	166	3502	4874	- 28.1 %

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.

RDHS 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, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS =**Congenital Rubella Syndrome

NA = Not Available

Number of Malaria Cases Up to End of July 2020,

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All are Imported!!!

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. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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