



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Antimicrobial Resistance– (Part II)

This is the last of the series of two article on antimicrobial resistance.

Present situation

Resistance in bacteria

WHO's 2014 report on global surveillance of antimicrobial resistance reveals that antibiotic resistance is no longer a prediction for the future; it is happening right now, across the world, and is putting at risk the ability to treat common infections in the community and hospitals. Without urgent, coordinated action, the world is heading towards a post-antibiotic era, in which common infections and minor injuries, which have been treatable for decades, can once again kill.

- Treatment failure to the drug of last resort for gonorrhoea – third-generation cephalosporins – has been confirmed in several countries. Untreatable gonococcal infections result in increased rates of illness and complications, such as infertility, adverse pregnancy outcomes and neonatal blindness, and has the potential to reverse the gains made in the control of this sexually transmitted infection.
- Resistance to one of the most widely used antibacterial drugs for the oral treatment of urinary tract infections caused by *E. coli* – fluoroquinolones – is very widespread.
- Resistance to first-line drugs to treat infections caused by *Staphylococcus aureus* – a common cause of severe infections acquired both

in health-care facilities and in the community – is also widespread.

- Resistance to the treatment of last resort for life-threatening infections caused by common intestinal bacteria – carbapenem antibiotics – has spread to all regions of the world. Key tools to tackle antibiotic resistance – such as basic systems to track and monitor the problem – reveal considerable gaps. In many countries, they do not even seem to exist.

What accelerates the emergence and spread of antimicrobial resistance?

The development of AMR is a natural phenomenon. However, certain human actions accelerate the emergence and spread of AMR. The inappropriate use of antimicrobial drugs, including in animal husbandry, favours the emergence and selection of resistant strains, and poor infection prevention and control practices contribute to further emergence and spread of AMR.

Need for concerted actions

AMR is a complex problem driven by many interconnected factors. As such, single, isolated interventions have little impact. Coordinated action is required to minimize emergence and spread of AMR.

People can help tackle resistance by:

- using antibiotics only when they are prescribed by a certified health professional;

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- completing the full treatment course, even if they feel better;
- never sharing antibiotics with others or using leftover prescriptions.

Health workers and pharmacists can help tackle resistance by:

- enhancing infection prevention and control
- prescribing and dispensing antibiotics only when they are truly needed
- prescribing and dispensing the right antibiotic(s) to treat the illness

Policymakers can help tackle resistance by:

- strengthening resistance tracking and laboratory capacity
- strengthening infection control and prevention
- regulating and promoting appropriate use of medicines
- promoting cooperation and information sharing among all stakeholders.

Policymakers, scientists and industry can help tackle resistance by:

- fostering innovation and research and development of new vaccines, diagnostics, infection treatment options and other tools.

WHO's response

WHO is working in collaboration with partners across many sectors to identify strategies and actions to mitigate AMR. WHO is already working closely with the World Organization for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO) to promote best practices to avoid the emergence and spread of antibacterial resistance, including optimal use of antibiotics in both humans and animals.

In 2011, the theme of World Health Day was "Antimicrobial resistance: no action today, no cure tomorrow", and a six-point policy package was published to assist countries with tools to combat antimicrobial resistance.

In 2014, WHO published its first global report on surveillance of antimicrobial resistance, with data provided by 114 countries.

WHO is guiding the response to AMR by:

- bringing all stakeholders together to agree on and work towards a coordinated response

- strengthening national stewardship and plans to tackle AMR
- generating policy guidance and providing technical support for Member States
- actively encouraging innovation, research and development.

Status of resistance in South east Asia Region

No systemic studies have been done in this region to understand the status of resistance, trends and consumption of antimicrobial agents. While multidrug resistance in *Mycobacterium Tuberculosis*, because of well performing national TB control Programmes in the region, is still at an acceptable low level of <3%, this figure is very high among several other bacteria.

Health and economic burden due to ABR

Evidence related to the health and economic burden due to ABR in infections caused by *E. coli*, *K. pneumoniae* and MRSA was examined through systematic reviews of the scientific literature. Patients with infections caused by bacteria resistant to a specific antibacterial drug generally have an increased risk of worse clinical outcomes and death, and consume more health-care resources, than patients infected with the same bacteria not demonstrating the resistance pattern in question. Available data are insufficient to estimate the wider societal impact and economic implications when effective treatment for an infection is completely lost as a result of resistance to all available drugs.

Sources

WHO-antimicrobial resistance global report on surveillance, available at <http://www.who.int/mediacentre/factsheets/fs194/en/>

Compiled by Dr. C U D Gunasekara of the epidemiology unit.

Table 1: Selected notifiable diseases reported by Medical Officers of Health 24th - 30th Jan 2015 (05th 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	410	1736	3	22	0	1	2	5	0	7	2	20	1	1	1	6	0	1	12	36	0	3	0	0	69	31
Gampaha	46	630	1	6	0	2	0	2	0	2	3	30	0	1	2	17	0	0	5	11	0	2	0	0	40	60
Kalutara	29	270	0	5	0	1	1	6	0	3	3	41	0	0	1	5	0	0	8	19	1	5	0	0	54	46
Kandy	42	250	3	25	0	0	0	5	0	0	2	9	1	12	6	33	0	0	7	26	0	2	0	1	91	9
Matale	20	163	0	5	0	0	0	1	0	0	1	12	0	1	0	1	0	0	0	1	0	1	0	0	62	38
Nuwareliya	3	30	4	28	0	0	1	3	0	0	0	4	0	2	0	20	0	0	0	1	0	4	0	0	54	46
Galle	31	145	2	13	0	0	0	0	0	4	2	30	1	6	0	1	0	0	9	29	0	10	0	0	75	25
Hambantota	10	45	1	5	0	0	0	3	0	0	1	15	0	4	1	6	0	0	1	5	0	1	0	21	75	25
Matara	17	81	2	8	0	0	1	2	0	19	1	19	1	4	3	6	0	0	5	31	1	7	0	7	100	0
Jaffna	56	614	19	86	0	3	9	54	2	3	1	5	41	256	0	3	0	0	0	15	0	1	0	0	100	0
Kilinochchi	2	14	0	10	0	0	0	2	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	25	75
Mannar	4	50	0	1	0	0	0	3	0	1	0	2	1	5	0	0	0	0	0	0	0	0	0	0	60	40
Vavuniya	11	32	0	4	1	2	0	5	0	1	2	8	0	7	0	0	0	0	0	1	0	0	0	0	75	25
Mullaitivu	5	35	0	5	0	0	0	1	0	1	0	2	0	1	0	0	0	0	0	0	0	1	0	1	80	20
Batticaloa	55	272	1	17	0	1	0	1	0	0	0	1	0	0	0	0	0	0	1	4	0	2	0	0	50	50
Ampara	0	9	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	3	0	0	43	57
Trincomalee	30	121	0	2	0	0	1	5	0	22	0	4	1	1	0	0	0	0	1	4	0	0	0	0	50	50
Kurunegala	41	283	4	23	0	1	0	2	0	0	13	45	1	7	0	7	0	0	6	29	0	3	4	8	52	48
Puttalam	11	222	0	8	0	0	0	0	0	0	0	6	0	2	0	0	0	0	0	4	0	1	0	0	31	69
Anuradhapura	2	102	0	7	0	0	0	0	0	2	0	52	0	3	0	2	0	0	0	12	1	5	2	18	32	68
Polonnaruwa	3	43	0	6	0	0	0	0	0	0	1	26	0	0	0	1	0	0	1	13	1	6	1	4	57	43
Badulla	7	186	1	19	0	0	0	1	0	0	1	2	1	9	1	9	0	0	2	12	1	7	0	0	35	65
Monaragala	3	42	5	21	0	0	0	3	0	1	2	50	4	10	0	3	0	0	2	9	1	1	1	5	55	45
Ratnapura	15	138	0	39	0	2	0	4	0	1	1	35	1	8	2	33	0	0	0	4	0	3	0	3	61	39
Kegalle	13	101	3	9	0	2	1	15	0	0	4	32	0	2	0	15	0	0	6	18	0	6	0	0	73	27
Kalmune	18	209	1	16	0	0	0	0	1	5	0	1	0	0	0	0	0	0	4	17	0	0	0	0	38	62
SRI LANKA	884	5823	50	402	1	15	16	123	3	74	40	451	54	345	17	168	0	1	70	317	6	74	8	68	60	40

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 30th January, 2015 Total number of reporting units 337 Number of reporting units data provided for the current week: 204 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

24th - 30th Jan 2015 (05th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2015	Number of cases during same week in 2014	Total number of cases to date in 2015	Total number of cases to date in 2014	Difference between the number of cases to date in 2014 & 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	04	06	08	-25%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Mumps	00	02	00	02	01	01	00	02	00	08	11	36	94	-61.7%
Measles	08	00	01	00	00	00	02	01	04	16	61	131	440	-70.2%
Rubella	00	00	00	00	00	00	00	00	00	00	00	02	00	%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Tetanus	00	00	00	00	00	00	00	00	00	00	01	01	02	-50%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	01	02	09	-77.8%
Whooping Cough	00	00	00	01	00	00	00	00	00	01	03	09	07	+28.6%
Tuberculosis	56	18	20	18	13	12	19	03	27	186	174	981	1120	-12.4%

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

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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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@slt.net.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication

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