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;
• 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 healthcare 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

Compiled by Dr. C U D Gunasekara of the epidemiology unit.
### Table 1: Selected notifiable diseases reported by Medical Officers of Health

<table>
<thead>
<tr>
<th>Division</th>
<th>Typhus Fever</th>
<th>Meningitis</th>
<th>Leptospirosis</th>
<th>Food Poisoning</th>
<th>Encephalitis</th>
<th>Eruptive Fever</th>
<th>DENGUE</th>
<th>Dysentery</th>
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### Notes
- **WER**: Weekly Epidemiological Report
- **CDD**: Central Defense Division
- **RDSH Division**: Regional Disease Surveillance and Health Division
- **Encephalitis**
- **Eruptive Fever**
- **Dengue**
- **Dysentery**
- **Typhus Fever**
- **Meningitis**
- **Leptospirosis**
- **Food Poisoning**

**Source:** Weekly Report of Communicable Disease (WERC) - 31st February 2015

**Timeliness:** Data received on or before 30th January, 2015. Total number of reporting units 327. Number of reporting units data provided for the current week: 204.
### Table 2: Vaccine-Preventable Diseases & AFP

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

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

ON STATE SERVICE

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