



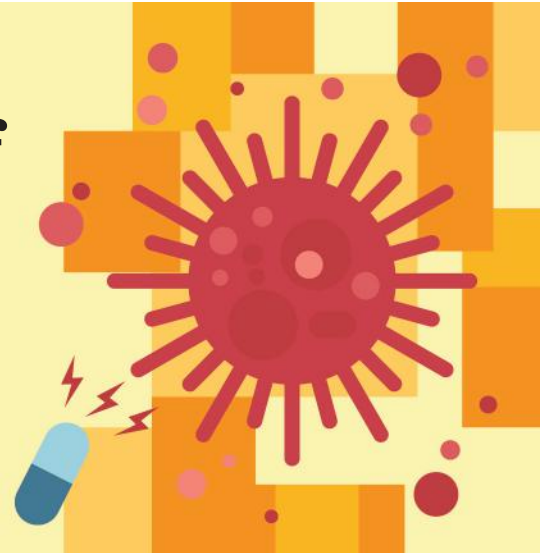
Health Research Brief

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UNIVERSAL HEALTH CARE SERIES

Combatting stubborn pathogens: Strengthening surveillance on Antimicrobial Resistance

(2015 Data Summary Report on the Antimicrobial Resistance Surveillance Program by the Research Institute for Tropical Medicine)



RECOMMENDATIONS



Health facilities should strengthen capacity to monitor physician prescribing and pharmacy dispensing patterns.

Treatment recommendations should be based on health facility prescribing and management policies guided by national standards from DOH and the Philippine National Formulary.



Closely monitor patterns of emerging resistance and changing trends.

Enhance reference laboratory staff expertise and skills, facilities, equipment and services to improve data management and quality of analysis. Encourage submissions of specimens among sites and physicians.



Integrate human and veterinary AMR surveillance data to generate

the complete AMR situation for more effective intersectoral implementation of the Philippine Action Plan to Combat AMR within the One Health Framework.

KEY FINDINGS



Significant increase in resistance has been noted on important clinical and public health pathogens.



Changing trends and emerging resistance among previously susceptible organisms have been observed.



Several organisms have remained susceptible and showed consistent decline in resistance to antimicrobials.

Limited information for several microorganisms have been noted.

Table 1. Summary of trend of resistance rates of the following microorganisms to antimicrobials

Pathogen	Trend
Streptococcus pneumoniae	Decreasing Resistance
Haemophilus influenzae	Decreasing Resistance
Salmonella enterica serotype Typhi	Decreasing Resistance
Nontyphoidal Salmonella	Increasing Resistance
Shigella species	Decreasing Resistance
Vibrio cholerae	Decreasing Resistance
Neisseria gonorrhoeae	Decreasing Resistance
Staphylococcus aureus	Increasing Resistance
Enterococcus species	Increasing Resistance
Escherichia coli	Increasing Resistance
Klebsiella species	Increasing Resistance
Pseudomonas aeruginosa	Increasing Resistance
Acinetobacter baumannii	Increasing Resistance
MDR P. Aeruginosa & A. Baumannii	Increasing Resistance

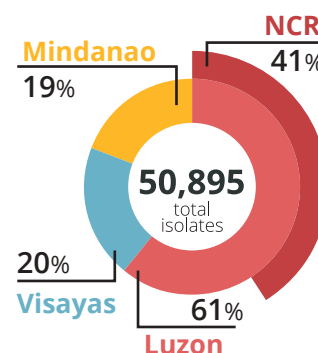
Legend:
Increasing Resistance (Red)
Decreasing Resistance (Yellow)
Unsteady trends/ Limited data (Blue)

METHODOLOGY

Twenty-three sentinel sites located in tertiary or regional hospitals report unusual test results and patterns to the ARSRL-RITM¹.

Region	No. of Sites	Region	No. of Sites
NCR	8	6	1
CAR	1	7	2
1	1	8	1
2	1	9	2
3	1	10	1
4-A	1	11	1
5	1	12	1

Total isolates reported from across the country increased by 8 percent from 47,280 in 2014 to 50,895 in 2015.



RESULTS

Increasing Resistance

Significant increase in resistance has been reported for the following:

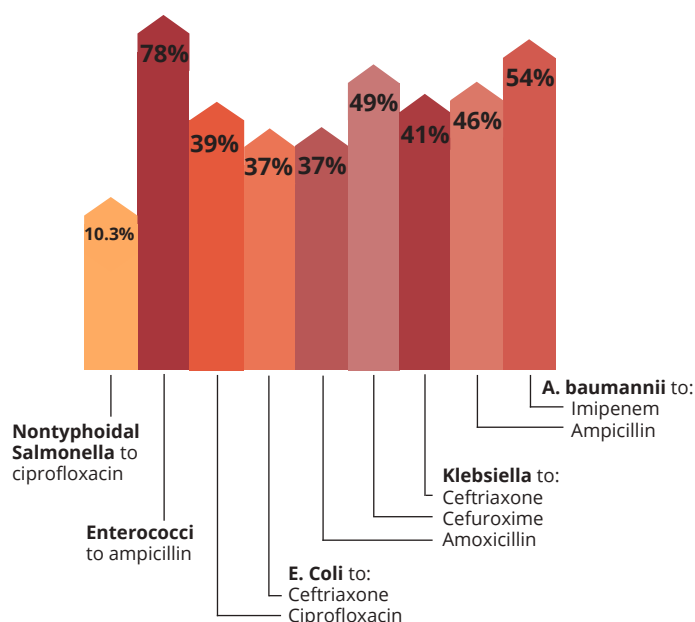
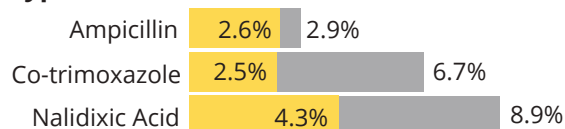


Fig 1. Increasing resistance rates of pathogens to antimicrobials

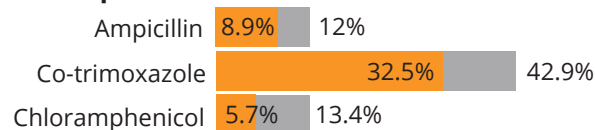
Decreasing Resistance

2015 Resistance rate
2014 Resistance rate

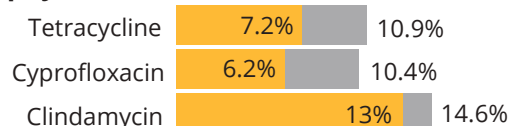
S. Typhi to:



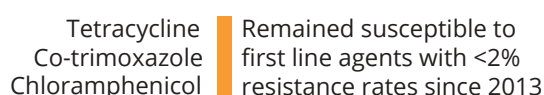
Haemophilus influenzae to:



Staphylococcus aureus (MRSA) to:



Vibrio Cholerae to:



Unsteady Trends



Continuously changing resistance rate has been recorded pertinent for Pneumococcal serotypes.



Limited data was available for Neisseria gonorrhoeae and Shigella species.



Rapidly **emerging** resistance of Shigella species to newer agents like ciprofloxacin was noted at 16.3%.

Similarly, **emerging** resistance of S. Typhi to other agents was seen such as nalidixic acid (4.3%) and ciprofloxacin (0.8%).

Emerging resistance of E. Coli against other agents (e.g. carbapenems) was also recorded.

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Editorial Board: Usec. Lilibeth David, Dir. Kenneth Ronquillo/ **Editorial Staff:** Dr. Beverly Lorraine Ho, Barbara Michelle de Guzman, Ma. Catherine Arzobal/ **Design and Illustration:** Jake Matthew Kho. This note was developed by Armund Arguelles from the DOH. Comments received from Dr. Anna Melissa Guerrero and Anne Julienne Genuino are gratefully acknowledged. Health Research Briefs provide a summary of relevant literature or commissioned studies to promote evidence-informed decision-making. The views expressed in this publication do not necessarily reflect the views of the Department of Health.

¹ The Antimicrobial Resistance Surveillance Reference Laboratory of the Research Institute for Tropical Medicine (ARSRL-RITM) is the national reference laboratory of the Antimicrobial Resistance Surveillance Program