

A stylized Rod of Asclepius logo featuring a vertical orange staff with a circular orange top. A green snake is coiled around the staff. Several colorful, swirling lines in shades of purple, green, yellow, and blue orbit the staff. The background is a gradient of orange and light blue with faint, abstract patterns.

Caribbean
Public Health
Agency

CARPHA

Preventing disease
Promoting and protecting health

12th Meeting Caribbean National Epidemiologists and Laboratory Directors

***September 17th-19th, 2014
POS, Trinidad and Tobago***

Strengthening the capacity of CARPHA and National Laboratories Network for anti-microbial resistance detection and surveillance

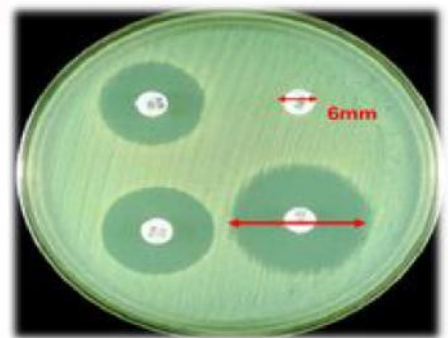
***Dr Cristina Gutierrez
Laboratory Director
Head, Laboratory Services and Networks***



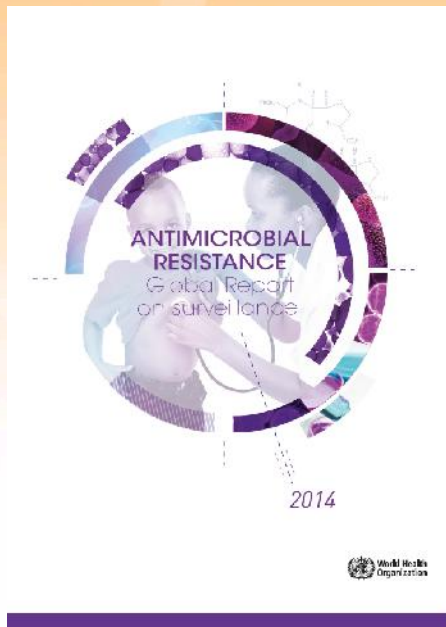
Preventing disease, promoting and protecting health

Antimicrobial resistance (AMR) endangers the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi such as those that cause pneumonia, diarrheal diseases, tuberculosis, sexually transmitted diseases and malaria

- **Back to pre-antibiotic era**
- **High impact on morbidity, mortality, associated costs**



Antimicrobial resistance: global report on surveillance (WHO 2014)



Key findings

- **Very high rates of resistance** in bacteria that cause common health-care associated and community-acquired infections (e.g. urinary tract infection, pneumonia) in all WHO regions.
- **Significant gaps** in surveillance, and a **lack of standards** for methodology, data sharing and coordination.

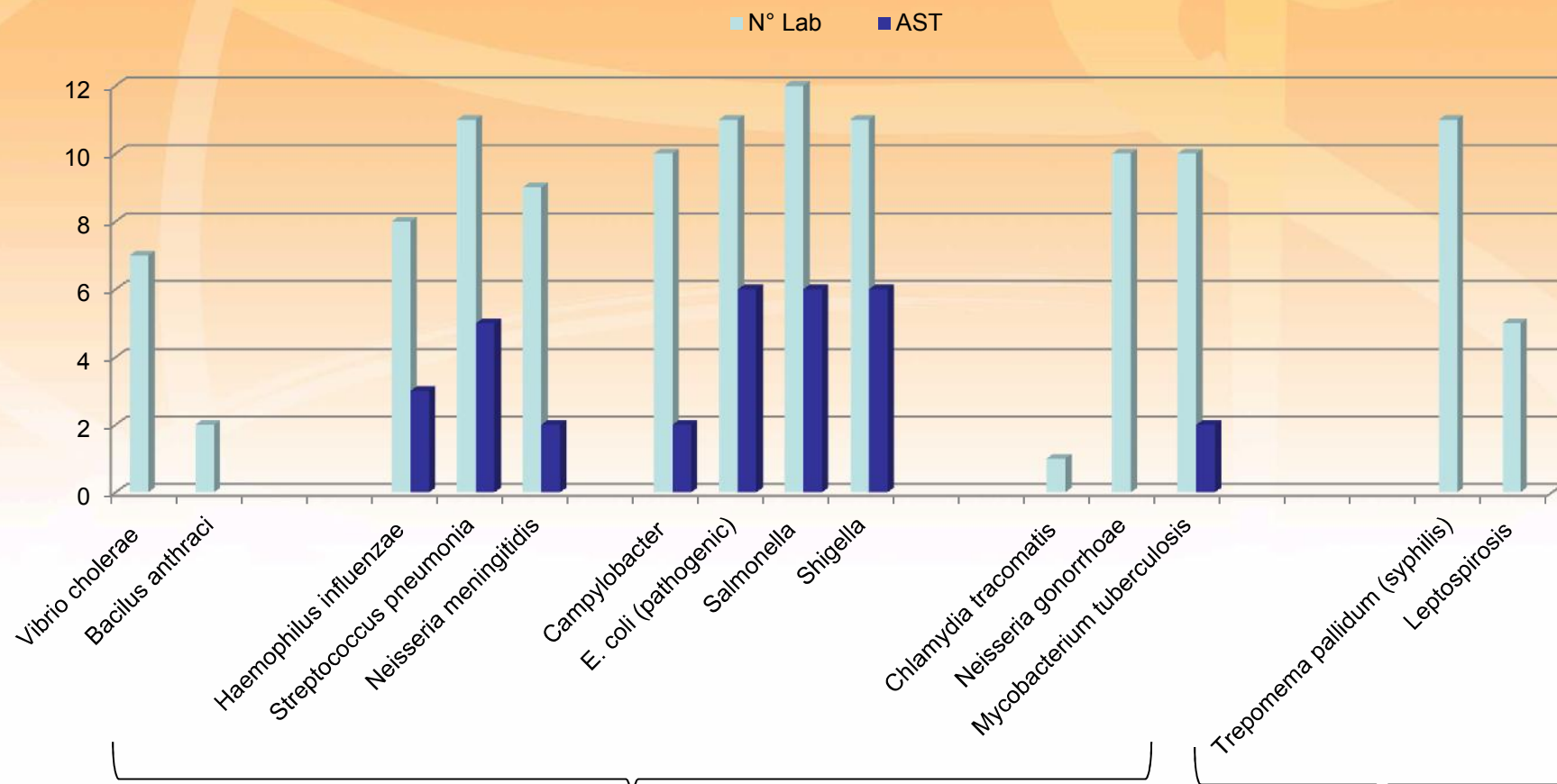
Bacteria commonly causing infections in hospitals and in the community

Name of bacterium/ resistance	Examples of typical diseases	No. out of 194 Member States providing data	No. of WHO regions with national reports of 50% resistance or more
<i>Escherichia coli</i> - vs 3 rd gen. cephalosporins - vs fluoroquinolones	Urinary tract infections, blood stream infections	86 92	5/6 5/6
<i>Klebsiella pneumoniae</i> / - vs 3 rd gen. cephalosporins - vs 3 rd carbapenems	Pneumonia, blood stream infections, urinary tract infections	87 71	6/6 2/6
<i>Staphylococcus aureus</i> / - vs methicillin "MRSA"	Wound infections, blood stream infections	85	5/6

Bacteria mainly causing infections in the community

Name of bacterium/ resistance	Examples of typical diseases	No. out of 194 Member States providing data	No of WHO regions with national reports of 25% resistance or more
<i>Streptococcus pneumoniae</i> / - non-susceptible or resistant to penicillin	Pneumonia, meningitis, otitis	67	6/6
<i>Nontyphoidal Salmonella</i> / - vs fluoroquinolones	Foodborne diarrhoea, blood stream infections	68	3/6
<i>Shigella species</i> / - vs fluoroquinolones	Diarrhoea ("bacillary dysentery")	35	2/6
<i>Neisseria gonorrhoea</i> / - vs 3 rd gen. cephalosporins	Gonorrhoea	42	3/6

CMS Laboratory Capacities Survey 2014, Preliminary results, 18 CMS and 24 Laboratories



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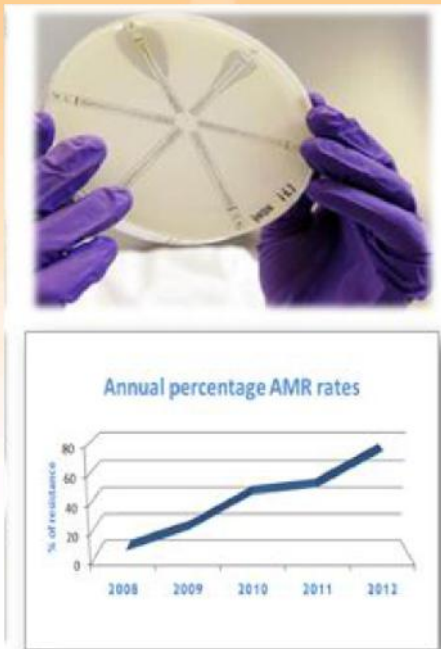
CARPHA

Preventing disease, promoting and protecting health

Culture & ID

Serology

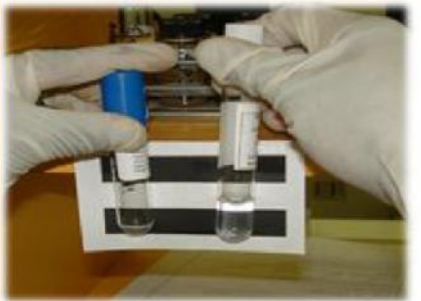
Objectives of the collaborative proposal



1. To improve AMR detection and surveillance programs at national and regional level
2. To establish a regional network for expanding the AMR monitoring to the Caribbean

Expected results

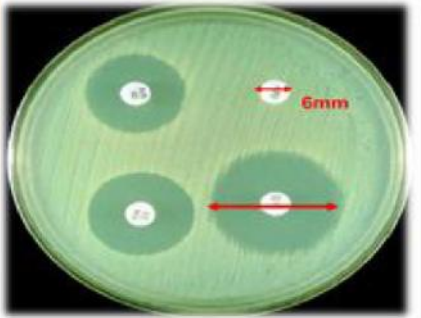
- tools and standards for harmonized AMR laboratory-based surveillance developed



- strategies for AMR population-based surveillance elaborated

- more extensive AMR information available:

- to guide patients care and AM use policies
- to develop prevention and intervention strategies to fight against AMR
- to improve epidemic preparedness and response
- to measure health and economic impact



- collaboration between existing AMR surveillance networks established for coordinated regional and global surveillance

Proposed activities - 1

- Second microbiologist to CARPHA laboratory
 - Assess capacities and gaps for AMR surveillance:
 - Pathogens
 - Lab needs (HR, equipments, supplies, reagents, quality and IT systems)
 - Develop or update standard operating procedures (SOPs) for AST and QC of the selected pathogens using standardized methods
 - Conduct training in new SOPs and information systems
 - Procurement of essential reagents, supplies and equipments
 - Network inter laboratory comparisons to meet proficiency requirements

Proposed activities - 2

- Second microbiologist to CARPHA laboratory
- Implementation of laboratory-based surveillance of AMR
- Setting up a database for collecting and sharing information
- Develop proposals of national and regional plans for strengthening AMR surveillance
- Strengthening and expanding integration on regional (Americas) and global networks for AMR surveillance
- Monitoring system