USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTaPS) PROGRAM

Improved Access. Improved Services. Better Health Outcomes.

Using Global Health Security Tools to Combat Antimicrobial Resistance

USAID
FROM THE AMERICAN PEOPLE

GLOBAL HEALTH
SCIENCE AND PRACTICE
TECHNICAL EXCHANGE

April 21, 2021
1:30 – 3:30 PM EDT

USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTaPS) PROGRAM

Improved Access. Improved Services. Better Health Outcomes.

Nathalie Guessennd, PhD

Head of the National Reference Center for Antibiotics
Institut Pasteur de Côte d'Ivoire

Mohan P. Joshi, MBBS, MSc, MD

Senior Principal Technical Advisor
USAID MTaPS

Hérodias Ahimon, PhD

Senior Technical Advisor
USAID MTaPS

Tamara Hafner, PhD

Principal Technical Advisor
USAID MTaPS

USAID
FROM THE AMERICAN PEOPLE

Learning objectives

- Explain the One Health Approach and the Global Health Security Agenda (GHSA) as they relate to antimicrobial resistance (AMR)
- Identify and describe the two key global tools used by GHSA to measure and support countries' progress in strengthening their capacity to combat AMR.
- Define multisectoral coordination, infection prevention and control, antimicrobial stewardship, and surveillance, and outline how Côte d'Ivoire's capacity in three of these areas has been strengthened to combat AMR through GHSA-supported interventions.

A quick warm up

Share one word or phrase that comes to mind when you hear **antimicrobial resistance**.

A Superbug That Resisted 26 Antibiotics

A woman in Nevada died of an incurable infection, resistant to all 26 antibiotics available in the U.S. to treat infection.

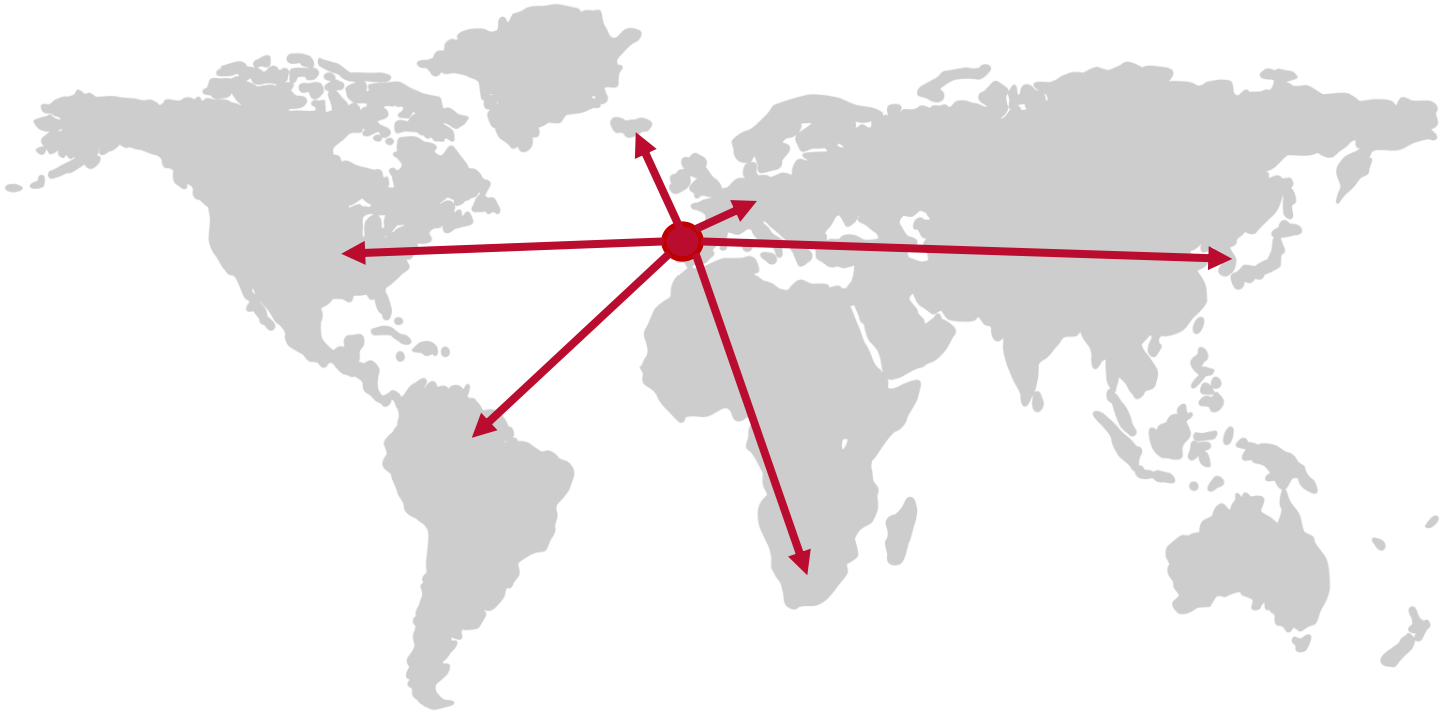
"People keep asking me, how close are we to going off the cliff. Come on people. We're off the cliff. It's already happening. People are dying. It's right here, right now."

-Dr. James Johnson, Professor, University of Minnesota.

Source: https://www.npr.org/sections/goatsandsoda/2017/01/17/510227493/a-superbug-that-resisted-26-antibiotics

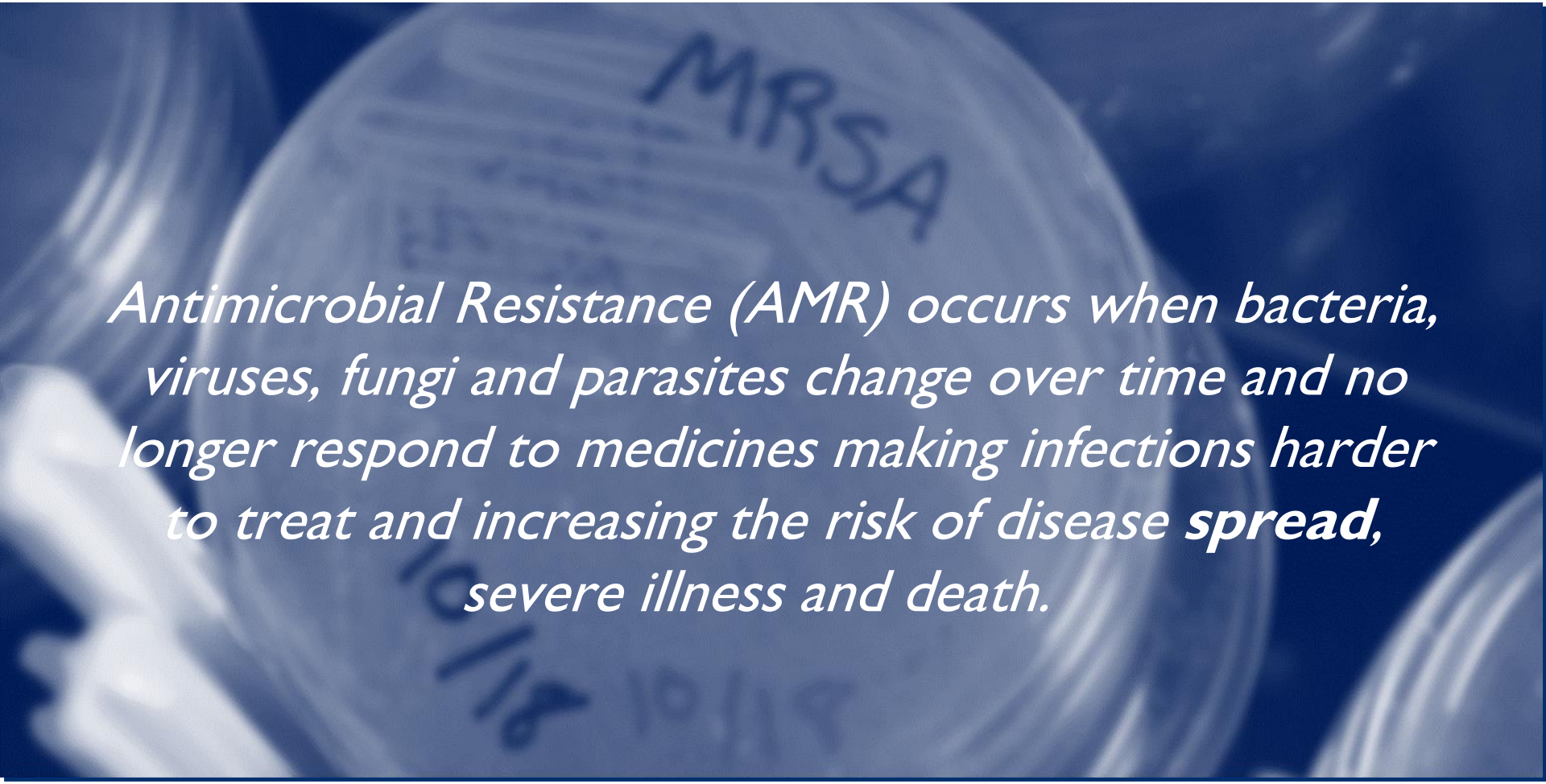
International transmission of international epidemic clones

Streptococcus pneumoniae (Spain23F)



Sources: https://www.reactgroup.org/uploads/publications/react-publications/antibiotic-resistance-the-faceless-threat.pdf
https://www.uniprot.org/proteomes/UP000002600

What is AMR?



Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease ***spread****, severe illness and death.*

Source: https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance (WHO AMR Fact Sheet, 13 Oct 2020
Photo Credit: CDC

Projected global impact of AMR by 2050

Annual Deaths	10 million
Economic Impact	Cumulative costs of $100 trillion
	3.8% decrease in global GDP

Sources: Hoffman SJ et al. 2015. An international legal framework to address antimicrobial resistance. Bull World Health Organ 93:66 http://www.who.int/bulletin/volumes/93/2/15-152710.pdf
Review on AMR. 2016. *Tackling Drug-Resistant Infections Globally: Final Report and Recommendations.* The Review on Antimicrobial Resistance. https://amr-review.org/sites/default/files/160518_Final%20paper_with%20cover.pdf
World Bank Group. 2017. Drug-Resistant Infections: A Threat to Our Economic Future (Final Report). Washington, DC: International Bank for Reconstruction and Development/The World Bank. http://documents.worldbank.org/curated/en/323311493396993758/pdf/114679-REVISED-v2-Drug-Resistant-Infections-Final-Report.pdf

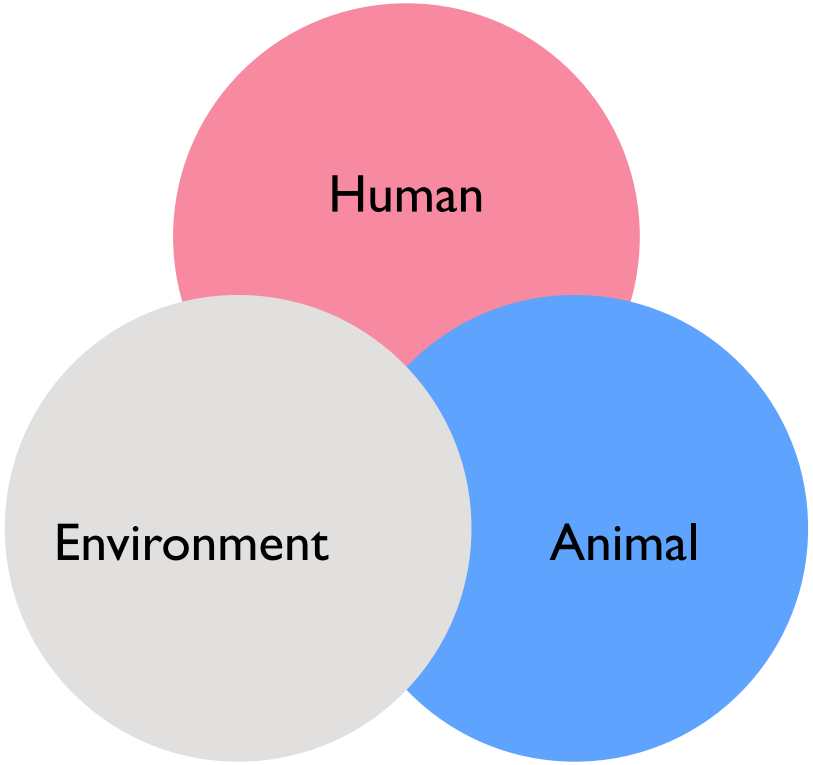
WHO Global Action Plan on AMR (2015)

- Improve awareness and understanding of AMR
- Strengthen the knowledge and evidence base (surveillance)
- Reduce the incidence of infection (IPC)
- Optimize use of antimicrobial medicines in humans/animals (AMS)
- Develop economic case for sustainable investment

Source: http://www.who.int/antimicrobial-resistance/publications/global-action-plan/en/

Emphasizes multisectoral (One Health) approach.

Multisectoral coordination (MSC) to reach a shared One Health goal of containing AMR



Examples of One Health actions:

- Joint assessments
- One surveillance repository (e.g., GLASS)
- Integrated education (e.g., One Health competency)
- Intersectoral communication and coordination

Global Health Security Agenda (GHSA)

- Growing partnership
- Emphasizes **multisectoral approach,** One Health
- Supports 19 technical areas
- Uses **JEE** and **WHO benchmarks** tools to assess and plan capacity improvements

JEE Capacity Levels

No Capacity	Level 1
Limited Capacity	Level 2
Developed Capacity	Level 3
Demonstrated Capacity	Level 4
Sustainable Capacity	Level 5

Four JEE Indicators on AMR

JEE 2 Indicator #	Benchmark
P. 3.1	Effective multisectoral coordination on AMR
P. 3.2	Surveillance system of AMR is in place
P. 3.3	Infection prevention and control is in place
P. 3.4	Optimize use of antimicrobial medicines in human and animal health and agriculture

Example: Benchmark actions for level 3 for multisectoral coordination

- Develop/submit national action plan on AMR
- Develop TOR for governance bodies
- Organize effective coordination through regular meetings

USAID MTaPS GHSA support for AMR containment

Objective: Help raise country capacity as per JEE and in alignment with the WHO benchmarks on IHR

Where we work

Bangladesh	Burkina Faso
Cameroon	Côte d'Ivoire
Democratic Republic of Congo	Ethiopia (ended Dec 2020)
Kenya	Mali
Mozambique	Nigeria
Senegal	Tanzania
Uganda	

Focus areas

Multisectoral coordination on AMR
(JEE indicator P.3.1)

Infection prevention and control
(JEE indicator P3.3)

Antimicrobial stewardship (P3.4)

AMR-related Challenges in Côte d'Ivoire

Photo credit: Dr. Hérodias Ahimon

Gaps identified in the Joint External Evaluation (JEE)

December 2016 JEE

P.3.1	Antimicrobial resistance detection	**I**
P.3.2	Surveillance of infections caused by AMR pathogens	**I**
P.3.3	Health care-associated infection prevention and control programs	**I**
P.3.4	Antimicrobial stewardship activities	**I**

Insufficient advocacy and awareness about AMR

Gaps identified in multisectoral coordination in the Joint External Evaluation (JEE)

- No approved national action plan on AMR
- Lack of set roles and responsibilities at all levels of health pyramid in human and animal sectors
- Absence of national institutional framework for AMR
- Insufficient advocacy and awareness-raising about AMR in the animal, agricultural, food and environmental sectors

Gaps identified in infection prevention and control and antimicrobial stewardship

Infection prevention and control	Antimicrobial stewardship
• Absence of a national IPC plan • Lack of a nationwide program to reduce healthcare-associated infections • Lack of monitoring and evaluation	• Lack of an approved national action plan • Limited awareness and practice of appropriate antimicrobial use

What would you do?

Exercise: What would you do?

Gaps in multisectoral coordination on AMR

- No approved national action plan
- Absence of national institutional framework
- Lack of set roles and responsibilities at all levels of health pyramid in human and animal sectors
- Insufficient advocacy and awareness about AMR

How would you try to address these problems?

Using Global Health Security Tools to Combat Antimicrobial Resistance

A Response to AMR-related Challenges in Côte d'Ivoire

Nathalie Guessennd, PhD

Head of the National Reference Center for Antibiotics
Institut Pasteur de Côte d'Ivoire

Reflections on facilitating factors, lessons and promising practices

Questions

Please ask your questions via the chat box

Remarks

Amanda Paust, M.A.
GHSA Advisor
Emerging Threats Division
Office of Infectious Disease
Bureau for Global Health
USAID

USAID
FROM THE AMERICAN PEOPLE

USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTaPS) PROGRAM

Improved Access. Improved Services. Better Health Outcomes.

Remarks

Alexis Leonard
Senior Health Systems Technical Advisor
Bureau for Global Health
Office of Health Systems
USAID

USAID
FROM THE AMERICAN PEOPLE

USAID MTaPS COR
Alexis Leonard,
aleonard@usaid.gov

Prime Contractor
Management Sciences for Health (MSH)

Learn more about MTaPS
www.mtapsprogram.org

Thank you for your attention

USAID
FROM THE AMERICAN PEOPLE