Anti-Microbial Resistance Response and Containment – A Global Approach

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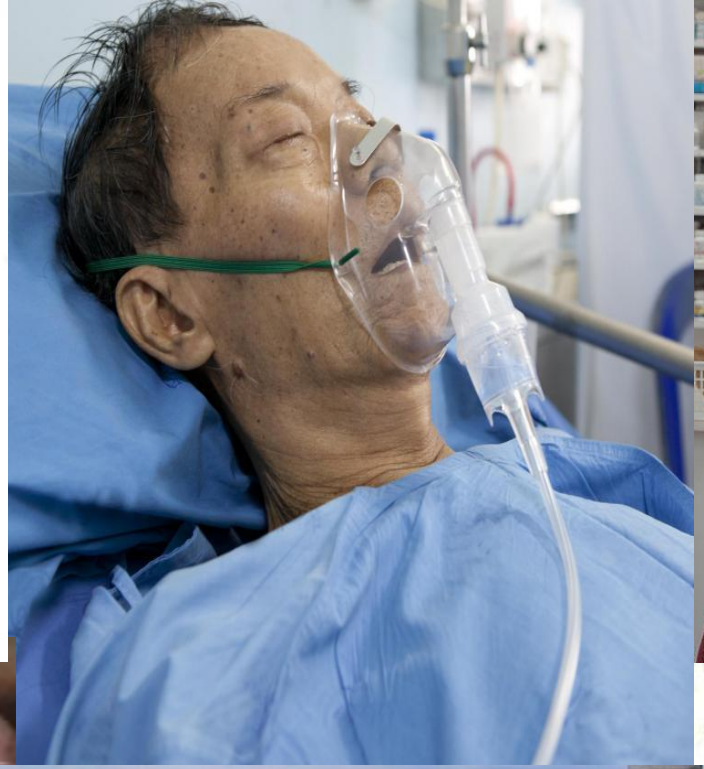

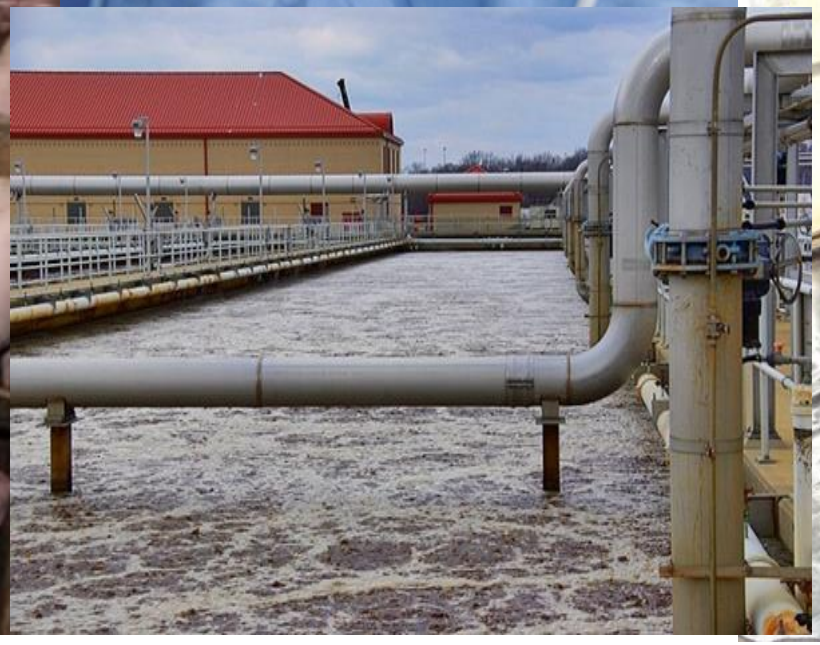

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AMR is a natural phenomenon **accelerated by use of antimicrobial medicines**.

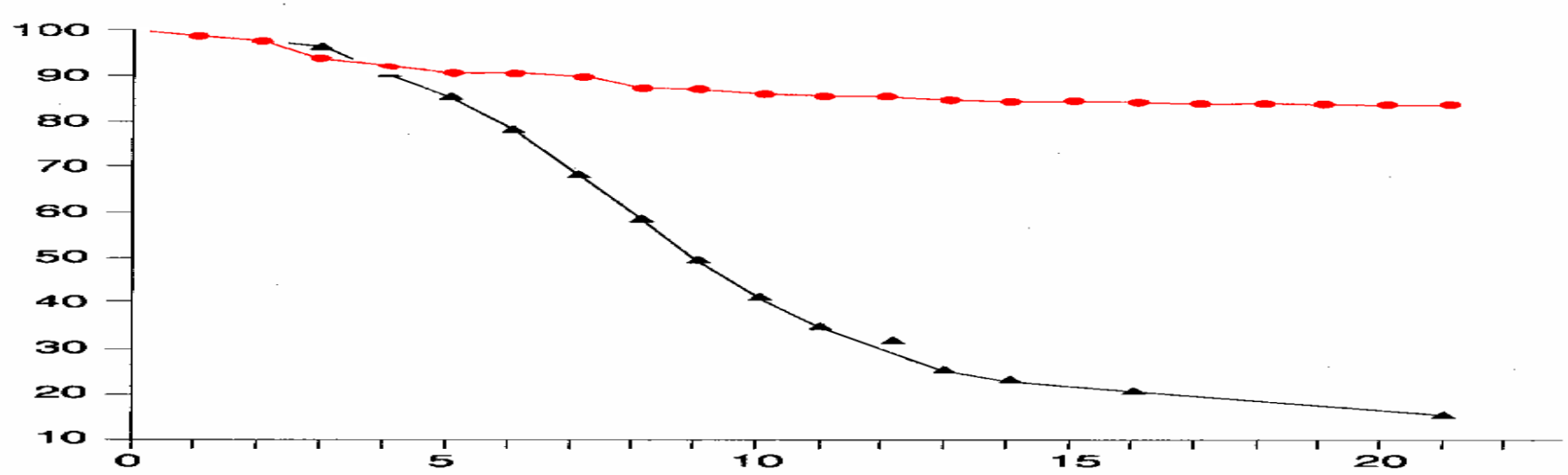
Resistant strains survive & flourish.

Types of AMR

1. Antibacterial resistance (e.g. to antibiotics)
2. Antiviral resistance (e.g. to anti-HIV medicines)
3. Antiparasitic resistance (e.g. to anti-malaria medicines)
4. Antifungal resistance (e.g. to medicines for *Candidiasis*)

Benefits of antimicrobial medicines have been enormous

Penicillin increased survival from 10% to 90% among patients with pneumonia & bacteria in their blood



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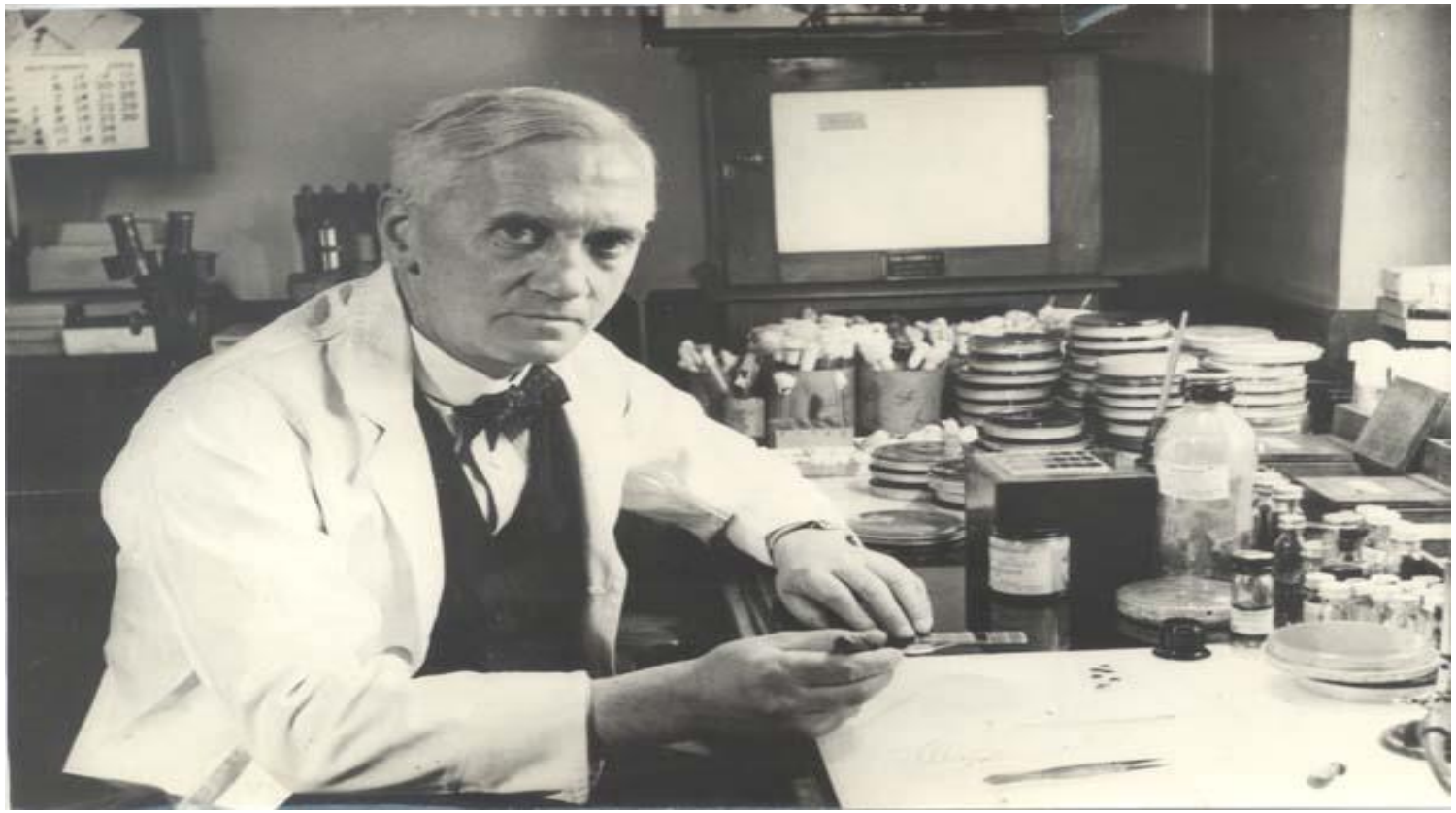
AMR is not new

“The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily under dose himself and by exposing his microbes to non-lethal quantities of the drug make them resistant”

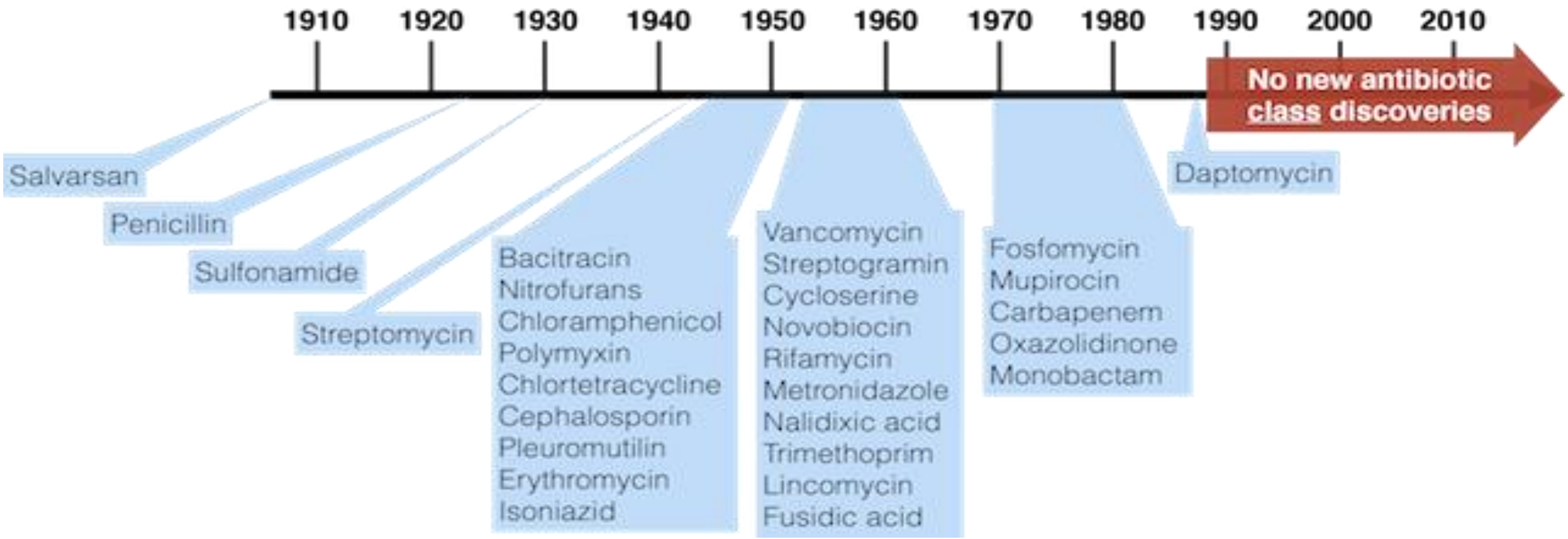
- Alexander Fleming, Nobel Lecture, December 1945



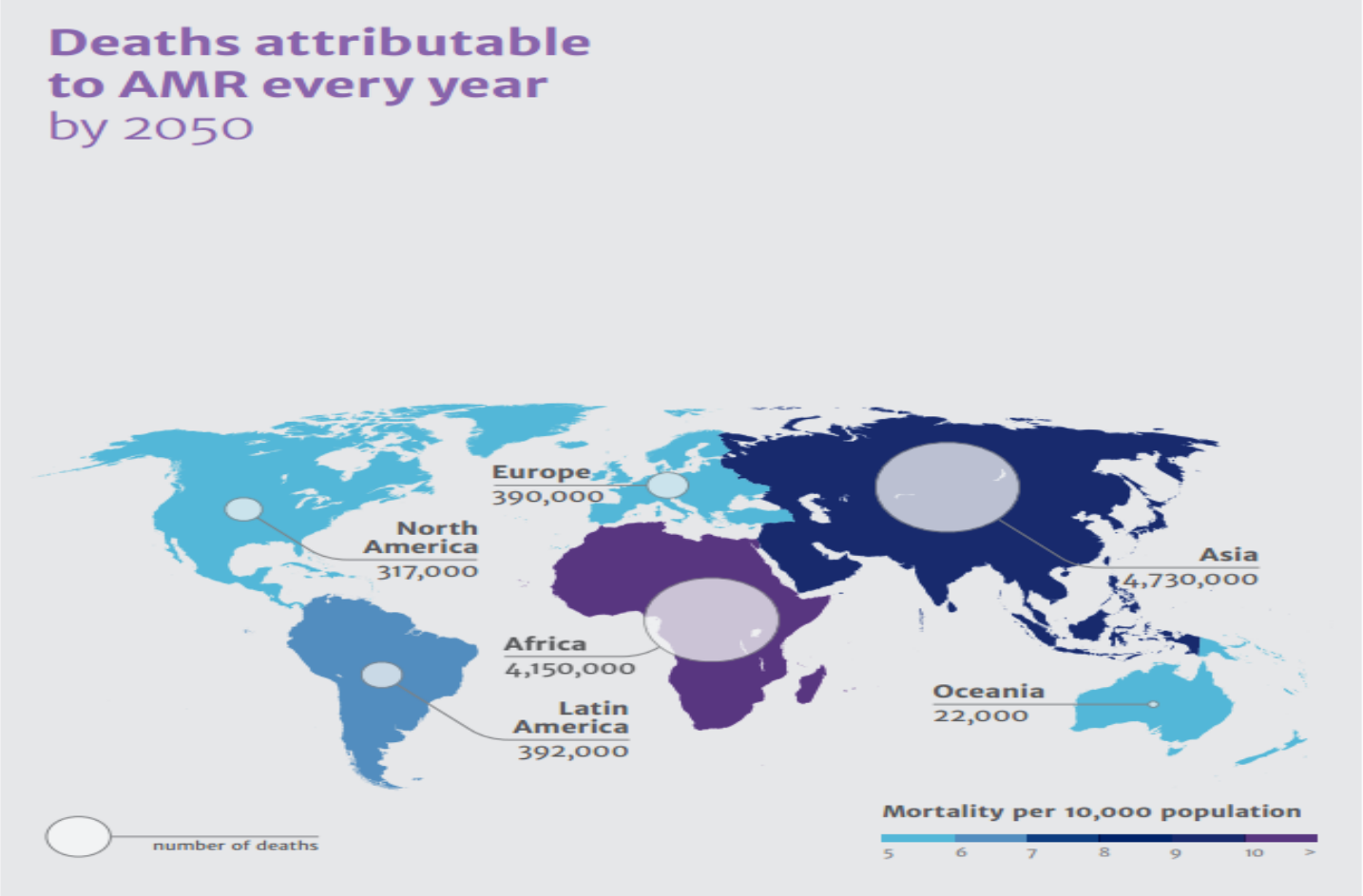
AMR Decades of Action

- **1959** WHO scientific group on antibiotics research recommends **studies** on resistance (The Work of WHO, 1959, Official Records of WHO no. 98)
- **1981** WHO Scientific Working Group on Antimicrobial Resistance report includes **guidelines** for the appropriate use of antibiotics) (WHO/BVI/PHA/ANT/82.1)
- **2001** WHO Global Strategy for containment of antimicrobial resistance (WHO/CDS/CSR/DRS/2001.2)
- **2011** World Health Day "Antimicrobial resistance: no action today, no cure tomorrow" policy package
- **2012** The evolving threat of antimicrobial resistance Options for action
- **2015** Adoption by WHA of Global Action Plan for AMR
- **2016** AMR resolution at the UN General Assembly

The Golden Age of Antibiotics was short



10m deaths per year by 2050
Most in Africa and Asia



World Bank Analysis 2016 If we do not act the impact of AMR in 2050 will be:

- Global GDP falls 1-3.5% by 2050
- 2.6-7.5% Fall in Livestock production (11% in low income countries)
- Health care costs rise by 25% in low income countries

Impact on Health and Wellbeing : negatively on the following :

- Millennium Development Goals
- Sustainable development goals
- Surgery
- Cancer treatment etc

Political Pressure for Action
- Including at country level

World Health Assembly
FAO OIE Governing bodies
May 2015

All countries agreed to prepare a National Action Plan in line with the GAP by WHA 2017 with FAO and OIE.

UN General Assembly September 2016

All countries committed to prepare National Action Plans.
Interagency co ordination
FAO Phase out antibiotics in Growth promotion

The Global Goal

To ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them

GLOBAL ACTION PLAN
ON ANTIMICROBIAL
RESISTANCE

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Guiding Principles

- Whole of society engagement and one-health

  Human health, animal health, agriculture, food security, environment and economic development

- Prevention first

  Prevention is cost effective; implementation in all settings, even where resources are limited

- Access not excess

  Access not only to existing and new drugs but also to health facilities, health care professionals, veterinarians, preventive technologies, diagnostic tools, knowledge, education and information

- Sustainability

  National plans with assessment of resource needs, long-term technical and financial investment

- Incremental targets for implementation

Objective 1: Improve awareness and understanding of AMR through education and training

Risk communication

- Improve public and professional awareness
- WHO antibiotic awareness week launched in November 2015
- Campaign toolkit (posters and flyers)
- AMR included in school curricula

Education

- AMR as core component of pre service and in service professional training in health & veterinary sectors and agricultural practice

ANTIBIOTIC RESISTANCE

HANDLE ANTIBIOTICS WITH CARE

Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause. This is compromising our ability to treat infectious diseases and undermining many advances in medicine.

We must handle antibiotics with care so they remain effective for as long as possible.

WHAT YOU CAN DO

1. Only use antibiotics when prescribed by a certified health professional
2. Always take the full prescription, even if you feel better
3. Never use left over antibiotics
4. Never share antibiotics with others
5. Prevent infections by regularly washing your hands, avoiding close contact with sick people and keeping your vaccinations up to date

www.who.int/drugresistance

#AntibioticResistance

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WHAT HEALTH WORKERS CAN DO

1. **Prevent infections** by ensuring your hands, instruments and environment are clean
2. Keep your patients' **vaccinations** up to date
3. If you think a patient might need antibiotics, where possible, **test to confirm** and find out which one
4. Only prescribe and dispense antibiotics when they are **truly needed**
5. Prescribe and dispense the **right antibiotic at the right dose for the right duration**

www.who.int/drugresistance

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ANTIBIOTIC RESISTANCE

HANDLE ANTIBIOTICS WITH CARE

Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause.

The over-use and misuse of antibiotics in livestock, aquaculture and crops is contributing to antibiotic resistance and its spread into the environment, food chain and humans. This is compromising our ability to treat infectious diseases and undermining many advances in medicine.

We must handle antibiotics with care so they remain effective for as long as possible.

WHAT THE AGRICULTURE SECTOR CAN DO

1. Ensure that antibiotics given to animals—including food-producing and companion animals—are **only used to treat** infectious diseases and under veterinary supervision
2. **Vaccinate** animals to reduce the need for antibiotics and **develop alternatives** to the use of antibiotics in plants
3. Promote and apply **good practices** at all steps of production and processing of foods from animal and plant sources
4. Adopt **sustainable systems** with improved hygiene, biosecurity and stress-free handling of animals
5. Implement **international standards** for the responsible use of antibiotics, set out by OIE, FAO and WHO

www.who.int/drugresistance
www.oie.int/antimicrobial-resistance
www.fao.org/antimicrobial-resistance/en/

#AntibioticResistance

OIE WORLD ORGANISATION FOR ANIMAL HEALTH Protecting animals, preserving our future

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Objective 2: Strengthen knowledge and evidence-base through surveillance and research

- National AMR surveillance
  - Harmonized global standards
  - Monitoring of the consumption of antibiotics
  - Coordination at national level
- Laboratory capacities
  - Capacity building
  - National reference laboratory
- Integrating data from animals, plants, food, environment
- Link to other types of surveillance
- Research and development

Global AMR surveillance system

Goal

To achieve a monitoring capacity to capture essential information on the global situation of AMR and inform decision making

GLASS objectives:

- Foster national AMR surveillance systems using harmonized global surveillance standards
- Assess and report on selected indicators of AMR
- Detect emerging resistance
- Inform and assess impact of interventions

Objective 3: Reduce the incidence of infection through effective hygiene and IPC measures

- IPC in health care:
  - Effective hand hygiene
  - Safe injection practices
  - Reduce health care associated infections
- Community level prevention:
  - Vaccination
  - Hand hygiene
  - Sanitation
- Animal health: prevention and control
  - Vaccination
  - Biosecurity and hygiene
  - Sustainable animal husbandry

Objective 4: Optimize the use of antimicrobial medicines in human and animal health

- Access to qualified and safe antimicrobial medicines
  - Regulation and authority on multiple levels
  - Evidence based prescribing and dispensing of drugs
  - List of essential medicines
  - Antimicrobial stewardship

- Use in veterinary practice and agriculture
  - Withdrawal of use as growth promoters (banned totally in EU as from 2006)
  - Evidence-based prescribing and dispensing of antibiotics should be standard in animal medicine as well
  - Regulation of use of antimicrobial agents in agriculture

Objective 5: Ensure sustainable investment through research and development

- New antimicrobial medicines
- Diagnostic tools and vaccines
- New approaches to funding product development
- Measuring the burden of AMR
  - Economic impact assessments
- Incorporation into budgets and assuring sustained finance

- Global Framework for Antibiotic Stewardship

Framework for action defines three levels

- Member State action
- Secretariat action
- International and national partners' action

Objective 3: Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures

Potential measures of effectiveness: extent of reduction in the prevalence of preventable infections, and in particular the incidence of drug-resistant infections in health care settings

I. Member State action	II. Secretariat action	III. International and national partners' action
i. Member States may consider the following actions: ▸ take urgent action to implement and strengthen hygiene and infection prevention and control; ▸ include training and education in hygiene and infection prevention and control as core (mandatory) content in training and education for health care and veterinary professionals and in their continuing professional	i. Facilitate the design and implementation of policies and tools to strengthen hygiene and infection prevention and control practices, particularly to counter antimicrobial resistance, and promote the engagement of civil society and patient groups in improving practices in hygiene and infection prevention and control. ii. Ensure that policy recommendations for new and existing vaccines take	i. Professional societies and accreditation bodies should support training and education on infection-prevention measures as a mandatory requirement in professional development, accreditation and registration. ii. OIE should update its codes and manuals to take account of new developments in vaccines. iii. FAO should continue to engage and support producers and stakeholders

HIV TB and Malaria Resistance is a major issue

- Programmes in general are stronger, better diagnostic capacity, surveillance, medicines management etc
- Antibiotics/ bacteriology have been neglected and need initial focus to catch up
- Align Programmes where appropriate

From GAP to NAP

- Intersectoral action is critical
- National Action Plans should align with GAP
- Reflect local situation, structures , capacity and constraints
- Priorities action
- Incorporate and build on existing activity and plans
- Building systems to effect individual behavior change
- Monitor progress

NEXT STEPS FOR BOTSWANA :

- Roadmap towards developing a NAP developed
- A process of situational analysis underway
  - Data collection from different sectors on-going
  -
- NAP drafting : November 2017

THANK YOU