

Antimicrobial Resistance ; Future Direction

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President

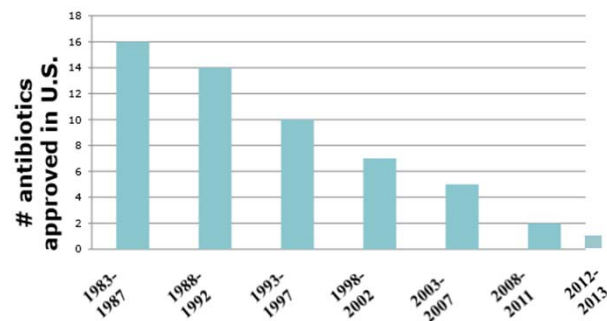
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Current situation of AMR

- More and more antimicrobials are becoming ineffective because of AMR
 - The process of natural biological phenomenon was made more rapid and exaggerated by misuse and overuse of these drugs in human medicine and food production.
- Less and less new antimicrobials are in pipe line because of ..

New Antibacterial Drug Approvals Are in Decline



Antimicrobial Resistance (AMR) is the greatest threat to modern medicine.

- It has profound health consequences on individual, health systems, food systems and practice of medicine.
- high mortality and morbidity
- Increased health expenditure
- many public health consequences
E.g. economic losses due to reduced productivity and higher costs of treatment.

Antimicrobial Resistance (AMR) is the greatest threat for Future.

- Without any counter measures, Death due to AMR in 2050 will exceed cancer death . (10 millions vs. 8.2 millions)
- Cumulative costs of AMR is predicted to be \$120 trillion by 2050.
- Extremely concerned about going back to situation like pre antibiotic era last 80 years (before 1945 when Penicillin discovered)

Global Action Plan on AMR...1

- In recent years, political commitment to combat AMR has increased significantly at global, regional and national levels.
- In 2015, the Sixty-eighth World Health Assembly endorsed the Global Action Plan on AMR.
- Member states committed themselves to prepare national action plans.
- These commitments were reinforced by the United Nations General Assembly at its Seventy-first Session in 2016.
- As AMR affects humans, animals and the environment, WHO aligned with FAO and OIE (World Organization for Animal Health) on a comprehensive **One Health Approach**.

Global Action Plan on AMR... 2

Global Action Plan prepared by WHO together with FAO and OIE sets out five strategic objectives:



- (1) to improve **awareness** and understanding of antimicrobial resistance;
- (2) to strengthen knowledge through **surveillance** research;
- (3) to **reduce the incidence of infection**;
- (4) to optimize the **use of antimicrobial agents**
- (5) to ensure sustainable investment in countering antimicrobial resistance (**R&D**).

Global Action Plan on AMR... 3

- To guide R&D of new antibiotics, WHO identified **the prioritization of pathogens** as (1) TB, a global priority (2) Critical priority (3) High priority (4) Medium priority groups.
- WHO Model **List of Essential Medicines** is also updated in 2017. 30 medicines are added for adult and 25 for children. Antibiotics are grouped for 3 categories (**AWaRe**); **ACCESS**, **WATCH** and **RESERVE**.

Global Action Plan on AMR... 4



WHO/EMP/AU/2017.08 (revised 19 October 2017)

- *Global Framework for Development & Stewardship to Combat Antimicrobial Resistance (Roadmap)* was drafted in October 2017 by tripartite organizations (WHO, FAO and IOE)
- framework directly addresses objectives 4 and 5 of the Global Action Plan

Objectives of a global development and stewardship framework :

- **Research & Development (R&D)**

(GAP, AMR Objective 5)
to ensure sustainable investment in countering antimicrobial resistance.

- **Access:**

(GAP, AMR Objective 4)

- **Stewardship:**

to optimize the use of antimicrobial agents;

Research & Development (R&D):

- To support the *development of new affordable antimicrobial medicines*, diagnostic tools, vaccines and other interventions (for detecting, preventing and controlling AMR)
 1. **Prioritization** of human, animal and plant pathogens to guide R&D of new antibiotics (critical, high and medium priority), along with *Mycobacterium tuberculosis*
 2. **Increasing investment in R&D (public investment is needed to ensure that necessary medicines, vaccines, diagnostics tests, and other strategies are developed to tackle priority pathogens, including TB.) (set up a new product development partnership)**

Access & Stewardship

Stewardship: measures to promote *control*, appropriate *distribution* as well as *appropriate use*

Access: *promote affordable access* medicines, vaccines and tools of *assured quality*

- It is crucial to balance between stewardship to conserve antimicrobials and access to quality , affordable antimicrobials.
- Stewardship and access cannot be dealt with in isolation.
- Any stewardship framework must also ensure that access to antibiotics is not compromised and is expanded where needed.

In most countries of WHO SEAR region,

- Antibiotic stewardship program remains underdeveloped.
- Antibiotic use in hospital are high.
- Transmission of resistant organisms between patients accelerates transmission of AMR.
- Antibiotics are readily available over the counter without prescription.
- Regulation of production and sale of antibiotics is weak.
- Counterfeit and substandard antibiotics are used in the absence of credible drug regulation and law enforcement.
- System wide monitoring of measures like Infection prevention and control is lacking.

Stewardship

- ‘stewardship’ ; the careful and responsible management of something entrusted to one’s care.
- For antibiotics and antimicrobials; appropriate use to improve patient outcomes while minimizing the development and spread of resistance.

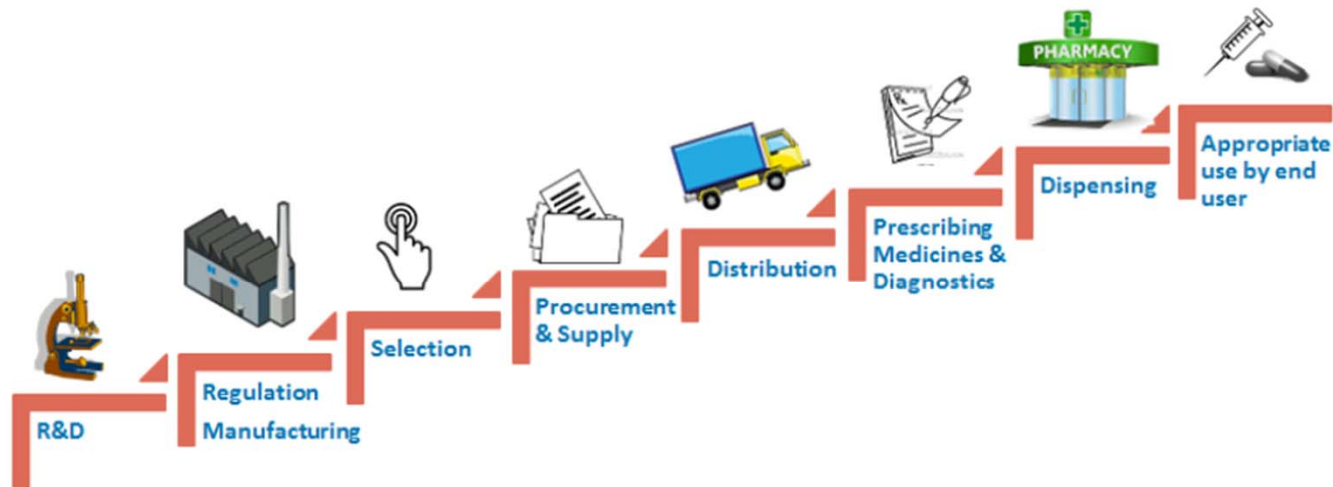


Figure 2: Stewardship covers the whole spectrum of a product, from R&D to use

Stewardship

- Antimicrobial stewardship, addressed through the concept of responsible and prudent use
 1. in human, animal and plant health
 2. at different societal levels, from the individual to team or group at the hospital or community-level
 3. at the global level to coordinate activities across countries

Antimicrobial Stewardship Programmes

- This could include for example at:
 - **global level:** how new antibiotics are introduced to the market, labeled, priced and distributed;
 - **national level:** legislation, regulation and national treatment guidelines;
 - **hospital level:** optimizing the use of antibiotics for patients in hospitals;
 - **community level:** fostering access and appropriate use in primary health care settings and in animal health through awareness raising and targeted interventions.
- heavily depends on the context and the **capacity of national regulatory authorities relevant for human and animal health** and plant production.

National Action Plan on AMR

- Implementation of National Action Plan for AMR requires
 - ❖ high level political engagement and commitment,
 - ❖ collaboration and coordination across national ministries,
 - ❖ inclusion of all relevant stakeholders like professional organizations, the private sector, civil society and development partners.
- Currently, National Action Plan for AMR is in place in 92 countries and in development in 61 countries.

National Action Plan on AMR (Myanmar)

National Action Plan for
Containment of
Antimicrobial Resistance:
Myanmar
2017-2022



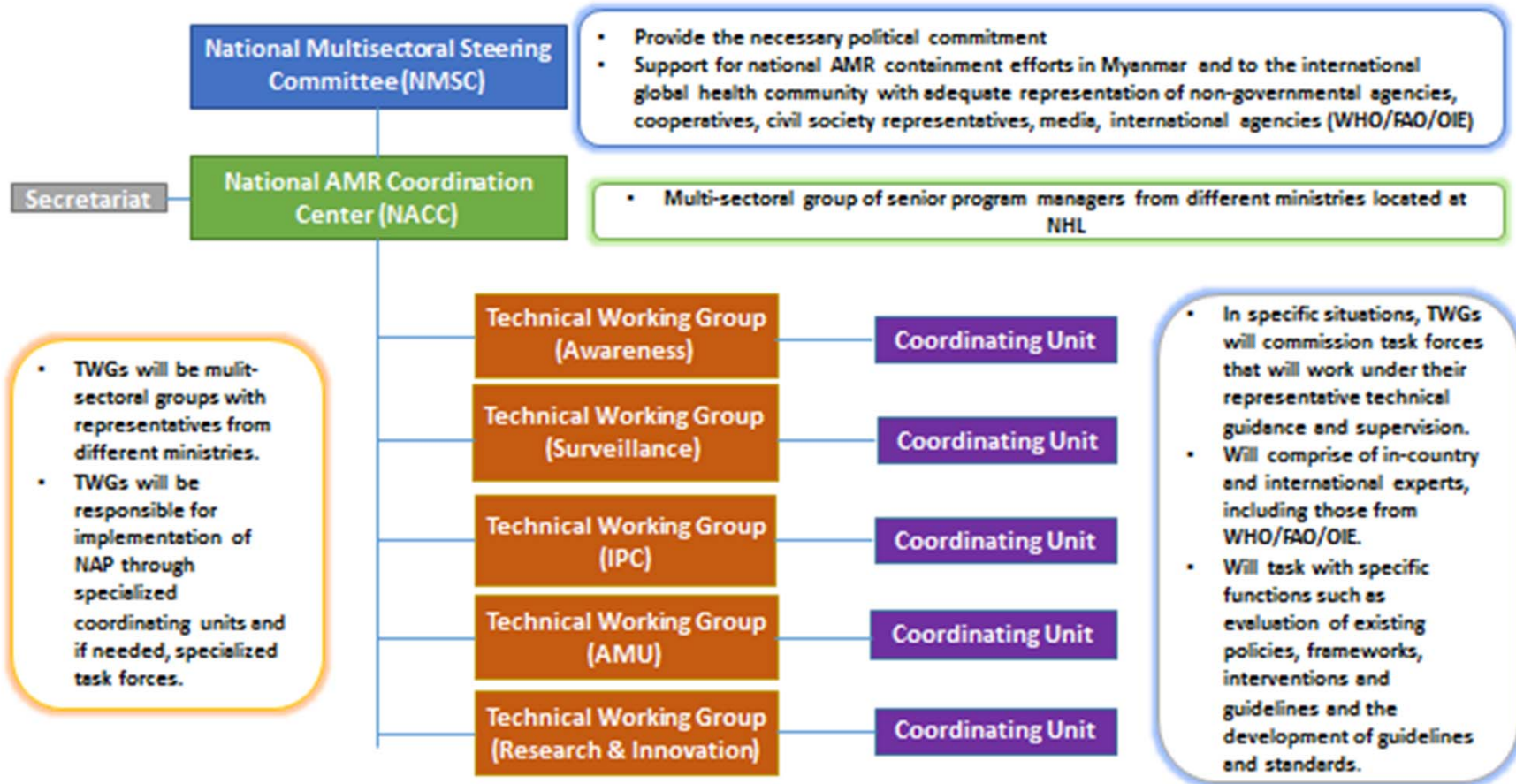
July, 2017
Version 01

- prepared by stakeholders from different ministries in Myanmar.
- National AMR Action Plan is in line with GAP-AMR
- consistent with the five strategic objectives of the WHO GAP-AMR;
 1. AMR surveillance
 2. Antimicrobial Stewardship
 3. Infection Control in healthcare settings
 4. Awareness raising;
 5. Research & innovation and
- It describes Strategic Plan with Operational details.

National Multi sectorial Committee for Combating Antimicrobial Resistance

- Formed on 25th October 2017
- One- Health engagement.
- Union Minister as chair,
- The representatives from different Ministries (MoHS, MoALI, Ministry of Industry, Ministry of Defence and MoHA), Civil societies and member of parliament are included

NAP, AMR Governance Structure in Myanmar



Myanmar National Action Plan for AMR

strategic objectives and strategic plan:

1	Public Awareness and Health Education
2	Surveillance of AMR
3	Hygiene, Infection Prevention and Control
4	Optimize use of Antimicrobial medicine
5	Sustainable and increase investment in new medicine, diagnostic tools, vaccine and other interventions to reduce antimicrobial use

Implementation of five strategic objectives, each of which has its objectives, strategic interventions and key activities, Responsible Agency, Partners and Stakeholders

Strategic Plan

The strategic plan for Myanmar's NAP AMR is based on implementation of five strategic objectives, each of which has its objectives, strategic interventions and key activities

Strategic Objective 1: AWARENESS

The GAP AMR has identified the need to raise awareness of AMR and promote behavioural change through public communication programmes that target different audiences in human health, animal health and agricultural practices as well as a wide range of consumers related to these sectors. The GAP AMR has also focused on making AMR a core component of the professional education training, certification, continuing education and development in the health and veterinary sectors and agricultural practice. This approach is expected to foster proper understanding and awareness amongst professionals.

The Situation Analysis revealed that awareness program on AMR in different sectors is yet to be formalised. Limited and ad hoc CMEs and trainings have been conducted by tertiary care hospitals, professional societies and veterinary universities. Awareness for general public and other relevant stakeholders such as livestock farmers have not been conducted.

By 2022, Myanmar will carry out nationwide evidence based awareness campaigns with regular M&E. The aim is also to revise curricula in undergraduate medical and veterinary, food industry and agriculture teaching and Continuous Professional Development courses. Revised curricula will be implemented on a limited scale but with regular audits. The Strategic Plan is as follows:

Objective 1.1: To improve awareness of AMR amongst the general public and professionals

Strategic intervention 1.1 Establish an evidence-based public communications programme targeting audiences in policy making, human and animal health practice, the general public and professional on prudent use of antimicrobials

Objective 1: AWARENESS

1.1: To improve awareness of AMR amongst the general public and professionals

*Strategic intervention; Establish an evidence-based public communications programme **targeting audiences** in policy making, human and animal health practice, the general public and professional on prudent use of antimicrobials*

1.2: Improve knowledge of AMR and related topics in professionals through professional education and training deployed at the national scale

*Strategic intervention; Include AMR and related topics such as Infection Prevention Control as a **core component of professional education**, training, certification and Development for health care providers and veterinarians*

Objective 2: SURVEILLANCE OF AMR

- 2.1: Set up a **national surveillance system** for antimicrobial resistance under the leadership of a National Coordinating Centre.
- 2.2: **Build laboratory capacity** to produce high-quality microbiological data for patient and food-safety management and **support surveillance activities.**
- 2.3: Develop a **multi-centric surveillance system** on the national scale **to provide early warning of emerging resistance** and monitoring of secular trends at national and sub-national levels.

Objective 3: HYGIENE, INFECTION PREVENTION AND CONTROL (IPC)

3.1: To establish a **national infection prevention and control programme** through

full implementation and compliance with the IPC **guidelines** within healthcare settings, animal husbandry systems, fisheries and the food chain

3.2: Decrease Hospital Acquired Infection (HAI) and associated AMR through facility based **HAI surveillance programme** (Human Health)

3.3: To **limit** the development and **spread of AMR outside health settings** *Promote sanitation and hygiene by social mobilization and behavioral change activities*

Objective 4: OPTIMISE USE OF ANTIMICROBIAL MEDICINES

- 4.1: Establish a **national AMR containment policy**, Antimicrobial Stewardship Programmes (**AMSP**) and Standard Treatment Guidelines (**STG**) at the national scale for prudent use of antimicrobials
- 4.2: Regulation of post-marketing quality of drugs under the leadership of an **NRA/DRA** *National Regulatory Agency (NRA) or Drug Regulatory Agency (DRA)* to ensure access to quality antibiotics; *enforce quality standards of antimicrobial drugs (veterinary, human, and food production sectors)*
- 4.3: Establish mechanisms to monitor **antimicrobial usage (AMU) (and sales)** on a national scale to inform interventions to reduce overuse and promote prudent use of antimicrobial substances

National Antibiotic Stewardship Programs

- Antibiotic stewardship program developed.
- Antibiotic use in hospital appropriate and prudent .
- Transmission of resistant organisms between patients must be controlled.
- Antibiotics soled as over the counter without prescription must be controlled.
- Regulation of production and sale of antibiotics is regulated.
- Counterfeit and substandard antibiotics are prohibited with credible drug regulation body and law enforcement.
- System wide monitoring of measures like Infection prevention and control must be strengthen.

Objective 5: SUSTAINABLE INVESTMENTS IN NEW MEDICINES, DIAGNOSTIC TOOLS, VACCINES AND OTHER INTERVENTIONS

5.1: To promote sustainable investment in new medicines, diagnostic tools, vaccines and other interventions by developing a **strategic research agenda** and **national research policy**

Future Steps

- Following submission of the final report to the World Health Assembly, will continue with its implementation process under the leadership of NMSC(National Multi-Sectorial Steering Committee).
- Combined efforts of all stakeholders is crucial for successful implementation.

COMBAT DRUG RESISTANCE



**No action today,
no cure tomorrow**

7 APRIL 2011 **WORLD HEALTH DAY**



***Coming together is a beginning,
keeping together is progress, and
working together is success.***

Henry Ford

Thank you for attention