



Pakistan AMR National Action Plan: Development & Implementation

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Outline

- Pakistan Governance on health
- Functions of NIH
- NAP Strategic objectives
- Lessons learned



Background and Introduction

Pakistan Governance on Health

- Population: 216.6 million (2019)
- Pakistan has spent 0.46% of its Gross Domestic Product (GDP) on health care services
- Per capita, health spending is US\$36 compared to the WHO recommended benchmark of US\$86.
- Out of total spending on medicines, out-of-pocket spending comprises nearly 75%, with the majority (80%) of the population utilizing the private health sector adding to the US\$36 spent by the government ¹.
- Pakistan ranked third for antimicrobial consumption among LMICs ², with a 67% increase in consumption between 2000 and 2015 which increases AMR rates ³.
- The **health care** delivery system in **Pakistan** consists of public and private sectors. Under the constitution, health is primarily responsibility of the **provincial government**, except in the federally administrated areas.

1 .Finance Mo. Pakistan Economic Survey. (2017)

2 Aziz MM, Fang YJTIjohp, management. Pakistan should immediately curb the sale of non- prescribed antibiotics from community pharmacies. 34(2), e1376-e1377 (2019).

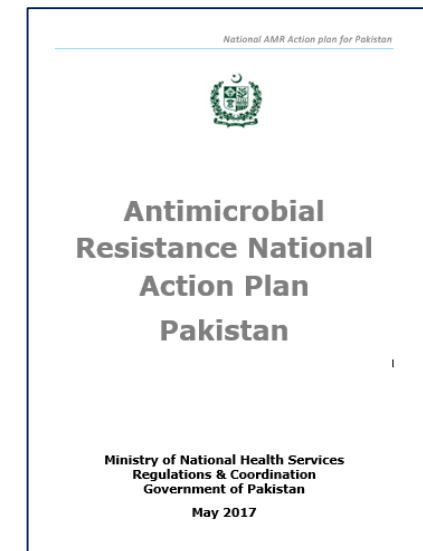
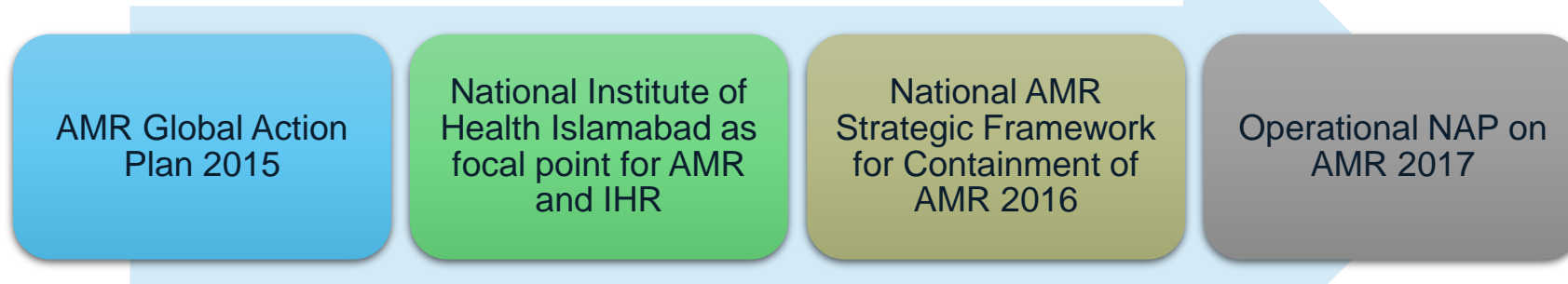
3 Mirza IA, Zafar H, Hussain W. Necessity of Reviewing and Establishing the National Guidelines Regarding Antimicrobial Therapy for Bacterial Isolates. Pharmaceutical and Biosciences Journal. 2020; 8(2): 35-38.)

<https://www.nih.org.pk/antimicrobial-resistance/>

Background and Introduction

National Institute of Health Pakistan

- Established in 1965
- Endorsement to Global Action Plan on AMR 2015
- **Ministry of National Health Services** Regulation and Coordination is the **lead entity** to coordinate a multi-sector One Health AMR response.
- Mo NHS&RC designated the Health Planning, System Strengthening and Information Analysis (HPSIA) **Unit as the focal point for IHR and GHSA.**
- Intersectoral Core Steering committee to oversee the process of developing a national AMR policy.
- **National Institute of Health (NIH) as the national focal point for IHR and AMR** designated by Mo NHSR&C
- NIH: National Reference Laboratory and National Coordinating Center for AMR and IPC



Pakistan's National Action Plan on AMR

Strategic and operational components

Development and implementation of a national awareness raising and behavioural change strategy on antimicrobial resistance.	<ul style="list-style-type: none"> •Establishment of mechanism for coordination on AMR •Establishment and implementation of awareness and behaviour change strategy •Establish educational system including AMR covering undergraduate and post graduate education
Establishment of an integrated national AMR surveillance (human, animal usage and resistance monitoring)	<ul style="list-style-type: none"> •Establishment of AMR reference centres and laboratories to undertake quality assured AMR surveillance •Development of tiered AMR diagnostics in all sectors •Establishment of integrated AMR operational research plans
Improve prevention & control of infections in health care, community, animal health, food, agriculture and environment	<ul style="list-style-type: none"> •Create a formal organizational structure to ensure use of IPC policies and strategies •Availability of trained human resource at all levels •Training of human resource on all aspects of IPC
Update and enforce regulations for human and veterinary antimicrobial utilization	<ul style="list-style-type: none"> •Advocacy & common sensitization on: prescribing, sales and use of Antimicrobial •Antimicrobials (human & veterinary) sale & utilization audit •Antibiotic Stewardship program developed and started at national & provincial levels
Phase out use of antimicrobials as Growth Promoters and provide appropriate alternatives (such as prebiotics, probiotics)	<ul style="list-style-type: none"> •Review and improve existing practices regarding use of Antimicrobials as growth promoters & prophylaxis as per international standards
Integration of AMR in all public health research agendas including research on vaccines	<ul style="list-style-type: none"> •Develop mechanism for conducting survey and resource mapping on AMR •Conducting research on clinical practices on AMR
Estimation of health and economic burden of AMR for decision making	<ul style="list-style-type: none"> •Baseline data collection on economic burden due to AMR •Need Assessment for internal and external support (Technical & Financial Assistance) •Conduct operational research on rational use of Antimicrobials

<https://www.nih.org.pk/amr-national-action-plan-pakistan/>

Awareness

Multi-sectorial National AMR secretariat to ensure inter-sectorial information sharing (1.1.1.4)

- Two meetings have been conducted 2019, 2020 with consensus on key areas

Constitution of National Coordination Group for AMR (1.1.1.3)

- GoP (2020) has launched the National Program for AMR Containment and Infection Prevention and Control at the cost of 361.9 Million PKR for a period of 3 years

National AMR Containment Strategic Framework has been developed in Pakistan through a consultative process

- GAP 5 objectives

Preparation of awareness raising tools about AMR (1.2.1.1)

- IT solutions explored (databases, emodules)

Preparation of a customized training material on AMR for professionals involved in all related fields (1.2.1.2)

- Training material developed

Training of Public & Private Hospital practitioners (1.2.1.3)

- Ongoing

Advocacy for Administrative Heads/ Policy makers, manufacturers, prescribers and consumers regarding misuse of Antibiotics (1.2.1.4,1.2.1.5)

- Conferences, symposia, workshops, seminars

Develop local programs for awareness campaigns aligned with the WHO world antibiotic awareness week campaign (1.2.1.6)

- In local languages material is developed and disseminated

Include AMR including IPC in school curricula (1.3.1.1)

- Ongoing with Ministry of Education

Surveillance

38 studies reviewed (2005-2019)

National & Provincial Reference Labs in Human and Veterinary sectors (2.1.1.1)

- National Institute of Health (NIH) for Human Health and NRLPD for Animal health.

Strengthening of AMR Reference Labs, capacity building (Health & Veterinary Sectors) (2.1.1.2, 2.2.1.2)

- Trainings, Lab assessments, Microbiology, Whonet, QC strains, SOPs, manuals, ISO 15189

Designation of AMR surveillance sites (2.1.1.3)

- 45 Human sector (25 awaited response), 11 Animal sector

Development of formal mechanisms for coordination and collaboration on surveillance and research on AMR (2.1.1.4, 2.1.1.7)

- Common dashboard established
- <https://www.nih.org.pk/data-sharing-portal-of-pakistan-amr-surveillance-system/>

Implementation of LQMS for AMR surveillance at all levels 2.1.1.5

- Ongoing

NEQAS at national level 2.1.1.6

- Ongoing, REQAS, EQASIA Thailand, ISO 17043

GLASS for AMR reporting 2.3.1.1. 2.3.1.2

- 2017 and ongoing, report is prepared, key findings, LIMS support

Collaboration between Academia and Research institutions for AMR surveillance and research in public and private sectors 2.3.2.1

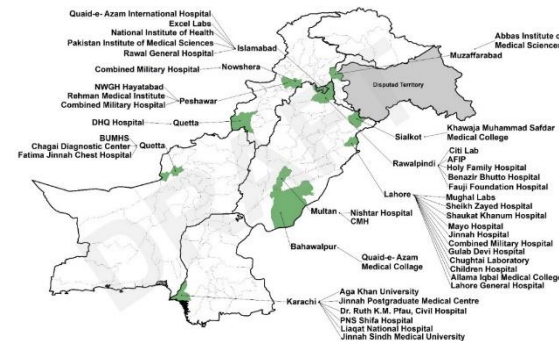
- Just started through database

Candida auris surveillance (2018), GLASS fungi

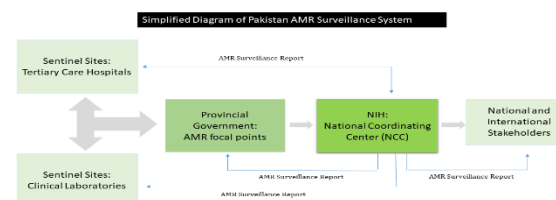
Integrated One Health Tricycle project (ESBL E.coli)

Pakistan AMR Surveillance System (PASS) in 2018

PPS for AMC completed in 2020-2021, report generated



Year	Number of sentinel sites
2017-2018	5
2019	9
2020	20
2021	70



Infection Prevention & Control

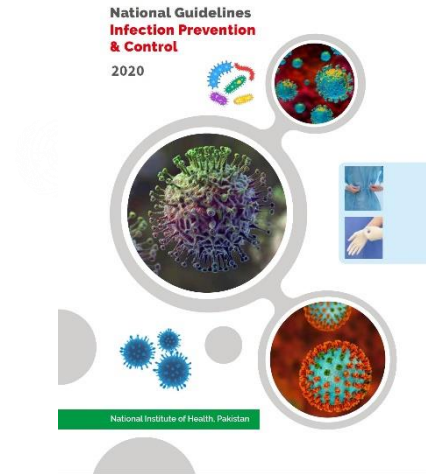
Formulation of IPC National & Provincial Advisory Boards 3.1.1.1

Establishment of Infection control team in every healthcare facility 3.1.1.3

Establishment of Antibiotic stewardship programs at all health facilities 3.1.1.4

Development, dissemination and implementation of IPC guidelines 3.1.1.5

Development of certified courses on IPC and Trainings Imparted 3.2.2.1



Rational use of Antimicrobials

Advocacy & awareness/understanding of relevant clauses to the stakeholders 4.1.1.2

Review and upgradation of EML 4.1.2.3

Advocacy of all stakeholders through meetings, seminars and briefs for establishment of ASP at tertiary level hospitals

AMS program 4.2.1.1

Point prevalence survey on **AMR Consumption** has been initiated to include all major tertiary care hospitals across the country



Investment

Analysis of published data on AMR from Pakistan in order to evaluate the economic impact 5.2.1.1

- Ongoing, Review paper
- Economy analysis studies are ongoing

Provincial AMR operational plans and support through provincial PC1

GoP (2020) launched the National Program for AMR Containment and Infection Prevention and Control at the cost of 361.9 Million PKR

WHO EMRO

CDC

DAI, Fleming Fund

Coordination

- Performa based survey of available resources (Equipment; Human Resource; Infra-structure; Funding)
- AMR and IPC website
- Tricycle project website
- Interactive portal established
- Virtual Journal Club established
- Coordination meetings started with provincial stakeholders



Lessons learned

Coordinated approach is required at community, pharmacist and healthcare provider level with continuous oversight through ministries and multi-sectoral steering committees

Behavior change is the requirement at all tiers to curtail AMR

COORDINATION and M&E are KEY TO SUCCESS!

Summary

NAP on AMR in Pakistan provides a systematic approach towards AMR and IPC establishment

AMR movement started in 2015, now taking a good pace in Pakistan!

With national and international expertise and funding, we look forward to develop good systems

Text and photo slide





AMR cannot be controlled without "Behavior Change". We intend to inculcate this thought in our children, in our youth for better future!

You Reap What you Sow!