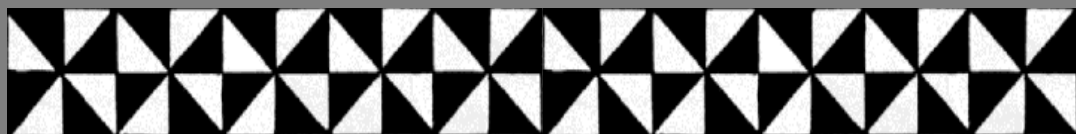




Tonga National Multi-sectoral Plan on Antimicrobial Resistance

2017-2022



Foreword

Antimicrobial resistance (AMR) is recognized as a global health threat and is growing at an alarming rate due to the abuse and misuse of antimicrobials. The causes of AMR are complex and may be rooted in practices of health care professionals and veterinarians as well as patients' behaviour towards the use of antimicrobials and challenges within the supply chain system which affect the availability and accessibility of antimicrobials to the public.

Tonga had also been challenged by the impact of AMR in the past years and country had made a commitment in 2017 to address this problem. However, there has been no coordinated plan to direct and guide actions, to respond to current threat of AMR. Therefore, the country situation analysis was completed and multi-stakeholder's meeting convened in 2017 to develop the national AMR plan for Tonga.

This first national multi-sectorial plan on AMR represents the collective and expert views of stakeholders from the Ministry of Health, Ministry of Agriculture, Food, Forest and Fisheries, Environment, Education, Ministry of Tourism, Ministry of Internal Affairs, Ministry of Revenue & Custom, Ministry of Finance & National Planning, Crown Law and also including private sectors and civil societies. The plan is also aligned to the WHO global action and regional action agenda on AMR.

The Ministry of Health and Ministry of Agriculture, Food, Forests and Fisheries fully support the multi-sectorial plan which will reflect a renewed commitment to improve the country effort in combatting AMR. We are determined that we will reverse the current AMR trend, seen at the laboratory over the next four years, through the implementation of the recommendations of this document.



The multi-sectorial plan calls on all stakeholders to support a collaborative effort to make changes on those malpractices and unhealthy behaviours that have contributed to the development of resistance. Implementation of the priority areas identified in this plan will be carried out in stages, in the next five years. It will involve coordination and collaboration with other partners and agencies at country, regional and global level.

We are confident that this multi-sectorial plan will help deliver an effective and sustainable response to antimicrobial resistance in Tonga. We encourage all stakeholders to work together and support the implementation of this plan which will ultimately protect our future generation.

On behalf of the Ministry of Health and Ministry of Agriculture, Food, Forests and Fisheries, we thank each and every one who has contributed in one way or another in the development of this multi-sectorial plan.



Hon Dr Saia Ma'u Piukala
Minister for Health & Public Enterprises



Hon Semisi Fakahau
Minister for Agriculture, Food, Forests and Fisheries

Acknowledgement

We gratefully acknowledge the effort of different stakeholders who had contributed in developing and finalizing this multi-sectorial plan. Thanks to the Ministry of Health, Ministry of Agriculture, Food, Forests and Fisheries, Environment, Ministry of Education & Training, Ministry of Tourism, Ministry of Internal Affairs, Ministry of Revenue & Custom, Ministry of Finance & National Planning, Crown Law and also private sectors and civil societies.

We also extend our thanks to the government of Tonga, the Honourable Prime Minister and other cabinet Ministers for supporting this plan.

Finally, thanks to the World Health Organization for providing technical and funding support in all phases of developing this multi-sectorial plan.

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Acronyms

AMR	Antimicrobial Resistance
AST	Antibiotic susceptibility testing
CSA	Country situational analysis
EQA	External quality assessment
IEC	Information, Education, and Communication
IPC	Infection prevention and control
MAFFF	Ministry of Agriculture and Food, Forests and Fisheries
MOH	Ministry of Health
DTC	Drugs & Therapeutic Committee
M&E	Monitoring and evaluation
NGO	Non-governmental organization
PPE	Personal Protective Equipment
QMS	Quality management system
TOR	Terms of Reference
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

1.0 Introduction

In 2014, the World Health Organisation (WHO) declared antimicrobial resistance as a global health threat that requires urgent collaborative action. High rates of resistance to hospital and community-acquired infections have been reported globally, with some of the highest rates reported in the Western Pacific Region.

The Ministry of Health in Tonga (MOH) has identified antimicrobial resistance (AMR) as one of the priority agenda item following series of infectious disease outbreaks which has overburdened the current health care system. Given the complexity of AMR issue in Tonga, only a comprehensive approach involving all stakeholders is likely to succeed. This commitment is in line with the recommendation of the 68th session of the World Health Assembly in 2015 where all Member States committed to developing national plans on AMR within the two years following endorsement.

This National Action Plan on AMR is supported by the priority actions listed in the *Action Agenda for Antimicrobial Resistance in the Western Pacific Region*, which was endorsed by the 65th session of the Regional Committee for the Western Pacific Region in 2014.

While the development of resistance is recognised as a significant human health issue, it also inter-linked with animal health, marine life, environment, food and agriculture farming. However, effective action on AMR will require a coordinated response from government, relevant ministries and international agencies as well as research institutions. Strategic actions will need to involve and will affect clinicians, pharmacists, patients, veterinarians and farmers, all of whom have contributed to the current AMR problem and all of whom will be part of a long-term solution.

1.1 Summary of Country Situational Analysis on Antimicrobial Resistance in Tonga

Tonga has identified antimicrobial resistance as a priority agenda, with support and commitment from government. Country has recognised the complexity of AMR and the obvious interdependency of human, animal, environment and economic sectors in determining health impact and considerations of country, the 'One Health Approach' would be the best platform to tackle AMR and its risks. Policy makers are aware of the threat of antimicrobial resistance; however the awareness in the general public is low and continues to be one of the key challenges. To illustrate this lack of awareness, people are still sharing antibiotics with relatives or friends while some had stopped taking their antibiotics after they felt better.

Tonga had started experiencing the threat of AMR as evidenced from the lab-based surveillance that Methicillin Resistant Staphylococcus Aureus (MRSA) is widely spreading throughout the island groups of Tonga, and had started to overwhelm the health care delivery and the health systems at present. The rate of MRSA in Tonga was high (42%) in 2016 compared to New Zealand (10%), the Cook Islands (12%) and Australia (26%) but low compared to Samoa (48% in 2016) and the USA (50-60%).

Tonga does not have a national AMR surveillance and no dedicated AMR unit in the MOH or MAFFF to coordinate the AMR surveillance for both human and animal health. However, MOH has a functional clinical laboratory with well- trained but limited number of staffs, not spacious and also challenged by logistics and funding.

This is the first situational analysis on AMR for Tonga and it highlights and introduces new issues to prescribers, dispensers/ pharmaceutical enterprises both public and private, consumers/users of antimicrobials, politicians, media, and communities at large, that while we are all responsible for addressing and containing AMR, concerted efforts are needed to maintain effective and efficient supply and effectiveness of antibiotics ensuring access to these life-saving drugs.

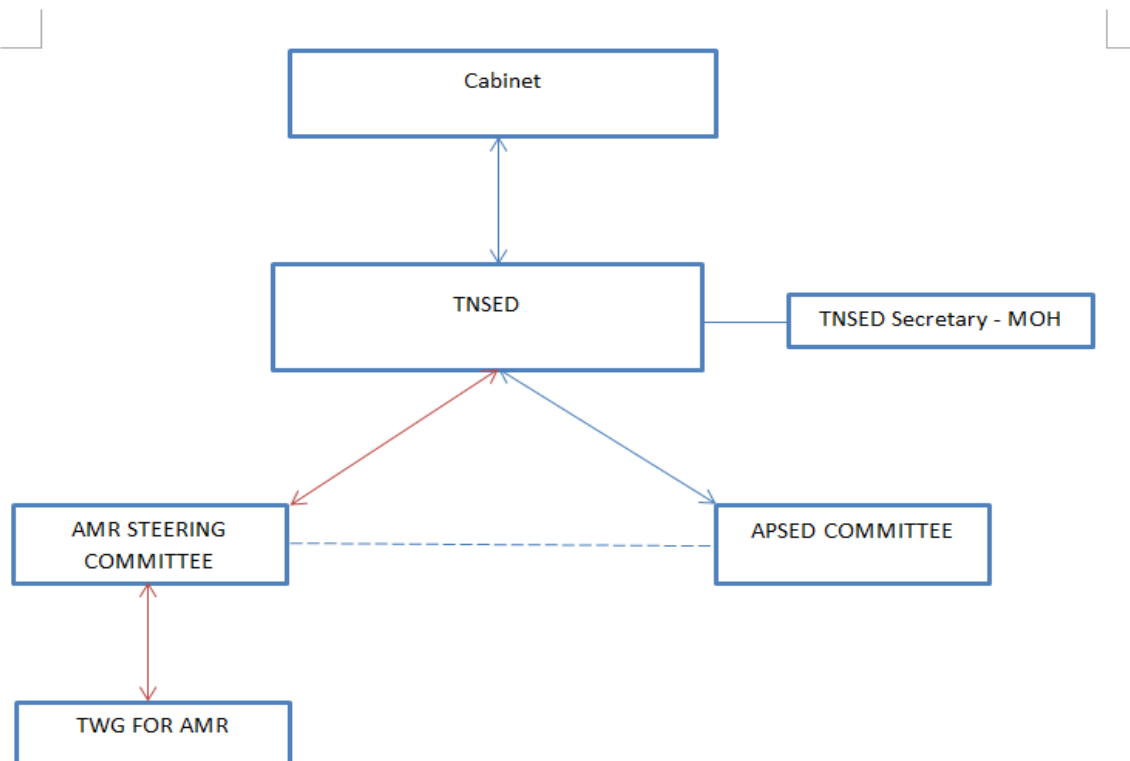
In summary, CSA indentified areas that needs strengthening such as 1) awareness raising on AMR in all areas; 2) formulation of national comprehensive plan on antimicrobial resistance; 3) coordinated national surveillance systems to monitor AMR and antimicrobial use in all sectors; and 4) organized regulatory framework and governance

to implement the AMR plan. These findings will inform the development of National Action Plan on AMR in Tonga.

1.2 Multi-sectoral Governance on Antimicrobial Resistance in Tonga

Multi-level governance is the key for successful action in containment strategies for AMR. It requires significant leadership to recognize the importance of AMR using a clear framework and coordinated mechanism. In Tonga, three main bodies are suggested to oversee and coordinate AMR agenda:

- i. Cabinet Committee – for decision making role
- ii. Tonga National Strategy for Emerging and Infectious Diseases Committee (TNSED) – coordinate country response to AMR and implementation of Asia Pacific Strategy for Emerging Diseases (APSED)
- iii. Secretariat – Ministry of Health to act as secretariat to both technical committee
- iv. AMR Steering committee - to implement the AMR plan and reporting to TNSED
- v. Technical working group (TWG) - prioritize activities outlined in the national action plan and assist in implementation of plan



Tonga National Emerging Infectious Diseases Committee (TNSED) Members (CEO's):

- Chair: Ministry of Health (Hon Minister of Health)
- Vice chair: Ministry of Agriculture & Food, Forests
- Ministry of Health
- Ministry of Fisheries
- Ministry of Revenue & Customs
- Ministry of Finance & Planning
- Ministry of Internal Affairs
- Ministry of Education & Training
- Ministry of Tourism
- MEIDECC
- Crown Law
- Food Council
- Pharmacy Society
- Council of Churches

Draft Terms of reference:

- Purpose: To coordinate and monitor country response to AMR and APSED
- Reporting to the cabinet
- Evaluate policies, regulations and guidelines related to AMR before passing for Cabinet endorsement
- Guide and direct the AMR steering committee on the implementation of AMR plan
- Meet 4 times a year (and other times on an ad hoc basis)
- Secretariat to be appointed by committee
- Quorum of the meeting is deemed fulfilled in presence of 6 members. The meeting may commence if the quorum is fulfilled and Chairperson not available. A vice chair will lead the meeting during the absence of the Chairperson.
- Internal or external persons may be invited to attend the meetings at the request of the Chairperson on behalf of the committee to provide advice and assistance

where necessary. They have no voting rights and may be requested to leave the meeting at any time by the chairperson

National AMR Steering Committee

Members (Technical Unit Representative):

- Chair: Ministry of Health
- Vice chair: Ministry of Agriculture & Food, Forests
- Ministry of Health – Public Health, Pharmacy, MS & Lab
- Quarantine
- Livestock
- Ministry of Fisheries
- Ministry of Customs
- Ministry of Finance & Planning
- Ministry of Internal Affairs
- Ministry of Education & Training
- Ministry of Tourism
- Department of Environment
- Crown Law
- Food Council
- Pharmacy Society
- Tonga Medical Association
- Council of Churches
- Academia (USP, QSN)
- Co-opted members: HMAF, Police

Advisors:

WHO and FAO

Draft Terms of reference:

- Purpose: To implement the AMR action plan in Tonga
- Reporting to the TNSD (reporting time to be determined by TNSD committee)

- Chair to rotate every year among the two co-chairs
- Meet 4 times a year (and other times on an ad hoc basis)
- Mobilize resources and prioritize allocation of funds
- Monitoring and evaluation of outcomes
- Review and update the national action plan and operational plan every 2 years
- Chairperson may communicate with APSED when required

AMR Technical Working Group

Members (depending on activity):

- Team leader
- 4-5 members

Draft Terms of reference:

- Purpose: To prioritize activities outlined in the national action plan
- Reporting to the AMR steering committee
- Reporting time to be determined by AMR steering committee

APSED Committee

Please refer to relevant documents at MOH, which outlines TOR and Memberships of this committee.

2.0 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.

2.1 Strategic Objectives

1. Establish and ensure governance, sustainable investment and actions to combat AMR

- Establish AMR governance structure for finalizing and implementing the national action plan
- Ensure political commitment on the implementation of the national action plan
- Enforcement of appropriate legislations in all sectors
- Ensure sustainable investment in combating AMR

2. Improving awareness and understanding of AMR across all institutions and sectors

- Promote information sharing on current update of AMR and use of antimicrobials across institutions and sectors
- Raise awareness on AMR to health-care workers and veterinarians

3. Strengthen surveillance, diagnostic capacity and research on AMR

- Develop a national AMR surveillance system with a reference laboratory
- Strengthen food safety capacity to combat AMR
- Strengthen research and information sharing on AMR

4. Reducing incidence of AMR through effective infection prevention and control measures, food safety and hygiene

- Establish a national infection prevention and control programme
- Implement the Water, Sanitation and Hygiene (WASH) program to promote safe water and hygiene practices
- Promote good infection control and biosecurity practices in animal husbandry
- Implement Good Hygienic Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) in food handling and processing
- Strengthening of vaccination program in human and animal sectors

5. Optimize the use of antimicrobial medicines in human and animal health

- Strengthen regulations to promote responsible use of antimicrobials
- Strengthen procurement and supply of antimicrobials

3.0 Tonga National Antimicrobial Resistance Operational plan (Years: 2017-2022)

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
1. Establish and ensure governance, sustainable investment and actions to combat antimicrobial resistance					
1.1 Establish AMR governance structure for finalizing and implementing the national action plan					
1.1.1 Formalize the establishment of a National AMR committee					
Identify a regulatory body to govern AMR multi-sectoral committee	Q1 2019		AMR task force		Regulatory body formalized
Establish a national AMR multi-sectoral committee empowered by a regulatory body	Q1 2019		AMR task force		AMR committee formalized and endorsed by Cabinet
Identify reporting structure and communication channel for the national AMR committee	Q1 2019		AMR task force		AMR committee structure established
Develop a clear terms of reference for the national AMR committee	Q4 2018		AMR task force		ToR developed
1.1.2 Develop a National Action and Operational Plan for AMR					
Finalize the draft national action and operational plan on AMR	Q1 2019		AMR taskforce National AMR committee		AMR plan endorsed by cabinet
Establish technical working group (TWG) to implement the AMR plan	Q1 2019		National AMR committee		TWG established
1.1.3 Develop a budget for implementation of the action plan and identify funding sources					
Consultation with key stakeholders for costing the AMR activities outlined in the AMR plan	Q1 2019		National AMR committee	MOH MAFFF	Costing completed

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
				Donor Partners	
Submit a costed plan to the cabinet for endorsement	Q1 2019		National AMR committee		Costed plan endorsed by cabinet Dedicated budget for AMR
Conduct consultation meeting with key partners for the identification of funding sources	Q1 2019		National AMR committee		Funding sources identified
1.1.4 Regular monitoring and evaluation of the implementation of the national action plan					
Hold a quarterly meeting to discuss implementation of the national action plan	Quarterly				Meeting minutes disseminated
Annual meeting for evaluating the AMR action plan implementation and making amendments to the plan	Yearly		National AMR committee		Annual review conducted Amended plan endorsed
Conduct impact cost assessment on AMR	Q4 2020		National AMR committee	Donor Partners	Assessment completed and report submitted
1.2 Ensure political commitment on the implementation of the national action plan					
1.2.1 Establish a high level commitment between national level					
Develop an AMR memorandum of understanding between key sectors	Q1 2019		National AMR committee		MoU signed by different sectors

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
1.3 Enforcement of appropriate legislations in all sectors					
1.3.1 Strengthen legislation of AMR in both human and animal sector					
Review of existing legislation and medicine policies to ensure it incorporate clauses related to the use of antimicrobials in both human and animal sectors	Q4 2019		National AMR committee		Legislation and medicine policies revised and endorsed
1.4 Ensure sustainable investment in combating AMR					
1.4.1 Invest in appropriate human resources and infrastructure to ensure sustainable implementation of the national action plan					
Establish position for an AMR project officer to assist AMR committee and TWG in implementing AMR plan	Q1 2019		MOH National AMR committee		AMR project officer appointed
Identify AMR champions in each sectors	Q1 2019				AMR champions identified and endorsed
Provide and support formal training of paravet, veterinarians, infectious disease specialist either in country or overseas	Ongoing		National AMR committee		"n" numbers of paravet trained and certified "n" numbers of veterinarians trained and certified "n" numbers of infectious disease

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
					specialist trained and certified
Develop a checklist for facilities assessment specific to AMR response	Q2 2019		National AMR committee		Checklist developed
Identify and assess all facilities to ensure its adequate to prevent, control and respond to AMR using checklist	Q2 2019		National AMR committee		100% of facilities assessed
Develop human resource and training plan for staff to sustain the implementation of AMR plan	Q2 2019		National AMR committee		Human resource and training plan developed and endorsed
2. Improve awareness and understanding of antimicrobial resistance across all institutions and sectors					
2.1 Promote information sharing on current update of AMR and use of antimicrobials across institutions and sectors					
2.1.1 Develop awareness raising materials and conduct awareness activities					
Develop IEC materials on AMR for the general public and policy makers	Q2 2019		TWG – Awareness	WHO FAO	IEC materials printed and distributed
Conduct regular AMR advocacy and awareness using all means of communication/ mass media	6 monthly		TWG – Awareness	WHO FAO	2 awareness raising conducted annually
Hold annual awareness campaign to celebrate World	Annually		MOH	MOH	Awareness week

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
Antibiotic Awareness Week				WHO	campaigns conducted annually
Conduct regular awareness raising for farmers, importers, exporters, food processors, and animal production officers	6 monthly		TWG – Awareness	Donor Partners	4 awareness raising conducted annually
Engage & train community leaders, NGO's , Civil societies, churches, sports groups to raise awareness on AMR	6 monthly		TWG – Awareness	Donor Partners	4 training session conducted
Conduct public perception survey on AMR	Biennium		TWG – Awareness	Donor Partners	Perception survey completed and report submitted
2.1.2 Promote effective sanitation and hand hygiene in the community setting					
Participate in the world hand hygiene day and develop promotional materials	Annually		MOH	MOH Donor Partners	World hand hygiene day celebrated annually Promotional materials distributed
Raise awareness on hand hygiene and effective sanitation in the community	Quarterly		MOH MIA	MOH Donor Partners	4 awareness conducted annually

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
2.1.3 Integrate AMR in educational programme for schools at all levels (primary & secondary)					
Revise the education curriculum to capture AMR, basic sanitation and hand hygiene	Q2 2019		Education – Curriculum unit	MOET MOH MAFFF Donor Partners	Curriculum updated and endorsed
2.2 Raise awareness on AMR to health-care workers and veterinarians					
2.2.1 Include AMR as core component of professional education, training for health-care professionals and veterinarians					
Ongoing continuous professional development on AMR for health-care workers and veterinarians/livestock officers	Quarterly		MOH MAFFF	MOH MAFFF Donor Partners	4 CPD completed on AMR per year
Include AMR as core component of professional education in health, agricultural and fisheries sector in tertiary institution	Q4 2019				AMR included in the course modules
Enrolling health-care workers and veterinarians/livestock officers on any AMR online course offered on POLHN or from other institutions	Annually		MAFFF MOH	Donor Partners	Participants completed online course and receive certificates
Conduct AMR perception survey of health-care workers and veterinarians/livestock officers	Biennium		MOH MAFFF	Donor Partners	Perception survey completed and report submitted
3. Strengthen surveillance, diagnostic capacity and research on AMR					
3.1 Develop a national AMR surveillance system with a reference laboratory					
3.1.1 Strengthen laboratory staff capacity for training on microbiology and quality antimicrobial susceptibility testing					
Build capacity of laboratory staff in microbiology testing and	Q2 2019		MOH –	MOH	All laboratory

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
analysis of antibiogram using the existing information system			Laboratory	WHO Donor Partners	staff trained
Train laboratory staff in conducting external quality assessment on AMR	Q2 2019		MOH – Laboratory		All laboratory staff trained
3.1.2 Strengthen laboratory capacity and infrastructure for AMR surveillance					
Identification of a designated National Reference Laboratory for AMR to cater for human health, animal health and food sector	Q4 2019		MOH MAFFF	MOH MAFFF Donor Partners	National reference laboratory identified
Identify overseas referral laboratory for genotyping	Q2 2019			MOH WHO	Overseas referral laboratory identified
Develop and review standard operating procedures for overseas referral of specimen (human & animal specimen) for genotyping	Q2 2019		MOH – Laboratory	MOH	SOP's updated and endorsed
Develop and review standard operating procedures for antibiotic testing and quality management system in all laboratories	Q2 2019		MOH – Laboratory	MOH	SOP's updated and endorsed
Implement QMS and EQA programmes in all laboratories that conduct antibiotic susceptibility testing	Q4 2019		MOH – Laboratory	MOH MAFFF Donor Partners	EQA & QMS conducted annually
Develop national database for real-time information on emergence of AMR that links to the national information system - WHONET	Q4 2019		MOH – Laboratory	MOH MAFFF Donor Partners	AMR Database developed
Equip the national reference laboratory to conduct antibiotic testing for all sectors	Q4 2019			Donor Partners	National reference

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
					laboratory conducting laboratory test for all sectors
Establish and improve the electronic laboratory information system for AMR reporting and surveillance, including critical isolates in the national reference laboratory - WHONET	Q2 2019		MOH	Donor Partners	Electronic system fully operational in all laboratories
Ensure consistent availability of laboratory consumables and reagents	Ongoing		MOH		100% availability of supplies
3.2 Strengthen food safety capacity to combat AMR					
3.2.1 Promote random and regular testing on meat and other food product imports for AMR pathogens and antibiotic residues					
Undertake random sample collection and testing for AMR and antibiotic residues in food	Q2 2020		National reference lab MOH Food Unit	Donor Partners	2 samples randomly selected and tested per year
3.3 Strengthen research and information sharing on AMR					
3.3.1 Promote collaborative research projects on AMR in human and animal health and the environment					
Provide research grant for human and animal health research for addressing knowledge gaps in combating AMR	Q2 2020		AMR Committee	Donor Partners	2 publications submitted to journals
Conduct AMR symposium for all key stakeholders	Q2 2020		AMR Committee	Donor Partners	Annual conference held

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
Conduct antimicrobial consumption survey in both human and animal sectors	Q2 2019		MOH	WHO	AMC survey completed and report submitted
Build relationship with other research institutions and collaborating centre for AMR	Q2 2019		All Ministries	Donor Partners	MoU in place
3.3.2 Conduct bacteria susceptibility survey/profile					
Develop antibiogram for both human and animal focusing on critical pathogens	Q4 2019		MOH MAFFF	MOH MAFFF	National antibiogram data available
3.3.3 Ensure sharing of AMR surveillance and use data					
Regular sharing of AMR surveillance and antimicrobial consumption to key stakeholders, including regional and international	Q2 2020		MOH MAFFF		AMR data available for sharing
Develop a standard template and mechanism for reporting AMR across all sectors	Q2 2020		National Reference Lab		AMR standard template and mechanism in place
4. Reducing incidence of AMR through effective infection prevention and control measures, food safety and hygiene					
4.1 Establish a national infection prevention and control programme					
4.1.1 Endorse the national infection prevention and control policy					
Establish and strengthen a national infection prevention and control committee across all sectors	Q1 2019				IPC committee established
Review the national infection prevention and control policy	Q1 2019				National IPC policy update and endorsed

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
Print and disseminate the national infection prevention and control policy and guidelines to key stakeholders	Q1 2019				100 copies printed for hospitals and health centres
Conduct training on infection prevention and control policy and guidelines targeting patients, health care workers and health administrators	Q1 2019				4 trainings per year
Conduct infection prevention and control audit on hospitals and health centres	Q1 2019				6 IPC audits per facility per year
Develop PPE list for both health and animal sector for IPC and infectious disease outbreak	Q1 2019		MOH MAFFF		PPE list finalized and endorsed
Ensure consistent availability of laboratory consumables and reagents	Ongoing		MOH MAFFF	MOH MAFFF Donor Partners	100% availability of supplies
4.1.2 Disposal of expired drugs and medical waste					
Assess medical waste disposal system including disposal of antimicrobials	Q2 2019		MOH Department of Environment	MOH Environment Donor Partners	Assessment report submitted
Develop guidelines on disposal of unused antibiotics (including veterinary medicines)	Q2 2019		MOH Department of Environment	MOH Environment Donor Partners	Guidelines endorsed
Establish a model site for the disposal a) pharmaceuticals, b) medical waste and, c) veterinary waste	Q2 2019		MOH Department of	MOH Environment	3 model sites established and

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
			Environment	Donor Partners	checklist developed
Conduct environment impact assessment on disposal of antimicrobials	Q2 2020		MOH Department of Environment	MOH Environment Donor Partners	Assessment report submitted
4.2 Implement the Water, Sanitation and Hygiene (WASH) program to promote safe water and hygiene practices (Note: CMO Public Health to review this section)					
4.2.1 Develop the WASH program in communities and schools					
Conduct consultation to communities and school on WASH program			MOH Public Health HWASH Cluster		WASH program endorsed by communities and schools
Develop a WASH program and guidelines for communities and schools			MOH Public Health HWASH Cluster		WASH program and guidelines endorsed
Implement WASH program in communities and schools			MOH Public Health HWASH Cluster		WASH program implemented
Conduct awareness training on WASH program in communities and schools			MOH Public Health HWASH Cluster		4 trainings per year
4.3 Promote good infection control and biosecurity practices in animal husbandry					
4.3.1 Strengthen infection prevention and control in animal husbandry					

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
Develop infection prevention and control policy specific for animal farms and clinics	Q1 2019				IPC policy endorsed
Conduct training on infection prevention and control policy to farmers and veterinarians	Q1 2019				4 trainings per year
Print and distribute infection prevention and control policy to all key stakeholders	Q1 2019				100 copies printed for each state hospital and clinics
Conduct infection prevention and control audit on Veterinary Clinic	Q1 2019				6 IPC audits per facility per year
4.4 Implement Good Hygienic Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) in food handling and processing					
Develop a National GHP and HACCP program and guidelines	Q1 2019		Food unit	Food unit Donor Partners	GHP & HACCP program and guidelines endorsed
Implement and strengthen the National GHP and HACCP program	Q2 2019		Food unit	Food unit Donor Partners	GHP & HACCP program implemented
Conduct awareness training on GHP and HACCP program in communities					4 trainings per year
4.5 Strengthening of vaccination program in human and animal sectors					
Review current immunization policy and guidelines for health sector	Q1 2019		MOH	MOH Donor Partners	Immunization policy and guidelines updated
Develop immunization policy and guidelines for health sector	Q1 2019		MAFFF	MAFFF	

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
				Donor Partners	
Conduct awareness to public on vaccination program	Ongoing		MOH	MOH Donor Partners	4 awareness per year
Conduct awareness to farmers on vaccination of animals	Ongoing		MAFFF	MAFFF Donor Partners	4 awareness per year
5. Optimize the use of antimicrobial medicines in human and animal health					
5.1 Strengthen regulations to promote responsible use of antimicrobials					
5.1.1 Enforce the use of prescription on antimicrobials in the human and animal sector					
Review existing Therapeutic Goods Act 2001 to cover the prescribing and use of antimicrobials in both human and animal health	Q1 2019		MOH	MOH WHO	Legislation updated and endorsed
Conduct awareness on medicine legislation to veterinarians, medical doctors, other key health workers and public	Q4 2019			MOH MAFFF Donor Partners	2 awareness
Conduct inspection on pharmacy, medical clinic and animal clinic on the counter sales of antimicrobials	Q1 2019		MOH – regulatory unit	MOH	4 inspections per year
5.1.2 Develop and finalized antibiotic guidelines based on country antibiogram for human and animal use					
Finalize the national antibiotic guidelines for human use	Q4 2018		MOH	MOH	Guidelines

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
				Donor Partners	published
Develop a national antibiotic guideline for animal use	Q1 2019		MAFFF	MAFFF Donor Partners	Guidelines published
Develop and updating of essential medicine list for both human and animal use	Q2 2019		MOH MAFFF	MOH MAFFF Donor Partners	List published
Conduct training on antibiotic guideline and rational prescribing to veterinarians, medical doctors and other key health workers	Annually		MOH	MOH MAFFF Donor Partners	1 training per year
5.1.3 Support the role of Medicines Therapeutic Committee in hospital					
Review the ToR of MTC to ensure that it cover AMR	Q1 2019		MOH	MOH Donor Partners	ToR updated and endorsed
Conduct training workshops for MTCs members on their role on AMR	Q2 2019		MOH	MOH Donor Partners	1 training completed
5.1.4 Strengthen border control for detection of imported antimicrobials					
Review of boarder control legislation to cover the declaration of all antimicrobials that enters the country	Q1 2019		Customs & Revenue Food Unit		Boarder control legislation updated and endorsed
5.1.5 Support patient information and counseling					
Establishing a medicine information center at MOH to cater for both health professionals and veterinarians	Q2 2019		MOH – Pharmacy	MOH Donor Partners	MOH drug information

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
					established
Train pharmacist(s) on provision of medicine information services	Q1 2019		MOH – Pharmacy	MOH Donor Partners	1 pharmacist trained
5.1.6 Strengthen Antimicrobial Stewardship Program					
Develop and implement antimicrobial stewardship (AMS) program in the main hospital	Q2 2019		MOH – Vaiola Hospital	MOH Donor Partners	AMS program developed and implemented
Roll out AMS program in other hospitals, medical centre and agriculture	Q2 2019		MOH MAFFF	MOH MAFFF Donor Partners	AMS program implemented
5.2 Strengthen procurement and supply of antimicrobials					
5.2.1 Strengthen product registration of antimicrobials to ensure quality assured antimicrobials					
Review and streamline registration of antimicrobials use for both health and animal sector	Q2 2019		MOH MAFFF	MOH MAFFF Donor Partners	All antimicrobials registered
Review the policy and guideline on prequalification of antimicrobials that are imported to the country	Q2 2019		MOH	MOH MAFFF Donor Partners	Prequalification policy and guideline updated and endorsed
Conduct training on product assessment and physical verifications to pharmacy inspectors, customs, para-vet	Q2 2019		MOH MAFFF	MOH MAFFF Donor Partners	2 trainings conducted

SUB-ACTIVITY	TIMELINE	COST (TOP)	IMPLEMENTER	POSSIBLE SOURCE OF FUNDING	INDICATOR
5.2.2 Ensure the availability and accessibility of quality antimicrobials					
Conduct in depth assessment of the medicine supply system in health sector	Q3 2019		MOH	MOH Donor Partners	Assessment report completed
Develop a procurement and supply strategies of antimicrobials in both human and animal sector	Q3 2019		MOH	MOH Donor Partners	Procurement plan developed
Review the antimicrobial medicines price in private sectors	Q3 2019		Labour Commerce		Antimicrobials pricing revised
Review the procurement regulation and policies of medicines	Q1 2019		MOH MAFFF	MOH MAFFF Donor Partners	Procurement regulation and policies updated and endorsed

