ALBANIA

NATIONAL ACTION PLAN AGAINST ANTI MICROBIAL RESISTANCE

NAP-AMR

Background

Anti-Microbial Resistance (AMR) is the development of resistance by micro-organisms (bacteria, viruses and fungus) to medicines like antibiotics (AB) and virus inhibitors. Worldwide, the emergence of AMR threatens the capacity of health and veterinary services to adequately prevent and treat infections, with as a result increase of morbidity and loss of human life, loss of production and economic value in agriculture and increase of costs of health services.

The common interests and responsibilities of various sectors in society are captured under the name 'One Health': the health, agricultural, education and environmental sectors all have a stake and collaborate in the NAP-AMR .

Rational

Albania is signatory to the resolution of the WHO General Assembly of October 5, 2016 on Anti-Microbial Resistance, that commits member states to the development of multi-sectoral National Action Plans against AMR.

The NAP-AMR

- realizes compliance with the relevant EU policies and accession criteria, including directives on AMR monitoring in zoonotic and indicator bacteria in food producing animals.
- works out explicit recommendations for AMR set in the *Joint External evaluation of IHR core capacities of the Republic of Albania* (September 2016)
- addresses several of the strategic objectives of the health chapter of the *National Strategy for Development and Integration 2015-2020:* 2.1, 2.6, 3.2, 3.6, 4.4, 4.5, 5.1, 5.6,
- is mentioned in the *National Health Strategy 2016-2020* as one of the actions to fulfil the Strategy.
- Is congruent with the Law on Public Health of 2009 and the Law of Infectious Diseases of 2017.
- builds on Law No 15/2016: "On prevention and fight against infections and infectious diseases".
- builds on the Ministerial Order 551 of the Minister of Health of December 15, 2016, addressing a National Policy on AMR.
- is in synergy with National TB program

Time line

The NAP-AMR covers a period of 5 years, 2018 – 2022.

This draft describes activities and costs in the first year, 2018. Costs for the 5 years plan at present are approximate. The complete draft for the 5 year period is being written; it will include a more definite estimation of costs and a Monitoring & Evaluation Plan.

Goals

- To reduce human morbidity and mortality as a result of infections with micro-organisms that are resistant against antibiotics and other anti-microbial agents.
- To reduce health care costs that result from the lack of proper diagnostics, including microbiological tests, and from the use of ineffective treatments
- To reduce loss of productivity in agriculture.
- To preserve the possibility of effective treatment of infections in humans and animals by reducing the emergence and spread of AMR and by developing new and effective antimicrobials.

Currently, no representative data on the situation in Albania are available, in terms of morbidity and mortality of the population, presence of resistant strains of various micro-organisms and loss of production. Therefore, no quantitative targets for impact of the NAP-AMR can be set at present. The NAP-AMR includes the development of data collection and analysis to provide impact information in future.

Activities and costs.

The NAP-AMR describes objectives, strategic interventions and activities and the entities that are responsible or contribute. Some activities are ongoing and will not require additional resources, other activities are new and require one-off investments and/or ongoing funding.

Contents

Part 1, the General Objective, describes the overall governance infrastructure required to appropriately address AMR. Since the development of legislation and regulation is an ongoing task of the government, it is assumed that no additional costs for this part are needed.

Part 2 describes, in 4 Strategic Objectives, the general approach to (1) raising awareness of the population and professionals with regards to AMR; (2) monitoring the spread of AMR; (3) the prevention and control of infections and (4) rationalizing the use of ABs.

Part 3 describes the activities that pertain to the Strategic Objectives, including an estimation of costs. The complete NAP uses a phased approach: activities of the NAP will be developed gradually and not all will start in year 1.

Glossary of terms

AB	Antibiotics. In this document this refers also to anti-microbial medicines that are not antibiotics, such as medicines against viruses like HIV and HBV and against fungus.
AST	Antibiotic Susceptibility Testing
CAESAR	Central Asian and Eastern European Surveillance of Anti-Microbial Resistance.
CPE	Continuous Professional Education (includes Continuous Medical Education for doctors)
ECDC	European Centre for Disease Prevention and Control
EQAS	External Quality Assurance Scheme of the ECDC
EUCAST	European Committee on Anti-Microbial Susceptibility testing
GLASS	Global antimicrobial resistance surveillance system
ICM	Intersectoral Coordinating Mechanism
IPC	Infection Prevention and Control
HLTC	High Level Technical Committee
MoH	Ministry of Health
MoA	Ministry of Agriculture and Rural Development
MoEd	Ministry of Education
MoEnv	Ministry of Environment
NIPH	National Institute of Public Health
ToR	Terms of Reference

PART 1

General objective Development of a governance infrastructure that addresses AMR			
Objective 1 Establish the legal and regulatory basis for AMR			
Strategic Intervention	Responsible entity	in collaboration with	comments
1 Establish an Inter-Sectoral Coordination Mechanism (ICM) at government level that creates, mandates and supervises the High Level Technical Committee (HLTC), approves the NAP that the HLTC proposes, monitors the NAP implementation and allocates resources to the NAP. The HLTC ensures implementation and periodic updating of NAP	Cabinet or Prime Minister	MoH MoA MoEd MoEnv	Suggested mandates and ToR for the ICM and HLTC are available. HLTC made an informal start by developing this NAP proposal;
2 Improve / expand the current legal and regulatory framework on AMR surveillance and data collection and reporting. This includes creation of national structure responsible for AMR surveillance and description of ToR of National Reference labs; includes defining ToR of AMR Focal Point.	MoH and MoA	Infectious diseases association; NIPH, Food Safety and Veterinary Institute; various microbiology experts from human and animal health.	supports SO 2
3 Further develop the legal framework for the control of infections by issuance of orders related to the law No 15/2016: "On prevention and fight against infections and infectious diseases".	MoH MoA	NIPH; Food Safety and Veterinary Institute	supports SO 3; addresses IPC in hospitals and in food processing industry
4 Legislate or regulate a formal organizational structure that is mandated to develop policies and strategies on prevention and control of infection (IPC) in human health and has qualified staff and budget. for example: National IPC Committee for human health	MoH	Infectious diseases association; NIPH; several other experts	supports SO 3;
5 Legislate or regulate a formal organizational structure that is mandated to develop policies and strategies on prevention and control of infection (IPC) in animal health. for example: National IPC Committee for animal health.	MoA	NIPH; Food Safety and Veterinary Institute	supports SO 3; relates also to food industry
6 Legislate or regulate a formal organizational structure that is mandated to monitor the use of ABs in human medicine in the country	MoH	Health Insurance, Accreditation Institute for Health	supports SO4
7 Legislate or regulate a formal organizational structure that is mandated to monitor the use of ABs in veterinary medicine	MoA	Food Safety and Veterinary Institute	supports SO4

8 Strengthen the regulatory framework for the use of AB in humans, including relationship between pharmaceutical companies or their representatives and prescribers of antibiotics. This includes the regulation the establishment of a AB committee in all hospitals.	MoH	Health Insurance, Accreditation Institute for Health, Infectious Diseases specialists.	supports SO4
9 Strengthen the regulatory framework for the use of AB in aquatic, terrestrial and agricultural animals, including relationship between pharmaceutical companies or their representatives and prescribers of antibiotics.	MoA	Food Safety and Veterinary Institute	supports SO4
Objective 2 Establish the mechanisms for NAP-AMR development and implementation			
Strategic Intervention	Responsible entity	in collaboration with	comments
10 Create working groups for the Strategic Objectives (pillars) of the NAP	HLTC	various technical committees or working groups	HLTC made an informal start by developing NAP proposal;
11 Coordinate the development, updating and implementation of the NAP	HLTC	various technical committees or working groups	
12 Report to ICM on an annual basis and proposes yearly implementation plan, including budget.	HLTC	various technical committees or working groups	

PART 2

Strategic Objective 1: **Enhance awareness, knowledge and understanding of infections and antimicrobial resistance through effective communication, education and training.**		
Objective 1 Increase awareness and knowledge of infections and AMR; general public and specific groups; non-professional		
Strategic Intervention	Responsible entity	expected results
1.1 Assessment of awareness and knowledge (surveys) through studies in general population and specific social groups like users of health services, agrarians and fishermen.	NIPH; Food Safety and Veterinary Institute	– data on awareness/knowledge level of population and specific groups, allowing for targeting of messages and evaluation of effectiveness of information. – reduced demand for AB by users of health services – increased compliance of AB use after prescription – reduction of over-the-counter purchase of AB – reduced use of AB by agrarians
1.2 Information to general population and specific social groups		
1.3 information to patients / users of health services		
Objective 2 Education and training on AMR of professionals in various fields		
Strategic Intervention	Responsible entity	expected results
2.1 Inclusion / improvement of AMR in curriculum of medical students and health professions like pharmacists, nursing.	MoEd, MoH Universities; Vocational Training Institutes	health professionals are better able to prescribe AB appropriately and to motivate patients / users of health care to follow prescriptions
2.2 Continuing education for health professionals	MoH	
2.3 Inclusion / improvement of AMR in curriculum of veterinarians and professionals in food security and agriculture, including training in motivational interviewing	MoEd, MoA Vocational Training Institutes;	professionals are better able to prescribe and use AB appropriately and to motivate agrarians and those working in fisheries to follow prescriptions.
2.4 Continuing education for veterinarians and professionals in food security and agriculture.	MoA	

Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research		
Objective 1 Obtain internationally comparable AMR surveillance data		
Strategic Intervention	Responsible entity	expected results
1.1 Define Albania's overall strategy for surveillance, including its participation in the Global Antimicrobial Resistance Surveillance System (GLASS)	National coordinating structure for AMR surveillance see Strategic Intervention 2 of General Objective.	Network of microbiology labs functioning for patient support, animal treatment and surveillance: 17 labs in human medicine and the IPH; number of labs for animal health and environmental monitoring to be decided. AMR data collected and reported, using international standards. Gradually, Albanian resistance profiles become available, based on human, animal and environmental (incl. food) isolates. Albania contributes to and receives support from international networks.
1.2 Design the laboratory network that carries out and reports on AST, including reference labs. This includes microbiology labs for human and animal health and for Public Health. for example: human and animal blood and CSF isolates, URI isolates, enteric bacterial pathogens; anti-TB drug resistance, drug resistance to HIV, HBV and HCV, gonococcal isolates; food samples; environmental samples, etc.		
1.3 Develop further uniform standards for laboratories		
1.4 Create a AMR digital data system at local, regional and national level.		
Objective 2 To develop a national research agenda.		
Strategic Intervention	Responsible entity	expected results
2.1 Establishment of AMR Research Committee	National coordinating structure for AMR surveillance	Methodologies for surveillance established Data on presence of resistant pathogens in environment, food, etc.
2.2 Development and promotion of AMR studies	NIPH; Veterinary and Food Safety Institute.	
Strategic Objective 3: Reduce the incidence of infections through effective sanitation, hygiene and preventive measures **NB information on infection prevention to the general public is included in SO1**		
Objective 1 Development of a national program for prevention and control of infections (IPC) in health care		
Strategic Intervention	Responsible entity	expected results
1.1 Development of framework for IPC in healthcare	National IPC Committee for human health	Reduction of incidence of healthcare associated infections
1.2 Inclusion of IPC in University and vocational training curricula	MoEd	

1.3 inclusion of IPC in Continuous Professional Education	MoH	
Objective 2 Development of a national program for prevention and control of infections (IPC) in agriculture.		
Strategic Intervention	Responsible entity	Expected results
2.1 Development of policies and strategies on prevention and control of infections in livestock,	National IPC Committee for livestock	reduction of incidence of human infections from agricultural and food sources reduction of loss of production due to (risk of) infections in animal sector
2.2 Inclusion of IPC in University and vocational training curricula	MoEd	
2.3 inclusion of IPC in Continuous Professional Education	MoA	
2.4 Increase vaccination coverage to prevent livestock diseases	MoA	
Strategic Objective 4: Optimize the use of antimicrobial medicines in human and animal health.		
Objective 1 Obtain internationally comparable data on the use and distribution of AB in the country in human health.		
Strategic Intervention	Responsible entity	Expected results
1.1 Creation of information system at the local, regional and national level with the aim of collecting and integrating data on the use, prescription and distribution of AB.	Agency or department of MoH to be created or designated	information on distribution and use of AB that allows to monitor adherence to standards, guidelines and protocols
Objective 2 Obtain internationally comparable data on the use and distribution of antibiotics in animal health.		
Strategic Intervention	Responsible entity	Expected results
2.1 Development of information system at the national level with the aim of integrating and reporting data on the use, prescription and distribution of antibiotics	Agency or department of MoA to be created or designated	information on distribution and use of AB that allows to monitor adherence to standards, guidelines and protocols
Objective 3 Development of optimal use of ABs in human health		
Strategic Intervention	Responsible entity	Expected results
3.1 Development of a policy for the use of antibiotics	National AB committee	ABs are: available accessible (also financially) appropriately prescribed appropriately used 3.4: increases the number of patients using the reimbursement scheme, reducing the risk for non-rational use
3.2 Develop guidance for professionals on AB use	Technical Committee	
3.3 Define ABs adequate for use in Albania	Technical Committee	
3.4 Ensure adequate access to ABs	Health Insurance Fund Health Inspection	
Objective 4 Development of optimal use AB use in animal health		
Strategic Intervention	Responsible entity	Expected results
4.1 Development of standards, protocols and guidelines for the prescription of antibiotics for the agricultural sector (livestock) .	agency or committee to be created	improved prescription and reduced use of ABs in veterinary medicine
4.2 Create an essential list of antibiotics and update this list once in two years.		less AB residues in environment

4.3 Maintain and improve current National Residue Monitoring Plan	Veterinary and Food Safety Institute	
4.4 Strengthen control of adherence to legislation and regulation in the area of AB sales. (pharma companies and pharmacies)	agency or committee to be created	
Objective 5 Carry out research		
Strategic Intervention	Responsible entity	Expected results
5.1 Establish research programme for the identification of effective interventions to limit the spread of resistant micro-organisms in food producing animals and the environment, in collaboration with international organizations.	Veterinary and Food Safety Institute	Less resistant micro-organisms in food and environment

PART 3

Strategic Objective 1: **Enhance awareness, knowledge and understanding of infections and antimicrobial resistance through effective communication, education and training.**					
Objective 1 Increase awareness and knowledge of infections and AMR; general public and specific groups; non-professional					
Strategic Intervention	Activities	Responsible entity in collaboration with	comments	estimated costs first year	estimated costs 5 years
1.1 Assessment of awareness and knowledge (surveys) through studies in general population and specific social groups like users of health services, agrarians and fishermen.	1.1.1 Periodic surveys among general population and specific groups 1.1.2. specific surveys on the basis of needs.	1.1.1 NIPH; Food Safety and Veterinary Institute; regional NIPHs hospitals and PHC practices	surveys started in previous years		
1.2 Information to general population and specific socio-economic groups.	1.2.1 Publication of key messages through various media 1.2.2 Inclusion of AMR in basic education and secondary schools	1.2.1 NIPH; Regional NIPHs, Food Safety and Veterinary Institute; implementing partners like TV / radio channels and companies 1.2.2 MoEd, NIPH.	using a variety of media and tools (like social media and seminars) and of partners and using opportunities like the AMR awareness week.		
1.3 information to patients / users of health services.	1.3. Publication of key messages through adapted channels	NIPH; regional NIPHs, hospitals; GP practices;	synergy with SO3		
Objective 2 Education and training on AMR of professionals in various fields					
Strategic Intervention	Activities	Responsible entity in collaboration with	comments	estimated costs first year	estimated costs 5 years
2.1 Inclusion / improvement of AMR in training curricula.	2.1.1 Review and adaptation of the various curricula	MoEd, Universities; Vocational Training Institutes; NIPH; Infectious Diseases Specialists	For students of medicine and pharmacy and health professions like nursing.		
2.2 Continuing education for health professionals.	2.2.1 Offering AMR related accredited training in the form of seminars, conferences, etc.	MoH, MoA, MoEd, University of Agriculture; Vocational Training Institutes; Infectious Diseases Specialists	Continuous Medical Education is compulsory and ongoing in various health professions		

	2.2.2 Publication of reports and articles in medical magazines and on websites. 2.2.3 Participation in international training projects	Specialists in Microbiology, Infectious Diseases, GP's and others.	Several (research) reports have been published to date.		
2.3 Inclusion / improvement of AMR in curriculum of veterinarians and professionals in food security and agriculture	2.3.1 Develop Cooperation Agreement between the National Veterinary Service and the Faculty of Veterinary Medicine regarding AMR 2.3.2 Review and adaptation of the various curricula	National Veterinary Service, Food Safety and Veterinary Institute; Veterinary Faculty.			
2.4 Continuing education for veterinarians and professionals in food security and agriculture.	2.4.1 Offering AMR related accredited training 2.4.2 Publication of reports and articles and on websites magazines for professions in livestock and food production. 2.4.3 Participation in international training projects	MoA; University of Agriculture; Food Safety and Veterinary Institute; Vocational Training Institutes;	MoA recently initiated participation in international project 'Development of a training program for veterinarians by Food Authority experts'. The aim is to improve advisory services by veterinarians.		
Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research					
Objective 1 Obtain internationally comparable AMR surveillance data					
Strategic Intervention	Activities	responsible entity in collaboration with	comments	estimated costs first year	estimated costs 5 years
1.1 Define Albania's overall strategy for surveillance, including its participation in the Global Antimicrobial Resistance Surveillance System (GLASS)		National inter-sectoral coordinating structure for AMR surveillance	this is core component of 'One Health' approach		

1.2 Design and implement the laboratory network that carries out and reports on AST. This is a network of laboratories for human and animal health. In this network, standards are harmonized in as far as not yet done.	1.2.1 Define the laboratories that take part in AST and AMR surveillance, including mechanisms of coordination and the responsibilities and tasks of the reference lab(s) that will be selected on the basis of clear criteria. 1.2.2 Create Technical Committee for 1.3 1.2.3 Define equipment and staff required for the labs that participate in the network 1.2.4 Propose purchases for well-functioning laboratory 1.2.5 Procure equipment and consumables 1.2.6 Establish AMR coordinating Unit 1.2.7 review planning for training of microbiologists	1.2.1 – 1.2.3 and 1.2.7 National coordinating structure for AMR surveillance; microbiologists from various University and hospital labs; NIPH, Food Security and Veterinary Institute. 1.2.4 Manager of each laboratory 1.2.5 Hospital or institute management 1.2.6 specific for NIPH	Different labs may have different specialisations, not all labs do exactly the same tests and for all bacteria. The number of laboratories needs to be defined, using criteria of needs (number and types of tests), geographic distribution and costs. For human health the number is currently estimated at 17. For animal health no final number has been defined. 1.2.3 A list of minimum requirements for different types of labs is being developed. 1.2.6 this refers to internal collaboration between AMR Focal Point, Epidemiologist and Data Manager		
1.3 Develop further uniform standards for laboratories[1]	1.3.1 further development and updating of SOPs for test methods and laboratory guides 1.3.2 expert participation in CAESAR network	Technical Committee	1.3.1 follows guidelines of the European Committee on Anti-Microbial Susceptibility testing (EUCAST)		

[1] Some labs are participating already in CAESAR and EQAS of ECDC

1.4 Create a AMR digital data system at local, regional and national level.	1.4.1 Design the system, including technical specifications required. 1.4.2 Define IT hardware and staffing required to operate data base 1.4.3 Propose equipment and staffing 1.4.4 Procure equipment and appoint staff 1.4.5 Publish report once a year on AMR at national level	1.3.1 – 1.3.2 Technical Committee composed of microbiologists from various University and hospital labs and of Food Safety and Veterinary Institute and data managers; 1.3.3 IT manager in each laboratory 1.3.4 Hospital management	The system is WHO NET Based[2] and is using internationally recognized standards and combining human and animal data.		
Objective 2 To develop a national research agenda.					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
2.1 Establishment of national expert committee on research in relation to AMR	Defining ToR of committee and appointing members	National coordinating structure for AMR surveillance			
2.2 Development and promotion of AMR studies	2.2.1 Agreement of priorities for studies. 2.2.2 Studies on specific (food) samples and specific pathogens, like Salmonella and Campylobacter 2.2.3 Studies on best methodology to monitor	2.2.1 Expert committee 2.2.2 and 2.2.3 Specific institutes and organizations	2.2.3 Includes participation in international studies on resistant bacteria in food, wastewater from hospitals and other samples.		
Strategic Objective 3: Reduce the incidence of infections through effective sanitation, hygiene and preventive measures **NB information on infections to the general public is included in SO1**					
Objective 1 Development of a national program for prevention and control of infections (IPC) in health care					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years

[2] WHONET is a free Windows-based database software developed for the management and analysis of microbiology laboratory data with a special focus on the analysis of antimicrobial susceptibility test results.

1.1 Development of framework for IPC in healthcare	1.1.1 establishment of national strategy which includes hospital IPC committees and technical committees for development of protocols, standards and guidelines. 1.1.2 Development of guidelines and SOPs for IPC at hospital level 1.1. 3 Development of guidelines and SOPs for IPC at primary care level	1.1.1 National IPC Committee association of infectious diseases specialists, others. 1.2 Technical Committee including infectious diseases specialists 1.3 Technical Committee, including infectious diseases experts and GPs associations	hospital/primary care center cleaning, hand hygiene and hygiene of clinical procedures are the major components of IPC in hospitals and primary health care protection of health care workers is part of 1.1.2 and 1.1.3		
1.2 Inclusion of IPC in University and vocational training curricula	1.2.1 Review and adaptation of curricula of students in medicine, pharmacy, nursing and other trainings.	MoEd, Universities, Technical Committees 1 and 2			
1.3 inclusion of IPC in Continuous Professional Education (CPE)	1.3.1 Offering accredited IPC trainings for professionals	Institute for Accreditation and Quality in Health care; associations of infectious diseases specialists and of GPs, others.	all providers of CPE are encouraged to offer these trainings, based on the standards developed under 1.1.2 and 1.1.3		
1.4 implementation of IPC measures in hospitals	1.4.1 distribution of guidelines, protocols and SOPs 1.4.2 training of relevant hospital staff 1.4.3 purchase of equipment and consumables	management of all hospitals and primary care centres	costs of disinfectants and other consumables is major component of costs of NAP-AMR		
Objective 2 Development of a national program for prevention and control of infections (IPC) in agriculture and livestock.					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
2.1 Development of policies and strategies on prevention and control of infections	2.1.1 Establishment of Technical Committee for drafting national guidelines 2.1.2 Compilation of current regulations for veterinary	2.1.1. National IPC Committee 2.1.2 MoA 2.1.3 Technical Committee	ultimate destination of these activities is to change demand for Abs and use of Abs from		

	clinics related to the control of infections 2.1.3 Development of guidelines and SOPs for IPC		farmers and managers of fisheries; 2.1.2 includes vaccination and isolation measures		
2.2 Inclusion of IPC in University and vocational training curricula	2.2.1 Review and adaptation of curricula of students in veterinary medicine and in vocational trainings,	MoEd			
2.3 inclusion of IPC in Continuous Professional Education	2.3.1 Offering accredited IPC trainings for professionals: veterinarians, agronomists, food technology experts	University of Agriculture			
2.4 Increase vaccination coverage to prevent livestock diseases	2.4.1	MoA, Food Safety and Veterinary Institute, veterinarians			
Strategic Objective 4: Optimize the use of antimicrobial medicines in human and animal health.					
Objective 1 Obtain internationally comparable data on the use and distribution of antibiotics in the country in human health.					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
1.1 Development of information system at the national level with the aim of integrating data on the use, prescription and distribution of antibiotics	1.1.1 Develop models for monitoring sales of antibiotics for human use, including the use of Anatomical Therapeutic Chemical (ATC) and Defined Daily Dose (DDD) classifications 1.1.2 carry out tasks for data collection, analysis and reporting	Initially Department of Pharmacy at the University (where currently some monitoring takes place) and later transition to another agency, possibly NIPH. MoH to define the responsibilities and transition; Health Insurance Fund (for ambulatory prescriptions and use)	most ABs are prescribed in primary care; currently very little information is being collected		
Objective 2 Obtain internationally comparable data on the use and distribution of antibiotics in animal health.					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
2.1 Development of information system at the national level with the aim of integrating and	2.1.1 Develop models for monitoring sales of antibiotics for human use	Agency designated by MoA	Pilot for e-prescription for reimbursed drugs is ongoing		

reporting data on the use, prescription and distribution of antibiotics	2.1.2 Establishment of units for the control of points of sale of veterinary medicines at the central and local level				
Objective 3 Development of optimal use of ABs in human health					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
3.1 Development of a policy for the use of antibiotics	3.1.1 define AB stewardship program for hospitals 3.1.2 Develop system of guideline and protocol development for AB prescription in hospitals and primary care	National AB committee, Accreditation Institute for Health	including AB stewardship program in each hospital and the development of protocols and guidelines; including establishment of technical committees		
3.2 Develop guidance for professionals	3.2.1 Development of protocols and guidelines for the prescription of antibiotics for the hospital sector 3.2.2 Development of protocols and guidelines for antibiotics prescription in Primary Care	3.2.1 National AB committee, Infectious Diseases specialists 3.2.2 National AB committee, GPs associations	ABs are available, accessible, prescribed and used appropriately		
3.3 Define ABs adequate for use in Albania	3.3.1 Create an essential list of antibiotics and update this list once in two years, for hospital sector 3.3.2 Create and publish an essential list of antibiotics and update this list once in two years, for Primary Care	3.3.1 National AB committee, Infectious Diseases specialists 3.3.2 National AB committee, GPs associations			
3.4 Ensure adequate access to ABs	3.4.1 Optimize reimbursement scheme of ABs, leading to more adequate prescriptions and better adherence to prescriptions	Health Insurance Fund			

	3.4.2 Establishment of norms for a quality management system for the supply of medicines including storage, transport, expiration.	Institute for control of medicines and medical devices			
	3.4.3 Strengthen control of adherence to legislation and regulation in the area of AB sales (pharma companies and pharmacies)	Health Inspection, Audit of Health Insurance Fund	based on regulatory framework that will be adapted		
Objective 4 Development of optimal use AB use in animal health					
Strategic Intervention	Activities	responsible institute in collaboration with	comments	estimated costs first year	estimated costs 5 years
4.1 Development of a policy for the prescription of antibiotics for the agricultural sector.	4.1.1 define norms for prescription and use 4.1.2 Develop system of guideline and protocol development for AB prescription and use	Agency or committee to be created , Food Authority, Institute of Veterinary			
4.2 Define ABs adequate for use in livestock in Albania on the basis of regulation by MoA	4.2.1 Create and publish an essential list of antibiotics and update this list once in two years	MoA, agency or committee to be created			
4.3 Develop guidance for professionals	4.3.1 Development of protocols and guidelines for the prescription of antibiotics for the veterinary sector				
4.4 Ensure monitoring of residues of ABs in food and environment	4.4.1 Maintain and improve current National Residue Monitoring Plan	National Veterinary Service, Veterinary and Food Safety Institute	Ongoing		
4.5 Strengthen control of adherence to legislation and regulation in the area of AB sales. (pharma companies and pharmacies)	4.5.1 Develop control system, including norms and operational planning.	MoA, National Veterinary Service			

	4.4.2 Capacitate the National Veterinary Service to carry out inspections 4.4.3 Carry out controls and apply sanctions according to legislation/regulation, when applicable. .				
Objective 5 Carry out research to optimize AB use					
Strategic Intervention	Activities	Responsible entity in collaboration with	comments	estimated costs first year	estimated costs 5 years
5.1 Establish research programme for the identification of effective interventions to limit the spread of resistant micro-organisms in food producing animals and the environment,	5.1.1 establish regular consultation mechanism for research priorities 5.2.1 establish research programme in liaison with international research initiatives and opportunities, including mobilization of research funds 5.2.3 Contract relevant partners for research, that disseminate results upon completion.	Food Safety and Veterinary Institute, Veterinary Institute of the University	in collaboration with international organizations. NB: avoid conflict of interest by institutions that define research priorities and also contract for research projects, while they carry out research themselves		