Kuwait National Action Plan On Antimicrobial Resistance 2022

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Contents

Abbreviations and acronyms

AMC	Antimicrobial consumption
AMR	Antimicrobial resistance
AMS	Antimicrobial Stewardship
CAP	College of American Pathologists
CDC	Centre for Disease Control
CE	Continuous Education
CLSI	Clinical and Laboratory Standards Institute
CME	Continuous medical education
CMS	Central Medical Stores
CRE	Carbapenem resistant *Enterobacteriaceae*
EPA	Environment Public Authority
ESBL	extended-spectrum beta-lactamases
FAO	Food and Agriculture Organization
GLASS	Global Antimicrobial Resistance and Use Surveillance System
HAI	Healthcare -associated infection
HCWs	Healthcare workers
HIS	Hospital Information System
ICD	Infection Control Directorate
IPC	Infection prevention and control
KEPA	Kuwait Environment Public authority
KIMS	Kuwait Institute of Medical Specializations
KISR	Kuwait Institute of Scientific Research
LIS	Laboratory Information System
MDR	Multidrug resistant
MDROs	Multidrug resistant organisms
MOE	Ministry of Education

MOH	Ministry of Health
MOHE	Ministry of Higher Education
MRSA	Methicillin resistant *Staphylococcus aureus*
NAP	National Action Plan
NFP	National Focal point
NGOs	Non-Governmental Organizations
NMCG	National Multisectoral Coordinating Group
OIE	World Organization of Animal Health
ToR	Terms of reference
TOT	Training of trainers
PAAET	The Public Authority of Applied Education and Training
PAAF	The Public Authority of Agriculture Affairs and Fish Resources
PAFN	The Public authority for Food and nutrition
PSD	Pharmaceutical Services Directorate
WHO	World Health Organization

Forward

This national action plan for Kuwait to combat antimicrobial resistance has been formulated in the line of the WHO strategic objectives. It addresses the involvement of all the related sectors including human and veterinary medicine, food chain, finance, environment, and the general public consumers. Therefore, the National Committee for the Proper Use of Antimicrobials was involved and technical subcommittees were established to prepare this plan.

Executive summary

This national action plan for Kuwait to combat antimicrobial resistance has been formulated in the line of the WHO strategic objectives. It addresses the involvement of all the related sectors including human and veterinary medicine, agriculture, finance, environment, and the general public consumers.

The AMR NAP was prepared over a period of three months covering the governance of the plan and the structure of the work to be done in AMR awareness, surveillance, infection prevention and control, rational antimicrobial use. Research and sustainability regarding AMR were included in the corresponding pillars.

The preparation of the plan was done through meetings held by the WHO consultant and the WHO national AMR focal person at MOH (Dr. Abeer Aly) with stakeholders from the different ministries and authorities including the MOH, PAAF, and KEPA. The approach to the plan development was based on mapping the current situation regarding each pillar and then building on what is available a new plan to be executed over the coming five years.

Regarding the situation analysis, Kuwait had already started its response regarding the AMR pandemic. Regarding country response and governance, an NMCG has already been formed and an AMR focal person and IPC focal person have already been appointed and are working.

Major work on AMR prior to the plan development was concentrated on the its control in humans.

AMR Awareness

The MOH has already started few activities that improve general public awareness about AMR in human health. Short films, advertisements, SMS, posters, brochures and leaflets have already been prepared and distributed during the activities of National campaigns of proper use of antibiotics performed by the IPC Directorate. During the past 2 years, this material is broadcasted during the World Antimicrobial Awareness Week. Education about AMR is included in some human health-related specialties but not in all and not in veterinary or agriculture professionals' continuous education.

Besides the organization of the focal persons' functions and the inter-ministerial communications, the plan targets general public awareness campaigns and yearlong awareness messages, regarding human and non-human health. AMR-related education is another target of this plan in basic primary education, undergraduate university education, postgraduate studies, as well as continuous

education of professionals. Collaboration with FAO, OIE and other regional/international NGOs that already have AMR education-related programs is strongly encouraged. Drug companies play a major role in promoting the use of antimicrobials, where both MOH and PAAF would demand in the future that these companies provide impartial education about AMR, along with its causes and consequences. The country will actively participate in the World Antimicrobial Awareness Week, however the efforts targeting AMR awareness will be spread throughout the yearly calendar.

AMR Surveillance

Public and private hospitals have well-equipped microbiology laboratories that provide reliable microbiology data. Individual facility-based AMR surveillance is being performed in some hospitals, that do issue their own antibiograms, yet this practice is not available throughout the country. A focus group has already been created at MOH and has started gathering data to be reported to WHO GLASS platform and the AMR data bank is increasing gradually. A central AMR laboratory is not available, yet a CDC laboratory is in the process of being built and its budget has already been assigned. In non-human health sectors, there is no real tangible data about AMR except for few research projects that cannot be counted as representative to these fields.

The NAP started with an organizational effort to link hospitals to the central AMR surveillance unit at MOH, and to empower and enlarge this unit (that is the "GLASS Unit" now) to become the national AMR surveillance unit. This unit would enable hospitals to issue their own local antibiograms to be compiled at a later stage in a national AMR report, that will be periodically reviewed and updated. A central AMR reference laboratory is planned to be present within the new CDC, where confirmation of AMR as well as training and quality control of the laboratories in the country will be organized. Broader and more active participation in GLASS platform data feeding is also anticipated in the NAP, not to mention CAP accreditation for the laboratories in the country. AMR detection and surveillance represent in the non-human health sector is a major priority of the upcoming NAP. Mapping of available AMR data in these fields is planned, as well as improving the veterinary/agriculture laboratory capacity at PAAF to detect and ultimately report and surveil AMR. AMR-related research projects in agriculture, food safety and environment will be prioritized in universities or in grants and funds through KEPA research office.

Infection Prevention and Control

The work in the IPC pillar has been quite advanced in the country with the presence of a central IPC directorate at MOH that coordinates IPC among the different hospitals. All hospitals (public and private) already have local functioning IPC offices with the supervision and coordination by the IPC directorate at MOH. IPC guidelines are available, but some need updating. IPC training is performed centrally and locally in the hospitals. Regarding the structural basis of the IPC in Kuwait, adequate hygiene and sanitation of drinking water is available in the country as well as proper waste management is under the authority of the Ministry of Public Works. Surveillance of healthcare associated infections is well established in hospitals, however, this work is still mostly manual and thus requires important resources in terms of time and workforce. IPC in the veterinary world is applied through biosecurity measures in farms under the authority of PAAF that makes sure that animals are vaccinated according to OIE guidelines. There is an infrastructure related to the safety and quality control of products in the food chain.

Regarding the Governance in this pillar, more organization is required, whereby IPC focal persons in PAAF, KEPA and food safety authorities will be appointed. These functions will be assigned to existing employees and will be added to their TOR. This strategy was proposed by the stakeholders, since it is feasible considering the actual workload and it minimizes extra costs. Although a lot has already been done at MOH, the plan targets further improvement in IPC. In order to improve compliance with IPC principles in healthcare facilities, the plan suggests implementation of IPC through decrees and mandates. On the other hand, an update of the national IPC guidelines was suggested based on the latest WHO guidelines on core components of IPC programmed at the national and acute health care facility level. Since digitalization of hospital data and medical records is currently in process in Kuwaiti hospitals, it was suggested that HAI surveillance be linked directly from the hospitals to IPC directorate. Additionally, availability of a digital surveillance system has been suggested to minimize paper work, improve efficiency and save time. IPC education has already been touched upon in the plan at all levels in the human and non-human health sectors including basic undergraduate and continuous postgraduate education. National IPC guidelines in non-human health sectors including animal health, agriculture and environment will be developed.

Rational Use of Antimicrobials

The regulatory authorities of proper procurement legislation and control of importation and sale of registered medicines are well established in the country and well controlled by MOH authorities. There is a legislation that prohibit selling antimicrobials without a prescription of a certified health

professional. On the inpatient level, post-prescription review for appropriateness of antimicrobial agents 48 to 72 hours after administration is being performed in public hospitals, yet only depending on the presence of qualified personnel and ID physicians. In general, national authorities work with close communication with OIE, FAO and WHO, in addition to being part of GCC.

The organization of the governance of this pillar is one of the priorities in the upcoming NAP through assigning its responsibilities to specific focal persons in MOH, PAAF and KEPA. Other priorities include establishing inter-ministerial communication and putting a high-priority list of antimicrobials that should not be used in veterinary medicine or as crop growth promoters. In human health, antimicrobial stewardship programs in hospitals will be implemented and they are planned to be controlled at a central unit in MOH with clear national antimicrobial usage guidelines that are regularly updated according to national antibiograms and AMR epidemiologic data. In order to achieve these aims, a national task force will be appointed to include professionals from the public and private sectors with the needed academic and scientific expertise. Likewise, antimicrobial use guidelines in the agriculture and veterinary fields are to be put and implemented, and their sale would be exclusively based upon veterinary prescriptions. Finally, training courses and workshops targeting rational antimicrobial use in human and non-human health sectors should be provided periodically.

Background

Introduction

Antimicrobial (including antibiotic, antiviral, antifungal and antiprotozoal) agents are critical tools for fighting infectious diseases in humans, terrestrial and aquatic animals and plants, but they are becoming ineffective.[1]

Alarming levels of resistance have been reported in countries of all income levels, with the result that common diseases are becoming untreatable, and lifesaving medical procedures riskier to perform. Drug-resistant infections already cause at least 700,000 deaths globally a year, including 230,000 deaths from multidrug-resistant tuberculosis, a figure that could increase to 10 million deaths globally per year by 2050 under the most alarming scenario if no action is taken. Around 2.4 million people could die in high-income countries between 2015 and 2050 without a sustained effort to contain antimicrobial resistance (AMR).[1]

The emergence of AMR is a complex problem driven by many interconnected factors, in particular the use and misuse of antimicrobials. Antimicrobial use, in turn, is influenced by an interplay of the knowledge, expectations and interactions of prescribers and patients, economic incentives, characteristics of the health system and the regulatory environment.[2]

AMR will affect everybody, regardless of where they live, their health, economic circumstances, lifestyle or behavior. It will affect sectors beyond human health, such as animal health, agriculture, food security and economic development.[3]

In the light of this complexity, coordinated interventions are needed that simultaneously target the behavior of healthcare providers and patients and change important features of the environments in which they interact.[2]

Alert to this crisis, the May 2015 World Health Assembly endorsed a global action plan to tackle AMR. All Member States are urged to have in place, national action plans on antimicrobial resistance that are aligned with the global action plan with Whole-of-society engagement including a one health approach.[3]

Situation analyses and Assessment

AMR in Kuwait is a serious problem resulting in increases in morbidity, mortality and healthcare costs. Similar to other countries, Kuwait faces challenges to combat AMR. Resistant organisms are implicated in several outbreaks in hospitals for example Methicillin resistant *Staphylococcus aureus* (MRSA), Multi drug resistant (MDR) *Acinetobacter* spp, MDR. *Pseudomonas. aeruginosa* and Carbapenem resistant Enterobacteriaceae (CRE).

There is no nationwide surveillance of AMR, data are available from individual studies from some hospitals. The prevalence of extended spectrum beta lactamase (ESBL) & CRE isolates in positive blood cultures of patients in a teaching hospital in Kuwait over a 2-year period were studied. 24.9% of Enterobacteriaceae were ESBL producers and 5.2% were CRE. [4]

There is an alarming high prevalence (11.3%) of colistin-resistant Enterobacteriaceae among healthy food handlers in community while the fecal carriage rate of CRE was (5.3%)[5]. According to single center study, there was a high burden of *Acinetobacter. baumannii (A. baumannii)* related infections among Intensive care units (ICU) patients and multiple outbreaks were detected during the study period.[6]

Data from Kuwait National Healthcare-associated infections surveillance system (KNHSS) [7,8] reported alarming results. The most common organisms isolated from Healthcare associated infections (HAIs) in 2019 and 2020 were *Klebsiella pneumoniae(*K.*pneumoniae)*. In 2019 CR *K.pneumoniae* represented 26.7 % from all *K.pneumoniae* isolated from different types of HAIs. However, in 2020 it is doubled to reach 50.1 %. *A. baumannii* which is the 4th common organisms causing HAIs in both 2019 and 2020 shows increasing MDR rates. In 2019, MDR *A.baumannii* represented 82.9 % and increased to reach 88.5 % in 2020.

Kuwait is a low tuberculosis (TB) incidence (~ 24 cases/100 000 population) country with low (~ 1.1%) incidence of MDR-TB. Nearly 85% of all TB cases and > 90% of MDR-TB cases occur in expatriate population. These cases mainly arise due to reactivation of latent TB infection acquired previously by TB patients in their respective countries.[9,10]Until recently, rifampicin-resistant TB/MDR-TB among Kuwaiti subjects were infrequently detected and transmission of DR-TB was rarely reported in Kuwait.[11-14] A fourfold increase in the detection of MDR-TB among Kuwaiti subjects was noted in recent years (2014–2017); however, the factors responsible for this sudden increase remained unknown and transmission of MDR-TB within Kuwait was not apparent from routine surveillance studies.[15]

Kuwait has a low-prevalence of HIV-1 infection. However, the detection of major mutations conferring resistance to nucleoside and non-nucleoside reverse transcriptase inhibitors (NNRTIs) in 12.5% of ART-naive patients, and about 30% of treatment-experienced patients.[16]

Misuse of the antibiotics in the healthcare setting is a big challenge. In 2008, a national study to assess the physicians, adherence to the local hospital antibiotic guidelines was conducted in 9 Ministry of Health (MOH) hospitals. The results revealed that 25% of the prescriptions were unnecessary (not indicated) while only 30.4% of the prescriptions were fully adherent to the guidelines.[17]

Misuse of antibiotics by public plays an important role in driving the emergence and dissemination of resistance. Understanding patients' knowledge and practices concerning antibiotics can help to mitigate antibiotic resistance and sustain antibiotic effectiveness.[18]Communication to public on the association between unnecessary antimicrobial use and the emergence and spread of AMR seems an important component of strategies to control AMR.[19-20] A cross-sectional survey was performed using a pretested self-administered questionnaire on a sample of 770 randomly selected Kuwaiti individuals. Nearly three-quarters (72.8%) of respondents had been prescribed antibiotics within 12 months prior to the study period, and 36% of them had not finished the course of treatment. Over one-quarter (27.5%) were self-medicated with antibiotics to treat mainly common cold, sore throat and cough. Self-medication was more prevalent among those who were prescribed antibiotics and those who had attitudes towards using and accessing antibiotic inappropriately. Almost 47% of participants had low knowledge regarding action, use, safety and resistance of antibiotics. Forty one percent of respondents had attitudes towards using and accessing antibiotic inappropriately.[21]
During the activities of Kuwait National Campaign for the Proper Use of Antimicrobials 2019, assessment of the level of knowledge, attitudes and practices towards antibiotic use among public attending Kuwait MOH Healthcare facilities was performed by using a questionnaire. The results revealed insufficient knowledge regarding the antibiotic utilization (median knowledge score was 60%, IQR=80-40) with poor attitude (median attitude score was 40%, IQR=60-20) however, the practice was better (median practice score was 77.8%, IQR= 88.9-55.6)[22]
The environmental dimension of antimicrobial resistance has received comparatively less focus than AMR in human or animal health. However, the natural environment is an important reservoir of antimicrobial resistance. Drug-resistant microbes are in people, animals, food, and the environment (in water, soil and air)[23]. Due to demographic and environmental factors, the marine environment of the Gulf Cooperation Council (GCC) region may be particularly susceptible to the threat of antimicrobial resistance. However, there is currently little information on the presence of AMR in the GCC marine environment to inform the design of appropriate targeted surveillance activities. To date no studies have addressed the issue of AMR in marine systems, which represents a key data gap in Kuwait. A baseline survey that is the first to obtain information on the prevalence of AMR within bacterial isolates collected from Kuwait's marine environment. In GCC, the studies have identified the presence of AMR bacteria in fish and seawater collected from locations close to sewage discharges [24] and within the effluent itself [25]. The presence of AMR bacteria has also been used as an indicator to monitor the exposure of green turtles (Chelonia mydas) to different marine pollutants [26]

Recently, a study objective was to develop[27], implement and conduct a rapid regional baseline monitoring survey of the presence of AMR in the GCC marine environment, through the analysis of seawater collected from high-risk areas across four GCC states: (Bahrain, Oman, Kuwait, and the United Arab Emirates). 560 Escherichia coli strains were analyzed as part of this monitoring programme between December 2018 and May 2019. Multi-drug resistance (resistance to three or more structural classes of antimicrobials) was observed in 32.5% of tested isolates. High levels of reduced susceptibility to ampicillin (29.6%), nalidixic acid (27.9%), tetracycline (27.5%), sulfamethoxazole (22.5%) and trimethoprim (22.5%) were observed. Reduced susceptibility to the high priority critically important antimicrobials: azithromycin (9.3%), ceftazidime (12.7%), cefotaxime (12.7%), ciprofloxacin (44.6%), gentamicin (2.7%) and tigecycline (0.5%), was also noted. A subset of 173 isolates was whole genome sequenced, and high carriage rates of qnrS1 (60/173) and blaCTX-M-15 (45/173) were observed, correlating with reduced susceptibility to the fluoroquinolones and third generation cephalosporins, respectively.

A base line survey study [28] had been conducted. In total, 598 isolates of Escherichia coli (351 seawater; 247 bivalves) were isolated from seawater and biota (Venus clam, Circenita callipyga) across Kuwait coastline, and screened for their potential for resistance against an array of commonly deployed frontline antibiotics frontline (23 antibiotics) by micro-dilution (48 h incubation) onto the custom dehydrated 96-well Sensititre™ GN2F panels (GN2F, Thermo Scientific, UK). Results demonstrate the resistant was widespread across all sites (seawater: summer 89 - 64%; winter 90-57% and biota: summer 77%; winter 88%). Ranking the resistance profiles for seawater and biota across both summer and winter periods suggests that the profile of resistance may be influenced by seasonal factors. For example, in strains of E. coli isolated from winter biota samples displayed a high-level of resistance to FOX (51.4%), which then dropped substantially in samples screened from the summer (7.7%). Likewise, the resistance profiles between seawater and biota samples didn't always mirror each other and could point different drivers, within each matrix, being responsible for the promotion and maintenance of AMR. The dataset available doesn't allow for definitive statements to be made about either of these subjects, but does point to future research lines to follow. This spread of observed resistances to older as well as new antibiotics, encompassing almost all tested classes and including antimicrobials used for a variety of clinical and veterinary applications is of some concern.

National SWOT analysis as per each pillar

Governance and multisectoral "One Health" coordination

Strengths	• A national multisectoral coordinating group (NMCG) is already established that includes high-rank influential employees and professionals of the Kuwaiti government from all sectors. • It has strong political support, authority to act. It is accountable to the government. It is formed of and supported by technical experts. • This group is responsible to facilitate and coordinate development of the national AMR action plan, to facilitate and oversee implementation, monitoring and evaluation of the AMR action plan, and to ensure regular data collection and information sharing among all relevant sectors and stakeholders. • There are a few tools and data to form a basis for preparation of a national action plan on AMR such HAI surveillance in hospitals, reporting AMR to GLASS platform, as well as other audit tools for hand hygiene and other issues related to IPC in hospital settings.
Weaknesses	• Technical working groups are not available in all sectors except for a few in human health. Relevant groups will be formed at a later stage as per this NAP on AMR. • Focal persons for the coordination between different ministries and authorities regarding the "One Health" approach are not available except in the MOH.
Opportunities	• A preliminary draft of situation analysis (SWOT), strategic objectives, interventions and activities for the NAP on AMR was put by the NMCG, yet, the operational and monitoring plans are to be developed.
Threats	• None

AMR Awareness

Strengths	• Regarding activities that target national awareness of AMR, only the Infection Control Directorate in MOH already prepared AMR-relevant information focusing on human health and this material is diffused to the general public only during the AMR/ABX awareness week. • On the public level, there was ~~a~~ study done by the Infection Control Directorate about the estimation of knowledge, attitudes and practice of the general public regarding antibiotic use in humans and the sample was randomly selected individuals from outpatient clinics. • Among professional in human health, workshops and educational activities targeting AMR in human health are sometimes offered by MOH, scientific societies, drug companies, hospitals, and universities, but it is not regular or structured. • Regarding the inclusion of AMR and related topics in quality assurance programs, only IPC is included in accreditation standards of healthcare facilities.
Weaknesses	• Regarding activities that target national awareness of AMR, public communication programs targeting the general audiences in human health practice, animal health practice, plant production and crops, food chain and in the environmental sector are not available. • Material prepared by the Infection Control Directorate MOH targeting the general public (mentioned above) is not diffused all yearlong and does not include AMR information based in the One Health approach. • Education and information on AMR is not available in school curricula. • There is a weak communication between ministries and authorities regarding the importance of AMR, where each one works alone. • There are no undergraduate studies/specialties in animal health and agriculture, in Kuwait. These professionals receive their degrees and training outside the country. • For those who should be licensed to work in Kuwait, they should undergo an interview and licensing exam that do not include questions related to AMR. • AMR and related topics in special targeted modules are only included in undergraduate curricula in Medical Schools and not in other related fields. • AMR and related topics are not mandatory in continuing education programs in any field. CE is not mandatory for obtaining work licenses for newcomers to Kuwait or for license renewal. However, CME is needed for promotion of physicians and dentists. • In the veterinary/agriculture fields, there is no central structured training for professionals by PAAF regarding AMR. Some activities related to antibiotic use are offered by drug companies for promotional purposes.
Opportunities	• A general CE program is going to be built soon for pharmacists (needs time to expand and encompass aspects of AMR) • In the veterinary/agriculture fields, PAAF closely communicates with FAO/OIE and concerned professionals attend few educational activities/workshops organized by FAO/OIE.

	• Regarding the Country participation in international or regional AMR awareness campaigns, the IPC directorate regularly participate with the WHO regarding human health. Otherwise in non-human health sector, the country participates in some meetings organized by FAO or OIE however; this is not structured or systematic. Kuwait is part of the GCC AMR group and participates in all its activities. • Now AMR is recognized a national priority where there will be inter-ministerial collaboration and commitment through this national action plan to combat AMR. • Relation between PAAF, MOH, FAO, OIE, WHO and KEPA is an opportunity to enhance AMR awareness in different fields based on the One Health approach, in addition to being part of GCC.
Threats	• None

AMR Surveillance

Strengths	• Surveillance of AMR in isolates from humans has already started in one hospital through reporting its AMR data to GLASS platform. Now reporting to WHO GLASS will extend to 8 hospitals from the country. • As for the incidence and prevalence of AMR in humans, some hospitals report their own AMR data on an individual basis. • On the hospital level, a strength is the presence of national healthcare-associated infections surveillance system with the capability of detection of MDROs isolated from HAIs. • Surveillance of infectious diseases such as brucellosis, TB, etc. is present. • There is an existing tailored program for routine monitoring of the environment, as well as a chemical and biological focused marine monitoring program for environmental pollutants. • Monitoring of antibiotic residues is done for milk, meat, poultry, eggs and vegetables • A strength is the availability of a well-equipped microbiology laboratories in MOH and in other healthcare facilities, as well as new technologies to detect and identify AMR. • Some of the functions of a national reference laboratory exist but in different places and not in one single place. For example, external Quality Control (QC) schemes are done by the central entity of medical labs services at MOH, and this central entity plays role in distributing external QC samples and getting the results. • The Lab council requested from MOH for accrediting the labs in the country. This council takes into consideration the presence of a qualified microbiologist in the lab as well as the success in QC schemes, in addition to abiding by CLSI guidelines. • Despite that there is no training for lab personnel regarding AMR surveillance, but all personnel should be qualified (education/degrees). All labs in the country unanimously follow CLSI guidelines in the country, and thus there is no need to put new lab practice guidelines. • Sporadic research on AMR exists in the humans and animals.

	• National authorities work with close communication with OIE, FAO and WHO, in addition to being part of GCC.
Weaknesses	• National AMR surveillance and antimicrobial use monitoring systems are not available. • As for the incidence and prevalence of AMR in humans, there are no national reports on this issue. • Regarding surveillance of AMR in isolates from animals, plants, food and environment, it is unavailable, thus the incidence and prevalence of AMR in these fields is unavailable too. • Monitoring of use of antimicrobial agents in humans is almost not available except for a national study that is starting and did not expand yet. • Monitoring of use of antimicrobial agents in animals, plants and environment does not exist except for monitoring antibiotic residue in food products like milk, meat, poultry, eggs and vegetables. • In addition, data on the extent and impact of AMR such as human morbidity, mortality and other health outcomes in relation to AMR, as well as data on economic impact of AMR in humans, animals, plants, food, and the environment are not available. • A national mechanism coordinates the different national AMR surveillance and antimicrobial use monitoring systems is not available. • A National Reference Lab for antimicrobial resistance for human and animal sectors is not available. • A national research agenda for AMR surveillance is not available.
Opportunities	• An opportunity is the enrolment of Kuwaiti MOH in GLASS- AMC and utilization of this platform. • It is economically feasible to increase manpower to perform AMR surveillance activities and report data in all sectors. • There is one laboratory that is assigned for reporting AMR data to GLASS platform and this can be extended for national AMR surveillance. • There is a proposal for the accreditation of 2 laboratories in the country by The College of American Pathologists (CAP) and if this pilot project succeeds, this will extend to other labs in the country. • There is an opportunity to conduct AMR-related research in these fields: a decree regarding environment protection in Kuwait exists to support the recommendation from KEPA and PAAF for the need to conduct AMR research in these fields. The presence of this decree facilitates submitting research proposals and projects and getting funded. • Another opportunity is the ppresence of research centres that are interested in performing studies on AMR and expanding it throughout the country (KEPA, KISR and Kuwait University) • Relation between PAAF, MOH, FAO, OIE, WHO is an opportunity to enhance AMR surveillance in different fields based on the One Health approach
Threats	• None

IPC

Strengths	**Human Health** • On the national level in Kuwait, there is a national central IPC directorate/national office in the MOH, established since 1980. This national office communicates with all IPC teams in public and private healthcare facilities across the country. This directorate has national IPC guidelines that are being regularly updated, plus checklists and audit tools. • On the hospital level, each hospital has an IPC office that consists of at least 1 Medical Doctor (MD) and around 5 to 10 nurses depending on the hospital size/number of hospital beds, and this office is in close communication with the central IPC directorate. IPC policies and procedures are included in hospital accreditation standards and are being regularly audited by accreditation bodies. • Regarding IPC professionals in healthcare facilities, they have usually an MD degree and an advanced degree in public health or microbiology. Their IPC/AMR training is mandatory for a period of 2 months before joining the job. It is condensed and well-structured prepared by the MOH central IPC directorate. Training for the HAI surveillance is done at the IPC directorate while the IPC training is done in MOH hospitals. Regular in-service training is done for the IPC professionals in the Central IPC directorate. Additionally, targeted training is performed when there is any updates or new policies/ guidelines. • Upon hiring in hospitals, nurses who will work at IPC offices receive mandatory training for 3 months in the form of in-hospital training by IPC professionals as per specific material prepared and supplied by the central IPC directorate. Recently, they receive HAI surveillance training in the IPC directorate. IPC nurses receive regular refreshing training while targeted training is performed when there is any updates or new policies/ guidelines. • Regarding general HCWs training, there is a training program in each hospital for HCWs and the IPC team in the hospital is responsible for it. All newly employed HCWs receive an IPC training and nurses should receive an IPC training on a yearly basis, but this issue is not very well structured or followed, and this should be worked on and improved. • Healthcare-associated infections (HAI): National HAI surveillance is being implemented in all MOH hospitals. It is prospective patient-based facility wide includes all types of infections in all inpatient locations with calculation of risk adjusted rates. Dialysis surveillance for chronic outpatient hemodialysis patients is also done. Surveillance is based on CDC/NHSN methodology. For MDROs,

	incidence density/1000 patient days and % of the total isolates of 8 groups of MRDOs are calculated. Reports and feedback are disseminated and discussed with the relevant stockholders. National data base and benchmarks of HAI are prepared in the IPC directorate.
	• Healthcare waste management: There is a structured management program of the hazardous waste generated from healthcare systems (solid and liquid waste). The MOH has guidelines for both types of wastes. There are incinerators with KEPA's authority to oversee the functioning of these incinerators. (Responsible entities: Hotel service Directorate, Health Licence Directorate, special committee in KEPA)
	• Waste water management system: There is a structured management program under the authority of the Ministry of public works and being monitored from KEPA & Ministry of Public Works.
	• On the healthcare facility level, there is a presence of safe sufficient drinking water and adequate sanitation and hygiene, where there is regular testing of the quality of water used in healthcare.
	• Food handling in healthcare facilities and community:
	  ○ regular testing of food handlers by MOH,
	  ○ presence of health cards;
	  ○ guidelines for food handling in healthcare facilities depending on department plus general guidelines for cooking, storage…. etc.
	• Vaccination programs:
	  ○ availability of up-to-date guidelines and vaccines for the pediatric and adult population
	  ○ robust vaccination coverage for the pediatric population
	  ○ adult vaccination guidelines stratified by age, occupation, comorbidities especially respiratory diseases, seasonal events like Pilgrimage.
	
	Non-human health sectors (food production/animal husbandry/ veterinary/ agriculture/ environmental fields)
	• Animal Husbandry/Agriculture/Food Production:
	  ○ Biosecurity measures are present in the farms under the responsibility of PAAF
	  ○ There are guidelines for vaccinating, isolating and treating animals against infectious diseases (based on OIE guidelines) monitored and audited by PAAF.
	  ○ All animals should be registered and there is a veterinary laboratory at PAAF.
	  ○ Infrastructure related to the safely securing/auditing/quality control of products in the food chain is present, whether

	being the food produced in the country or imported. The responsible entities are the PAFN and PAAF. ○ Food is examined chemically and microbiologically according to GSO standards in public health labs in MOH. • Environment: ○ Disposal of diseases animals and waste is well organized and controlled and closely monitored by PAAF.
Weaknesses	**Human Health** • Regarding IPC education in the country in general, there are no opportunities of learning about IPC outside the formal teaching provided by the central IPC directorate. There no courses given at universities or masters degrees or structured continuous education programs. • Regarding HAI surveillance, HAI data is collected manually intra-hospital and reported to MOH IPC directorate manually and this represents a gap. Responsible authorities believe that it is better that this work becomes computerized. This issue should be imposed on hospitals to shift from manual to electronic work. Yet, even in hospitals that already have electronic medical records, IPC data is not linked to these records and there is still a lot of manual work to link between the two. • Healthcare waste management**:** disposal is not optimized similar to the public sector; it needs monitoring and better implementation. • Long term care facilities (LTCF): There isn't a proper structure or specialized manpower and no specific IPC guidelines for LTCF. • Vaccination Programs: vaccination uptake in adults is weak and needs to be improved, thus raise adult awareness regarding the importance of vaccination for the prevention of many vaccine-preventable diseases. **Non-human health sectors** • Animal Husbandry/Agriculture/Food Production: ○ Absence of National guidelines for infection control biosecurity measures in animal husbandry. ○ There are no research projects directly related to IPC/AMR in animal husbandry or agriculture • Veterinary Education and Training: ○ There are no veterinary schools or education in Kuwait ○ Veterinarians receive their degrees and training outside the country. ○ Absence of centrally oriented courses or education for veterinary professionals regarding IPC/AMR. • Research: A gap is the absence of IPC/AMR research in these fields.
Opportunities	**Human Health**

- In healthcare facilities, IPC bundles of care are already available and implemented but need updating by including new evidence-based recommendations from the medical literature.
- Healthcare-associated infections: this data should become automatically retrievable from the computerized system to be implemented in healthcare facilities similar to other information in medical records, not to mention to link all relevant lab data to IPC data. And from another side, this IPC data should be digitally linked and available in real time on the network of central IPC directorate.
- Long term care facilities (LTCF):
    - Under the responsibility of Public Authority of Disability Affairs which is a separate authority from MOH and which is recently supervised by the Minister of Health.
    - There are two large centers and several satellite centers linked together.
    - The team responsible for supervision of the IPC program in LTCF centers constitutes of a part time doctor and four full time nursing staff with basic knowledge of IPC.

Non-human health sectors:

- Animal Husbandry/Agriculture/Food Production:
    - Surveillance of infectious diseases such as brucellosis, TB, etc. is present.
    - There are veterinary testing laboratories at PAAF.
- Veterinary Education and Training:
    - In order to be licensed to work in Kuwait, professionals who are hired from outside the country should undergo an interview and licensing exam. This procedure should be repeated every 2 years to renew the license. The exam and interview do not include questions related to IPC/AMR.
    - The continuous education on IPC and AMR is only provided by drug companies.
- Environment:
    - Presence of sewage effluent monitoring guidelines but not targeting the spread of AMR. This represents a potential or opportunity to perform studies aiming at monitoring the presence of resistant organisms in sewage effluent.
- Research:
    - There is an opportunity to conduct AMR-related research in these fields: a decree regarding environment protection in Kuwait exists to support the recommendation from KEPA and PAAF for the need to conduct IPC/AMR research in these fields. The presence of this decree facilitates submitting research proposals and projects and getting funded.

	○ Relation between PAAF, MOH, FAO, OIE, WHO is an opportunity to enhance IPC in different fields based on the One Health approach, in addition to being part of GCC.
Threats	• None

Rational Use of Antimicrobials

Strengths	• There is a national human/animal/plant drug regulatory authority (Pharmaceutical and Herbal Medicines Registration and Control Administration in MOH) that works using international standards and guidelines, not to mention that they have their own protocols for drug marketing authorization to ensure that antimicrobial agents are quality assured, safe and effective. • Pharmaceutical and Herbal Medicines Registration and Control Administration in MOH is responsible for quality management system for the antimicrobial agents supply chain as well as the preservation of antimicrobial agents. • Pharmaceutical and Herbal Medicines Registration and Control Administration and The Dug Inspection Control in MOH are responsible for detecting and combating counterfeit antimicrobial agents. • Pharmaceutical and Herbal Medicines Registration and Control Administration in MOH is responsible for regulating and controlling drug promotional practices (humans/animals). This entity does not allow drug promotion outside what is written in the brochure. But in the veterinary field, this issue is not being audited. • As for the reimbursement lists for human health, this is under the authority of Pharmaceutical and Herbal Medicines Registration and Control Administration and no reimbursement occurs outside the protocols of this entity. • There is a legislation that prohibit selling of antimicrobials without a prescription of a certified health professional. • Veterinarians prescribe mass antimicrobial prophylactic therapy for herds or for treatment purposes, in addition to mass vaccination as prophylaxis when necessary according to guidelines of OIE • Antibiotic residue is detected in milk, meat, poultry, eggs and vegetables. There is a washout period during which the animal does not receive any antimicrobials (prior to the milking process or slaughtering). • Post-prescription review for appropriateness of antimicrobial agents 48–72 h after administration is done in public hospitals only depending on the presence of qualified personnel and ID physicians. • National authorities work with close communication with OIE, FAO and WHO, in addition to being part of GCC.

Weaknesses	• Pharmaceutical and Herbal Medicines Registration and Control Administration in MOH) does not systematically audit drug promotional practices in the animal field. • Identifying/addressing economic incentives that encourage inappropriate use of antimicrobial agents does not exist, as well as that optimize the use of antimicrobial agents in all sectors do not exist. • Regarding the purchasing and prescribing of antimicrobial agents, a national essential medicine list is not available. On the institutional level, some healthcare facilities have their own essential medicine lists and others don't. • There are standard treatment guidelines for use of antimicrobial agents in humans, but they need to be expanded and updated. These guidelines are present in public and private hospitals. These guidelines and their application are not properly audited. • Standard treatment guidelines for use of antimicrobial agents in animals do not exist. Veterinary practitioners follow OIE guidelines and practice from what they have learned during their basic education. Responsible governmental authorities don't teach these guidelines and audit its proper practice or not; guidelines workshops do not exist. There is no follow-up on updated versions of these guidelines in animal health. • There are no legislations to prevent the use of antibiotics used in humans and animals' therapy as growth promotors in animals and for crop protection • There is no list or policies for the use of critically important antimicrobials. These legislations need to be activated. Policies on reduction in nontherapeutic use of antimicrobial agents in animal health are not available. • Well-established Antimicrobial stewardship programs are not available in healthcare facilities (primary, secondary and tertiary care, private and public). However, Some activities are available in some healthcare settings. • Qualified human resources are very scarce; the available infectious diseases specialists and clinical microbiologists are not enough to run Antimicrobial Stewardship program in all facilities. Same issue with clinical pharmacists in addition to that these pharmacists need to be trained on AMS. • Direct communication of the results of audits and reviews to all sectors using antimicrobial agents needs to be activated. • A national research agenda for antimicrobial use and stewardship is not available.
Opportunities	• Authorities are working on formulating an essential medicine list. • Relation between PAAF, MOH, FAO, OIE, WHO is an opportunity to enhance antimicrobial stewardship in different fields based on the One Health approach
Threats	• None

Country response

Governance

A National Committee for the proper use of antimicrobials was formulated by a ministerial decree signed by His Excellency the Minister of Health. This committee has members representing different specialties and sectors all over the country and headed by the Assistant Undersecretary of technical affairs and coordinated by the Director of Infection Control Directorate with the following as members:

1. WHO National Focal point of AMR-MOH
2. Director of Public Health Directorate -MOH
3. Director of Pharmaceutical Services Directorate -MOH
4. Director of Central Medical Stores Directorate-MOH
5. Director of Technical Directorate-MOH
6. Director of Primary Healthcare Directorate-MOH
7. Director of Medical Licensing Department-MOH
8. Director of Health Promotion Department-MOH
9. Director of Drug Inspection Control-MOH
10. Director of Pharmaceutical and Herbal Medicines Registration and Control Administration-MOH
11. Head of Public Health Laboratories-MOH
12. Head of Microbiology and Virology Committee- Council of Medical Laboratories-MOH
13. Director of Research and Studies Office- Kuwait Environment Public authority (KEPA)
14. Representative from The Public authority for Food and nutrition (PAFN)
15. Representative of Animal Health Department-The Public Authority of Agriculture Affairs and Fish Resources (PAAF)
16. Representative of Agriculture Sector -Public Authority of Agriculture Affairs and Fish Resources (PAAF)

The purpose of this committee is to oversee and, when necessary, to coordinate AMR-related activities in all sectors

Governance Operational and Budget Plan

Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Unit	Quantity	Date	Location	Responsible entity	Cost	Source Of funding	Indicator
Strategic Objective G1. National coordination between focal points in the different sectors and different pillars											
G1.1 Identify the needed AMR focal points in human health, animal health, welfare, and production, food safety and security, Plants and agriculture, and environment. The TOR should include coordination among the different ministries and	G1.1.1 Define the TOR of focal points in each of these sectors			G1.1.1 TOR	G1.1.1 5	G1.1.1 Done	-	G1.1.1 NMCG	G1.1.1 None	G1.1.1 None	G1.1.1 TOR are put

authorities along with a yearly meeting of the different focal persons.											
	G1.1.2 Employ and assign the functions of a focal person for each pillar and for AMR in general	G1.1.2.1 Assign AMR focal points for each pillar in human health	G1.1.2.1.1 one focal point for each of the following pillars: IPC, Surveillance, ABX, Awareness	G1.1.2.1 Focal persons assigned	G1.1.2.1 4	G1.1.2.1 3 months	G1.1.2.1 MOH	G1.1.2.1 NMCG	G1.1.2.1 Assigned from existing ministry employees	G1.1.2.1 None	G1.1.2 Focal persons for each pillar at MOH are assigned. Focal points in PAAF, and KEPA, and food safety are assigned
		G1.1.2.2 Assign the general focal person in MOH	G1.1.2.2.1 Dr. Abeer Aly pending assignment/ New employee	G1.1.2.2 Focal person assigned	G1.1.2.2 1	G1.1.2.2 3 months	G1.1.2.2 MOH	G1.1.2.2 NMCG	G1.1.2.2 Assigned from existing ministry/employees	G1.1.2.2 None	
		G1.1.2.3 Assign 1 focal	G1.1.2.3.1	G1.1.2.3 Letter from	G1.1.2.3 1	G1.1.2.3 3 months	G1.1.2.3 PAAF	G1.1.2.3 NMCG	G1.1.2.3 Assigned from	G1.1.2.3 None	

		person in animal health and agriculture fields for all pillars including IPC, Surveillance, ABX, Awareness	Representative in NMCG is the focal person or authorities appoint a person	NMCG through MOH Undersecretary General					existing authority employees		
		G1.1.2.4 Assign 1 focal person in KEPA for all pillars including IPC, Surveillance, ABX, Awareness	G1.1.2.4.1 Representative in NMCG is the focal person or authorities appoint a person	G1.1.2.4 Focal person assigned	G1.1.2.4 1	G1.1.2.4 3 months	G1.1.2.4 KEPA	G1.1.2.4 NMCG	G1.1.2.4 Assigned from existing authority employees	G1.1.2.4 None	
		G1.1.2.5 Assign 1 Focal person in food safety IPC: Surveillance:	G1.1.2.5.1 leave the decision to ministries /authorities	G1.1.2.5 Focal person assigned	G1.1.2.5 1	G1.1.2.5 3 months	G1.1.2.5 Food safety	G1.1.2.5 NMCG	G1.1.2.5 Assigned from existing ministry /authority employees	G1.1.2.5 None	

		ABX Awareness									
	G1.1.2 Include inter-ministerial communication and coordination with the general AMR focal person in the TOR of the focal points			G1.1.2 TOR	G1.1.2 5	G1.1.2 3 months	G1.1.2 MOH	G1.1.2 NMCG	G1.1.2 None	G1.1.2 None	G1.1.2 None
Strategic Objective G2. Provide legal and ministerial support for the realization of the activities listed in the plan											
G2.1 Form inter-ministerial NMCG committee	G2.1.1 Nominate the members and have a ministerial decree about their appointment			G2.1.1 One Health Committee	G2.1.1 1	G2.1.1 Already available					G2.1.1 Already available
	G2.1.2 Write the TOR of the NMCG			G2.1.2 TOR	G2.1.2 1	G2.1.2 Already available					G2.1.2 Already available

	that include: to facilitate and oversee implementation, monitoring and evaluation of the AMR action plan										
	G2.1.3 The NMCG has dedicated funds for administrative costs.	G2.1.3.1 NMCG puts a budget for administrative costs		G2.1.3.1 Budget	G2.1.3.1 1	G2.1.3.1 3 months	G2.1.3.1 MOH	G2.1.3.1 NMCG	G2.1.3.1 To be assigned later	G2.1.3.1 MOH	G2.1.3.1 A budget is put and provided
Strategic Objective G3. The plan is based on evidence-based medicine and put by professionals											
G3.1 Technical groups for specific activities are created when needed from all sectors	G3.1.1 Mapping of professionals throughout the country from public and private			G3.1.1 Mapping of professionals	G3.1.1 1	G3.1.1 3 months	G3.1.1 MOH/PAAF/KEPA/PAFN	G3.1.1 NMCG/ MOH Undersecretary general /Director General in PAAF/KEPA/PAFN	G3.1.1 None	G3.1.1 None	G3.1.1 Technical groups are formed for each pillar, including representative of One

	sectors that could be part of technical groups when needed.										Health approach
Strategic Objective G4. Provide guidance and tools to form a basis for preparation of a national action plan on AMR											
G4.1 Formulate or endorse guidelines for the different topics, along with tools	G4.1.1 Each technical group for each pillar will agree on existing guidelines or producing new guidelines or endorsing international guidelines and make them national			G4.1.1 Guidelines as per each pillar need	G4.1.1 4	G4.1.1 1 year	G4.1.1 MOH/PAAF/KEPA/PAFN	G4.1.1 Technical groups/ Focal persons of each pillar	G4.1.1 None (Professionals are from the ministries /authorities and will perform these consultancies as part of their jobs)	G4.1.1 None	G4.1.1 Guidelines are available when needed

N.B. Refer to Annex 1 for Governance Axis Strategic and Monitory plans

AMR Awareness Operational and Budget Plan

Global action plan strategic objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education and training.

Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Unit	Quantity	Date	Location	Responsible entity	Cost	Source Of funding	Indicator
Strategic Objective 1.1 Organize the activities of this axis and ensure a proper follow up											
1.1.1 To designate a specific employee or post that is responsible of realizing the plan, do the proper communications and follow up on the progress of the plan	1.1.1 Assign one employee /post to overlook these activities in MOH, KEPA, PAAF, food safety			1.1.1 Employee or position	1.1.1 1	1.1.1 3 months	1.1.1 MOH	1.1.1 MOH , KEPA, PAAF, PAFN	1.1.1 New Employee Or assign the function to existing employee	1.1.1 MOH	1.1.1 Awareness Focal person assigned
	1.1.2 Put TOR of employment			1.1.2 -TOR for MOH focal person -PAAF focal person	1.1.2 4	1.1.2 2 months	1.1.2 MOH	1.1.2 NMCG	1.1.2 None	1.1.2 None	1.1.2 TOR is put for all 4 focal persons.

				-KEPA Focal person -PAFN Focal person							
	1.1.3 Letter of employment or assignment of Responsibilities of focal persons in the 4 ministries /authorities			1.1.3 Letter	1.1.3 1 per ministry/authority	1.1.3 3 months	1.1.3 MOH PAAF KEPA PAFN	1.1.3 MOH, KEPA, PAAF, PAFN	1.1.3 None	1.1.3 None	1.1.3 Letter of employment or assignment of duties to specific focal persons in the 4 ministries /authorities is done
Strategic Objective 1.2 Increase national public awareness of AMR as per One health approach through communication programs											
1.2.1 Establish an evidence-based public communications program targeting the general public in the	1.2.1.1 Estimate the knowledge, attitude and practice of general public regarding AMR in humans, animals, agriculture and			1.2.1.1 Already done on a random sample. in outpatient clinics on the use of antibiotics in humans		1.2.1.1 Done					1.2.1.1 Done

community	environment										
	1.2.1.2 Conduct national public awareness campaigns based on the One health approach	1.2.1.2.1 Preparation of material regarding the awareness campaign based on the One health approach	1.2.1.2.1.1 Assign a team to formulate and design the public communication material regarding AMR	1.2.1.2.1.1 Already done		1.2.1.2.1.1 Done					1.2.1.2.1.1 Done
			1.2.1.2.1.2 Produce the public communication material regarding AMR	1.2.1.2.1.1 Already available for AMR in humans		1.2.1.2.1.1 Done					1.2.1.2.1.1 Done
			1.2.1.2.1.3 Update the communication material to cover all aspects of the One	1.2.1.2.1.3 Updated communication material	1.2.1.2.1.3 1	1.2.1.2.1.3 6 months	1.2.1.2.1.3 MOH/ PAAF/ KEPA/ PAFN	1.2.1.2.1.3 The awareness technical task force from MOH/PAAF/KEPA/PAFN	1.2.1.2.1.3 To be determined by the responsible authorities	1.2.1.2.1.3 MOH/ PAAF/ KEPA/ PAFN	1.2.1.2.1.3 The communication material covers all fields of One Health approach (Yes/No)

			health approach: Animal Health, Agriculture, food safety and environment								
		1.2.1.2.2 Put a yearly plan on broadcasting and posting the public communication material on AMR	1.2.1.2.2.1 Broadcasting is all year long, not only during the AMR awareness week (specific timing, place)	1.2.1.2.2.1 Broadcasting schedule (TV, Bill boards, advertisement in malls, …)	1.2.1.2.2.1.1	1.2.1.2.2.1.6 months	1.2.1.2.2.1 MOH Media Office	1.2.1.2.2.1 MOH/ Media Office	1.2.1.2.2.1 To be determined by the responsible authorities	1.2.1.2.2.1 MOH/ PAAF/ KEPA/ PAFN	1.2.1.2.2.1 Schedule is put (Yes/No)
			1.2.1.2.2.2 Prepare costing of the plan	1.2.1.2.2.2 Detailed costing of the plan	1.2.1.2.2.2.1	1.2.1.2.2.2.8 months	1.2.1.2.2.2 MOH/MO Information	1.2.1.2.2.2 MOH/ Media Office /MO Information	1.2.1.2.2.2 None	1.2.1.2.2.2 None	1.2.1.2.2.2 Costing plan is finalized
		1.2.1.2.3 Launch the broadcasting plan		1.2.1.2.3 Advertisements launched according to a yearly schedule	1.2.1.2.3.1 plan/year	1.2.1.2.3.1 year	1.2.1.2.3 MOH/MO Information	MOH/ Media Office /MO Information	1.2.1.2.3 The budget that was put while costing all the	1.2.1.2.3 MOH/PAAF/KEPA/PAFN	1.2.1.2.3 Proportion of the plan that was put on schedule

									advertisements		
		1.2.1.2.4 Engage different types of media including social media in AMR awareness such as putting material/ads periodically on ministry/governmental websites, social media accounts like Facebook, Twitter, Instagram, etc.		1.2.1.2.4 Media message	1.2.1.2.4 1	1.2.1.2.4 1 year	1.2.1.2.4 MOH/MO Information	MOH/ Media Office /MO Information	1.2.1.2.4 To be determined by the responsible authorities	1.2.1.2.4 MOH	1.2.1.2.4 Types of media or social media that mention AMR/month
		1.2.1.2.5 Involve a public figure like Dr. Abdullah		1.2.1.2.5 Involvement of a public figure (Dr.	1.2.1.2.5 1	1.2.1.2.5 3 months	1.2.1.2.5 MOH/ TV/ Social Media Networks/	1.2.1.2.5 MOH/Media Office/Awareness	1.2.1.2.5 None	1.2.1.2.5 None	1.2.1.2.5 Public figure (Dr. Abdullah Al-Sanad) sending

		Al-Sanad (spokesperson MOH) in delivering AMR messages, like tweets on twitter or messages in Talk Shows or through TV ads/News bar		Abdullah Al-Sanad)			Platforms	focal person			message regarding AMR
		1.2.1.2.6 Discuss AMR in TV talk shows	1.2.1.2.6.1 MOH sends a letter to Ministry of Information/ asking to host professionals in AMR to discuss this issue on TV and thus raise public awareness	1.2.1.2.6.1 Letter	1.2.1.2.6.11	1.2.1.2.6.12 months	1.2.1.2.6.1 MOH	1.2.1.2.6.1 Awareness focal person/ MOH undersecretary general	1.2.1.2.6.1 None	1.2.1.2.6.1 None	1.2.1.2.6.1 Proportion of talk shows episodes that discuss AMR
		1.2.1.2.7	1.2.1.2.7.1	1.2.1.2.7.1	1.2.1.2.7.12	1.2.1.2.7.12 months	1.2.1.2.7.1 PAAF	1.2.1.2.7.1 PAAF	1.2.1.2.7.1 None	1.2.1.2.7.1 None	1.2.1.2.7.1

		Involve Non-Governmental Organizations (NGOs) in AMR awareness campaign	Contact FAO and OIE and ask about their communications program regarding AMR and communicate with them the NAP on AMR	Letter to FAO and OIE/Kuwait offices			KEPA PAFN	KEPA PAFN			None
Strategic Objective 1.3 Include AMR education as per One health approach at an early age in schools											
1.3.1 Include basic AMR education in school curricula	1.3.1.1 MOH sends a letter with key facts about AMR, antibiotics, hygiene and IPC basics through the School Health Administration asking to include material			1.3.1.1 Letter	1.3.1.1 1	1.3.1.1 2 months	1.3.1.1 MOH	1.3.1.1 MOH/School Health Administration	1.3.1.1 None	1.3.1.1 None	1.3.1.1 Letter sent Yes or No

	related to these topics in school curricula										
	1.3.1.2 Prepare a module/Add material related to basic AMR knowledge, antibiotics, hygiene and IPC in the curricula	1.3.1.2.1 Create a committee of comprising of AMR professional and education professionals to create a module about basic AMR knowledge, antibiotics, hygiene and IPC to be included in school curricula		1.3.1.2.1 Committee	1.3.1.2.11	1.3.1.2.12 months	1.3.1.2.1 MOH/Ministry of Education	1.3.1.2.1 MOH/ Awareness Focal person/ awareness technical task force	1.3.1.2.1 Rewarding of the committee members	1.3.1.2.1 MOH/ MOE	1.3.1.2.1 Module prepared Yes/No
		1.3.1.2.2 Include this module in secondary		1.3.1.2.2 Letter from MOH	1.3.1.2.21	1.3.1.2.28 months	1.3.1.2.2 MOH/ Ministry of Education	1.3.1.2.2 MOH/ School Health Administration/	1.3.1.2.2 None	1.3.1.2.2 None	1.3.1.2.2 Percent of schools that teach the AMR module

		school education						Ministry of Education			in their secondary school curricula
		1.3.1.2.3 Yearly AMR module workshops involving teachers		1.3.1.2.3 Workshop	1.3.1.2.3 1/year	1.3.1.2.3 1 year	1.3.1.2.3 MOH/ Ministry of Education	1.3.1.2.3 MOH/ School Health Administration /Health Promotion Directorate/ Ministry of Education	1.3.1.2.3 To be determined by MOE	1.3.1.2.3 MOE	1.3.1.2.3 Proportion of teachers who attend these workshops
Strategic Objective 1.4 Raise awareness of healthcare workers about AMR based on the One Health approach											
1.4.1 Establish an evidence-based communication program targeting the healthcare providers for human health, animal health, agricultur	1.4.1.1 Estimate knowledge, attitudes and practices related to AMR among healthcare workers	1.4.1.1.1 Prepare a survey to estimate this knowledge among healthcare workers and identify the gaps		1.4.1.1.1 Already done 2011		1.4.1.1.1 Done					1.4.1.1.1 Done

e and environment sector											
	1.4.1.2 Conduct awareness program within hospitals, primary Healthcare, among physicians, nurses, pharmacists, dentists, physiotherapists, and other HC providers	1.4.1.2.1 MOH mandates to all hospitals and primary Health care centers to provide mandatory sessions about AMR to all employees who are subject to contract/license renewal		1.4.1.2.1 Letter from MOH to hospitals and to primary Health care centers	1.4.1.2.1 2	1.4.1.2.1 2 months	1.4.1.2.1 MOH	1.4.1.2.1 MOH/Awareness Focal person	1.4.1.2.1 None	1.4.1.2.1 None	1.4.1.2.1 Proportion of hospitals and primary Health care centers that provide and request yearly attendance of AMR conferences/sessions
	1.4.1.3 AMR mandatory courses for pharmacists in private practice who are subject to	1.4.1.3.1 Letter from MOH to Drug Inspection Control to request evidence of AMR course attendanc		1.4.1.3.1 Letter	1.4.1.3.1 1	1.4.1.3.1 6 months	1.4.1.3.1 MOH	1.4.1.3.1 MOH	1.4.1.3.1 None	1.4.1.3.1 None	1.4.1.3.1 Letter is issued

	contract/ license renewal	e about AMR upon license renewal									
	1.4.1.4 Link of AMR course attendance to hospital pharmacists' and primary Healthcare pharmacists' promotion.	1.4.1.4.1 MOH recommends yearly attendance for promotion		1.4.1.4.1 Mandate	1.4.1.4.1 1	1.4.1.4.1 1 year	1.4.1.4.1 MOH	1.4.1.4.1 Undersecretary general/ AMR Focal person/	1.4.1.4.1 None	1.4.1.4.1 None	1.4.1.4.1 Mandate is issued
	1.4.1.5 Preparation of a bank of presentations, films, articles, etc. diffused to these syndicates and hospitals to be used as	1.4.1.5.1 Toolkit for AMR communication program to be used in hospital and syndicates		1.4.1.5.1 Toolkit (Slide sets, films, articles, etc...)	1.4.1.5.1 1	1.4.1.5.1 1 year	1.4.1.5.1 NMCG/Awareness Technical task force	1.4.1.5.1 NMCG/Awareness Technical task force	1.4.1.5.1 To be determined by MOH	1.4.1.5.1 MOH	1.4.1.5.1 Toolkit available

	material in their AMR communication programs.										
	1.4.1.6 Syndicates and hospitals send yearly report to MOH about this activity			1.4.1.6 Report to MOH from hospitals	1.4.1.6 Once/ year/ hospital	1.4.1.6 Yearly starting 1 year from starting the plan	1.4.1.6 Hospitals	1.4.1.6 AMR Focal person	1.4.1.6 None	1.4.1.6 None	1.4.1.6 Proportion of hospitals that send report about AMR Awareness activities to MOH
Strategic Objective 1.5 Raise awareness of veterinarians, agriculture professionals and environmental workers about AMR based on the One Health approach											
1.5.1 Conduct an awareness program among veterinarians, agriculture professionals, environmental workers, in addition	1.5.1.1 Prepare AMR awareness toolkit including slide sets, short films, lectures, posters for these professionals			1.5.1.1 AMR toolkit	1.5.1.1 1	1.5.1.1 6 months	1.5.1.1 PAAF KEPA PAFN	1.5.1.1 Awareness Technical Task force	1.5.1.1 To be determined by the responsible authorities	1.5.1.1 PAAF KEPA PAFN	1.5.1.1 AMR toolkit is available

to professionals in PAAF, KEPA, and food safety.											
	1.5.1.2 Integrate AMR awareness in continuous education programs of veterinarians, agriculture professionals, environmental workers, in addition to professionals in PAAF, KEPA, and food safety	1.5.1.2.1 The focal person in each ministry/authority checks educational activities in their facilities and Includes AMR awareness as a topic of continuous education		1.5.1.2.1 AMR education sessions in PAAF KEPA PAFN	1.5.1.2.1 2 per year in each specialty	1.5.1.2.1 1 year	1.5.1.2.1 PAAF KEPA PAFN	1.5.1.2.1 Focal person in each ministry/authority	1.5.1.2.1 None	1.5.1.2.1 None	1.5.1.2.1 Number of AMR Awarenes s sessions per year in each Ministry/authority
		1.5.1.2.2		1.5.1.2.2	1.5.1.2.2	1.5.1.2.2	1.5.1.2.2	1.5.1.2.2	1.5.1.2.2	1.5.1.2.2	1.5.1.2.2

		Mandate that all drug companies' educational activities should include AMR awareness		Mandate	1	6 months	PAAF	- Awareness focal person in PAAF/Director General of PAAF	None	None	Proportion of promotional activities by drug companies in these fields that include messages about AMR
1.5.2 Country participates the regional/international AMR awareness campaign	1.5.2.1 Participate actively in WHO regional AMR campaign and FAO and OIE activities related to AMR	1.5.2.1.1 Register Kuwait authorities (KEPA, PAAF, MOH) to participate in the yearly schedule of AMR activities in WHO, FAO, OIE And encourage individual healthcare professionals,		1.5.2.1.1 Participation in International activities organized by WHO FAO OIE		1.5.2.1.1 1 year	1.5.2.1.1 MOH PAAF KEPA	1.5.2.1.1 Focal persons in MOH PAAF KEPA/ Awareness Technical Task force	1.5.2.1.1 None	1.5.2.1.1 None	1.5.2.1.1 Proportion of events related to AMR in which the country participates

		veterinarians, agriculture professionals, environmental workers to participate									
	1.5.2.2 Participate in GCC activities related to AMR	1.5.2.2.1 Kuwait is part of GCC AMR Group		1.5.2.2.1 Done		1.5.2.2.1 Done					1.5.2.2.1 Done
		1.5.2.2.2 Kuwait participates in all the AMR activities GCC		1.5.2.2.2 Done		1.5.2.2.2 Done					1.5.2.2.2 Done
Strategic Objective 1.6 Include AMR teaching in higher education/post-graduate studies in all human health specialties, agriculture, veterinary food safety, and environment related specialties.											
1.6.1 Include AMR and related topics based on the One Health approach	1.6.1.1 Include AMR and related topics based on the One Health approach	1.6.1.1.1 preparation of modules for these specialties		1.6.1.1.1 Module for each specialty	1.6.1.1.1 1 per specialty	1.6.1.1.1 6 months	1.6.1.1.1 MOH KEPA PAFN	1.6.1.1.1 Awareness focal persons in all ministries /authorities /Awarene	1.6.1.1.1 None	1.6.1.1.1 None	1.6.1.1.1 Modules prepared yes/no

as a core component of professional education, training, certification	in undergraduate curricula for human health (medical, nursing, dental and pharmaceutical), food safety, and environment related specialties.							ss technical task force			
		1.6.1.1.2 Letter from MOH, PAFN KEPA to Ministry of Higher Education to impose on universities/authorities to include these		1.6.1.1.2 Letter	1.6.1.1.2 1	1.6.1.1.2 6 months	1.6.1.1.2 MOH KEPA PAFN	1.6.1.1.2 Awareness focal persons in all ministries /authorities / Awareness task force	1.6.1.1.2 None	1.6.1.1.2 None	1.6.1.1.2 Letter sent Yes/No

		modules in the correspon ding education programs.									
	1.6.1.2 AMR and related topics based on the One Health approach included in the licensing procedure for nurses, dentists, physicians , pharmacis ts, veterinari ans and other profession als for which licensing is required.	1.6.1.2.1 Letter from MOH, PAAF, PAFN and KEPA to licensing bodies of these profession als to include AMR and its related topics in licensing exams and interviews or in the evaluation procedure for license renewal		1.6.1.2.1 Letter from, MOH, PAAF, PAFN and KEPA, to the licensing bodies of each of these profession s	1.6.1.2.1 1 per profession /per licensing body	1.6.1.2.1 3 months	1.6.1.2.1 MOH PAAF KEPA PAFN	1.6.1.2.1 MOH, PAAF, PAFN and KEPA /AMR focal persons in all authoritie s	1.6.1.2.1 None	1.6.1.2.1 None	1.6.1.2.1 Letters sent Yes/No
Strategic Objective Include 1.7 AMR and related topics in quality assurance and accreditation programs in human health, animal health, agriculture, food chain and environment											

1.7.1 IPC, AMR surveillance and AMS are included in the accreditation standards of healthcare facilities	1.7.1.1 Letter from MOH to accreditation bodies to include AMR surveillance and implementation of antimicrobial stewardship programs as part of accreditation standards in all healthcare facilities as well as in the licensing renewal procedures of private healthcare facilities IPC is already			1.7.1.1 Letter	1.7.1.1 1	1.7.1.1 3 months	1.7.1.1 MOH	on1.7.1.1 MOH/AMR awareness focal person/ General AMR focal person	1.7.1.1 None	1.7.1.1 None	1.7.1.1 AMR surveillance and AMS programs are included in the accreditation and license renewal standards for healthcare facilities

	part of these standards										
1.7.2 IPC and rational use of antimicrobials is checked in the procedure of licensing farms, animal husbandry, agriculture, aquatic and marine fields	1.7.2.1 Review of large animal/poultry farms licensing policies and procedures, to include IPC and proper ABX use and prevention of ABX use as growth promoters	1.7.2.1.1 Mandate that ABX are not to be used as growth promoters		1.7.2.1.1 Mandate	1.7.2.1.1 1	1.7.2.1.1 3 months	1.7.2.1.1 PAAF	1.7.2.1.1 PAAF Director General /PAAF awareness focal person	1.7.2.1.1 None	1.7.2.1.1 None	1.7.2.1.1 Mandate issued
		1.7.2.1.2 Letter from PAAF Director General to licensing office to include these points in		1.7.2.1.2 Letter	1.7.2.1.2 1	1.7.2.1.2 3 months	1.7.2.1.2 PAAF	1.7.2.1.2 PAAF Director General	1.7.2.1.2 None	1.7.2.1.2 None	1.7.2.1.2 AMR-related topics are included in licensing conditions.

		the standards									

N.B. Refer to Annex 2 for AMR Awareness Axis Strategic and Monitory plans

AMR Surveillance Operational and Budget Plan

Global action plan strategic objective 2: Strengthen the knowledge and evidence base through surveillance and research.

Strategic interventions	Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Unit	Quantity	Date	Location	Responsible entity	Cost	Source Of funding	Indicator
Strategic Objective 2.1: Set up a national surveillance system for antimicrobial resistance based on One Health Approach												
2.1.1 Establish a national coordination structure for AMR surveillance in humans, veterinary agriculture and environment	2.1.1.1 Write and approve terms of reference for a national coordinating committee for AMR surveillance with the mandate to oversee the AMR surveillance program, including AMR surveillance in Humans,				2.1.1 Committee that includes focal for human, vets, agriculture, environment and Food safety	2.1.1 1	2.1.1 6 months	2.1.1 MOH	2.1.1 MOH	2.1.1 None	2.1.1 None	2.1.1 Committee is formed yes/No

	Veterinary, agriculture, environment and Food safety.											
	2.1.1.2. Write and approve terms of reference for a central office that executes the National surveillance in humans and receives data from other AMR offices in PAAF, KEPA and food safety	2.1.1.2.1 Write terms of reference of the AMR office at MOH			2.1.1.2.1 TOR of a central office at MOH	2.1.1.2.1 1	2.1.1.2.1 3 months	2.1.1.2.1 MOH	2.1.1.2.1 MOH	2.1.1.2.1 None	2.1.1.2.1 None	2.1.1.2.1 TOR written

		2.1.1.2.2 Create the AMR coordinating office at MOH.	2.1.1.2.2.1 Include the already existing Glass team into the MOH National AMR office for Human sector at MOH.	2.1.1.2.2.1.1 Add 2 employees with a support from IT at MOH to be able to handle nationwide data (to do the functions of the central office).	2.1.1.2.2.1.1 Additional employees	2.1.1.2.2.1.1 2	2.1.1.2.2.1.1 6 months	2.1.1.2.2.1.1 MOH	2.1.1.2.2.1.1 MOH/Information system administration	2.1.1.2.2.1.1 2 extra employees	2.1.1.2.2.1.1 MOH	2.1.1.2.2.1.1 2 extra employees are employed. Yes/No
			2.1.1.2.2.2 Mandate that each MOH hospital has an AMR surveillance focal person that coordinates with Central AMR surveilla		2.1.1.2.2.2 Mandate	2.1.1.2.2.2 1	2.1.1.2.2.2 3 months	2.1.1.2.2.2 MOH	2.1.1.2.2.2 MOH	2.1.1.2.2.2 None	2.1.1.2.2.2 None	2.1.1.2.2.2 Mandate issued Yes/No

			nce office.									
		2.1.1.2.3 Inform PAAF,PAFN and KEPA about the need for AMR surveillance in their respective fields.			2.1.1.2.3 Letter	2.1.1.2.3 2	2.1.1.2.3 1 month	2.1.1.2.3 MOH	2.1.1.2.3 MOH	2.1.1.2.3 None	2.1.1.2.3 None	2.1.1.2.3 Letter sent
		2.1.1.2.4 Nominate AMR focal persons in PAAF, KEPA, and Food safety			2.1.1.2.4 Nomination of focal persons	2.1.1.2.4 3	2.1.1.2.4 3 months	2.1.1.2.4 PAAF and KEPA and PAFN	2.1.1.2.4 PAAF/ KEPA/ PAFN	2.1.1.2.4 None	2.1.1.2.4 None	2.1.1.2.4 AMR surveillance focal persons appointed in all 3 authorities.
		2.1.1.2.5 Write the job description of these focal persons. The job description would be to			2.1.1.2.5 TOR	2.1.1.2.5 3	2.1.1.2.5 3 months	2.1.1.2.5 PAAF and KEPA and PAFN	2.1.1.2.5 PAAF/ KEPA/ PAFN	2.1.1.2.5 None	2.1.1.2.5 None	2.1.1.2.5 TOR are set

		collect AMR data and supply it to the Central AMR office and full coordination with the Central AMR office at MOH.										
	2.1.1.3 Identify priority organisms for the purpose of national AMR surveillance in human sector, animal sector, plants and Environment.				2.1.1.3 List of priority organisms for AMR surveillance in humans, animals, agriculture and food safety	2.1.1.3 1 list	2.1.1.3 3 months	2.1.1.3 MOH	2.1.1.3 Central committee for AMR surveillance	2.1.1.3 None	2.1.1.3 None	2.1.1.3 List is available and includes all listed sectors.

	2.1.1.4 Systematically collect, analyze and report data on AMR in humans in order to inform decision-making at national and international levels (Choose sentinel group of labs)	2.1.1.4.1 Choose a list of labs (dealing with specimen from humans) that can provide reliable AMR data will form a sentinel for starting AMR data collection that will be submitted to AMR central office.			2.1.1.4.1 List of labs that potentially will submit AMR data Already exist for 2021 GLASS Data	2.1.1.4.1 1	2.1.1.4.1 3 months	2.1.1.4.1 MOH / GLASS team	2.1.1.4.1 MOH	2.1.1.4.1 None	2.1.1.4.1 None	2.1.1.4.1 List is chosen (8 Labs submitted GLASS data for 2021 -Amiri -Adan -Mubarak Alkhabeer -Jaber -Farwania -Jahra -Chest -Ibn Sina)
		2.1.1.4.2 Increase the number of labs that are included in the list on yearly	2.1.1.4.2.1 Establish close communication between central AMR		2.1.1.4.2.1 New Labs in the list	2.1.1.4.2.1 10 /year	2.1.1.4.2.1 1 year	2.1.1.4.2.1 MOH/ Central AMR Surveillance office	2.1.1.4.2.1 MOH/ Central AMR Surveillance office	2.1.1.4.2.1 None	2.1.1.4.2.1 None	2.1.1.4.2.1 Proportion of labs in the country that are included in the list

		basis until it becomes representative of the national data.	OFFICE that also collects data for glass with the lab council to have a list of labs that are accredited by the council, and to include them in the list of labs eligible to submit data to GLASS and National AMR surveillance									
	2.1.1.5 **Establish an antimicrobial resistance**	2.1.1.5.1 integrate all MOH laboratories in network with the	2.1.1.5.1.1 Training of hospital AMR Surveilla		2.1.1.5.1.1 TOT Workshops	2.1.1.5.1.1 1/year	2.1.1.5.1.1 1 year	2.1.1.5.1.1 MOH/ Central AMR Surveilla	2.1.1.5.1.1 MOH/ Central AMR Surveilla	2.1.1.5.1.1 30,000 KD/year	2.1.1.5.1.1 MOH	2.1.1.5.1.1 Yearly workshop performed

	surveillance network for human health	national reference Lab.	nce focal persons for data cleaning and data entry into the MOH surveillance system					nce office	nce office			Yes/No
		2.1.1.5.2 Generate yearly report about AMR in humans in general and mainly priority organisms in humans by the MOH central office.			2.1.1.5.2 Report	2.1.1.5.2 1/year	2.1.1.5.2 2 years	2.1.1.5.2 MOH/ Central AMR Surveillance office	2.1.1.5.2 MOH/ Central AMR Surveillance office	2.1.1.5.2 None	2.1.1.5.2 None	2.1.1.5.2 Yearly human AMR report is issued
2.1.2 Participate in Global Antimicrobial	2.1.2.1 Nominate a hospital ad a team for				2.1.2.1 Team ad hospital nominated		2.1.2.1 Already done					2.1.2.1 Already done

Resistance Surveillance System (GLASS-AMR)	GLASS reporting with TOR											
	2.1.2.2 Give the GLASS team the authority to request and collect data from labs nationwide				2.1.2.2 Letter from MOH	2.1.2.2 1 to each lab or hospital	2.1.2.2 Already done					2.1.2.2 Already done
		2.1.2.2.1 The team initiates data collection from a sentinel of labs			2.1.2.2.1 Report submitted to glass	2.1.2.2.1 1/year	2.1.2.2.1 Started 2021					2.1.2.2.1 Started 2021
	2.1.2.3 Send yearly report to glass with increasing	2.1.2.3.1 Central GLASS focal group (Part of AMR central	2.1.2.3.1 1 Yearly training of GLASS focal persons on GLASS	2.1.2.3.1. 1.1 Central workshops yearly	2.1.2.3.1. 1.1 Training workshop	2.1.2.3.1. 1.1 1/year	2.1.2.3.1. 1.1 2 years	2.1.2.3.1. 1.1 MOH/ Central AMR Surveillance office	2.1.2.3.1. 1.1 MOH/ Central AMR Surveillance office	2.1.2.3.1. 1.1 20,000 KD	2.1.2.3.1. 1.1 MOH	2.1.2.3.1. 1.1 Workshop done, yes/No have 10-20 %

	number of contributing labs	office), chooses from the list of eligible accredited labs submitted by central entity of medical labs to AMR office,	data collection, management and entry									increase in number of participating labs in GLASS annually
		2.1.2.3.2 Yearly lab report is sent to GLASS with increasing number of contributing labs every year.			2.1.2.3.2 Report sent to GLASS	2.1.2.3.2 1/year	2.1.2.3.2 Started already	2.1.2.3.2 MOH/ Central AMR Surveillance office	2.1.2.3.2 MOH/ Central AMR Surveillance office	2.1.2.3.2 None	2.1.2.3.2 None	2.1.2.3.2 Data is available in the yearly GLASS report
Strategic Objective 2.2: Build laboratory capacity to produce high-quality microbiological data for patient management and support surveillance activities in human,												
2.2.1 Lab in Hospitals become	2.2.1.1 Pilot with 2 labs				2.2.1.1 Lab CAP affiliation	2.2.1.1 2	2.2.1.1 1 year	2.2.1.1 Labs	2.2.1.1 Medical Laborato	2.2.1.1 To be determined	2.2.1.1 MOH	2.2.1.1 Started already

CAP certified (College of American pathologists)									ries Council			
	2.2.1.2 Increase the number of labs that are CAP members	2.2.1.2.1 Lab council puts a plan for sequential recruitment of labs into the CAP			2.2.1.2.1 Plan	2.2.1.2.1 1	2.2.1.2.1 1 year	2.2.1.2.1 Lab council	2.2.1.2.1 MOH	2.2.1.2.1 None	2.2.1.2.1 None	2.2.1.2.1 List is put already
		2.2.1.2.2 Sequential recruitment of labs into CAP			2.2.1.2.2 Labs recruited	2.2.1.2.2 2 labs/year	2.2.1.2.2 5 years	2.2.1.2.2 Labs	2.2.1.2.2 Medical Laboratories Council	2.2.1.2.2 To be determined	2.2.1.2.2 MOH	2.2.1.1 Proportion of Labs that are CAP affiliated
2.2.2 Improve private labs capacity to be eligible for submitting data to GLASS	2.2.2.1 Reinforce the accreditation activity of the lab council that audits labs	2.2.2.1.1 Mandate from MOH that each private lab should pass the accreditation by			2.2.2.1.1 Mandate	2.2.2.1.1 1	2.2.2.1.1 12-24 months	2.2.2.1.1 MOH	2.2.2.1.1 MOH/Medical lab. council/ Medical Licensing Dep.	2.2.2.1.1 None	2.2.2.1.1 None	2.2.2.1 Proportion of labs that are functional and that have passed the accredita

and National AMR	according to availability of qualified microbiologist, results of External QC and abidance to guidelines	the Lab council										tion testing
		2.2.2.1.2 Accreditation of the lab ~~council~~ includes the availability of qualified microbiologist, results of External QC and abidance to guidelines		~~s~~	2.2.2.1.2 Update of accreditation standards of labs	2.2.2.1.2	2.2.2.1.2 6 months	2.2.2.1.2 Labs	2.2.2.1.2 Medical Lab council	2.2.2.1.2 None	2.2.2.1.2 None	Updated accreditation standards of Labs prepared
Strategic objective 2.3: Collect data from Vet, Agriculture and Environment												
2.3.1	2.3.1.1	2.3.1.1.1	2.3.1.1.1.1		2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1

Collect AMR data from Vets	Map available data On AMR in vet and agricultu re in the country.	Agricultu re and Environ ment focal persons collect available info about AMR in the country and issue a report	Map PAAF labs and the type of AMR data that is generate d.		Report about PAAF Labs	1	6 months	PAAF Vet labs	PAAF	None	None	Report is Submitte d to central AMR surveilla nce office
			2.3.1.1.1.2 Collect available data about AMR in PAAF/PA FN		2.3.1.1.1.2 Report from PAAF and food safety focal persons	2.3.1.1.1.2 2	2.3.1.1.1.2 6 months	2.3.1.1.1.2 PAAF/PA FN	2.3.1.1.1.2 PAAF/PA FN	2.3.1.1.1.2 None	2.3.1.1.1.2 None	2.3.1.1.1.2 AMR Vets /food reports are submitte d to central AMR Surveilla nce office
	2.3.1.2 Improve vet lab capacity in a way they generate	2.3.1.2.1 Establish quality control of Vet Microbio logy labs	2.3.1.2.1.1 Assign expert to establish a system for		2.3.1.2.1.1 1 professio nal assigned	2.3.1.2.1.1 1	2.3.1.2.1.1 1 year	2.3.1.2.1.1 PAAF	2.3.1.2.1.1 PAAF	2.3.1.2.1.1 Salary	2.3.1.2.1.1 PAAF	2.3.1.1.1.1 Professio nal is assigned

	data about AMR vets and agricultu re		quality control and put a plan		/employ ed							
			2.3.1.2.1. 2 Execute the plan of quality control in Vet labs		2.3.1.2.1. 2 qc of vet labs	2.3.1.2.1. 2 1	2.3.1.2.1. 2 2 year	2.3.1.2.1. 2 vet labs	2.3.1.2.1. 2 PAAF	2.3.1.2.1. 2 to be determin ed by PAAF	2.3.1.2.1. 2 PAAF	2.3.1.2.1. 2 Proportio n of VET Labs that Participat e in external quality control activities
		2.3.1.2.2 Extend Vet Micro Labs to identify priority organism s antibiogr am	2.3.1.2.2. 1 Increase man power		2.3.1.2.2. 1 Employe es	2.3.1.2.2. 1 To be determin ed Per lab	2.3.1.2.2. 1 6 months	2.3.1.2.2. 1 Vet Labs	2.3.1.2.2. 1 PAAF	2.3.1.2.2. 1 to be determin ed by PAAF	2.3.1.2.2. 1 PAAF	2.3.1.2.2. 1 none
			2.3.1.2.2. 2 Road map and full project		2.3.1.2.2. 2 Project	2.3.1.2.2. 2 1	2.3.1.2.2. 2 1 year	2.3.1.2.2. 2 PAAF/Ve t labs	2.3.1.2.2. 2 PAAF	2.3.1.2.2. 2 none	2.3.1.2.2. 2 none	2.3.1.2.2. 2 The project is put with specified budget

												and ready for executio n
			2.3.1.2.2.3 Worksho ps for training about antibiogr am		2.3.1.2.2.3 Worksho p	2.3.1.2.2.3 1/year	2.3.1.2.2.3 1 year	2.3.1.2.2.3 PAAF Central Lab, or assigned lab	2.3.1.2.2.3 PAAF	2.3.1.2.2.3 Worksho p cost	2.3.1.2.2.3 PAAF	2.3.1.2.2.3 Worksho p is performe d.
		2.3.1.2.3 Impleme nt national surveilla nce for antibiogr am priority animal pathogen s, zoonotic and commen sal bacterial isolates.	2.3.1.2.3.1 Choose a number of Vet labs that could submit AMR data to PAAF for AMR surveilla nce		2.3.1.2.3.1 List of labs	2.3.1.2.3.1 1 list/year	2.3.1.2.3.1 1 year	2.3.1.2.3.1 PAAF	2.3.1.2.3.1 PAAF AMR surveilla nce focal Person	2.3.1.2.3.1 None	2.3.1.2.3.1 None	2.3.1.2.3.1 List of labs is available yearly
			2.3.1.2.3.2 Collect data from a Sentinel		2.3.1.2.3.2 Yearly data collectio n	2.3.1.2.3.2 1/year	2.3.1.2.3.2 2 years	2.3.1.2.3.2 PAAF	2.3.1.2.3.2 PAAF/ AMR surveilla	2.3.1.2.3.2 None	2.3.1.2.3.2 None	2.3.1.2.3.2 Data is yearly collected

			of vet hospitals or labs that submit data to the departm ent of surveilla nce. (They belong to the list).						nce focal person			
		2.3.1.2.4 The focal AMR entity at PAAF submits AMR data to the Central AMR surveilla nce lab.			2.3.1.2.4 Data Submitte d to Central AMR office at MOH	2.3.1.2.4 1/year	2.3.1.2.4 1 year	2.3.1.2.4 PAAF/ MOH	2.3.1.2.4 AMR Surveilla nce focal person at PAAF	2.3.1.2.4 None	2.3.1.2.4 None	2.3.1.2.4 Data submitte d to MOH Central Office.
2.3.2 Collect AMR data from Environ ment.	2.3.2.1 Map available data from KEPA	2.3.2.1 Check KEPA Labs and publicati ons about any AMR			2.3.2.1 Search	2.3.2.1 1	2.3.2.1 3 months	2.3.2.1 KEPA labs	2.3.2.1 KEPA focal person for AMR surveilla nce	2.3.2.1 None	2.3.2.1 None	2.3.2.1 Report is issued

		data in environment										
	2.3.2.2 Initiate AMR data collection from Environment By research projects.	2.3.2.2.1 The director of the office of research and studies puts AMR surveillance as one of the priority subjects in research	2.3.2.2.1.1 The plan of prioritizing AMR surveillance in Environment and marine environment re and is being discussed with universities/institutes		2.3.2.2.1.1 Minutes of discussions in meetings with universities//institutes official letters	2.3.2.2.1.1 4/5	2.3.2.2.1.1 6 months	2.3.2.2.1.1 KEPA Research office	2.3.2.2.1.1 KEPA Research office	2.3.2.2.1.1 None	2.3.2.2.1.1 None	2.3.2.2.1.1 % of research meetings with universities//institutes where AMR is requested to be apriority in research projects.
			2.3.2.2.1.2 Call for proposal from universities//institutes		2.3.2.2.1.2 Letter to universities/institutes from KEPA research director to send projects related to AMR	2.3.2.2.1.2 1/university	2.3.2.2.1.2 1 year	2.3.2.2.1.2 KEPA research office directorate	2.3.2.2.1.2 KEPA research office directorate	2.3.2.2.1.2 None	2.3.2.2.1.2 None	2.3.2.2.1.2 Proportion of universities /institutes that send projects related to AMR in

					in environment							environment to KEPA research office
			2.3.2.2.1.3 The director of the office of research and studies applies for funds from KEPA for projects related to AMR surveillance in Vet, agriculture, and Environment.		2.3.2.2.1.3 Projects and funds	2.3.2.2.1.3 Multiple	2.3.2.2.1.3 6 months	2.3.2.2.1.3 KEPA research office	2.3.2.2.1.3 KEPA research office	2.3.2.2.1.3 None	2.3.2.2.1.3 None	2.3.2.2.1.3 % of proposed projects related to AMR in environment that have been funded
		2.3.2.2.2 Increase lab capacity of KEPA Lab that deals with the	2.3.2.2.2.1 Letter from KEPA Director General to		2.3.2.2.2.1 Letter from KEPA General director to	2.3.2.2.2.1 1	2.3.2.2.2.1 3 months	2.3.2.2.2.1 KEPA	2.3.2.2.2.1 KEPA	2.3.2.2.2.1 None	2.3.2.2.2.1 None	2.3.2.2.2.1 KEPA Lab starts reporting AMR data

		quality of coastal water to include AMR identification and surveillance in water and sediment	Technical affairs sector of micro labs asking to prepare a project with a budget that aims at expanding their work from only identification to antibiogram testing		technical affairs sector							
			2.3.2.2.2.2 KEPA analytical central lab KEPA prepare road map for the labs to be able to do antibiogr	2.3.2.2.2.2.1 Identify the needed machinery and their budget	2.3.2.2.2.2.1 List and budget	2.3.2.2.2.2.1 1	2.3.2.2.2.2.1 6 months	2.3.2.2.2.2.1 KEPA Analytical Lab center	2.3.2.2.2.2.1 KEPA Analytical Lab center	2.3.2.2.2.2.1 None	2.3.2.2.2.2.1 None	2.3.2.2.2.2 Road map project with budget is put to extend KEPA microbiology lab from

			am testing									bacterial identification to include also antibiogram testing
				2.3.2.2.2.2.2 Put a plan of needed extra staffing	2.3.2.2.2.2.2 Plan	2.3.2.2.2.2.2 1	2.3.2.2.2.2.2 6 months	2.3.2.2.2.2.2 KEPA Lab council	2.3.2.2.2.2.2 KEPA Lab council	2.3.2.2.2.2.2 None	2.3.2.2.2.2.2 None	See above
			2.3.2.2.2.3 KEPA provides the related budget	2.3.2.2.2.3 Communication between KEPA and ministry of finance	2.3.2.2.2.3 Letters	2.3.2.2.2.3 2	2.3.2.2.2.3 2 years	2.3.2.2.2.3 KEPA MO finance	2.3.2.2.2.3 KEPA MO finance	2.3.2.2.2.3 None	2.3.2.2.2.3 None	2.3.2.2.2.3 None
			2.3.2.2.2.4 KEPA microbiology labs start generating antibiogram results for		2.3.2.2.2.4 Antibiogram KEPA LABS	2.3.2.2.2.4 1/LAB	2.3.2.2.2.4 3 years	2.3.2.2.2.4 KEPA Micro lab	2.3.2.2.2.4 KEPA	2.3.2.2.2.4 Will be determined in the Road map project	2.3.2.2.2.4 KEPA	2.3.2.2.2.4 KEPA Marine lab actually generates AMR data

			priority organisms									
		2.3.2.2.3 Generate report about AMR surveillance in Environment			2.3.2.2.3 Report	2.3.2.2.3 1	2.3.2.2.3 4 years	2.3.2.2.3 KEPA	2.3.2.2.3 KEPA	2.3.2.2.3 None	2.3.2.2.3 None	2.3.2.2.3 Yes/No
2.3.3 The national AMR Surveillance Office at MOH gathers data from KEPA, PAAF and PAFN compiles it with Human AMR data and generates yearly ONE Health AMR	2.3.3.1 KEPA, PAAF and PAFN submit available data to Central AMR surveillance office at MOH on yearly basis	2.3.3.1.1 Create a digital network for data sharing with MOH			2.3.3.1.1 Digital system	2.3.3.1.1 1	2.3.3.1.1 5 years	2.3.3.1.1 MOH, KEPA, PAAF PAFN	2.3.3.1.1 IT team at MOH, KEPA, PAAF PAFN	2.3.3.1.1 none	2.3.3.1.1 none	2.3.3.1.1 Digital System is put

surveillance report.												
		2.3.3.1.2 Add this function to the TOR of the focal person at PAAF and KEPA and food safety.			2.3.3.1.2 TOR	2.3.3.1.23	2.3.3.1.23 years	2.3.3.1.2 MOH/ KEPA/ PAAF/ PAFN	2.3.3.1.2 MOH/ KEPA/ PAAF/ PAFN	2.3.3.1.2 None	2.3.3.1.2 None	2.3.3.1.2 TOR includes surveillance function detail.
Strategic objective 2.4: Create a National Reference Lab for AMR												
2.4.1 To have A Kuwaiti Center of Disease Control that will be overseeing bacterial viral and AMR reference labs	2.4.1.1 Project of reference lab with its budget and having it endorsed by MOH				2.4.1.1 Project endorsed by MOH	2.4.1.11	2.4.1.1 Already available	2.4.1.1 Kuwait CDC Lab	2.4.1.1 MOH	2.4.1.1 Included in the project, already approved by Minister of Health	2.4.1.1 MOH	2.4.1.1 Kuwait CDC will oversee the needs and functions of all reference laboratorial, including viral, bacterial and AMR.

	2.4.1.2 Kuwait CDC becomes functional				2.4.1.2 Functional Kuwait CDC	2.4.1.2 1	2.4.1.2 5 years	2.4.1.2 Kuwait CDC	2.4.1.2 MOH/ Minister of Health	2.4.1.2 included in the approved project approved by minister of health	2.4.1.2 Council of Ministers /MOH and Ministry of Finance.	2.4.1.2 Kuwait CDC is established
.	2.4.1.3 Write and approve terms of reference for a national AMR reference laboratory with expertise in methods for confirming and characterizing specific pathogens, putting guidelines, SOP for				2.4.1.3 TOR OF Reference Lab	2.4.1.3 1	2.4.1.3 3 months	2.4.1.3 Kuwait CDC lab	2.4.1.3 Kuwait CDC/Minister of health/Medical Lab.council	2.4.1.3 none	2.4.1.3 none	2.4.1.3 TOR of AMR reference Lab are put. They include: expertise in methods for confirming and characterizing specific pathogens, putting guidelines, SOP for identification and antibiogram

	identification and antibiogram testing of priority organisms for surveillance training according to guidelines, and organizing quality assurance schemes											testing of priority organisms for surveillance training according to guidelines, and organizing quality assurance schemes
	2.4.1.4 Prepare a full project and proposal for the reference lab				2.4.1.4 Reference Lab project as part of Kuwait CDC	2.4.1.4 1	2.4.1.4 5 years	2.4.1.4 Kuwait CDC	2.4.1.4 Kuwait CDC	2.4.1.4 project already approved	2.4.1.4 Kuwait CDC budget already approved	2.4.1.4 Yes/No
	2.4.1.5 Prepare a budget for the building, equipment and				2.4.1.5 Budget	2.4.1.5 1	2.4.1.5 5 years	2.4.1.5 Kuwait CDC	2.4.1.5 Kuwait CDC	2.4.1.5 Budget within the budget of Kuwait CDC	2.4.1.5 MOH/ Council of ministers /Ministry	2.4.1.5 Budget for AMR lab is approved

	man power of the referenc e Lab										of Finance.	
	2.4.1.6 Executio n of the Referenc e Lab				2.4.1.6 Function al AMR referenc e lab	2.4.1.6 1	2.4.1.6 5 years	2.4.1.6 Kuwait CDC	2.4.1.6 Kuwait CDC	2.4.1.6 Budget within the budget of Kuwait CDC	2.4.1.6 MOH/ Council of ministers /Ministry of Finance.	2.4.1.6 Referenc e lab is set and functioni ng

Delegate the function of surveillance of the reference Lab pending its readiness	2.4.2.1 Identify institution affiliated to MOH that will host the manpower and activities of the AMR Surveillance office for the actual work on the National and GLASS AMR reports pending the finalization of the	2.4.2.1.1 A letter from MOH to all labs that asks them to coordinate with the GLASS lab by delivering AMR data for the purpose of AMR Surveillance			2.4.2.1.1 Letter from MOH to hospitals through Medical lab council	2.4.2.1.11	2.4.2.1.1 Already available	2.4.2.1.1 MOH	2.4.2.1.1 MOH	2.4.2.1.1 None	2.4.2.1.1 None	2.4.2.1.1 Already available

	referenc e lab.											
Strategic objective 2.5: Unify AMR identification in all Micro labs												
2.5.1 Lab audit by lab accreditation body according to microbiologist consultant in charge, external quality control and use of CLSI guidelines	2.5.1.1 Accreditation of the medical Laboratories by Medical Laboratories Council	2.5.1.1.1 Involve all laboratories in external quality assurance programs	2.5.1.1.1.1 Mandate that all labs including all private should be accredited and all perform external QC.	2.5.1.1.1.1.1 List of accreditation bodies accepted in Kuwait, all labs should be accredited by one of them	2.5.1.1.1.1.1 List	2.5.1.1.1.1.1 1	2.5.1.1.1.1.1 6 months	2.5.1.1.1.1.1 Central Labs/MOH/ Medical Lab.council	2.5.1.1.1.1.1 Central Labs/MOH/Medical Lab.council	2.5.1.1.1.1.1 None	2.5.1.1.1.1.1 None	2.5.1.1.1.1.1 Number of international accreditation bodies that are recommended in Kuwait for the labs to get their accreditation

N.B. Refer to Annex 3 for AMR Surveillance Axis Strategic and Monitory plans

Infection Prevention and Control Operational and Budget Plan

Global action plan strategic objective 3: Reduce the incidence of infection through effective sanitation, hygiene and prevention measures.

Strategic interventions	Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Unit	Quantity	Date	Location	Responsible entity	Cost	Source Of funding	Indicator
Strategic Objective 3.1 Emphasize the national infection prevention and control program in healthcare at the National and Health care facility levels.												
3.1.1 Create a formal organizational structure to ensure proper development and use of infection prevention and control policies and strategies	3.1.1.1 Infection Control Organizational structure is already established and functioning.	-	-	-	3.1.1.1 IPC Directorate in MOH that is a central, and fulfills the criteria of National IPC body that coordinates and organizes IPC activities in HCF.	3.1.1.1 1	3.1.1.1 Done 1980	3.1.1.1 MOH	3.1.1.1 MOH /IPC Directorate	3.1.1.1 Done	3.1.1.1 none	3.1.1.1 Already available
	3.1.1.2 To make official that IPC is part of the organogr	3.1.2.1 Decree from MOH about IPC departm			3.1.2.1 Decree from MOH	3.1.2.1 1	3.1.2.1 2 Months	3.1.2.1 MOH	3.1.2.1 MOH /IPC Directorate	3.1.2.1 None	3.1.2.1 None	3.1.2.1 The decree was issued.

	am of each hospital with Terms of Reference and allocated staff	ent in each hospital with TOR, and staffing organization										
	3.1.1.3 IPC departments in hospitals and they work closely with the central IPC Directorate	3.1.1.3.1 To impose IPC programs in all hospitals	3.1.1.3.1.1 IPC program availability is checked by accreditation standards		3.1.1.3.1.1 Recommendation availability in accreditation standards	3.1.1.3.1.1 1	3.1.1.3.1.1 Already available	3.1.1.3.1.1 MOH/ Quality and Accreditation Directorate	3.1.1.3.1.1 MOH / Quality and Accreditation Directorate	3.1.1.3.1.1 None	3.1.1.3.1.1 No need	3.1.1.3.1.1 Exists already
		3.1.1.3.2 IPC programs are available in all hospitals and they work under the umbrella of the	-	-	3.1.1.3.2 IPC Program/ Department	3.1.1.3.2 One in each hospital	3.1.1.3.2 Already available	3.1.1.3.2 IPC directorate/Hospitals	3.1.1.3.2 MOH/IPC directorate/Hospitals	3.1.1.3.2 None	3.1.1.3.2 None	3.1.1.3.2 Number of Hospitals with IPC programs and Total number of hospital departments

		Central IPC directorate.										
3.1.2 Implement laws for mandatory compliance of the facilities with IPC standards	3.1.2.1 Decree from MOH	3.1.2.1.1 Decree that recommends that all HCF have to abide by IPC Recommendations.	3.1.2.1.1.1 IPC Directorate puts the detailed IPC measures that should be required from each HCF, and sent to MOH to be included in ministry	-	3.1.2.1.1.1 List of measures	3.1.2.1.1.1 1	3.1.2.1.1.1 2 months	3.1.2.1.1.1 MOH/IPC directorate	3.1.2.1.1.1 MOH/IPC directorate	3.1.2.1.1.1 No cost	3.1.2.1.1.1 No cost	3.1.2.1.1.1 List is sent from IPC Directorate to MOH undersecretary
			3.1.2.1.1.2 Decree is issued by MOH	-	3.1.2.1.1.2 Decree	3.1.2.1.1.2 1	3.1.2.1.1.2 3 months	3.1.2.1.1.2 MOH	3.1.2.1.1.2 MOH	3.1.2.1.1.2 None	3.1.2.1.1.2 None	3.1.2.1.1.2 Decree availability and dissemination
		3.1.2.1.2 Medical responsibilities.	3.1.2.1.2.1 Add compliance to IPC	-	3.1.2.1.2.1 Update of medical	3.1.2.1.2.1 1	3.1.2.1.2.1 3 months	3.1.2.1.2.1 MOH	3.1.2.1.2.1 IPC Directorate/MOH	3.1.2.1.2.1 None	3.1.2.1.2.1 None	3.1.2.1.2.1 The Medical responsi

		Add details IPC standard compliance in hospitals	measures and recommendations to the list of medical responsibilities of hospitals as listed by MOH		responsibilities list issued by MOH							bility list is updated and it includes the statement about IPC measures.
3.1.3 WHO IPC Core component based guidelines are established in all HCF	3.1.3.1 Availability of endorsed IPC based on WHO IPC core components	-	-	-	3.1.3.11 available guidelines	3.1.3.11 Central IPC Guideline	3.1.3.1 Done	3.1.3.1 MOH	3.1.3.1 MOH/ Directorate of IPC	-	3.1.3.1 MOH	3.1.3.1 Available
	3.1.3.2 IPC policies and procedures are included in hospital accreditation standards	-	-	-	3.1.3.21 Available list	3.1.3.21 list	3.1.3.2 Done	3.1.3.2 MOH	3.1.3.2 MOH/ Directorate of IPC	-	3.1.3.2 MOH	3.1.3.2 Available

	3.1.3.3 IPC policies and procedures are being audited regularly by accreditation bodies	-	-	-	3.1.3.3 1 audit tool Available	3.1.3.3 1 audit tool	3.1.3.3 Done	3.1.3.3 MOH	3.1.3.3 MOH / Quality and Accreditation Directorate	-	3.1.3.3 MOH	3.1.3.3 Available
	3.1.3.4 National infection control policies and guidelines are distributed and periodically updated	3.1.3.4.1 Regular update of national IPC guidelines	3.1.3.4.1. 1 On going, but needs to be speeded up by increasing manpower in IPC nationwide in central office and in hospitals	-	3.1.3.4.1. 1 Employing new Inspectors, MDs and IPC professionals with data entry personnel	3.1.3.4.1. 1 -10 MD -4 data entry personnel -15 inspectors	3.1.3.4.1. 1 2 years	3.1.3.4.1. 1 MOH	3.1.3.4.1. 1 IPC directorate/MOH	3.1.3.4.1. 1 MOH	3.1.3.4.1. 1 MOH	3.1.3.4.1. 1 Number employed/Number needed
		3.1.3.4.2 A direct channel with	3.1.3.4.2. 1 Communicate this	3.1.3.4.2. 1.1 Letter from	3.1.3.4.2. 1.1 Letter	3.1.3.4.2. 1.1 1	3.1.3.4.2. 1.1 1 month	3.1.3.4.2. 1.1	3.1.3.4.2. 1.1 WCO	3.1.3.4.2. 1.1	3.1.3.4.2. 1.1 WHO	3.1.3.4.2. 1.1 Number of

		WHO consultant regarding few queries and new recommendations	need to WHO office in Kuwait	MOH/IPC directorate to WHO office in Kuwait asking for direct channel with a consultant for queries whenever they occur				WHO office Kuwait		Will be costed by WHO		answered queries /Number of needed consultations
			3.1.3.4.2.2 Communicate this need to Regional WHO office	3.1.3.4.2.2 Request from WCO to Regional office.	3.1.3.4.2.2 Letter	3.1.3.4.2.2 1	3.1.3.4.2.2 2 months	3.1.3.4.2.2 WHO office Kuwait	3.1.3.4.2.2 WCO	3.1.3.4.2.2 Will be costed by WHO	3.1.3.4.2.2 WHO	
		3.1.3.4.3 Regular update of National IPC policies and procedures	3.1.3.4.3.1 Need updating + speeding up the process		3.1.3.4.3.1 provide necessary manpower as in 3.1.3.4.1.1	3.1.3.4.3.1 As above Manpower 3.1.3.4.1.1	3.1.3.4.3.1 ongoing	3.1.3.4.3.1 MOH	3.1.3.4.3.1 Plan of manpower Above As in 3.1.3.4.1.1	3.1.3.4.3.1 Employees salaries	3.1.3.4.3.1 MOH	3.1.3.4.3.1 Number of hospitals with updated policies/ Total number of hospitals

	3.1.3.5 National IPC Guidelines and policies are being taught	3.1.3.5.1 TOT periodically performed nationally	-	-	3.1.3.5.1 Training sessions	3.1.3.5.1 Started years ago, and running	3.1.3.5.1 Already being performed	3.1.3.5.1 MOH/IPC directorate/ Hospitals	3.1.3.5.1 IPC Directorate	3.1.3.5.1 Already budget is available and being performed	3.1.3.5.1 MOH	3.1.3.5.1 Number of IPC professionals trained annually /total number of IPC professionals.
		3.1.3.5.2 Continuous training of HCW about IPC policies in hospitals is available	3.1.3.5.2.1 Mandate from MOH that it is mandatory to all HCW to attend at least 1 yearly and 1 upon employment		3.1.3.5.2.1 Mandate	3.1.3.5.2.1 1	3.1.3.5.2.1 2 months	3.1.3.5.2.1 MOH	3.1.3.5.2.1 IPC Directorate/ MOH	3.1.3.5.2.1 None	3.1.3.5.2.1 None	3.1.3.5.2.1 Decree is done and sent to hospitals.
			3.1.3.5.2.2 Improve attendance to these	3.1.3.5.2.2.1 Attendance is reported to hospital	3.1.3.5.2.2.1 Report presented to hospital directors	3.1.3.5.2.2.1 report/hospital/year	3.1.3.5.2.2.1 1 year	3.1.3.5.2.2.1 MOH/ Hospitals	3.1.3.5.2.2.1 Hospital IPC office	3.1.3.5.2.2.1 None	3.1.3.5.2.2.1 No	3.1.3.5.2.2.1 Number of HCW attendees /year

			general HCW IPC training sessions	administrators and action taken to improve attendance								
				3.1.3.5.2.2.2 Attendance evidence is available in yearly Hospital IPC report and monitored by IPC Directorate	3.1.3.5.2.2.2 Report presented to IPC directorate	3.1.3.5.2.2.2 1 Report/hospital/year	3.1.3.5.2.2.2 1 year	3.1.3.5.2.2.2 IPC Directorate	3.1.3.5.2.2.2 MOH/IPC directorate/Hospital administrators	3.1.3.5.2.2.2 None	3.1.3.5.2.2.2 No	3.1.3.5.2.2.2 none
3.1.4 Monitor and evaluate compliance with the IPC guidelines	3.1.4.1 Checklists and audit tools are prepared and applied	–	–	–	3.1.4.1 documents (checklists and audit tools)	3.1.4.1 1	3.1.4.1 Started years ago, and ongoing for new policies.	3.1.4.1 MOH/IPC Directorate	3.1.4.1 IPC Directorate	3.1.4.1 none	3.1.4.1 none	3.1.4.1 Number of policies with audit tools/Total number of policies

	3.1.4.2 Regular updates of these audit tools	3.1.4.2.1 Check new policies if they have their audit tools prepared and disseminated and check old tools if they need update	-	-	3.1.4.2.1 Audit tool	3.1.4.2.1 One/new policy. Then total review once/year	3.1.4.2.1 Ongoing	3.1.4.2.1 IPC Directorate/ MOH	3.1.4.2.1 IPC Directorate/ MOH	3.1.4.2.1 None	3.1.4.2.1 None	3.1.4.2.1 Number of new policies with audit tool/Total number of new policies.
	3.1.4.3 Audit plan available in hospitals	3.1.4.3.1 Audit plan is checked in standards of the National Accreditation Program applied by the Quality and Accreditation	-	-	3.1.4.3.1 checking	3.1.4.3.11	3.1.4.3.1 done ongoing	3.1.4.3.1 IPC Directorate/ MOH	3.1.4.3.1 IPC Directorate/ MOH	3.1.4.3.1 None	3.1.4.3.1 None	3.1.4.3.1 Done and ongoing

		Directorate										
		3.1.4.3.2 Central audit plan is being prepared annually and distributed to all hospitals	-	-	3.1.4.3.2 Audit plan	3.1.4.3.21	3.1.4.3.2 Done and ongoing yearly	3.1.4.3.2 IPC Directorate	3.1.4.3.2 IPC Directorate /MOH	3.1.4.3.2 none	3.1.4.3.2 none	3.1.4.3.2 Done and ongoing
		3.1.4.3.3 Audit report is sent to central IPC directorate with corrective actions.	-	-	3.1.4.3.3 Report	3.1.4.3.3 one/ hospital	3.1.4.3.3 Done and ongoing	3.1.4.3.3 Hospitals /IPC directorate	3.1.4.3.3 Hospitals /IPC directorate/MOH	3.1.4.3.3 None	3.1.4.3.3 None	3.1.4.3.3 Done and ongoing
	3.1.4.4 Establish national process indicators	3.1.4.4.1 1st set of process indicators: -CLABSI -CAUTI -VAP	3.1.4.4.1.1 Put the basic training material	-	3.1.4.4.1.1 Process indicators of the Bundles of care	3.1.4.4.1.13	3.1.4.4.1.1Already available	3.1.4.4.1.1 IPC directorate	3.1.4.4.1.1 IPC directorate	3.1.4.4.1.1No extra budget	3.1.4.4.1.1 IPC directorate for both	3.1.4.4.1.1 Each one of the 3 procedures has its own bundle established.
			3.1.4.4.1.2Update	3.1.4.4.1.2	3.1.4.4.1.2New	3.1.4.4.1.2	3.1.4.4.1.2	3.1.4.4.1.2 IPC	3.1.4.4.1.2MOH/	3.1.4.4.1.2None	3.1.4.4.1.2None	3.1.4.4.1.2Availabi

			of the already available bundle of care in each of the mentioned bundles, by including new evidence-based items to the bundle	Prepare the updated bundles	bundle definition and checklist	3	2 years	directorate/MOH	IPC directorate			lity of 3 updated bundles
			3.1.4.4.1.3 Train the IPC professionals nationwide on the updated bundles	3.1.4.4.1.3.1 TOT workshops	3.1.4.4.1.3.1 TOT sessions	3.1.4.4.1.3.1 2/year centrally Total=4	3.1.4.4.1.3.1 2 years	3.1.4.4.1.3.1 MOH/IPC directorate	3.1.4.4.1.3.1 IPC Directorate /MOH	3.1.4.4.1.3.1 No need for additional at MOH	3.1.4.4.1.3.1 MOH	3.1.4.4.1.3.1 % IPC professionals trained about the new bundles
			3.1.4.4.1.4 Engage all HCW with the bundles by training,	3.1.4.4.1.4.1 Prepare the ground in the hospitals:	3.1.4.4.1.4.1 Letter for CLABSI bundle	3.1.4.4.1.4.1 1 disseminated to all hospital directors	3.1.4.4.1.4.1 CLABSI months Each bundle 1 y	3.1.4.4.1.4.1 IPC Directorate/MOH	3.1.4.4.1.4.1 IPC Directorate/MOH	3.1.4.4.1.4.1 None	3.1.4.4.1.4.1 None	3.1.4.4.1.4.1 Letter sent or not

			audit and feedback.	Letter to hospital directors about the bundles project its importance and its processes								
				3.1.4.4.1.4.2 Update the material to be taught to HCW by IPC professionals, according to the updated bundles.	3.1.4.4.1.4.2 Training package for each bundle	3.1.4.4.1.4.2 3 (1/bundle)	3.1.4.4.1.4.2 2 years	3.1.4.4.1.4.2 IPC Directorate/MOH	3.1.4.4.1.4.2 IPC Directorate/MOH	3.1.4.4.1.4.2 None	33.1.4.4.1.4.2 None	3.1.4.4.1.4.2 % of material directed to HCW that has been updated.
				3.1.4.4.1.4.3 In-hospital training sessions by IPC professionals to all	3.1.4.4.1.4.3 Training sessions in hospitals to HCW performed by each	3.1.4.4.1.4.3 Multiple in each hospital	3.1.4.4.1.4.3 4 years	3.1.4.4.1.4.3 MOH/Hospitals	3.1.4.4.1.4.3 MOH/IPC directorate/Hospitals	3.1.4.4.1.4.3 None	3.1.4.4.1.4.3 None	3.1.4.4.1.4.3 Compliance with performance indicator for each bundle

				concerned HCW. Include Bundle training in the yearly IPC training and in peri-employment training.	hospital 's IPC team							
				3.1.4.4.1.4.4 Auditing compliance to these bundles on monthly basis and report to IPC directorate monthly	3.1.4.4.1.4.4 Audit activity/Audit report. (about the updated bundles and updated checklists)	.1.4.4.1.4.4 3/months/hospital	3.1.4.4.1.4.4 5 years	.1.4.4.1.4.4 MOH/Hospitals	.1.4.4.1.4.4 MOH/Hospitals/IPC Directorate	.1.4.4.1.4.4 None	.1.4.4.1.4.4 None	3.1.4.4.1.4.4 <u>Process Indicator for each of the 3 bundles:</u> <u>For each bundle:</u> % Compliance by the specific bundle /opportunities of audit for each bundle

		3.1.4.4.2 Update outcome indicators for the 3 bundles above (CLABSI, CAUTI, VAP) according to new CDC/ guidelines	3.1.4.4.2.1 Review updated CDC outcome indicators and update already measured bundles outcome indicators according ly	-	3.1.4.4.2.1 Reviewed outcome indicator, calculation and benchmarking	3.1.4.4.2.1 3	3.1.4.4.2.1 6 months	3.1.4.4.2.1 MOH/IPC directorate	3.1.4.4.2.1 MOH/IPC directorate	3.1.4.4.2.1 None	3.1.4.4.2.1 MOH budget	3.1.4.4.2.1 Number of outcome indicator measurements and benchmark is updated.
		3.1.4.4.3 Integrate process and outcome indicators for each bundle, and use in the analysis and corrective actions	3.1.4.4.3.1 Put a road map for integrating analysis of outcome and process indicators related to the bundles	-	3.1.4.4.3.1 Protocol	3.1.4.4.3.1 3	3.1.4.4.3.1 1 year	3.1.4.4.3.1 MOH/IPC directorate	3.1.4.4.3.1 MOH/IPC directorate	3.1.4.4.3.1 None	3.1.4.4.3.1 MOH budget	3.1.4.4.3.1 % of bundles whose analysis integrates process and outcome data
		3.1.4.4.4	3.1.4.4.4.1	-	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1	3.1.4.4.4.1

		Introduce SSI bundle	preparation of material		Protocol, Checklist, teaching material for IPC professionals and HCW	1 Central	4 years	MOH/IPC directorate	MOH/IPC directorate	None	MOH budget	% of material that is prepared
			3.1.4.4.4.2 Implementation of SSI bundle	3.1.4.4.4.2.1 Teaching of IPC professionals by central IPC directorate	3.1.4.4.4.2.1 Teaching sessions and workshops	3.1.4.4.4.2.1 Central	3.1.4.4.4.2.1 5 years	3.1.4.4.4.2.1 IPC directorate/MOH	3.1.4.4.4.2.1 MOH/IPC directorate /Hospitals	3.1.4.4.4.2.1 None	3.1.4.4.4.2.1 MOH	3.1.4.4.4.2.1 % hospitals start submitting process and outcome indicators for SSI.
				3.1.4.4.4.2.2 Teaching of healthcare providers inside the hospitals by IPC professionals	3.1.4.4.4.2.2 Teaching sessions and workshops	3.1.4.4.4.2.2 2/y in hospitals	3.1.4.4.4.2.2 5 years	3.1.4.4.4.2.2 MOH/Hospitals	3.1.4.4.4.2.2 MOH/IPC directorate /Hospitals	3.1.4.4.4.2.2 None	3.1.4.4.4.2.2 MOH	3.1.4.4.4.2.2 % hospitals start submitting process and outcome indicators for SSI.
				3.1.4.4.4.2.3	3.1.4.4.4.2.3	3.1.4.4.4.2.3	3.1.4.4.4.2.3 5 years	3.1.4.4.4.2.3 Hospitals	3.1.4.4.4.2.3	3.1.4.4.4.2.3 None	3.1.4.4.4.2.3 MOH	3.1.4.4.4.2.3

				Data collection	Data collection	1			MOH/IPC directorate /Hospitals			% hospitals start submitting process and outcome indicators for SSI.
3.1.5 IPC programs /office in LTCF working in close cooperation with IPC directorate in MOH	3.1.5.1 Mandate from MOH that IPC program/ with employee with TOR and specified budget are available in LTCF the central and the "branches".	3.1.5.1.1 Communication between MOH and Public Authority of Disability Affairs regarding IPC in LTCF and being overseen by the IPC directorate	3.1.5.1.1.1 Letter from MOH to Public Authority of Disability Affairs asking to establish IPC in each LTCF and to have the personnel work closely with IPC directorate delegate to LTCF.		3.1.5.1.1.1 Letter	3.1.5.1.1.1 1	3.1.5.1.1.1 2 months	3.1.5.1.1.1 MOH/ Public Authority of Disability Affairs	3.1.5.1.1.1 MOH/ Main LTCF	3.1.5.1.1.1 No	3.1.5.1.1.1 No	3.1.5.1.1.1 Present

			3.1.5.1.1.2 Letter from Public Authority of Disability Affairs to LTCF that recommends IPC in each LTCF and organizes the communication with MOH		3.1.5.1.1.2 Letter	3.1.5.1.1.2 1	3.1.5.1.1.2 2 months	3.1.5.1.1.2 Public Authority of Disability Affairs	3.1.5.1.1.2 Public Authority of Disability Affairs	3.1.5.1.1.2 No	3.1.5.1.1.2 No	3.1.5.1.1.2 Letter sent
		3.1.5.1.2 Established Guidelines for IPC in LTCF	3.1.5.1.2.1 Preparation of the LTCF guidelines and their endorsement by Public Authority of Disability Affairs	-	3.1.5.1.2.1 Guidelines Policies Procedures	3.1.5.1.2.1 1	3.1.5.1.2.1 1 year	3.1.5.1.2.1 IPC Directorate/ Public Authority of Disability Affairs	3.1.5.1.2.1 MOH/IPC Directorate	3.1.5.1.2.1 None	3.1.5.1.2.1 None	3.1.5.1.2.1 Availability of the endorsed guidelines and set of policies and procedures

			3.1.5.1.2.2 Dissemination of LTCF Policies and Procedures	3.1.5.1.2.2.1 TOT of LTCF IPC focal persons	3.1.5.1.2.2 Workshop once/y	3.1.5.1.2.2 1/year	3.1.5.1.2.2 1.5 years	3.1.5.1.2.2 Public Authority of Disability Affairs	3.1.5.1.2.2 MOH/ Public Authority of Disability Affairs	3.1.5.1.2.2 20,000 KD	3.1.5.1.2.2 MOH/ Public Authority of Disability Affairs	3.1.5.1.2.2 % focal IPC persons in LTCF trained on the guidelines/total number of LTCF IPC focal persons.
Strategic Objective 3.2 To have the HAI and AMR information digitalized and sent to IPC directorate as a digital report												
3.2.1 Software for hospital data entry, analysis and generating both hospital and national reports	3.2.1.1 Subcommittee from IPC directorate sends a letter to Information system department at MOH explaining what is required and asking				3.2.1.1 Letter	3.2.1.1 1	3.2.1.1 2 months	3.2.1.1 MOH	3.2.1.1 MOH/ IPC directorate	3.2.1.1 None	3.2.1.1 None	3.2.1 Software developed and working

	for the software											
	3.2.1.2 Information system dep. presents projects (either in-house, or ready to buy) with budget providing				3.2.1.2 Project	3.2.1.2 1	3.2.1.2 12 months	3.2.1.2 MOH	3.2.1.2 MOH/ Information system department	3.2.1.2 To be determined	3.2.1.2 MOH	See above
	3.2.1.3 Agreement between IPC directorate and information system dep. to choose one system				3.2.1.3 Agreement letter	3.2.1.3 1	3.2.1.3 1 year 3 months	3.2.1.3 MOH	3.2.1.3 MOH/ IPC directorate/Health Information system department	3.2.1.3 None	3.2.1.3 None	See above
	3.2.1.4 Apply the system in the hospitals				3.2.1.4 System application	3.2.1.4 1	3.2.1.4 1 year 9 months	3.2.1.4 Hospitals	3.2.1.4 MOH/ IPC directorate/ Informati	3.2.1.4 To be determined by the MOH	3.2.1.4 MOH	See above

									on system departm ent/Hosp itals			
	3.2.1.5 Apply the Digital HAI/AMR System for National data collectio n from individua l hospitals to central IPC directora te				3.2.1.5 System applicati on	3.2.1.5 1	3.2.1.5 2 years	3.2.1.5 Hospitals	3.2.1.5 MOH/ IPC directora te/Infor mation system departm ent/Hosp itals	3.2.1.5 To be determin ed by the MOH	3.2.1.5 MOH	See above
3.2.2 To Shift all hospital informati on system from paper to digital mode.	3.2.2.1 MOH recomme nds from hospitals to have an electroni c patient and data informati on system.	3.2.2.1.1 Letter from MOH to hospitals	-	-	3.2.2.1.1 Letter	3.2.2.1.1 1 to each hospital	3.2.2.1.1 2 months	3.2.2.1.1 MOH/Ho spitals	3.2.2.1.1 MOH/ Informati on system dep.	3.2.2.1.1 None	3.2.2.1.1 None	3.2.2.1.1 Letter is sent

	3.2.2.2 Increase the number of hospitals that have digitalized their medical information system	-	-	-	3.2.2.2 Digital information system in each hospital	3.2.2.2 1/hospital	3.2.2.2 5 years	3.2.2.2 Hospitals	3.2.2.2 Hospitals /MOH/ Information system dep.	3.2.2.2 to be determined by MOH	3.2.2.2 <u>Private hospitals:</u> the hospitals themselves <u>Public hospitals:</u> MOH	3.2.2.2 % hospitals with digital information system
3.2.3 Connect Infection Control Departments to electronic medical records	3.2.3.1 Connect Infection Control departments in all hospitals with the HIS and LIS at the hospital level	3.2.3.1.1 Letter from MOH to ask all hospitals to connect IC dep. with HIS and LIS at the hospital level	-	-	3.2.3.1.1 Letter	3.2.3.1.1 all private hospitals all governmental hospitals	3.2.3.1.1 2 months	3.2.3.1.1 MOH	3.2.3.1.1 Hospitals MOH/Information system dep.	3.2.3.1.1 None	3.2.3.1.1 None	3.2.3.1.1 % IC dep connected with HIS/LIS in hospitals
		3.2.3.1.2 Decree from MOH to all hospitals who have an electroni	-	-	3.2.3.1.2 Letter	3.2.3.1.2 all private hospitals / all governmental hospitals	3.2.3.1.2 4 months	3.2.3.1.2 MOH	3.2.3.1.2 MOH	3.2.3.1.2 No	3.2.3.1.2 Hospitals	3.2.3.1.2 % IC dep connected with electronic AMR data in hospitals

		c Health information system to link their Lab AMR data to the Hospital system										
	3.2.3.2 Develop electronic outbreak reporting system for data entry, analysis and generating reports.				3.2.3.2 electronic outbreak reporting system	3.2.3.2 1 central	3.2.3.2 3 years	3.2.3.2 MOH	3.2.3.2 MOH /Information system department	3.2.3.2 to be determined by MOH	3.2.3.2 MOH	3.2.3.2 electronic outbreak reporting system available
	3.2.3.3 Develop electronic reporting system for data entry, analysis and				3.2.3.3 Electronic system for data collection analysis and generating	3.2.3.3 1	3.2.3.3 3 years	3.2.3.3 MOH/Hospitals	3.2.3.3 MOH /Information system department	3.2.3.3 to be determined by MOH	3.2.3.3 MOH	3.2.3.3 Bundles data collection, analysis and generation of hospital /

	generating hospital/ national reports for bundles of care.				hospitals /national reports for bundles process and outcome indicators							national reports is done through. an electronic advanced system Yes/No
	3.2.3.4 Develop electronic infection prevention and control system capable of self-identifying HAI and detecting outbreaks	3.2.3.4.1 Electronic system has a function for self diagnosis of HAIs and automatically detects outbreak			3.2.3.4.1 Function in the electronic system	3.2.3.4.1 1	3.2.3.4.1 5 years	3.2.3.4.1 MOH/Hospitals	3.2.3.4.1 MOH/ Information system department	3.2.3.4.1 to be determined by MOH	3.2.3.4.1 MOH	3.2.3.4.1 % of HAIs and outbreaks in hospitals are automatically detected by the IT system
Strategic Objective 3.3 Enhance IPC education in all health- related specialties and among HCW.												
3.3.1 Include IPC as a core element in education and	3.3.1.1 Include infection control in undergraduate curricula for	3.3.1.1.1 Prepare module about IPC and AMR to be included	-	-	3.3.1.1.1 Educational IPC module	3.3.1.1.1 1	3.3.1.1.1 2 years	3.2.1.1.1 MOH	3.3.1.1.1 MOH/IPC directorate	3.3.1.1.1 None	3.3.1.1.1 MOH	3.3.1.1.1 Module is available

training of healthcare professionals	health care students (medical, nursing, dental and pharmaceutical).	in all health specialties in universities/PAAET.										
		3.3.1.1.2 MOH letter to MOHE and PAAET to ask to include this modules into the undergrads and graduate health students' curricula	-	-	3.3.1.1.2 1 letter to MOHE and Letter to PAAET	3.3.1.1.22	3.3.1.1.22 years	3.2.1.1.2 MOH	3.3.1.1.2 MOH/IPC Directorate	3.3.1.1.2 None	3.3.1.1.2 No	3.3.1.1.2 Letters sent
		3.3.1.1.3 Modules sent to Kuwait university/ PAAET to include it in curricula			3.3.1.1.3 Module sent to Kuwait University and PAAET	3.3.1.1.31	3.3.1.1.32.5 years	3.3.1.1.3 MOHE / PAAET	3.3.1.1.3 MOHE / PAAET	3.3.1.1.3 None	3.3.1.1.3 No	3.3.1.1.3 % health specialties that include IPC module

3.3.2 Enhance IPC education among undergraduates and higher education health students	3.3.2.1 Include infection control in continuing education of healthcare workers and mandatory prerequisite for promotion	3.3.2.1.1 Provide IPC courses with CE credits in universities, hospitals, MOH, PAAET PAAF Include CME Credit 10% IPC			3.3.2.1.1 IPC courses	3.3.2.1.1 At least once/year in universities /IPC directorate and PAAF	3.3.2.1.1 2 years	3.3.2.1.1 Universities/ Hospitals / IPC Directorate/ PAAET PAAF	3.3.2.1.1 IPC directorate/MOHE / PAAET / PAAF	3.3.2.1.1 No extra	3.3.2.1.1 Universities/ Hospitals /-PAAET / PAAF	3.3.2.1.1 Number of IPC courses/ year
		3.3.2.1.2 Request that when CE credits for physicians, nurses, or pharmaci			3.3.2.1.2 Decree	3.3.2.1.2 -1 for physicians -1 for Nurses -1 for pharmacists.	3.3.2.1.2 3 months	3.3.2.1.2 MOH	3.3.2.1.2 MOH/IPC Directorate	3.3.2.1.2 None	3.3.2.1.2 None	3.3.2.1.2 % professionals have 10% of their CE credits are related to IPC

		sts is needed, 10% of these credits should be about IPC.										
		3.3.2.1.3 In hospitals, yearly and upon employment, mandatory attendance of IPC lectures	-	-	3.3.2.1.3 Letter from MOH to all hospitals	3.3.2.1.3 1 to each hospital	3.3.2.1.3 3 months	3.3.2.1.3 MOH/Hospitals	3.3.2.1.3 MOH/Hospitals	3.3.2.1.3 None	3.3.2.1.3 None	3.3.2.1.3 % hospitals that mandated that all employee get IPC training upon employment and yearly IPC lecture.
	3.3.2.2 Hygiene and IPC education provided outside formal teaching programs	3.3.2.2.1 Require IPC education by drug companies, hospitals, LTCFs, FAO, and medical/ veterinary	3.3.2.2.1.1 Request to include few topics about IPC in conferences agendas	3.3.2.2.1.11 Letter to be sent	3.3.2.2.1.11 letter	3.3.2.2.1.1 1 letter /association or entity	3.3.2.2.1.1 1 6 months	3.3.2.2.1.1 1 MOH	3.3.2.2.1.1 1 MOH/Directorate IPC	3.3.2.2.1.1 1 None	3.3.2.2.1.1 1 None	3.3.2.2.1.1 1 Yes/No

		associations										
Strategic Objective 3.4 Prevent occupational infections in HCWs												
3.4.1 Develop a comprehensive program of vaccination to protect HCWs from vaccine preventable diseases	-	-	-	-	3.4.1 HCW vaccination program	3.4.1 1 all inclusive	3.4.1 Available And applied	3.4.1 MOH	3.4.1 MOH/Public Health directorate	3.4.1 Price of vaccines	3.4.1 MOH	3.4.1 % of HCWs professionals that are vaccinated
3.4.2 Develop policies and procedures to protect healthcare workers from occupational exposure to	-	-	-	-	3.4.2 policies and procedures to protect healthcare workers from occupational exposure to infections	3.4.2 1	3.4.2 Available And applied	3.4.2 MOH	3.4.2 MOH	3.4.2 None	3.4.2 None	3.4.2 Yes/No

infections.												
3.4.3 Availability of Airborne Isolation Rooms in all hospitals	3.4.3.1 screening mapping and updating the recommendations according to the expected need according to need	-	-	-	3.4.3.1 Mapping and Updated recommendations	3.4.3.1 1/1	3.4.3.1 5 years	3.4.3.1 MOH/Hospitals	3.4.3.1 MOH/Engineering Directorate	3.4.3.1 None	3.4.3.1 MOH for Public hospitals private hospitals: the hospitals themselves.	3.4.3.1 Yes/No
3.4.4 Mandate to hospitals to provide airborne isolation rooms (AII) available as per the updated recommendations	-	-	-	-	3.4.4 Mandate	3.4.4 1/hospital	3.4.4 5 years	3.4.4 MOH	3.4.4 MOH	3.4.4 none	3.4.4 none	3.4.4 Percent hospitals have enough AII rooms as per MOH recommendation
Strategic Objective 3.5 Adequate waste management in hospitals												
3.5.1	3.5.1.1	3.5.1.1.1	3.5.1.1.1.1	-	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1	3.5.1.1.1.1

Put National Guidelines	National policies, strategies and plans for healthcare waste management is in place	Unify recommendations between KEPA and MOH	Create a committee from MOH and KEPA that unifies the recommendation and the road map of all types of waste that are generated in healthcare		Committee	1	6 months	MOH/KEPA	MOH	None	None	Committee members are nominated
			3.5.1.1.1.2 The committee reviews waste policies that are related to HCF and unifies recommendations and provides	-	3.5.1.1.1.2 Revision	3.5.1.1.1.2 1	3.5.1.1.1.2 1 year	3.5.1.1.1.2 KEPA	3.5.1.1.1.2 KEPA	3.5.1.1.1.2 None	3.5.1.1.1.2 None	3.5.1.1.1.2 Percent chapters that represent conflict between recommendations of the 2 ministries that have been reviewed

			the proper ways of supervision									and unified
3.5.2 Supervision of waste disposal from public hospitals	3.5.2.1 Create a committee for the supervision of waste disposal from public hospitals	-	-	-			3.5.2.1 Available and ongoing					3.5.2.1 Available and ongoing
3.5.3 Supervision of waste disposal in private hospitals	3.5.3.1 Create a committee for the supervision of waste disposal in private hospitals	-	-	-	3.5.3.1 Committee	3.5.3.1 1	3.5.3.1 1 year	3.5.3.1 KEPA	3.5.3.1 MOH/KEPA	3.5.3.1 None	3.5.3.1 None	3.5.3.1 Yes/No
3.5.4 Waste policies are being audited by KEPA	3.5.4.1 Organization of supervision of waste disposal	-	-	-	3.5.4.1 Audit plan	3.5.4.1 1	3.5.4.1 1.5 years	3.5.4.1 KEPA	3.5.4.1 KEPA	3.5.4.1 1 employee KEPA	3.5.4.1 KEPA	3.5.4.1 % Public hospitals are being audited for waste disposal.

	inside and from private hospitals											
	3.5.4.2 Designate 1 unit at KEPA to oversee the waste in hospitals		-	-	3.5.4.2 1 Unit At KEPA	3.5.4.2 1	3.5.4.2 1 year	3.5.4.2 KEPA	3.5.4.2 MOH/KEPA	3.5.4.2 to be determined	3.5.4.2 KEPA/Private hospitals /MOH	3.5.4.2 % Private hospitals where waste management is being supervised
Strategic Objective 3.6 To enhance infection prevention and control programs in veterinary and agriculture settings												
3.6.1 Availability of IPC guidelines in veterinary practices	3.6.1.1 Implementation of OIE guidelines regarding IPC in veterinary field	3.6.1.1.1 Committee in PAAF that regularly checks updates in OIE guidelines regarding IPC in veterinary field, and updates the guidelines	-	-	3.6.1.1.1 IPC Committee in PAAF	3.6.1.1.1 1	3.6.1.1.1 6 months	3.6.1.1.1 PAAF	3.6.1.1.1 PAAF	3.6.1.1.1 None	3.6.1.1.1 None	3.6.1.1.1 Committee is formed

		accordingly										
		3.6.1.1.2 Overseeing the implementation of national IPC guidelines in Vet field and OIE good practices	3.6.1.1.2 Regular audits to farms	3.6.1.1.2 Put a yearly audit plan	3.6.1.1.2 Plan	3.6.1.1.2 1	3.6.1.1.2 1 year	3.6.1.1.2 PAAF	3.6.1.1.2 PAAF	3.6.1.1.2 none	3.6.1.1.2 none	3.6.1.1.2 % Farms that are being audited yearly for IPC measures.
3.6.2 Include IPC in licensing of Vets	3.6.2.1 Include questions about OIE IPC guidelines and vaccinations in all vets licensing exams or interviews.	3.6.2.1.1 Prepare a set of questions related to IPC in Vets to be included in licensing exams and interviews.	-	-	3.6.2.1.1 Set of questions	3.6.2.1.1 1	3.6.2.1.1 6 months	3.6.2.1.1 PAAF	3.6.2.1.1 IPC Committee in PAAF	3.6.2.1.1 none	3.6.2.1.1 none	3.6.2.1.1 Availability of IPC questions in licensing exams (Yes/No)
3.6.3 Include IPC in Continuous educatio	3.6.3.1 Prepare a slide bank related to IPC in	-	-	-	3.6.3.1 IPC slide bank	3.6.3.1 1	3.6.3.1 6 months	3.6.3.1 PAAF	3.6.3.1 PAAF	3.6.3.1 none	3.6.3.1 none	3.6.3.1 Yes/No

n of Vets and professionals in Agriculture	vet and agriculture, to be given to drug companies that usually do the continuous education activities.											
	3.6.3.2 Mandate that all drug company events or seminars include a specific number of slides related to IPC and AMR.	-	-	-	3.6.3.2 Mandate	3.6.3.2 1	3.6.3.2 9 months	3.6.3.2 PAAF	3.6.3.2 PAAF	3.6.3.2 None	3.6.3.2 None	3.6.3.2 Mandate available or not
3.6.4 Include hygiene and infection prevention and	3.6.4.1 Close communication between. FAO and PAAF to	-	-	-	3.6.4.1 Yearly education plan that targets vaccinati	3.6.4.1 1	3.6.4.1 1 year	3.6.4.1 PAAF	3.6.4.1 PAAF/FAO	3.6.4.1 None	3.6.4.1 None	3.6.4.1 Joint education plan between FAO and PAAF

control as core content in training of veterinary professionals.	put a joint yearly plan of education activities related to IPC.				on and IPC							that includes IPC-related training
	3.6.4.2 Include hygiene and infection prevention and control as mandatory prerequisite for promotion of for the veterinary workers.	3.6.4.2.1 IPC credits mandatory for promotion in Vet. Associations	-	-	3.6.4.2.1 Mandate	3.6.4.2.1 1	3.6.4.2.1 6 months	3.6.4.2.1 Veterinary association	3.6.4.2.1 PAAF/Veterinary association	3.6.4.2.1 None	3.6.4.2.1 None	3.6.4.2.1 Mandate available or not

N.B. Refer to Annex 4 for IPC Axis Strategic and Monitory plans

Antimicrobial Use Operational and Budget Plan

Global action plan strategic objective 4: Optimize the use of antimicrobial medicines in human and animal health.

Activity	Sub-activity	Sub-sub-activity	Unit	Quantity	Date	Location	Responsible entity	Cost	Source Of funding	Indicator
Strategic Objective 4.1 Ensure governance of antibiotic axis pillar and follow up of the activities of this pillar										
4.1.1 Identify who will be the ABX arm pillar focal point in each ministry /authority and assign the TOR					4.1.1 6 months		MOH -PAAF -KEPA -PAFN	4.1.1 Already available	4.1.1 None	4.1.1 available
4.1.2 Prepare clear TOR of the focal person for ABX in each ministry/authority			4.1.2 TOR	4.1.2 1	4.1.2 2 months	4.1.2 MOH	4.1.2 AMR committee that reports to secretary	4.1.2 None	4.1.2 None	4.1.2 Yes/No
4.1.3 Assign the job to a defined person/position in each ministry/authority,			4.1.3 Letter of assignment of duties	4.1.3 1/each ministry	4.1.3 3 months	4.1.3 -MOH -PAAF -KEPA PAFN	4.1.3 AMR Inter-ministerial/ authorities executive committee	4.1.3 None	4.1.3 None	4.1.3 Proportion of ministries/ authorities where ABX arm focal person is assigned

and nomination by each ministry/authority										
4.1.4 Put TOR And reimbursement plan for the different tasks.			4.1.4 TOT/ Reimbursement plan	4.1.4 1	4.1.4 3 months	4.1.4 MOH	4.1.4 NMCG/ Focal person	4.1.4 None	4.1.4 None	4.1.4 Yes/No
4.1.5 Nominate the stakeholders for the task force of the pillar			4.1.5 Decree with names of stakeholders	4.1.5 1	4.1.5 4 months	4.1.5 MOH PAAF KEPA PAFN	4.1.5 MOH PAAF KEPA PAFN	4.1.5 None	4.1.5 None	4.1.5 ABX use task force group is formed Yes/No
Strategic Objective 4.2 Ensure uninterrupted access to high-quality antimicrobial medicines										
			4.2 Already available		4.2 System is in place	(Pharmaceutical and Herbal Medicines Registration and Control Administration/Drug Inspection Control				4.2 Already available
4.2.1 Put clear criteria for					4.2.1 System is in place					4.2.1 System is in place

standards of quality safety and efficiency of ABX										
4.2.2 Put a system of controlling that all available ABX in the country should meet the international standards listed above otherwise they are not allowed to be in the market.					4.2.2 Already available, Only ABX that are licensed by WHO, EMEA or FDA, are allowed in the market					4.2.2 Already available
4.2.3 All ABX should be tested by a system that identifies counterfeit prior to licensing.					4.2.3 Available					4.2.3 System already in place
4.2.4 Put regulations					4.2.4 Available					4.2.4 System

that prohibit the sale of counterfeit products										already in place
4.2.5 The system that controls quality assurance of ABX has the authority to stop counterfeit products from being licensed and marketed					4.2.5 available					4.2.5 System already In place
Strategic Objective 4.3 Develop and enforce legislation and regulations on prescription and dispensing of medicine including antibiotics										
4.3.1 Develop and implement national essential medicine list guided by the WHO Model List of Essential Medicines	4.3.1.1 Finalize the essential medicine list that is being prepared at MOH		4.3.1.1 National list issued and endorsed by MOH director general	4.3.1.1 1	4.3.1.1 6 months	4.3.1.1 MOH	4.3.1.1 Central Medical Stores Directorate	4.3.1.1 No need Then accordingly might need new need antibiotics that may need a budget	4.3.1.1 No need	4.3.1.1 List is issued Yes/No
4.3.2 Mandate			4.3.2 Mandate	4.3.2 1	4.3.2 6 months	4.3.2 MOH	4.3.2 MOH Undersecre	4.3.2 None	4.3.2 None	4.3.2 Yes/No

that every institution has an essential medicine list							tary general/ ABX focal person			
4.3.3 Each institution has an essential medicine list and this is checked in accreditation standards include checking the availability of the essential medicine list	4.3.3.1 Mandate from MOH that once the national essential medicine list is available, all hospitals including public and private hospitals should formulate their own list		4.3.3.1 Mandate	4.3.3.1 1	4.3.3.1 8 months	4.3.3.1 MOH	4.3.3.1 MOH Undersecretary general / Abx focal person	4.3.3.1 None	4.3.3.1 None	4.3.3.1 Yes/No
	4.3.3.2 Include the availability of essential medicine list into the license renewal	4.3.3.2.1 Private hospital renewal license checklist should include the availability of essential	4.3.3.2.1 Checklist	4.3.3.2.1 1	4.3.3.2.1 8 months	4.3.3.2.1 MOH	4.3.3.2.1 Medical Licensing Dep/ MOH	4.3.3.2.1 None	4.3.3.2.1 None	4.3.3.2.1 Licensing checklist includes the item of essential medicine list or not

	conditions of private hospitals	medicine list								
4.3.4 Re imburseme nt plan is based on essential medicine list in public and private hospitals			4.3.4 After issuing the essential medicine list, Mandate from Undersecre tary General	4.3.4 1	4.3.4 8 months	4.3.4 MOH	4.3.4 MOH/ Undersecre tary General / NMCG	4.3.4 None	4.3.4 None	4.3.4 % of reimbursed ABX that are listed in the essential medicine list
Strategic Objective 4.4 Start AMS program in primary Healthcare										
4.4.1 Create a technical group that puts national ABX use guidelines for outpatient care based on Internation al guidelines and National AMR profiles:	4.4.1.1 Put TOR and renewal conditions of the focal group of stakeholde rs		4.4.1.1 TOR	4.4.1.1 1	4.4.1.1 3 months	4.4.1.1 MOH	4.4.1.1 MOH/ National Committee of proper ABX use.	4.4.1.1 None	4.4.1.1 None	4.4.1.1 TOR put Yes or no

can be a subcommittee from the national task force for the ABX pillar for proper use of ABX										
	4.4.1.2 Assign the members of this committee		4.4.1.2 Committee members	4.4.1.2 1 committee	4.4.1.2 3 months	4.4.1.2 MOH	4.4.1.2 MOH/ National Committee of proper ABX use.	4.4.1.2 None	4.4.1.2 None	4.4.1.2 TOR put Yes or no
	4.4.1.3 Put TOR and official renewal time for the guidelines committee		4.4.1.3 TOR	4.4.1.3 1	4.4.1.3 3 months	4.4.1.3 MOH	4.4.1.3 MOH/ National Committee of proper ABX use.	4.4.1.3 None	4.4.1.3 None	4.4.1.3 TOR put Yes or no
4.4.2 Guidelines in primary healthcare are available and are regularly updated			4.4.2 Guidelines	4.4.2 1	4.4.2 6 months	4.4.2 MOH	4.4.2 Primary Healthcare Directorate / technical committee / National Committee for ABX use	4.4.2 None	4.4.2 MOH	4.4.2 Guidelines available Yes or no

	4.4.2.1 Training workshop about ABX guidelines in primary healthcare		4.4.2.1 Workshop	4.4.2.1 Once/year	4.4.2.1 5 years	4.4.2.1 MOH	4.4.2.1 Primary Health care Directorate / technical committee	4.4.2.1 None	4.4.2.1 MOH	4.4.2.1 Proportion of primary healthcare physician who attend every year
/4.4.3 Apply AMS in primary healthcare: Monitoring ABX consumption and Link prescription to diagnoses	4.4.3.1 Project ABX consumption documentation and surveillance in primary care	4.4.3.1.1 Put a proposal for this project	4.4.3.1.1 Proposal	4.4.3.1.1 1	4.4.3.1.1 8 months	4.4.3.1.1 Primary Health care	4.4.3.1.1 AMR committee /Primary Health care Directorate	4.4.3.1.1 COST: No need for extra manpower	4.4.3.1.1 None	4.4.3.1.1 Project is put
	4.4.3.2 Start collecting data and link it to diagnosis		4.4.3.2 Data collection	4.4.3.2 Same number as primary healthcare centers	4.4.3.2 10 months	4.4.3.2 Primary healthcare centers	4.4.3.2 Primary Healthcare Directorate /Information system dep.	4.4.3.2 No	4.4.3.2 No	4.4.3.2 Proportion of primary Healthcare centers that are feeding data into the project
	4.4.3.3 Data analysis and feedback to prescribers		4.4.3.3 Report of analyzed data	4.4.3.3 Once/year	4.4.3.3 1 year	4.4.3.3 Central primary Heath care Directorate	4.4.3.3 Clinical Pharmacist in primary Healthcare.	4.4.3.3 Employ 1 Clinical pharmacist in charge of the project	4.4.3.3 MOH	4.4.3.3 Proportion of primary Healthcare centers

								in primary healthcare		that receive annual report with feedback about ABX prescriptio n
	4.4.3.4 Employ more pharmacist s in primary healthcare		4.4.3.4 New employed Pharmacist s	4.4.3.4 According to the needed clinical pharmacist s	4.4.3.4 1 year	4.4.3.4 Primary Health care/ MOH	4.4.3.4 Pharmaceu tical Services Directorate	4.4.3.4 Salaries for new pharmacist s	4.4.3.4 MOH	4.4.3.4 Number of pharmacist s that are employed
	4.4.3.5 Improve manpower with professiona ls for the AMS project in primary healthcare	4.4.3.5.1 Train available pharmacist s on AMS and clinical pharmacy principles	4.4.3.5.1 Workshops /Courses	4.4.3.5.1 To be assessed	4.4.3.5.1 18 months	4.4.3.5.1 Primary Health care directorate	4.4.3.5.1 ABX use taskforce group	4.4.3.5.1 30,000 KD/ workshop	4.4.3.5.1 MOH	4.4.3.5.1 Number of pharmacist s in primary Health care who have a certificate in AMS training
		4.4.3.5.2 Employ new clinical pharmacist specialized in AMS and 1 full time clinical microbiolo gist in	4.4.3.5.2 Clinical pharmacist specialized in AMS	4.4.3.5.2 2	4.4.3.5.2 1 8 months	4.4.3.5.2 Primary Healthcare directorate	4.4.3.5.2 Pharmaceu tical Services Directorate	4.4.3.5.2 Salary x2	4.4.3.5.2 MOH	4.4.3.5.2 Clinical pharmacist s are employed, Yes/No

		primary healthcare directorate								
4.4.4 Update the digital system that is available in primary healthcare to integrate the ABX guidelines into the electronic system in the form of pop-ups			4.4.4 ABX guidelines integrated in primary Heath care digital system	4.4.4 1	4.4.4 2 years	4.4.4 Primary Healthcare directorate	4.4.4 MOH/Primary Healthcare / technical committee /Information System Dep.	4.4.4 To be determined	4.4.4 MO	4.4.4 updated electronic system available
Strategic Objective 4.5 Apply AMS In Public and Private hospitals										
4.5.1 Improve and measure appropriate use of antimicrobial agents in healthcare	4.5.1.1 Nominate who will be the AMS focal person (Could be the ABX pillar focal person)		4.5.1.1 Decree	4.5.1.1 1	4.5.1.1 3 months	4.5.1.1 MOH	4.5.1.1 MOH Undersecretary r general /NMCG	4.5.1.1 Already employed in MOH No cost (The Abx focal person)	4.5.1.1 None	4.5.1.1 AMS focal person is nominated
4.5.2 Identify the National	4.5.2.1 AMS technical		4.5.2.1 Group of specialists	4.5.2.1 1	4.5.2.1 3 months	4.5.2.1 MOH	4.5.2.1 MOH/	4.5.2.1 Cost/Activity /	4.5.2.1 MOH	4.5.2.1 AMS

AMS Task force (Could be a subcommittee of the ABX pillar Task force) the National AMS Technical team	group is assigned (subgroup from the ABX technical committee. +other specialists like IT, etc)						ABX taskforce group / AMS Focal person	professional		Technical Task force members are nominated Yes/No
	4.5.2.2 TOR of the technical groups are well defined They include: -guidelines for inpatient and outpatient care. -put or endorse diagnostic pathways, treatment and national AMS targets		4.5.2.2 TOR	4.5.2.2 1	4.5.2.2 3 months	4.5.2.2 MOH	4.5.2.2 ABX Pillar Task force / ABX focal person/ MOH Undersecretary general.	4.5.2.2 None	4.5.2.2 None	4.5.2.2 TOR put

4.5.3 Put national guidelines either *de novo* or Endorse existing international guidelines with regular updates	4.5.3.1 MOH puts national guidelines for common community acquired infections (CAI)		4.5.3.1 National guidelines for common CAI	4.5.3.1 1	4.5.3.1 6 months	4.5.3.1 MOH	4.5.3.1 AMS Task force Group	4.5.3.1 none	4.5.3.1 MOH	4.5.3.1 CAI guidelines developed Yes/No
	4.5.3.2 Hospitals put institutional guidelines for treatment of Healthcare associated infections (HAI) according to their local epidemiology, with the help of taskforce members	4.5.3.2.1 Mandate for hospitals to issue HAI treatment guidelines based on local epidemiology and with the help of taskforce members	4.5.3.2.1 Mandate	4.5.3.2.1 1	4.5.3.2.1 6 months	4.5.3.2.1 MOH	4.5.3.2.1 MOH Undersecretary General/Task Force	4.5.3.2.1 None	4.5.3.2.1 None	4.5.3.2.1 Mandate Yes/No
		4.5.3.2.2	4.5.3.2.2	4.5.3.2.2 1	4.5.3.2.2 8 months	4.5.3.2.2	4.5.3.2.2 Task force	4.5.3.2.2	4.5.3.2.2 Hospitals	4.5.3.2.2

		Organize the work of taskforce members with the different hospitals to assist in putting their own HAI guidelines	Organizational plan and distribution of the hospitals to the different taskforce members			MOH/ Hospitals		To be determined		Proportion of hospitals that have HAI guidelines based on their own epidemiology.
		4.5.3.2.3 HAI treatment guidelines should be reviewed every year	4.5.3.2.3 Revision	4.5.3.2.3 1	4.5.3.2.3 once / year	4.5.3.2.3 Hospitals/ MOH	4.5.3.2.3 Hospitals/ MOH/ Taskforce	4.5.3.2.3 None	4.5.3.2.3 None	4.5.3.2.3 Proportion of hospitals that have guidelines updated
	4.5.3.3 Dissemination and implementation of these treatment guidelines in hospital practice.	4.5.3.3.1 Workshops for discussion and endorsement of these guidelines with practicing physicians all over the country	4.5.3.3.1 Workshops	4.5.3.3.1 Number of hospitals	4.5.3.3.1 1 year	4.5.3.3.1 MOH/Hospitals	4.5.3.3.1 MOH/ Taskforce/ ABX Focal person	4.5.3.3.1 Number of workshops X 5000 KD	4.5.3.3.1 MOH	4.5.3.3.1 Number of hospitals where guidelines workshops have been performed
		4.5.3.3.2 Distribution of	4.5.3.3.2 Material	4.5.3.3.2	4.5.3.3.2 1 year	4.5.3.3.2 MOH/Hospitals	4.5.3.3.2 MOH/Hospitals	4.5.3.3.2 To be determined	4.5.3.3.2 MOH/ Hospitals	4.5.3.3.2 Proportion of hospitals

		educational material in the form of booklets, brochures, posters, &pocket cards, or equivalent softcopies available on mobile phones		1 for national CAI guidelines 1 for HAI guidelines in each hospital						that have the softcopies available on the mobile phones of staff
		4.5.3.3.3 Post the guidelines on the MOH website and integrate them into the intranet of each hospital	4.5.3.3.3 IT project	4.5.3.3.3 1/Hospital	4.5.3.3.3 1yr, 3 months	4.5.3.3.3 Hospitals	4.5.3.3.3 Hospitals/Information System Dep./Hospital IT	4.5.3.3.3 To be determined	4.5.3.3.3 Hospitals	4.5.3.3.3 Proportion of hospitals that have the guidelines posted on their intranet
		4.5.3.3.4 Integrate the guidelines into the electronic medical record, in the form of pop-ups	4.5.3.3.4 IT Project	4.5.3.3.4 1/hospital	4.5.3.3.4 2 years	4.5.3.3.4 Hospitals	4.5.3.3.4 Hospitals/Information System Dep/ Hospital IT	4.5.3.3.4 To be determined	4.5.3.3.4 Hospitals	4.5.3.3.4 Proportion of hospitals that have guidelines recommendations integrated in the electronic

										medical records system
4.5.4 Make AMS programs mandatory in each hospital (presence of AMS team/ committee)	4.5.4.1 Mandate by MOH for this issue		4.5.4.1 Mandate	4.5.4.1 1	4.5.4.1 1 y 6 months	4.5.4.1 MOH	4.5.4.1 MOH Undersecretary General/ AMS Task force.	4.5.4.1 None	4.5.4.1 None	4.5.4.1 Mandate issued Yes/No
	4.5.4.2 Build AMS manpower	4.5.4.2.1 Train microbiologists, clinical pharmacists and Infectious Disease specialists on AMS through national workshops	4.5.4.2.1 Workshops	4.5.4.2.1 Depends on the REGIONS	4.5.4.2.1 1 y 6 months	4.5.4.2.1 Hospitals/ Universities / MOH	4.5.4.2.1 Task force	4.5.4.2.1 30,000 KD x number of workshops	4.5.4.2.1 MOH	4.5.4.2.1 Percent microbiologists and clinical pharmacists that have attended at least 1 AMS workshop
Strategic Objective 4.6 Quality control of antimicrobials used in animals and plants										
4.6 ABX used in the agriculture/ veterinary are under the same control as					4.6 Already available					4.6 Already available

those used in humans Pharmaceutical and Herbal Medicines Registration and Control Administration/The Dug Inspection Control										
Strategic Objective 4.7 Restrict the use of critically important ABX to human health in the veterinary field										
4.7.1 Establish the list of critically important antibiotics for humans in the animal sector.			4.7.1 List	4.7.1 1	4.7.1 3 months	4.7.1 MOH	4.7.1 ABX Task force	4.7.1 None	4.7.1 None	4.7.1 List put Yes/No
4.7.2 Determine from this list which antibiotics should be restricted for use to humans			4.7.2 List	4.7.2 1	4.7.2 3 months	4.7.2 PAAF/MOH	4.7.2 ABX Task force	4.7.2 None	4.7.2 None	4.7.2 List put Yes/No
4.7.3			4.7.3 Decree	4.7.3 1	4.7.3 6 months	4.7.3 PAAF	4.7.3	4.7.3 None	4.7.3 None	4.7.3

Issue a decree that the critically important ABX to human health are not to be used in animals whether in individual treatment or in herd therapy							ABX Task force/ ABX Focal person/ PAAF			Decree issued Yes /No
4.7.4 Prohibit the importation of these critically important ABX for vet use	4.7.4.1 Decree that prohibits the importation and sale of these ABX in the vet field		4.7.4.1 Decree	4.7.4.1 1	4.7.4.1 6 months	4.7.4.1 PAAF	4.7.4.1 PAAF	4.7.4.1 None	4.7.4.1 None	4.7.4.1 Decree is issued Yes/No
Strategic Objective 4.8 Organize the use of antimicrobial agents in terrestrial and aquatic animals and agriculture.										
4.8.1 Put (or endorse) guidelines regarding the use of ABX in animals			4.8.1 Guidelines	4.8.1 1	4.8.1 8 months	4.8.1 PAAF/MOH	4.8.1 ABX Task force /PAAF Focal person	4.8.1 Bonus for the members	4.8.1 PAAF/ MOH	4.8.1 Guidelines are established Yes/No

and agriculture										
4.8.2 Disseminate these guidelines among veterinarians	4.8.2.1 Booklets/ Brochures/ app that summarize the key points in these guidelines.		4.8.1.1 -Booklets -Brochures - Application	4.8.1.1 3	4.8.1.1 18 months	4.8.1.1 PAAF	4.8.1.1 PAAF focal person/PAAF	4.8.1.1 To be determined	4.8.1.1 PAAF	4.8.1.1 Proportion of Vet clinics that have easy access to these updated guidelines
	4.8.2.1 Regular workshops for veterinary specialists regarding the application of these guidelines		4.8.2.1 Workshop	4.8.2.1 2*/year	4.8.2.1 1 year	4.8.2.1 PAAF	4.8.2.1 PAAF	4.8.2.1 7000 to 10000 KD per workshop	4.8.2.1 PAAF	4.8.2.1 proportion of veterinary specialists attending these workshops
4.8.3 Restrict selling ABX for animal and agriculture health to exclusively prescriptions by vets	4.8.3.1 Decree that vet pharmacies should dispense ABX only according to vet prescriptions, and should submit these		4.8.3.1 Decree	4.8.3.1 1	4.8.3.1 2 years	4.8.3.1 PAAF	4.8.3.1 ABX focal person / PAAF/ MOH	4.8.3.1 None	4.8.3.1 None	4.8.3.1 Decree is issued Yes/No

	prescriptions with the evidence of selling to PAAF.									
4.8.4 Control the use of ABX in animals	4.8.4.1. Detection of the ABX residues in milk, meat, poultry and eggs		4.8.4.1. Already available		4.8.4.1. system in place	PAAF/MOH public Health Lab				4.8.4.1. Already available
Strategic Objective 4.9 Capacity building among vets in antimicrobial use and AMR										
4.9.1 Provide training courses for vets for ABX use according to guidelines and provide certificate.			4.9.1 Workshop	4.9.1 2/year	4.9.1 2 years	4.9.1 PAAF	4.9.1 PAAF	4.9.1 **5**,000 KD X 2 /YR	4.9.1 PAAF	4.9.1 Proportion of vets that have a yearly certificate
4.9.2 Study baseline consumption on imported antibiotics in this field	4.9.2.1 Pharmaceutical Dep in PAAF Committee that will study and document this consumption and		4.9.2.1 Report	4.9.2.1 1/year	4.9.2.1 2 years	4.9.2.1 PAAF	4.9.2.1 PAAF	4.9.2.1 None	4.9.2.1 PAAF	4.9.2.1 Report issued Yes/No

	compare it to international benchmark									

N.B. Refer to Annex 5 for Antimicrobial Use Axis Strategic and Monitory plans

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Annexes

Annex 1

A. Governance Strategic Plan

Activity	Sub-activity	Sub-sub- activity	Sub-sub-sub-activity	Milestone
Strategic Objective G1. National coordination between focal points in the different sectors and different pillars				
G1.1 Identify the needed AMR focal points in human health, animal health, welfare, and production, food safety and security, Plants and agriculture, and environment. The TOR should include coordination among the different ministries and authorities along with a yearly meeting of the different focal persons.	G1.1.1 Define the TOR of focal points in each of these sectors			G1. 6 months
	G1.1.2 Employ and assign the functions of a focal person for each pillar and for AMR in general	G1.1.2.1 Assign AMR focal points for each pillar in human health	G1.1.2.1.1 one focal point for each of the following pillars: IPC, Surveillance, ABX, Awareness	
		G1.1.2.2 Assign the general focal Person in MOH	G1.1.2.2.1 Dr. Abeer Aly pending assignment/ New employee	
		G1.1.2.3 Assign 1 focal person in animal health and agriculture fields for all pillars including IPC, Surveillance, ABX, Awareness	G1.1.2.3.1 Representative in NMCG is the focal person or authorities appoint a person	
		G1.1.2.4	G1.1.2.4.1	

		Assign 1 focal person in KEPA for all pillars including IPC, Surveillance, ABX, Awareness	Representative in NMCG is the focal person or authorities appoint a person	
		G1.1.2.5 Assign 1 Focal person in food safety regarding IPC, Surveillance, ABX, Awareness	G1.1.2.5.1 leave the decision to ministries/authorities	
	G1.1.2 Include inter-ministerial communication and coordination with the general AMR focal person in the TOR of the focal points			
Strategic Objective G2. Provide legal and ministerial support for the realization of the activities listed in the plan				
G2.1 Form inter-ministerial NMCG committee	G2.1.1 Nominate the members and have a ministerial decree about their appointment			G2. 3 months
	G2.1.2 Write the TOR of the NMCG that include: to facilitate and oversee implementation, monitoring and evaluation of the AMR action plan			
	G2.1.3 The NMCG has dedicated funds for administrative costs.	G2.1.3.1 NMCG puts a budget for administrative costs		
Strategic Objective G3. The plan is based on evidence-based medicine and put by professionals				
G3.1 Technical groups for specific activities are created	G3.1.1			G3. 3 months

when needed from all sectors	Mapping of professionals throughout the country from public and private sectors that could be part of technical groups when needed.			
Strategic Objective G4. Provide guidance and tools to form a basis for preparation of a national action plan on AMR				
G4.1 Formulate or endorse guidelines for the different topics, along with tools	G4.1.1 Each technical group for each pillar will agree on existing guidelines or producing new guidelines or endorsing international guidelines and make them national			G4. 1 year

B. Governance Monitoring Plan

Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Indicator	Purpose	Calculation	Frequency	Data source	Method	Baseline
Strategic Objective G1. National coordination between focal points in the different sectors and different pillars										
G1.1 Identify the needed AMR focal points in human health, animal health, welfare, and production, food safety and security, Plants and agriculture, and environment. The TOR should include coordination among the different ministries	G1.1.1 Define the TOR of focal points in each of these sectors			G1.1.1 TOR are put						

and authorities along with a yearly meeting of the different focal persons.										
	G1.1.2 Employ and assign the functions of a focal person for each pillar and for AMR in general	Assign AMR focal points for each pillar in human health	G1.1.2.1.1 one focal point for each of the following pillars: IPC, Surveillance, ABX, Awareness	G1.1.2 Focal persons for each pillar at MOH are assigned. Focal points in PAAF, and KEPA, and food safety are assigned	G1.1.2 Oversee the implementation of different activities in the NAP and ensure communication between different authorities	G1.1.2 Yes/No	G1.1.2 Once	G1.1.2 MOH	G1.1.2 Checking	G1.1.2 Partially available
		G1.1.2.2 Assign the general focal person in MOH	G1.1.2.2.1 Dr. Abeer Aly pending assignment / New employee							
		G1.1.2.3 Assign 1 focal person in animal	G1.1.2.3.1 Representative in NMCG							

		health and agriculture fields for all pillars including IPC, Surveillance, ABX, Awareness	is the focal person or authorities appoint a person							
		G1.1.2.4 Assign 1 focal person in KEPA for all pillars including IPC, Surveillance, ABX, Awareness	G1.1.2.4.1 Representative in NMCG is the focal person or authorities appoint a person							
		G1.1.2.5 Assign 1 Focal person in food safety IPC: Surveillance: ABX Awareness	G1.1.2.5.1 leave the decision to ministries/ authorities							
	G1.1.2 Include inter-ministerial			G1.1.2 None						

	communication and coordination with the general AMR focal person in the TOR of the focal points									
Strategic Objective G2. Provide legal and ministerial support for the realization of the activities listed in the plan										
G2.1 Form inter-ministerial NMCG committee	G2.1.1 Nominate the members and have a ministerial decree about their appointment			G2.1.1 Already available						
	G2.1.2 Write the TOR of the NMCG that include: to facilitate and oversee implementation, monitoring and evaluation of the AMR action plan			G2.1.2 Already available						

	G2.1.3 The NMCG has dedicated funds for administrative costs.	G2.1.3.1 NMCG puts a budget for administrative costs		G2.1.3.1 A budget is put and provided		G2.1.3.1 Yes/No	G2.1.3.1 Once	G2.1.3.1 NMCG	G2.1.3.1 Checking	G2.1.3.1 Partially available
Strategic Objective G3. The plan is based on evidence-based medicine and put by professionals										
G3.1 Technical groups for specific activities are created when needed from all sectors	G3.1.1 Mapping of professionals throughout the country from public and private sectors that could be part of technical groups when needed.			G3.1.1 Technical groups are formed for each pillar, including representative of One Health approach	G3.1.1 Ensure proper implementation and monitoring of the activities of the NAP	G3.1.1 Yes/No	G3.1.1 Once	G3.1.1 NMCG/ MOH Undersecretary general /Director General in PAAF/KEPA /PAFN	G3.1.1 Checking	G3.1.1 Partially available in MOH
Strategic Objective G4. Provide guidance and tools to form a basis for preparation of a national action plan on AMR										
G4.1 Formulate or endorse guidelines for the different topics, along with tools	G4.1.1 Each technical group for each pillar will agree on existing guidelines or producing new guidelines			G4.1.1 Guidelines are available when needed	G4.1.1 Standardize practice related to AMR in different sectors	G4.1.1 Yes/No	G4.1.1 Once/year	G4.1.1 Technical groups/ Focal persons of each pillar	G4.1.1 Checking	G4.1.1 Partially available

	or endorsing international guidelines and make them national									

Annex 2

A. Awareness Strategic Plan

Activity	Sub-activity	Sub-sub- activity	Sub-sub-sub-activity	Date	Milestone
Strategic Objective 1.1 Organize the activities of this axis and ensure a proper follow up					
1.1.1 To designate a specific employee or post that is responsible of realizing the plan, do the proper communications and follow up on the progress of the plan	1.1.1 Assign one employee/post to overlook these activities in MOH, KEPA, PAAF, food safety			1.1.1 3 months	1.1 8 months
	1.1.2 Put TOR of employment			1.1.2 2 months	
	1.1.3 Letter of employment or assignment of Responsibilities of focal persons in the 4 ministries/authorities			1.1.3 3 months	
Strategic Objective 1.2 Increase national public awareness of AMR as per One health approach through communication programs					
1.2.1 Establish an evidence-based public communications program targeting the general public in the community	1.2.1.1 Estimate the knowledge, attitude and practice of general public regarding AMR in humans, animals, agriculture and environment			1.2.1.1 Done	1.2 5 years
	1.2.1.2 Conduct national public awareness campaigns based on the One health approach	1.2.1.2.1 Preparation of material regarding the awareness campaign based on the One health approach	1.2.1.2.1.1 Assign a team to formulate and design the public communication	1.2.1.2.1.1 Done	

			material regarding AMR		
			1.2.1.2.1.2 Produce the public communication material regarding AMR	1.2.1.2.1.1 Done	
			1.2.1.2.1.3 Update the communication material to cover all aspects of the One health approach: Animal Health, Agriculture, food safety and environment	1.2.1.2.1.3 6 months	
		1.2.1.2.2 Put a yearly plan on broadcasting and posting the public communication material on AMR	1.2.1.2.2.1 Broadcasting is all year long, not only during the AMR awareness week (specific timing, place)	1.2.1.2.2.1 6 months	
			1.2.1.2.2.2 Prepare costing of the plan	1.2.1.2.2.2 8 months	
		1.2.1.2.3 Launch the broadcasting plan		1.2.1.2.3 1 year	
		1.2.1.2.4 Engage different types of media including social media in AMR awareness such as putting material/ads periodically on ministry/governmental websites, social media		1.2.1.2.4 1 year	

		accounts like Facebook, Twitter, Instagram, etc.			
		1.2.1.2.5 Involve a public figure like Dr. Abdallah Al-Sanad (spokesperson MOH) in delivering AMR messages, like tweets on twitter or messages in Talk Shows or through TV ads/News bar		1.2.1.2.5 3 months	
		1.2.1.2.6 Discuss AMR in TV talk shows	1.2.1.2.6.1 MOH sends a letter to Ministry of Information asking to host professionals in AMR to discuss this issue on TV and thus raise public awareness	1.2.1.2.6.1 2 months	
		1.2.1.2.7 Involve Non-Governmental Organizations (NGOs) in AMR awareness campaign	1.2.1.2.7.1 Contact FAO and OIE and ask about their communications program regarding AMR and communicate with them the NAP on AMR	1.2.1.2.7.1 2 months	
Strategic Objective 1.3 Include AMR education as per One health approach at an early age in schools					
1.3.1 Include basic AMR education in school curricula	1.3.1.1 MOH sends a letter with key facts about AMR, antibiotics, hygiene and IPC basics			1.3.1.1 2 months	1.3 2 years

	through the School Health Administration asking to include material related to these topics in school curricula				
	1.3.1.2 Prepare a module/Add material related to basic AMR knowledge, antibiotics, hygiene and IPC in the curricula	1.3.1.2.1 Create a committee of comprising of AMR professional and education professionals to create a module about basic AMR knowledge, antibiotics, hygiene and IPC to be included in school curricula		1.3.1.2.1 2 months	
		1.3.1.2.2 Include this module in secondary school education		1.3.1.2.2 8 months	
		1.3.1.2.3 Yearly AMR module workshops involving teachers		1.3.1.2.3 1 year	
Strategic Objective 1.4 Raise awareness of healthcare workers about AMR based on the One Health approach					
1.4.1 Establish an evidence-based communication program targeting the healthcare providers for human health, animal health, agriculture and environment sector	1.4.1.1 Estimate knowledge, attitudes and practices related to AMR among healthcare workers	1.4.1.1.1 Prepare a survey to estimate this knowledge among healthcare workers and identify the gaps		1.4.1.1.1 Done	1.4 3 years
	1.4.1.2 Conduct awareness program	1.4.1.2.1 MOH mandates to all		1.4.1.2.1 2 months	

	within hospitals, primary healthcare, among physicians, nurses, pharmacists, dentists, physiotherapists, and other HC providers	hospitals and primary health care centers to provide mandatory sessions about AMR to all employees who are subject to contract/license renewal			
	1.4.1.3 AMR mandatory courses for pharmacists in private practice who are subject to contract/ license renewal	1.4.1.3.1 Letter from MOH to Drug Inspection Control to request evidence of AMR course attendance about AMR upon license renewal		1.4.1.3.1 6 months	
	1.4.1.4 Link of AMR course attendance to hospital pharmacists' and primary Health care pharmacists' promotion.	1.4.1.4.1 MOH recommends yearly attendance for promotion		1.4.1.4.1 1 year	
	1.4.1.5 Preparation of a bank of presentations, films, articles, etc. diffused to these syndicates and hospitals to be used as material in their AMR communication programs.	1.4.1.5.1 Toolkit for AMR communication program to be used in hospital and syndicates		1.4.1.5.1 1 year	

	1.4.1.6 Syndicates and hospitals send yearly report to MOH about this activity			1.4.1.6 Yearly starting 1 year from starting the plan	
Strategic Objective 1.5 Raise awareness of veterinarians, agriculture professionals and environmental workers about AMR based on the One Health approach					
1.5.1 Conduct an awareness program among veterinarians, agriculture professionals, environmental workers, in addition to professionals in PAAF, KEPA, and food safety.	1.5.1.1 Prepare AMR awareness toolkit including slide sets, short films, lectures, posters for these professionals			1.5.1.1 6 months	1.5 3 years
	1.5.1.2 Integrate AMR awareness in continuous education programs of veterinarians, agriculture professionals, environmental workers, in addition to professionals in PAAF, KEPA, and food safety	1.5.1.2.1 The focal person in each ministry/authority checks educational activities in their facilities and Includes AMR awareness as a topic of continuous education		1.5.1.2.1 1 year	
		1.5.1.2.2 Mandate that all drug companies' educational activities should include AMR awareness		1.5.1.2.2 6 months	

1.5.2 Country participates the regional/international AMR awareness campaign	1.5.2.1 Participate actively in WHO regional AMR campaign and FAO and OIE activities related to AMR	1.5.2.1.1 Register Kuwait ministries/authorities (KEPA, PAAF, MOH) to participate in the yearly schedule of AMR activities in WHO, FAO, OIE And encourage individual healthcare professionals, veterinarians, agriculture professionals, environmental workers to participate		1.5.2.1.1 1 year	
	1.5.2.2 Participate in GCC activities related to AMR	1.5.2.2.1 Kuwait is part of GCC AMR Group		1.5.2.2.1 Done	
		1.5.2.2.2 Kuwait participates in all the AMR activities GCC		1.5.2.2.2 Done	
Strategic Objective 1.6 Include AMR teaching in higher education/post-graduate studies in all human health specialties, agriculture, veterinary food safety, and environment related specialties.					
1.6.1 Include AMR and related topics based on the One Health approach as a core component of professional education, training, certification	1.6.1.1 Include AMR and related topics based on the One Health approach in undergraduate curricula for human health (medical, nursing, dental and pharmaceutical), agriculture, veterinary food safety, and	1.6.1.1.1 preparation of modules for these specialties		1.6.1.1.1 6 months	1.6 1.5 years

	environment related specialties.				
		1.6.1.1.2 Letter from MOH, PAAF, PAFN and KEPA to Ministry of Higher Education to impose on universities/authorities to include these modules in the corresponding education programs.		1.6.1.1.2 6 months	
	1.6.1.2 AMR and related topics based on the One Health approach included in the licensing procedure for nurses, dentists, physicians, pharmacists, veterinarians and other professionals for which licensing is required.	1.6.1.2.1 Letter from MOH, PAAF, PAFN and KEPA to licensing bodies of these professionals to include AMR and its related topics in licensing exams and interviews or in the evaluation procedure for license renewal		1.6.1.2.1 3 months	
Strategic Objective Include 1.7 AMR and related topics in quality assurance and accreditation programs in human health, animal health, agriculture, food chain and environment					
1.7.1 IPC, AMR surveillance and AMS are included in the accreditation standards of healthcare facilities	1.7.1.1 Letter from MOH to accreditation bodies to include AMR surveillance and implementation of antimicrobial stewardship programs as part of accreditation standards in all			1.7.1.1 3 months	1.7 9 months

	healthcare facilities as well as in the licensing renewal procedures of private healthcare facilities IPC is already part of these standards				
1.7.2 IPC and rational use of antimicrobials is checked in the procedure of licensing farms, animal husbandry, agriculture, aquatic and marine fields	1.7.2.1 Review of large animal/poultry farms licensing policies and procedures, to include IPC and proper ABX use and prevention of ABX use as growth promoters	1.7.2.1.1 Mandate that ABX are not to be used as growth promoters		1.7.2.1.1 3 months	
		1.7.2.1.2 Letter from PAAF Director General to licensing office to include these points in the standards		1.7.2.1.2 3 months	

B. Awareness Monitoring Plan

Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Indicator	Purpose	Calculation	Frequency	Data source	Method	Baseline
Strategic Objective 1.1 Organize the activities of this axis and ensure a proper follow up										
1.1.1 To designate a specific employee or post that is responsible of realizing the plan, do the proper communications and follow up on the progress of the plan	1.1.1 Assign one employee/ post to overlook these activities in MOH, KEPA, PAAF, food safety			1.1.1 Awareness Focal person assigned	1.1.1 Oversee activities of this pillar	1.1.1 Yes/No	1.1.1 Once	1.1.1 MOH KEPA, PAAF, PAFN	1.1.1 Checking	1.1.1 Not available
	1.1.2 Put TOR of employment			1.1.2 TOR is put for all 4 focal persons.	1.1.2 Organize work in this pillar	1.1.2 Yes/No	1.1.2 Once	1.1.2 MOH	1.1.2 Checking	1.1.2 Not available
	1.1.3 Letter of employment or assignment of Responsibilities of			1.1.3 Letter of employment or assignment of duties to specific focal	1.1.3 Oversee activities in this pillar	1.1.3 Yes/No	1.1.3 Once	1.1.3 MOH, KEPA, PAAF, PAFN	1.1.3 Checking	1.1.3 Not available

	focal persons in the 4 ministries/ authorities			persons in the 4 ministries/ authorities is done						
Strategic Objective 1.2 Increase national public awareness of AMR as per One health approach through communication programs										
1.2.1 Establish an evidence-based public communications program targeting the general public in the community	1.2.1.1 Estimate the knowledge, attitude and practice of general public regarding AMR in humans, animals, agriculture and environment			1.2.1.1 Done						1.2.1.1 Done
	1.2.1.2 Conduct national public awareness campaigns based on the One health approach	1.2.1.2.1 Preparation of material regarding the awareness campaign based on the One health approach	1.2.1.2.1.1 Assign a team to formulate and design the public communication material regarding AMR	1.2.1.2.1.1 Done						1.2.1.2.1.1 Done

			1.2.1.2.1.2 Produce the public communication material regarding AMR	1.2.1.2.1.1 Done						1.2.1.2.1.1 Done
			1.2.1.2.1.3 Update the communication material to cover all aspects of the One health approach: Animal Health, Agriculture, food safety and environment	1.2.1.2.1.3 The communication material covers all fields of One Health approach (Yes/No)	1.2.1.2.1.3 Highlight the effect of AMR on all fields not just the human health	1.2.1.2.1.3 Yes/No	1.2.1.2.1.3 Once	1.2.1.2.1.3 The awareness technical task force from MOH/PAAF/KEPA/PAFN	1.2.1.2.1.3 Checking	1.2.1.2.1.3 Partially available
		1.2.1.2.2 Put a yearly plan on broadcasting and posting the public communication	1.2.1.2.2.1 Broadcasting is all year long, not only during the AMR awareness week (specific	1.2.1.2.2.1 Schedule is put (Yes/No)	1.2.1.2.2.1 Organize the diffusion of AMR related messages all yearlong	1.2.1.2.2.1 Yes/No	1.2.1.2.2.1 Once	1.2.1.2.2.1 MOH/ Media Office	1.2.1.2.2.1 Checking	1.2.1.2.2.1 Partially available

		material on AMR	timing, place)							
			1.2.1.2.2.2 Prepare costing of the plan	1.2.1.2.2.2 Costing plan is finalized	1.2.1.2.2.2 Organize the diffusion of AMR related messages all yearlong	1.2.1.2.2.2 Yes/No	1.2.1.2.2.2 Once	1.2.1.2.2.2 MOH/ Media Office	1.2.1.2.2.2 Checking	1.2.1.2.2.2 Not available
		1.2.1.2.3 Launch the broadcasting plan		1.2.1.2.3 Proportion of the plan that was put on schedule	1.2.1.2.3 Diffusion of AMR messages all year long	1.2.1.2.3 Number of broadcasts related to AMR per month	1.2.1.2.3 Once per year	1.2.1.2.3 MOH	1.2.1.2.3 Counting	1.2.1.2.3 Partially available
		1.2.1.2.4 Engage different types of media including social media in AMR awareness such as putting material/ads periodically on ministry/governmental websites, social		1.2.1.2.4 Types of media or social media that mention AMR/month	1.2.1.2.4 Relevant information on AMR and related topics reaches to the public as much as possible	1.2.1.2.4 Yes/No	1.2.1.2.4 Once	1.2.1.2.4 MOH/ Media Office	1.2.1.2.4 Checking	1.2.1.2.4 Not available

		media accounts like Facebook, Twitter, Instagram, etc.								
		1.2.1.2.5 Involve a public figure like Dr. Abdallah Al Sanad (spokesperson MOH) in delivering AMR messages, like tweets on twitter or messages in Talk Shows or through TV ads/News bar		1.2.1.2.5 Public figure (Dr. Abdulla Al-Sanad) sending message regarding AMR	1.2.1.2.5 The public figure influences the public awareness on AMR	1.2.1.2.5 Yes/No	1.2.1.2.5 Once	1.2.1.2.5 MOH/Media Office/ Awareness focal person	1.2.1.2.5 Checking	1.2.1.2.5 Partially available
		1.2.1.2.6 Discuss AMR in TV talk shows	1.2.1.2.6.1 MOH sends a letter to Ministry of Information asking to host	1.2.1.2.6.1 Proportion of talk shows episodes that discuss AMR	1.2.1.2.6.1 enhance public knowledge about the dangers of AMR	1.2.1.2.6.1 Number of talk show episodes that target AMR/total number of	1.2.1.2.6.1 Once/year	1.2.1.2.6.1 MOH	1.2.1.2.6.1 Data collection	1.2.1.2.6.1 Not available

			professionals in AMR to discuss this issue on TV and thus raise public awareness			episodes*100				
		1.2.1.2.7 Involve Non-Governmental Organizations (NGOs) in AMR awareness campaign	1.2.1.2.7.1 Contact FAO and OIE and ask about their communications program regarding AMR and communicate with them the NAP on AMR	1.2.1.2.7.1 None						
Strategic Objective 1.3 Include AMR education as per One health approach at an early age in schools										
1.3.1 Include basic AMR education in school curricula	1.3.1.1 MOH sends a letter with key facts about AMR, antibiotics, hygiene and IPC basics and to School			1.3.1.1 Letter sent Yes or No	1.3.1.1 Improve AMR awareness starting in young age	1.3.1.1 Yes/No	1.3.1.1 Once	1.3.1.1 MOH	1.3.1.1 Checking	1.3.1.1 Not available

	Health Administration asking to include material related to these topics in school curricula									
	1.3.1.2 Prepare a module/Add material related to basic AMR knowledge, antibiotics, hygiene and IPC in the curricula	1.3.1.2.1 Create a committee of comprising of AMR professional and education professionals to create a module about basic AMR knowledge, antibiotics, hygiene and IPC to be included in school curricula		1.3.1.2.1 Module prepared Yes/No	1.3.1.2.1 Standardize AMR education at the school level	1.3.1.2.1 Yes/No	1.3.1.2.1 Once	1.3.1.2.1 MOH/ Awareness Focal person/ awareness technical task force	1.3.1.2.1 Checking	1.3.1.2.1 Not available
		1.3.1.2.2 Include this module in		1.3.1.2.2 Percent of schools	1.3.1.2.2 Enhance the	1.3.1.2.2 Number of schools	1.3.1.2.2 Once/year	1.3.1.2.2 MOH/ School	1.3.1.2.2 Data collection	1.3.1.2.2 Not available

		secondary school education		that teach the AMR module in their secondary school curricula	education and knowledge about the dangers of AMR starting from a young age	that teach AMR module/Total number of schools*100		Health Administration/ Ministry of Education		
		1.3.1.2.3 Yearly AMR module workshops involving teachers		1.3.1.2.3 Proportion of teachers who attend these workshops	1.3.1.2.3 Standardize AMR teaching in schools	1.3.1.2.3 Number of teachers who attend these modules/Total number of teachers*100	1.3.1.2.3 Once/year	1.3.1.2.3 MOH/ School Health Administration/Health promotion Department/ Ministry of Education	1.3.1.2.3 Data collection	1.3.1.2.3 ` Not available
Strategic Objective 1.4 Raise awareness of healthcare workers about AMR based on the One Health approach										
1.4.1 Establish an evidence-based communication program targeting the healthcare providers for human health, animal	1.4.1.1 Estimate knowledge, attitudes and practices related to AMR among healthcare workers	1.4.1.1.1 Prepare a survey to estimate this knowledge among healthcare workers and identify the gaps		1.4.1.1.1 Done						1.4.1.1.1 Done

health, agriculture and environment sector										
	1.4.1.2 Conduct awareness program within hospitals, primary Health care, among physicians, nurses, pharmacists dentists, physiotherapists, and other HC providers	1.4.1.2.1 MOH mandates to all hospitals and primary Healthcare centers to provide mandatory sessions about AMR to all employees who are subject to contract/license renewal		1.4.1.2.1 Proportion of hospitals and primary Health care centers that provide and request yearly attendance of AMR conferences /sessions	1.4.1.2.1 AMR and related topics are an important elements education and practice	1.4.1.2.1 Number of healthcare facilities that provide and request yearly attendance of AMR conferences/Total number of healthcare facilities*100	1.4.1.2.1 Once/year	1.4.1.2.1 MOH	1.4.1.2.1 Data collection	1.4.1.2.1 Not available
	1.4.1.3 AMR mandatory courses for pharmacists in private practice who are subject to contract/	1.4.1.3.1 Letter from MOH to Drug Inspection Control to request evidence of AMR		1.4.1.3.1 Letter is issued	1.4.1.3.1 Make sure that AMR education/ CE is mandatory for license renewal in the human health sector	1.4.1.3.1 Yes/No	1.4.1.3.1 Once	1.4.1.3.1 MOH	1.4.1.3.1 Checking	1.4.1.3.1 Not available

	license renewal	course attendance about AMR upon license renewal								
	1.4.1.4 Link of AMR course attendance to hospital pharmacists' and primary care pharmacists' promotion.	1.4.1.4.1 MOH recommends yearly attendance for promotion		1.4.1.4.1 Mandate is issued	1.4.1.4.1 Emphasize the importance of AMR education and practice in the human health sector	1.4.1.4.1 Yes/No	1.4.1.4.1 Once	1.4.1.4.1 MOH Undersecretary general / AMR Focal person	1.4.1.4.1 Checking	1.4.1.4.1 Not available
	1.4.1.5 Preparation of a bank of presentations, films, articles, etc. diffused to these syndicates and hospitals to be used as material in their AMR communica	1.4.1.5.1 Toolkit for AMR communication program to be used in hospital and syndicates		1.4.1.5.1 Toolkit available	1.4.1.5.1 Standardize AMR CE and knowledge in the human health sector	1.4.1.5.1 Yes/No	1.4.1.5.1 Once	1.4.1.5.1 NMCG/ Awareness Technical task force	1.4.1.5.1 Checking	1.4.1.5.1 Not available

	tion programs.									
	1.4.1.6 Syndicates and hospitals send yearly report to MOH about this activity			1.4.1.6 Proportion of hospitals that send report about AMR Awareness activities to MOH	1.4.1.6 Keep track of AMR activities in hospitals	1.4.1.6 Number of hospitals that send report about AMR Awareness activities to MOH/Total number of hospitals*100	1.4.1.6 Once/year	1.4.1.6 MOH	1.4.1.6 Data collection	1.4.1.6 Not available
Strategic Objective 1.5 Raise awareness of veterinarians, agriculture professionals and environmental workers about AMR based on the One Health approach										
1.5.1 Conduct an awareness program among veterinarians, agriculture professionals, environmental workers, in addition to professionals in PAAF, KEPA, and food safety.	1.5.1.1 Prepare AMR awareness toolkit including slide sets, short films, lectures, posters for these professionals			1.5.1.1 AMR toolkit is available	1.5.1.1 Standardize AMR CE and knowledge in the non-human health sector	1.5.1.1 Yes/No	1.5.1.1 Once	1.5.1.1 Awareness Technical Task force PAAF KEPA PAFN	1.5.1.1 Checking	1.5.1.1 Not available

	1.5.1.2 Integrate AMR awareness in continuous education programs of veterinarians, agriculture professionals, environmental workers, in addition to professionals in PAAF, KEPA, and food safety	1.5.1.2.1 The focal person in each ministry/authority checks educational activities in their facilities and Includes AMR awareness as a topic of continuous education		1.5.1.2.1 Number of AMR Awareness sessions per year in each Ministry/authority	1.5.1.2.1 Enhance AMR knowledge and facing its dangers on the official/governmental level	1.5.1.2.1 Number of sessions	1.5.1.2.1 Once/year	1.5.1.2.1 PAAF KEPA-PAFN	1.5.1.2.1 Counting	1.5.1.2.1 Not available
		1.5.1.2.2 Mandate that all drug companies' educational activities should include AMR awareness		1.5.1.2.2 Proportion of promotional activities by drug companies in these fields that include messages about AMR	1.5.1.2.2 Engage drug companies in improving AMR awareness among veterinarians, agriculture professionals	1.5.1.2.2 Number of activities held by drug companies that include messages on AMR/Total number of activities held by	1.5.1.2.2 Once/year	1.5.1.2.2 PAAF Awareness focal person / Director General of PAAF	1.5.1.2.2 Data collection	1.5.1.2.2 Not available

						these companies *100				
1.5.2 Country participates the regional/international AMR awareness campaign	1.5.2.1 Participate actively in WHO regional AMR campaign and FAO and OIE activities related to AMR	1.5.2.1.1 Register Kuwait ministries /authorities (KEPA, PAAF, MOH) to participate in the yearly schedule of AMR activities in WHO, FAO, OIE And encourage individual healthcare professionals, veterinarians, agriculture professionals, environmental workers to participate		1.5.2.1.1 Proportion of events related to AMR in which the country participates	1.5.2.1.1 Engage the country as a whole in the regional and international fighting of AMR	1.5.2.1.1 Number of events related to AMR attended by the country/Total number of events attended by the country*100	1.5.2.1.1 Once/year	1.5.2.1.1 MOH PAAF KEPA Awareness Technical Task force	1.5.2.1.1 Data collection	1.5.2.1.1 Not available
	1.5.2.2 Participate	1.5.2.2.1 Kuwait is		1.5.2.2.1 Done						1.5.2.2.1 Done

	in GCC activities related to AMR	part of GCC AMR Group								
		1.5.2.2.2 Kuwait participates in all the AMR activities GCC		1.5.2.2.2 Done						1.5.2.2.2 Done
Strategic Objective 1.6 Include AMR teaching in higher education/post-graduate studies in all human health specialties, agriculture, veterinary food safety, and environment related specialties.										
1.6.1 Include AMR and related topics based on the One Health approach as a core component of professional education, training, certification	1.6.1.1 Include AMR and related topics based on the One Health approach in undergraduate curricula for human health (medical, nursing, dental and pharmaceutical), food safety, and environment related specialties.	1.6.1.1.1 preparation of modules for these specialties		1.6.1.1.1 Modules prepared yes/no	1.6.1.1.1 Standardize AMR education and knowledge based on the One Health Approach	1.6.1.1.1 Yes/No	1.6.1.1.1 Once	1.6.1.1.1 Awareness focal persons in all ministries/ authorities /Awareness technical task force	1.6.1.1.1 Checking	1.6.1.1.1 Not available

		1.6.1.1.2 Letter from MOH, PAFN and KEPA to Ministry of Higher Education to impose on universities /authorities to include these modules in the correspond ing education programs.		1.6.1.1.2 Letter sent Yes/No	1.6.1.1.2 Standardize AMR knowledge based on the One Health Approach	1.6.1.1.2 Yes/No	1.6.1.1.2 Once	1.6.1.1.2 Awareness focal persons in all ministries/ authorities /awareness technical Task force	1.6.1.1.2 Checking	1.6.1.1.2 Not available
	1.6.1.2 AMR and related topics based on the One Health approach included in the licensing procedure for nurses, dentists, physicians, pharmacist	1.6.1.2.1 Letter from MOH, PAAF, PAFN and KEPA to licensing bodies of these professiona ls to include AMR and its related topics in licensing exams and		1.6.1.2.1 Letters sent Yes/No	1.6.1.2.1 Standardize AMR knowledge based on the One Health Approach	1.6.1.2.1 Yes/No	1.6.1.2.1 Once	1.6.1.2.1 MOH, PAAF,PAFN and KEPA /AMR focal persons in all authorities	1.6.1.2.1 Checking	1.6.1.2.1 Not available

	s, veterinarians and other professionals for which licensing is required.	interviews or in the evaluation procedure for license renewal								
Strategic Objective 1.7 Include AMR and related topics in quality assurance and accreditation programs in human health, animal health, agriculture, food chain and environment										
1.7.1 IPC, AMR surveillance and AMS are included in the accreditation standards of healthcare facilities	1.7.1.1 Letter from MOH to accreditation bodies to include AMR surveillance and implementation of antimicrobial stewardship programs as part of accreditation standards in all healthcare facilities as well as in the licensing renewal			1.7.1.1 AMR surveillance and AMS programs are included in the accreditation and license renewal standards for healthcare facilities	1.7.1.1 Standardize quality assurance practices related to AMR including surveillance and stewardship in healthcare facilities	1.7.1.1 Yes/No	1.7.1.1 Once	1.7.1.1 MOH	1.7.1.1 Checking	1.7.1.1 Not available

	procedures of private healthcare facilities IPC is already part of these standards									
1.7.2 IPC and rational use of antimicrobials is checked in the procedure of licensing farms, animal husbandry, agriculture, aquatic and marine fields	1.7.2.1 Review of large animal/poultry farms licensing policies and procedures, to include IPC and proper ABX use and prevention of ABX use as growth promoters	1.7.2.1.1 Mandate that ABX are not to be used as growth promoters		1.7.2.1.1 Mandate issued	1.7.2.1.1 Put a legal frame for the control of ABX use in the non-human sector	1.7.2.1.1 Yes/No	1.7.2.1.1 Once	1.7.2.1.1 PAAF/ PAAF Director General /PAAF awareness focal person	1.7.2.1.1 Checking	1.7.2.1.1 Not available
		1.7.2.1.2 Letter from PAAF Director General to licensing office to include		1.7.2.1.2 AMR-related topics are included in licensing conditions.	1.7.2.1.2 Emphasize on the importance of AMR and related topics in the non-	1.7.2.1.2 Yes/No	1.7.2.1.2 Once	1.7.2.1.2 PAAF/ Director General of PAAF	1.7.2.1.2 Checking	1.7.2.1.2 Not available

		these points in the standards			human sector					

Annex 3

A. Surveillance Strategic Plan

Strategic interventions	Activity	Sub-activity	Sub-sub- activity	Sub-sub-sub-activity	Date	Milestone for strategic objective
Strategic Objective 2.1: Set up a national surveillance system for antimicrobial resistance based on One Health Approach						
2.1.1 Establish a national coordination structure for AMR surveillance in humans, veterinary agriculture and environment	2.1.1.1 Write and approve terms of reference for a national coordinating committee for AMR surveillance with the mandate to oversee the AMR surveillance program, including AMR surveillance in Humans, Veterinary, agriculture, environment and Food safety.				2.1.1 6 months	2.1 3 years
	2.1.1.2. Write and approve terms of reference for a central office that executes the National surveillance in humans and receives data from other AMR offices in PAAF, KEPA and food safety	2.1.1.2.1 Write terms of reference of the AMR office at MOH			2.1.1.2.1 3 months	

		2.1.1.2.2 Create the AMR coordinating office at MOH.	2.1.1.2.2.1 Include the already existing Glass team into the MOH National AMR office for Human sector at MOH.	2.1.1.2.2.1.1 Add 2 employees with a support from IT at MOH to be able to handle nationwide data (to do the functions of the central office).	2.1.1.2.2.1.1 6 months	
			2.1.1.2.2.2 Mandate that each MOH hospital has an AMR surveillance focal person that coordinates with Central AMR surveillance office.		2.1.1.2.2.2 3 months	
		2.1.1.2.3 Inform PAAF, PAFN and KEPA about the need for AMR surveillance in their respective fields.			2.1.1.2.3 1 month	
		2.1.1.2.4 Nominate AMR focal persons in PAAF, KEPA, and Food safety			2.1.1.2.4 3 months	
		2.1.1.2.5 Write the job description of these focal persons. The job description would be to collect AMR data and supply it			2.1.1.2.5 3 months	

		to the Central AMR office and full coordination with the Central AMR office at MOH.				
	2.1.1.3 Identify priority organisms for the purpose of national AMR surveillance in human sector, animal sector, plants and Environment.				2.1.1.3 3 months	
	2.1.1.4 Systematically collect, analyze and report data on AMR in humans in order to inform decision-making at national and international levels (Choose sentinel group of labs)	2.1.1.4.1 Choose a list of labs (dealing with specimen from humans) that can provide reliable AMR data will form a sentinel for starting AMR data collection that will be submitted to AMR central office.			2.1.1.4.1 3 months	
		2.1.1.4.2 Increase the number of labs that are included in the list on yearly basis until it becomes representative of the national data.	2.1.1.4.2.1 Establish close communication between central AMR OFFICE that also collects data for glass with the lab council to have a list of labs that are accredited by the council, and to		2.1.1.4.2.1 1 year	

			include them in the list of labs eligible to submit data to GLASS and National AMR surveillance			
	2.1.1.5 **Establish an antimicrobial resistance surveillance network for human health**	2.1.1.5.1 integrate all MOH laboratories in network with the national reference Lab.	2.1.1.5.1.1 Training of hospital AMR Surveillance focal persons for data cleaning and data entry into the MOH surveillance system		2.1.1.5.1.1 1 year	
		2.1.1.5.2 Generate yearly report about AMR in humans in general and mainly priority organisms in humans by the MOH central office.			2.1.1.5.2 2 years	
2.1.2 Participate in Global Antimicrobial Resistance Surveillance System (GLASS-AMR)	2.1.2.1 Nominate a hospital ad a team for GLASS reporting with TOR				2.1.2.1 Already done	
	2.1.2.2 Give the GLASS team the authority to request and collect data from labs nationwide				2.1.2.2 Already done	
		2.1.2.2.1 The team initiates data			2.1.2.2.1 Started 2021	

		collection from a sentinel of labs				
	2.1.2.3 Send yearly report to glass with increasing number of contributing labs	2.1.2.3.1 Central GLASS focal group (Part of AMR central office), chooses from the list of eligible accredited labs submitted by central entity of medical labs to AMR office,	2.1.2.3.1 1 Yearly training of GLASS focal persons on GLASS data collection, management and entry	2.1.2.3.1.1.1 Central workshops yearly	2.1.2.3.1.1.1 2 years	
		2.1.2.3.2 Yearly lab report is sent to GLASS with increasing number of contributing labs every year.			2.1.2.3.2 Started already	
Strategic Objective 2.2: Build laboratory capacity to produce high-quality microbiological data for patient management and support surveillance activities in human,						
2.2.1 Lab in Hospitals become CAP certified (College of American pathologists)	2.2.1.1 Pilot with 2 labs				2.2.1.1 1 year	2.2 5 years
	2.2.1.2 Increase the number of labs that are CAP members	2.2.1.2.1 Lab council puts a plan for sequential recruitment of labs into the CAP			2.2.1.2.1 1 year	
		2.2.1.2.2 Sequential recruitment of labs into CAP			2.2.1.2.2 5 years	

2.2.2 Improve private labs capacity to be eligible for submitting data to GLASS and National AMR	2.2.2.1 Reinforce the accreditation activity of the lab council that audits labs according to availability of qualified microbiologist, results of External QC and abidance to guidelines	2.2.2.1.1 Mandate from MOH that each private lab should pass the accreditation by the Lab council			2.2.2.1.1 12-24 months	
		2.2.2.1.2 Accreditation of the lab ~~council~~ includes the availability of qualified microbiologist, results of External QC and abidance to guidelines			2.2.2.1.2 6 months	
Strategic objective 2.3: Collect data from Vet, Agriculture and Environment						
2.3.1 Collect AMR data from Vets	2.3.1.1 Map available data On AMR in vet and agriculture in the country.	2.3.1.1.1 Agriculture and Environment focal persons collect available info about AMR in the country and issue a report	2.3.1.1.1.1 Map PAAF labs and the type of AMR data that is generated.		2.3.1.1.1.1 6 months	2.3 5 years
			2.3.1.1.1.2 Collect available data about AMR in PAAF/PAFN		2.3.1.1.1.2 6 months	
	2.3.1.2	2.3.1.2.1	2.3.1.2.1.1		2.3.1.2.1.1	

	Improve vet lab capacity in a way they generate data about AMR vets and agriculture	Establish quality control of Vet Microbiology labs	Assign expert to establish a system for quality control and put a plan		1 year	
			2.3.1.2.1.2 Execute the plan of quality control in Vet labs		2.3.1.2.1.2 2 year	
		2.3.1.2.2 Extend Vet Micro Labs to identify priority organisms antibiogram	2.3.1.2.2 1 Increase man power		2.3.1.2.2 1 6 months	
			2.3.1.2.2.2 Road map and full project		2.3.1.2.2.2 1 year	
			2.3.1.2.2.3 Workshops for training about antibiogram		2.3.1.2.2.3 1 year	
		2.3.1.2.3 Implement national surveillance for antibiogram priority animal pathogens, zoonotic and commensal bacterial isolates.	2.3.1.2.3.1 Choose a number of Vet labs that could submit AMR data to PAAF for AMR surveillance		2.3.1.2.3.1 1 year	
			2.3.1.2.3.2 Collect data from a Sentinel of vet hospitals or labs that submit data to the		2.3.1.2.3.2 2 years	

			department of surveillance. (They belong to the list).			
		2.3.1.2.4 The focal AMR entity at PAAF submits AMR data to the Central AMR surveillance lab.			2.3.1.2.4 1 year	
2.3.2 Collect AMR data from Environment.	2.3.2.1 Map available data from KEPA	2.3.2.1 Check KEPA Labs and publications about any AMR data in environment			2.3.2.1 3 months	
	2.3.2.2 Initiate AMR data collection from Environment By research projects.	2.3.2.2.1 The director of the office of research and studies puts AMR surveillance as one of the priority subjects in research	2.3.2.2.1.1 The plan of prioritizing AMR surveillance in Environment and marine environment re and is being discussed with universities/institutes.		2.3.2.2.1.1 6 months	
			2.3.2.2.1.2 Call for proposal from universities/institutes		2.3.2.2.1.2 1 year	
			2.3.2.2.1.3 The director of the office of research and studies applies for funds from KEPA for projects related to AMR surveillance in Vet, agriculture, and Environment.		2.3.2.2.1.3 6 months	

		2.3.2.2.2 Increase lab capacity of KEPA Lab that deals with the quality of coastal water to include AMR identification and surveillance in water and sediment	2.3.2.2.2.1 Letter from KEPA Director General to Technical affairs sector of micro labs asking to prepare a project with a budget that aims at expanding their work from only identification to antibiogram testing		2.3.2.2.2.1 3 months	
			2.3.2.2.2.2 KEPA analytical central lab KEPA prepare road map for the labs to be able to do antibiogram testing	2.3.2.2.2.2.1 Identify the needed machinery and their budget	2.3.2.2.2.2.1 6 months	
				2.3.2.2.2.2.2 Put a plan of needed extra staffing	2.3.2.2.2.2.2 6 months	
			2.3.2.2.2.3 KEPA provides the related budget	2.3.2.2.2.3 Communication between KEPA and ministry of finance	2.3.2.2.2.3 2 years	
			2.3.2.2.2.4 KEPA microbiology labs start generating antibiogram results for priority organisms		2.3.2.2.2.4 3 years	
		2.3.2.2.3 Generate report about AMR			2.3.2.2.3 4 years	

		surveillance in Environment				
2.3.3 The national AMR Surveillance Office at MOH gathers data from KEPA, PAAF and PAFN compiles it with Human AMR data and generates yearly ONE Health AMR surveillance report.	2.3.3.1 KEPA, PAAF and PAFN submit available data to Central AMR surveillance office at MOH on yearly basis	2.3.3.1.1 Create a digital network for data sharing with MOH			2.3.3.1.1 5 years	
		2.3.3.1.2 Add this function to the TOR of the focal person at PAAF and KEPA and food safety.			2.3.3.1.2 3 years	
Strategic objective 2.4: Create a National Reference Lab for AMR						
2.4.1 To have A Kuwaiti Center of Disease Control that will be overseeing bacterial ,viral and AMR reference labs	2.4.1.1 Project of reference lab with its budget and having it endorsed by MOH				2.4.1.1 Already available	2.4 5 years
	2.4.1.2 Kuwait CDC becomes functional				2.4.1.2 5 years	
.	2.4.1.3 Write and approve terms of reference for a national				2.4.1.3 3 months	

	AMR reference laboratory with expertise in method s for confirming and characterizing specific pathogens, putting guidelines, SOP for identification and antibiogram testing of priority organisms for surveillance training according to guidelines, and organizing quality assurance schemes					
	2.4.1.4 Prepare a full project and proposal for the reference lab				2.4.1.4 5 years	
	2.4.1.5 Prepare a budget for the building, equipment and man power of the reference Lab				2.4.1.5 5 years	
	2.4.1.6 Execution of the Reference Lab				2.4.1.6 5 years	
2.4.2 Delegate the function of surveillance of the	2.4.2.1 Identify institution affiliated to MOH that will host the	2.4.2.1.1 A letter from MOH to all labs that asks them to coordinate			2.4.2.1.1 Already available	

Reference Lab pending its readiness	manpower and activities of the AMR Surveillance office for the actual work on the National and GLASS AMR reports pending the finalization of the reference lab.	with the GLASS lab by delivering AMR data for the purpose of AMR Surveillance				
Strategic objective 2.5: Unify AMR identification in all Micro labs						
2.5.1 Lab audit by lab accreditation body according to microbiologist consultant in charge, external quality control and use of CLSI guidelines	2.5.1.1 Accreditation of the medical Laboratories by Medical Laboratories Council	2.5.1.1.1 Involve all laboratories in external quality assurance programs	2.5.1.1.1.1 Mandate that all labs including all private should be accredited and all perform external QC.	2.5.1.1.1.1.1 List of accreditation bodies accepted in Kuwait, all labs should be accredited by one of them	2.5.1.1.1.1.1 6 months	2.5 5 years

B. **Surveillance Monitoring Plan**

Strategic interventions	Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Indicator	Purpose	Calculation	Frequency	Data source	Method	Baseline
Strategic Objective 2.1: Set up a national surveillance system for antimicrobial resistance based on One Health Approach											
2.1.1 Establish a national coordination structure for AMR surveillance in humans, veterinary agriculture and environment	2.1.1.1 Write and approve terms of reference for a national coordinating committee for AMR surveillance with the mandate to oversee the AMR surveillance program, including AMR surveillance in Humans, Veterinary, agriculture, environm				2.1.1 Committee is formed yes/No	2.1.1 To oversee and coordinate surveillance activities in Humans, Vets, Agriculture and Environment.	2.1.1 Yes/No	2.1.1 Once	2.1.1 MOH	2.1.1 Checking	2.1.1 Not formed

	ent and Food safety.										
	2.1.1.2. Write and approve terms of reference for a central office that executes the National surveillance in humans and receives data from other AMR offices in PAAF, KEPA and food safety	2.1.1.2.1 Write terms of reference of the AMR office at MOH			2.1.1.2.1 TOR written	2.1.1.2.1 To organize and frame the work of this committee	2.1.1.2.1 Yes/No	2.1.1.2.1 Once	2.1.1.2.1 MOH	2.1.1.2.1 Checking	2.1.1.2.1 Not written yet
		2.1.1.2.2 Create the AMR coordinating office at MOH.	2.1.1.2.2.1 Include the already existing Glass team into the MOH National	2.1.1.2.2.1 .1 Add 2 employees with a support from IT at MOH to be able to	2.1.1.2.2.1 .1 2 extra employees are employed. Yes/No	2.1.1.2.2.1 .1 To execute all the Human AMR surveillance and to	2.1.1.2.2.1 .1 Office with employed personnel is formed.	2.1.1.2.2.1 .1 Once	2.1.1.2.2.1 .1 MOH/ Information system administration	2.1.1.2.2.1 .1 Checking	2.1.1.2.2. 1.1 Not available

			AMR office for Human sector at MOH.	handle nationwide data (to do the functions of the central office).		collect data from the Vet and Agriculture and KEPA Surveillance.					
			2.1.1.2.2.2 Mandate that each MOH hospital has an AMR surveillance focal person that coordinates with Central AMR surveillance office.		2.1.1.2.2.2 Mandate issued Yes/No	2.1.1.2.2.2 Mandate is issued	2.1.1.2.2.2 Yes/No	2.1.1.2.2.2 Once	2.1.1.2.2.2 MOH	2.1.1.2.2.2 Checking	2.1.1.2.2.2 Not available
		2.1.1.2.3 Inform PAAF,PAFN and KEPA about the need for AMR surveillance in their			2.1.1.2.3 Letter sent						

		respective fields.									
		2.1.1.2.4 Nominate AMR focal persons in PAAF, KEPA, and Food safety			2.1.1.2.4 AMR surveillance focal persons appointed in all 3 authorities	2.1.1.2.4 To start the activities that lead to data collection and ultimately do the surveillance data collection in their respective authorities	2.1.1.2.4 Yes/No	2.1.1.2.4 ONCE in each authority	2.1.1.2.4 MOH PAAF KEPA PAFN	2.1.1.2.4 Checking	2.1.1.2.4 Only GLASS focal person is employed at MOH. No national surveillance job description. None in PAAF, KEPA, PAFN
		2.1.1.2.5 Write the job description of these focal persons. The job description would be to collect AMR data and supply it to the Central			2.1.1.2.5 TOR are set	2.1.1.2.5 To organize the job and reach the goal of surveillance	2.1.1.2.5 Yes/No	2.1.1.2.5 Once in each authority	2.1.1.2.5 MOH PAAF KEPA PAFN	2.1.1.2.5 Checking	2.1.1.2.5 Not available

		AMR office and full coordination with the Central AMR office at MOH.									
	2.1.1.3 Identify priority organisms for the purpose of national AMR surveillance in human sector, animal sector, plants and Environment.				2.1.1.3 List is available and includes all listed sectors.	2.1.1.3 To focus surveillance on the most important AMR trends that are of interest in all sectors	2.1.1.3 List is put Yes/No	2.1.1.3 Once	2.1.1.3 MOH	2.1.1.3 Checking	Not available.
	2.1.1.4 Systematically collect, analyze and report data on	2.1.1.4.1 Choose a list of labs (dealing with specimen from humans)			2.1.1.4.1 List is chosen(8 Labs submitted GLASS data for 2021	2.1.1.4.1 To include only data that is microbiologically brought according	2.1.1.4.1 Yes/No	2.1.1.4.1 Once/year	2.1.1.4.1 MOH	2.1.1.4.1 Checking	2.1.1.4.1 List for GLASS data has been put for 2022

	AMR in humans in order to inform decision-making at national and internatio nal levels (Choose sentinel group of labs)	that can provide reliable AMR data will form a sentinel for starting AMR data collection that will be submitted to AMR central office.			-Amiri -Adan -Mubarak Alkhabeer -Jaber -Farwania -Jahra -Chest -Ibn Sina)	to recogniza ble microbiol ogy guidelines like CLSI or EUCAST				
		2.1.1.4.2 Increase the number of labs that are included in the list on yearly basis until it becomes represent ative of the national data.	2.1.1.4.2.1 Establish close communic ation between central AMR OFFICE that also collects data for glass with the lab council to have a list of labs that are accredited by the		2.1.1.4.2.1 Proportio n of labs in the country that are included in the list	2.1.1.4.2.1 To have surveillan ce data that is represent ative of all the country	2.1.1.4.2.1 Number of labs in the list/total number of labs	2.1.1.4.2.1 Once/year	2.1.1.4.2.1 MOH/ Surveillan ce office	2.1.1.4.2.1 Checking	2.1.1.4.2. 1 10 labs will be included in 2022 in GLASS data

			council, and to include them in the list of labs eligible to submit data to GLASS and National AMR surveillance								
	2.1.1.5 **Establish an antimicrobial resistance surveillance network for human health**	2.1.1.5.1 integrate all MOH laboratories in network with the national reference Lab.	2.1.1.5.1.1 Training of hospital AMR Surveillance focal persons for data cleaning and data entry into the MOH surveillance system		2.1.1.5.1.1 Yearly workshop performed Yes/No	2.1.1.5.1.1 To provide adequate training about data management in a unanimous way throughout all the included labs	2.1.1.5.1.1 Workshop done Yes /No	2.1.1.5.1.1 Once/year	2.1.1.5.1.1 MOH	2.1.1.5.1.1 Checking	2.1.1.5.1.1 Only GLASS focal is being trained
		2.1.1.5.2 Generate yearly report about AMR in humans in			2.1.1.5.2 Yearly human AMR report is issued	2.1.1.5.2 To direct empiric therapy and strategic plan in	2.1.1.5.2 Yes/No	2.1.1.5.2 Once/Year	2.1.1.5.2 MOH Surveillance office	2.1.1.5.2 Checking	2.1.1.5.2 GLASS report started 2021

		general and mainly priority organisms in humans by the MOH central office.				treatment and prevention and antibiotic use in humans.					
2.1.2 Participate in Global Antimicrobial Resistance Surveillance System (GLASS-AMR)	2.1.2.1 Nominate a hospital ad a team for GLASS reporting with TOR				2.1.2.1 Already done						Already available.
	2.1.2.2 Give the GLASS team the authority to request and collect data from labs nationwide				2.1.2.2 Already done						2.1.2.2 Already done
		2.1.2.2.1 The team initiates			2.1.2.2.1 Started 2021						2.1.2.2.1 Started 2021

		data collection from a sentinel of labs									
	2.1.2.3 Send yearly report to glass with increasing number of contributing labs	2.1.2.3.1 Central GLASS focal group (Part of AMR central office), chooses from the list of eligible accredited labs submitted by central entity of medical labs to AMR office,	2.1.2.3.11 Yearly training of GLASS focal persons on GLASS data collection, management and entry	2.1.2.3.1.1.1 Central workshops yearly	2.1.2.3.1.1.1 Workshop done, yes/No have 10-20 % increase in number of participating labs in GLASS annually	2.1.2.3.1.1.1 To do proper data entry into GLASS	2.1.2.3.1.1.1 Yes/No	2.1.2.3.1.1.1 Once/Year (and for new employee)	2.1.2.3.1.1.1 Surveillance/GLASS office at MOH	2.1.2.3.1.1.1 Checking	2.1.2.3.1.1.1 Not being done on yearly basis systematically
		2.1.2.3.2 Yearly lab report is sent to GLASS with increasing number of contributi			2.1.2.3.2 Data is available in the yearly GLASS report	2.1.2.3.2 To be included in the global AMR map and to evaluate benchmar	2.1.2.3.2 Yes/No	2.1.2.3.2 Once/Year	2.1.2.3.2 GLASS Report	2.1.2.3.2 Checking	2.1.2.3.2 Started 2021

		ng labs every year.				k with other countries					
Strategic Objective 2.2: Build laboratory capacity to produce high-quality microbiological data for patient management and support surveillance activities in human,											
		2.2.1 Lab in Hospitals become CAP certified (College of American pathologists)	2.2.1.1 Pilot with 2 labs		2.2.1.1 Started already	2.2.1.1 To check feasibility					2.2.1.1 Started already
			2.2.1.2 Increase the number of labs that are CAP members	2.2.1.2.1 Lab council puts a plan for sequential recruitment of labs into the CAP	2.2.1.2.1 List is put already						2.2.1.2.1 List is put already
				2.2.1.2.2 Sequential recruitment of labs into CAP	2.2.1.1 Proportion of Labs that are CAP affiliated	2.2.1.1 To ensure high standard lab work and	2.2.1.1 Number of labs that are CAP Members/ Total labs	2.2.1.1 Once/Year	2.2.1.1 MOH Central laboratories	2.2.1.1 Checking	2.2.1.1 2 started already as pilot

						get international scientific support					
		2.2.2 Improve private labs capacity to be eligible for submitting data to GLASS and National AMR	2.2.2.1 Reinforce the accreditation activity of the lab council that audits labs according to availability of qualified microbiologist, results of External QC and abidance to guidelines	2.2.2.1.1 Mandate from MOH that each private lab should pass the accreditation by the Lab council	2.2.2.1 Proportion of labs that are functional and that have passed the accreditation testing	2.2.2.1 To have quality AMR data from all the labs	2.2.2.1 Number of of labs that are functional and that have passed the accreditation testing/total number of labs	2.2.2.1 Once/Year	2.2.2.1 Central Medical laboratory council/ Medical Licensing Dep.	2.2.2.1 Checking	2.2.2.1 All governmental labs are accredited Not all private labs are accredited and many do not pass the accreditation check yearly.
				2.2.2.1.2 Accreditation of the lab includes the availability of	2.2.2.1.2 Updated accreditation standards of Labs prepared or not	To improve private lab capacity for detecting AMR	Update done yes/No	once	Central Medical laboratory council	checking	available in MOH Labs

				qualified microbiologist, results of External QC and abidance to guidelines							
Strategic objective 2.3: Collect data from Vet, Agriculture and Environment											
2.3.1 Collect AMR data from Vets	2.3.1.1 Map available data On AMR in vet and agriculture in the country.	2.3.1.1.1 Agriculture and Environment focal persons collect available info about AMR in the country and issue a report	2.3.1.1.1.1 Map PAAF labs and the type of AMR data that is generated.		2.3.1.1.1.1 Report is Submitted to central AMR surveillance office	2.3.1.1.1.1 To check the available Situation regarding AMR identification and reporting in Vet labs.	2.3.1.1.1.1 Report done Yes/No	2.3.1.1.1.1 Once	2.3.1.1.1.1 Vet Labs PAAF	2.3.1.1.1.1 Data collection according to a checklist	2.3.1.1.1.1 Unknown
			2.3.1.1.1.2 Collect available data about AMR in PAAF/PAFN		2.3.1.1.1.2 AMR Vets/food reports are submitted to central AMR Surveillance office	2.3.1.1.1.2 To collect available AMR data	2.3.1.1.1.2 AMR report from PAAF/PAFN	2.3.1.1.1.2 Once/year	2.3.1.1.1.2 Vet Labs/PAFN	2.3.1.1.1.2 Data collection	2.3.1.1.1.2 Not available
	2.3.1.2	2.3.1.2.1	2.3.1.2.1.1		2.3.1.1.1.1	2.3.1.1.1.1	2.3.1.1.1.1 Yes/No	2.3.1.1.1.1 Once	2.3.1.1.1.1 PAAF	2.3.1.1.1.1 Checking	2.3.1.1.1.1

	Improve vet lab capacity in a way they generate data about AMR vets and agriculture	Establish quality control of Vet Microbiology labs	Assign expert to establish a system for quality control and put a plan		Professional is assigned	To put a plan with a defined budget for Vet labs to start generating adequate AMR data					The Vet labs generate only microorganism identification data, no AMR data is generated
			2.3.1.2.1.2 Execute the plan of quality control in Vet labs		2.3.1.2.1.2 Proportion of VET Labs that Participate in external quality control activities	2.3.1.2.1.2 To provide periodic check up on the accuracy of AMR detection in vet labs.	2.3.1.2.1.2 Number of of VET Labs that participate in external quality control activities/ Total number of vet labs.	2.3.1.2.1.2 once/year	2.3.1.2.1.2 Vet labs/PAAF	2.3.1.2.1.2 Checking	2.3.1.2.1.2 Not available
		2.3.1.2.2 Extend Vet Micro Labs to identify priority organisms antibiogram	2.3.1.2.2.1 Increase man power		2.3.1.2.2.1 None						

			2.3.1.2.2.2 Road map and full project		2.3.1.2.2.2 The project is put with specified budget and ready for execution	2.3.1.2.2.2 To upgrade Vet labs to become able to generate AMR data	2.3.1.2.2.2 Yes/No	2.3.1.2.2.2 Once	2.3.1.2.2.2 PAAF	2.3.1.2.2.2 Checking	2.3.1.2.2.2 Not available
			2.3.1.2.2.3 Workshops for training about antibiogram		2.3.1.2.2.3 Workshop is performed.	2.3.1.2.2.3 To train microbiologists and technician in Vet labs about AMR IDENTIFICATION	2.3.1.2.2.3 Proportion of vet labs that are represented in these workshops	2.3.1.2.2.3 Once/year	2.3.1.2.2.3 PAAF	2.3.1.2.2.3 Checking	2.3.1.2.2.3 Not available
		2.3.1.2.3 Implement national surveillance for antibiogram priority animal pathogens, zoonotic and commensal bacterial isolates.	2.3.1.2.3.1 Choose a number of Vet labs that could submit AMR data to PAAF for AMR surveillance		2.3.1.2.3.1 List of labs is available yearly	2.3.1.2.3.1 To collect Microbiologically sound AMR data from Vet Labs.	2.3.1.2.3.1 Yes/No	2.3.1.2.3.1 Once/Year	2.3.1.2.3.1 PAAF	2.3.1.2.3.1 Checking	2.3.1.2.3.1 Not available

			2.3.1.2.3.2 Collect data from a Sentinel of vet hospitals or labs that submit data to the departme nt of surveillan ce. (They belong to the list).		2.3.1.2.3.2 Data is yearly collected	2.3.1.2.3.2 To generate AMR data from Vets and Agricultur e and correlate it with Human AMR and decide upon ABX use in agricultur e and vets.	2.3.1.2.3.2 Yes/No	2.3.1.2.3.2 Once/Year	2.3.1.2.3.2 PAAF Vets Lab	2.3.1.2.3.2 Checking	2.3.1.2.3.2 Not available.
		2.3.1.2.4 The focal AMR entity at PAAF submits AMR data to the Central AMR surveillan ce lab			2.3.1.2.4 Data submitted to MOH Central Office.	2.3.1.2.4 To pool data into the central national One Health AMR office, to generate decisions related to ABX in all sectors of One Health.	2.3.1.2.4 Yes/No	2.3.1.2.4 Once/Year	2.3.1.2.4 MOH Central AMR One Health office	2.3.1.2.4 Checking	2.3.1.2.4 Not available
2.3.2	2.3.2.1	2.3.2.1			2.3.2.1	2.3.2.1	2.3.2.1	2.3.2.1	2.3.2.1	2.3.2.1	2.3.2.1

Collect AMR data from Environment.	Map available data from KEPA	Check KEPA Labs and publications about any AMR data in environment			Report is issued	To collect available baseline information about AMR in the environment.	Yes/No	Once	Publications from Kuwait	Checking	Not available.
	2.3.2.2 Initiate AMR data collection from Environment By research projects.	2.3.2.2.1 The director of the office of research and studies puts AMR surveillance as one of the priority subjects in research	2.3.2.2.1.1 The plan of prioritizing AMR surveillance in Environment and marine environment re and is being discussed with universities/institutes.		2.3.2.2.1.1 % of research meetings with universities/institutes where AMR is requested to be apriority in research projects.	2.3.2.2.1.1 To prioritize AMR in environment as research target, and attract related projects and funds	2.3.2.2.1.1 Number of research meetings with universities where AMR is requested to be a priority in research projects/ total number of research meetings.	2.3.2.2.1.1 Twice /year	2.3.2.2.1.1 KEPA/ Universities/KISR	2.3.2.2.1.1 Checking	2.3.2.2.1.1 Not available
			2.3.2.2.1.2 Call for proposal from universities/institutes		2.3.2.2.1.2 Proportion of universities that send projects related to AMR in	2.3.2.2.1.2 To increase the number of research projects about	2.3.2.2.1.2 Number of universities that send projects related to AMR in	2.3.2.2.1.2 Twice/year	2.3.2.2.1.2 KEPA Research office	2.3.2.2.1.2 Checking	2.3.2.2.1.2 Not available

					environment to KEPA research office	AMR in the environment.	environment to KEPA research office/Total number of universities.				
			2.3.2.2.1.3 The director of the office of research and studies applies for funds from KEPA for projects related to AMR surveillance in Vet, agriculture, and Environment.		2.3.2.2.1.3 % of proposed projects related to AMR in environment that have been funded	2.3.2.2.1.3 To secure funds for the projects in order for them to be realized	2.3.2.2.1.3 Number of proposed projects related to AMR in environment that have been funded/total number of projects related to AMR that were proposed.	2.3.2.2.1.3 Once/6 months	2.3.2.2.1.3 KEPA Research office	2.3.2.2.1.3 Checking	2.3.2.2.1.3 Almost none
		2.3.2.2.2 Increase lab capacity of KEPA Lab that	2.3.2.2.2.1 Letter from KEPA Director General to Technical		2.3.2.2.2.1 KEPA Lab starts reporting AMR data	2.3.2.2.2.1 To expand the capacity of the lab from	2.3.2.2.2.1 Yes/No	2.3.2.2.2.1 Once/year	2.3.2.2.2.1 KEPA lab	2.3.2.2.2.1 Checking	2.3.2.2.2.1 Not available

		deals with the quality of coastal water to include AMR identification and surveillance in water and sediment	affairs sector of micro labs asking to prepare a project with a budget that aims at expanding their work from only identification to antibiogram testing			microorganism identification to AMR detection					
			2.3.2.2.2.2 KEPA analytical central lab KEPA prepare road map for the labs to be able to do antibiogram testing	2.3.2.2.2.2.1 Identify the needed machinery and their budget	2.3.2.2.2.2 Road map project with budget is put to extend KEPA microbiology lab from bacterial identification to include also antibiogram testing	2.3.2.2.2.2 To put a plan for how to reach the target of making KEPA lab (marine…) detect AMR.	2.3.2.2.2.2 Yes /No	2.3.2.2.2.2 Once/6 months	2.3.2.2.2.2 KEPA Analytical Lab center	2.3.2.2.2.2 Checking	2.3.2.2.2.2 KEPA marine lab identifies microorganisms, does not detect AMR.

				2.3.2.2.2.2 Put a plan of needed extra staffing	See above						
			2.3.2.2.2.3 KEPA provides the related budget	2.3.2.2.2.3 Communication between KEPA and ministry of finance	2.3.2.2.2.3 None						
			2.3.2.2.2.4 KEPA microbiology labs start generating antibiogram results for priority organisms		2.3.2.2.2.4 KEPA Marine lab actually generates AMR data	2.3.2.2.2.4 To have AMR data from marine environment	2.3.2.2.2.4 Yes/No	2.3.2.2.2.4 Once/Year	2.3.2.2.2.4 KEPA marine lab	2.3.2.2.2.4 Checking	2.3.2.2.2.4 Not available
		2.3.2.2.3 Generate report about AMR surveillance in Environment			2.3.2.2.3 Yes/No						
2.3.3	2.3.3.1	2.3.3.1.1			2.3.3.1.1	2.3.3.1.1	2.3.3.1.1 Yes/No	2.3.3.1.1	2.3.3.1.1 MOH	2.3.3.1.1 Checking	2.3.3.1.1

The national AMR Surveillance Office at MOH gathers data from KEPA, PAAF, and PAFN compiles it with Human AMR data and generates yearly ONE Health AMR surveillance report.	KEPA, PAAF , and PAFN submit available data to Central AMR surveillance office at MOH on yearly basis	Create a digital network for data sharing with MOH			Digital System is put	To facilitate AMR data collection in health approach by making it digital		Once/6 months			Not available
		2.3.3.1.2 Add this function to the TOR of the focal person at PAAF and KEPA and food safety.			2.3.3.1.2 TOR includes surveillance function detail.						
Strategic objective 2.4: Create a National Reference Lab for AMR											
2.4.1	2.4.1.1				2.4.1.1	2.4.1.1	2.4.1.1	2.4.1.1	2.4.1.1	2.4.1.1	2.4.1.1

To have A Kuwaiti Center of Disease Control that will be overseeing bacterial, viral and AMR reference labs	Project of reference lab with its budget and having it endorsed by MOH				CDC will oversee the needs and functions of all reference laboratorial, including viral, bacterial and AMR.	To centralize all the reference labs	Yes/No	Once/year	MOH	Checking	Project is already under the umbrella of Minister of Health and under serious consideration.
	2.4.1.2 Kuwait CDC becomes functional				2.4.1.2 Kuwait CDC is established	2.4.1.2 To put the project of Kuwait CDC into action	2.4.1.2 Yes/No	2.4.1.2 Once/Year	2.4.1.2 MOH	2.4.1.2 Checking	2.4.1.2 The Minister of Health has put the project among his priorities and has provided the budget for it.
.	2.4.1.3 Write and approve terms of reference for a national				2.4.1.3 TOR of AMR reference Lab are put.	2.4.1.3 To define the functions and fulfill them	2.4.1.3 Yes/No	2.4.1.3 Once	2.4.1.3 MOH/ Kuwait CDC/Medical Lab.Council	2.4.1.3 Checking	2.4.1.3 Not done yet

	AMR reference laboratory with expertise in methods for confirming and characterizing specific pathogens, putting guidelines, SOP for identification and antibiogram testing of priority organisms for surveillance training according to guidelines, and organizing quality assurance schemes				They include: expertise in methods for confirming and characterizing specific pathogens, putting guidelines, SOP for identification and antibiogram testing of priority organisms for surveillance training according to guidelines, and organizing quality assurance schemes						
	2.4.1.4 Prepare a full				2.4.1.4 Yes/No	2.4.1.4	2.4.1.4 Yes/No	2.4.1.4 Once	2.4.1.4 Kuwait CDC/MOH	2.4.1.4 checking	2.4.1.4 Not yet

	project and proposal for the reference lab					To put the full road map and define the budget and submit it for funding					
	2.4.1.5 Prepare a budget for the building, equipment and man power of the reference Lab				2.4.1.5 Budget for AMR lab is approved within the budget of Kuwait CDC	2.4.1.5 To provide the needed budget for Manpower and equipment	2.4.1.5 Yes/No	2.4.1.5 Once/year	2.4.1.5 Kuwait CDC/ MOH	Checking	Not yet
	2.4.1.6 Execution of the Reference Lab				2.4.1.6 Reference lab is set and functioning	2.4.1.6 To fulfill the functions listed in the TOR	2.4.1.6 Yes/no	2.4.1.6 Once/year	2.4.1.6 Kuwait CDC	2.4.1.6 Checking	2.4.1.6 Not yet
2.4.2 Delegate the function of surveillance of the reference Lab pending	2.4.2.1 Identify institution affiliated to MOH that will host the manpower and activities	2.4.2.1.1 A letter from MOH to all labs that asks them to coordinate with the GLASS lab			2.4.2.1.1 Already available	2.4.2.1.1 To start surveillance while waiting for the reference lab, which might					2.4.2.1.1 AMR surveillance is being submitted to GLASS National AMR not

its readiness	of the AMR Surveillance office for the actual work on the National and GLASS AMR reports pending the finalization of the reference lab.	by delivering AMR data for the purpose of AMR Surveillance				take few years					finalized yet A plan is put above
Strategic objective 2.5: Unify AMR identification in all Micro labs											
2.5.1 Lab audit by lab accreditation body according to microbiologist consultant in charge, external quality control and use of CLSI guidelines	2.5.1.1 Accreditation of the medical Laboratories by Medical Laboratories Council	2.5.1.1.1 Involve all laboratories in external quality assurance programs	2.5.1.1.1.1 Mandate that all labs including all private should be accredited and all perform external QC.	2.5.1.1.1.1 List of accreditation bodies accepted in Kuwait, all labs should be accredited by one of them	2.5.1.1.1.1 Number of international accreditation bodies that are recommended in Kuwait for the labs to get their accreditation	2.5.1.1.1.1 To identify international accreditation bodies to perform accreditation of the labs in Kuwait and not to be limited	2.5.1.1.1.1 Number	2.5.1.1.1.1 Once/Year	2.5.1.1.1.1 MOH/ Reference lab/ Medical Lab.council	2.5.1.1.1.1 Checking	2.5.1.1.1.1 CAP

						to the local accreditation activity					

Annex 4

A. IPC Strategic Plan

Strategic interventions	Activity	Sub-activity	Sub-sub- activity	Sub-sub-sub-activity	Date	Milestone
Strategic objective 3.1 Emphasize the national infection prevention and control program in healthcare at the National and Health care facility levels.						
3.1.1 Create a formal organizational structure to ensure proper development and use of infection prevention and control policies and strategies	3.1.1.1 Infection Control Organizational structure is already established and functioning.	-	-	-	3.1.1.1 Done 1980	3.1 5 years
	3.1.1.2 To make official that IPC is part of the organogram of each hospital with Terms of Reference and allocated staff	3.1.2.1 Decree from MOH about IPC department in each hospital with TOR, and staffing organization			3.1.2.1 2 Months	
	3.1.1.3 IPC departments in hospitals and they work closely with the central IPC Directorate	3.1.1.3.1 To impose IPC programs in all hospitals	3.1.1.3.1.1 IPC program availability is checked by accreditation standards		3.1.1.3.1.1 Already available	
		3.1.1.3.2 IPC programs are available in all hospitals and they work under the	-	-	3.1.1.3.2 Already available	

		umbrella of the Central IPC directorate.				
3.1.2 Implement laws for mandatory compliance of the facilities with IPC standards	3.1.2.1 Decree from MOH	3.1.2.1.1 Decree that recommends that all HCF have to abide by IPC Recommendations.	3.1.2.1.1.1 IPC Directorate puts the detailed IPC measures that should be required from each HCF, and sent to MOH to be included in ministry	-	3.1.2.1.1.1 2 months	
			3.1.2.1.1.2 Decree is issued by MOH	-	3.1.2.1.1.2 3 months	
		3.1.2.1.2 Medical responsibilities. Add details IPC standard compliance in hospitals	3.1.2.1.2.1 Add compliance to IPC measures and recommendations to the list of medical responsibilities of hospitals as listed by MOH	-	3.1.2.1.2.1 3 months	
3.1.3 WHO IPC Core component based guidelines are established in all HCF	3.1.3.1 Availability of endorsed IPC based on WHO IPC core components	-	-	-	3.1.3.1 Done	
	3.1.3.2 IPC policies and procedures are included in hospital accreditation standards	-	-	-	3.1.3.2 Done	
	3.1.3.3 IPC policies and procedures are being audited	-	-	-	3.1.3.3 Done	

	regularly by accreditation bodies					
	3.1.3.4 National infection control policies and guidelines are distributed and periodically updated	3.1.3.4.1 Regular update of national IPC guidelines	3.1.3.4.1.1 On going, but needs to be speeded up by increasing manpower in IPC nationwide in central office and in hospitals	-	3.1.3.4.1.1 2 years	
		3.1.3.4.2 A direct channel with WHO consultant regarding few queries and new recommendations	3.1.3.4.2.1 Communicate this need to WHO office in Kuwait	3.1.3.4.2.1.1 Letter from MOH/IPC directorate to WHO office in Kuwait asking for direct channel with a consultant for queries whenever they occur	3.1.3.4.2.1.1 1 month	
			3.1.3.4.2.2 Communicate this need to Regional WHO office	3.1.3.4.2.2 Request from WCO to Regional office.	3.1.3.4.2.2 2 months	
		3.1.3.4.3 Regular update of National IPC policies and procedures	3.1.3.4.3.1 Need updating + speeding up the process		3.1.3.4.3.1 ongoing	
	3.1.3.5 National IPC Guidelines and policies are being taught	3.1.3.5.1 TOT periodically performed nationally	-	-	3.1.3.5.1 Already being performed	

		3.1.3.5.2 Continuous training of HCW about IPC policies in hospitals is available	3.1.3.5.2.1 Mandate from MOH that it is mandatory to all HCW to attend at least 1 yearly and 1 upon employment		3.1.3.5.2.1 2 months	
			3.1.3.5.2.2 Improve attendance to these general HCW IPC training sessions	3.1.3.5.2.2.1 Attendance is reported to hospital administrators and action taken to improve attendance	3.1.3.5.2.2.1 1 year	
				3.1.3.5.2.2.2 Attendance evidence is available in yearly Hospital IPC report and monitored by IPC Directorate	3.1.3.5.2.2.2 1 year	
3.1.4 Monitor and evaluate compliance with the IPC guidelines	3.1.4.1 Checklists and audit tools are prepared and applied	–	–	–	3.1.4.1 Started years ago, and ongoing for new policies.	
	3.1.4.2 Regular updates of these audit tools	3.1.4.2.1 Check new policies if they have their audit tools prepared and disseminated and check old tools if they need update	-	-	3.1.4.2.1 Ongoing	
	3.1.4.3 Audit plan available in hospitals	3.1.4.3.1 Audit plan is checked in standards of the	-	-	3.1.4.3.1 done ongoing	

		National Accreditation Program applied by the Quality and Accreditation Directorate				
		3.1.4.3.2 Central audit plan is being prepared annually and distributed to all hospitals	-	-	3.1.4.3.2 Done and ongoing yearly	
		3.1.4.3.3 Audit report is sent to central IPC directorate with corrective actions.	-	-	3.1.4.3.3 Done and ongoing	
	3.1.4.4 Establish national process indicators	3.1.4.4.1 1st set of process indicators: -CLABSI -CAUTI -VAP	3.1.4.4.1.1Put the basic training material	-	3.1.4.4.1.1Already available	
			3.1.4.4.1.2Update of the already available bundle of care in each of the mentioned bundles, by including new evidence- based items to the bundle	3.1.4.4.1.2 Prepare the updated bundles	3.1.4.4.1.2 2 years	
			3.1.4.4.1.3Train the IPC professionals nationwide on the updated bundles	3.1.4.4.1.3.1 TOT workshops	3.1.4.4.1.3.1 2 years	
			3.1.4.4.1.4 Engage all HCW with the	3.1.4.4.1.4.1	3.1.4.4.1.4.1 CLABSI months	

			bundles by training, audit and feedback.	Prepare the ground in the hospitals: Letter to hospital directors about the bundles project its importance and its processes	Each bundle 1 y	
				3.1.4.4.1.4.2 Update the material to be taught to HCW by IPC professionals, according to the updated bundles.	3.1.4.4.1.4.2 2 years	
				3.1.4.4.1.4.3 In-hospital training sessions by IPC professionals to all concerned HCW. Include Bundle training in the yearly IPC training and in peri-employment training.	3.1.4.4.1.4.3 4 years	
				3.1.4.4.1.4.4 Auditing compliance to these bundles on monthly basis and report to IPC directorate monthly	3.1.4.4.1.4.4 5 years	
		3.1.4.4.2 Update outcome indicators for the 3	3.1.4.4.2.1 Review updated CDC outcome	-	3.1.4.4.2.1 6 months	

		bundles above (CLABSI, CAUTI, VAP) according to new CDC/ guidelines	indicators and update already measured bundles outcome indicators accordingly			
		3.1.4.4.3 Integrate process and outcome indicators for each bundle, and use in the analysis and corrective actions	3.1.4.4.3.1 Put a road map for integrating analysis of outcome and process indicators related to the bundles	-	3.1.4.4.3.1 1 year	
		3.1.4.4.4 Introduce SSI bundle	3.1.4.4.4.1 preparation of material	-	3.1.4.4.4.1 4 years	
			3.1.4.4.4.2 Implementation of SSI bundle	3.1.4.4.4.2.1 Teaching of IPC professionals by central IPC directorate	3.1.4.4.4.2.1 5 years	
				3.1.4.4.4.2.2 Teaching of healthcare providers inside the hospitals by IPC professionals	3.1.4.4.4.2.2 5 years	
				3.1.4.4.4.2.3 Data collection	3.1.4.4.4.2.3 5 years	
3.1.5 IPC programs/office in LTCF working in close cooperation with IPC directorate in MOH	3.1.5.1 Mandate from MOH that IPC program/with employee with TOR and specified	3.1.5.1.1 Communication between MOH and Public Authority of Disability Affairs regarding IPC in	3.1.5.1.1.1 Letter from MOH to Public Authority of Disability Affairs asking to establish IPC in each LTCF		3.1.5.1.1.1 2 months	

	budget are available in LTCF the central and the "branches".	LTCF and being overseen by the IPC directorate	and to have the personnel work closely with IPC directorate delegate to LTCF.			
			3.1.5.1.1.2Letter from Public Authority of Disability Affairs to LTCF that recommends IPC in each LTCF and organizes the communication with MOH		3.1.5.1.1.2 2 months	
		3.1.5.1.2 Established Guidelines for IPC in LTCF	3.1.5.1.2.1 Preparation of the LTCF guidelines and their endorsement by Public Authority of Disability Affairs	-	3.1.5.1.2.1 1 year	
			3.1.5.1.2.2 Dissemination of LTCF Policies and Procedures	3.1.5.1.2.2.1 TOT of LTCF IPC focal persons	3.1.5.1.2.2 1.5 years	
Strategic objective 3.2 To have the HAI and AMR information digitalized and sent to IPC directorate as a digital report						
3.2.1 Software for hospital data entry, analysis and generating both hospital and national reports	3.2.1.1 Subcommittee from IPC directorate sends a letter to Information system department at MOH explaining what is required				3.2.1.1 2 months	3.2 5 years

	and asking for the software					
	3.2.1.2 Health Information system dep. presents projects (either in-house, or ready to buy) with budget providing				3.2.1.2 12 months	
	3.2.1.3 Agreement between IPC directorate and information system dep. to choose one system				3.2.1.3 1 year 3 months	
	3.2.1.4 Apply the system in the hospitals				3.2.1.4 1 year 9 months	
	3.2.1.5 Apply the Digital HAI/AMR System for National data collection from individual hospitals to central IPC directorate				3.2.1.5 2 years	
3.2.2 To Shift all hospital information system from paper to digital mode.	3.2.2.1 MOH recommends from hospitals to have an electronic patient and data information system.	3.2.2.1.1 Letter from MOH to hospitals	-	-	3.2.2.1.1 2 months	

	3.2.2.2 Increase the number of hospitals that have digitalized their medical information system	-	-	-	3.2.2.2 5 years	
3.2.3 Connect Infection Control Departments to electronic medical records	3.2.3.1 Connect Infection Control departments in all hospitals with the Heath information system and Laboratory information system at the hospital level	3.2.3.1.1 Letter from MOH to ask all hospitals to connect IC dep. With HIS system and LIS at the hospital level	-	-	3.2.3.1.1 2 months	
		3.2.3.1.2 Decree from MOH to all hospitals who have an electronic Health information system to link their Lab AMR data to the Hospital system	-	-	3.2.3.1.2 4 months	
	3.2.3.2 Develop electronic outbreak reporting system for data entry, analysis and generating reports.				3.2.3.2 3 years	
	3.2.3.3 Develop electronic reporting system for data entry, analysis and generating hospital/national				3.2.3.3 3 years	

	reports for bundles of care.					
	3.2.3.4 Develop electronic infection prevention and control system capable of self-identifying HAI and detecting outbreaks	3.2.3.4.1 Electronic system has a function for self-diagnosis of HAIs and automatically detects outbreak			3.2.3.4.1 5 years	
Strategic objective 3.3 Enhance IPC education in all health- related specialties and among HCW.						
3.3.1 Include IPC as a core element in education and training of healthcare professionals	3.3.1.1 Include infection control in undergraduate curricula for health care students (medical, nursing, dental and pharmaceutical).	3.3.1.1.1 Prepare module about IPC and AMR to be included in all health specialties in universities/PAAET.	-	-	3.3.1.1.1 2 years	3.3 5 years
		3.3.1.1.2 MOH letter to Ministry of higher education and The Public Authority for Applied Education and Training to ask to include these modules into the undergrads and graduate health students' curricula	-	-	3.3.1.1.2 2 years	

		3.3.1.1.3 Modules sent to Kuwait university/ The Public Authority for Applied Education and Training to include it in curricula			3.3.1.1.3 2.5 years	
3.3.2 Enhance IPC education among undergraduates and higher education health students	3.3.2.1 Include infection control in continuing education of healthcare workers and mandatory prerequisite for promotion	3.3.2.1.1 Provide IPC courses with CE credits in universities, hospitals, MOH, PAAET, PAAF Include CME Credit 10% IPC			3.3.2.1.1 2 years	
		3.3.2.1.2 Request that when CE credits for physicians, nurses, or pharmacists is needed, 10% of these credits should be about IPC.			3.3.2.1.2 3 months	
		3.3.2.1.3 In hospitals, yearly and upon employment, mandatory attendance of IPC lectures	-	-	3.3.2.1.3 3 months	

	3.3.2.2 Hygiene and IPC education provided outside formal teaching programs	3.3.2.2.1 Require IPC education by drug companies, hospitals, LTCFs, FAO, and medical/veterinary associations	3.3.2.2.1.1 Request to include few topics about IPC in conferences agendas	3.3.2.2.1.1 Letter to be sent	3.3.2.2.1.1 6 months	
Strategic objective 3.4 Prevent occupational infections in HCWs						
3.4.1 Develop a comprehensive program of vaccination to protect HCWs from vaccine preventable diseases	-	-	-	-	3.4.1 Available And applied	3.4 5 years
3.4.2 Develop policies and procedures to protect healthcare workers from occupational exposure to infections.	-	-	-	-	3.4.2 Available And applied	
3.4.3 Availability of Airborne Isolation Rooms in all hospitals	3.4.3.1 screening mapping and updating the recommendations according to the expected need according to need	-	-	-	3.4.3.1 5 years	
3.4.4 Mandate to hospitals to provide airborne isolation rooms (AII)	-	-	-	-	3.4.4 5 years	

available as per the updated recommendations						
Strategic objective 3.5 Adequate waste management in hospitals						
3.5.1 Put National Guidelines	3.5.1.1 National policies, strategies and plans for healthcare waste management is in place	3.5.1.1.1 Unify recommendations between KEPA and MOH	3.5.1.1.1.1 Create a committee from MOH and KEPA that unifies the recommendation and the road map of all types of waste that are generated in healthcare	-	3.5.1.1.1.1 6 months	3.5 5 years
			3.5.1.1.1.2 The committee reviews waste policies that are related to HCF and unifies recommendations and provides the proper ways of supervision	-	3.5.1.1.1.2 1 year	
3.5.2 Supervision of waste disposal from public hospitals	3.5.2.1 Create a committee for the supervision of waste disposal from public hospitals	-	-	-	3.5.2.1 Available and ongoing	
3.5.3 Supervision of waste disposal in private hospitals	3.5.3.1 Create a committee for the supervision of waste disposal in private hospitals	-	-	-	3.5.3.1 1 year	

3.5.4 Waste policies are being audited by KEPA	3.5.4.1 Organization of supervision of waste disposal inside and from private hospitals	-	-	-	3.5.4.1 1.5 years	
	3.5.4.2 Designate 1 unit at KEPA to oversee the waste in hospitals		-	-	3.5.4.2 1 year	
Strategic objective 3.6 To enhance infection prevention and control programs in veterinary and agriculture settings						
3.6.1 Availability of IPC guidelines in veterinary practices	3.6.1.1 Implementation of OIE guidelines regarding IPC in veterinary field	3.6.1.1.1 Committee in PAAF that regularly checks updates in OIE guidelines regarding IPC in veterinary field, and updates the guidelines accordingly	-	-	3.6.1.1.1 6 months	3.6 5 years
		3.6.1.1.2 Overseeing the implementation of national IPC guidelines in Vet field and OIE good practices	3.6.1.1.2 Regular audits to farms	3.6.1.1.2 Put a yearly audit plan	3.6.1.1.2 1 year	
3.6.2 Include IPC in licensing of Vets	3.6.2.1 Include questions about OIE IPC guidelines and	3.6.2.1.1 Prepare a set of questions related to IPC in Vets to be	-	-	3.6.2.1.1 6 months	

	vaccinations in all vets licensing exams or interviews.	included in licensing exams and interviews.				
3.6.3 Include IPC in Continuous education of Vets and professionals in Agriculture	3.6.3.1 Prepare a slide bank related to IPC in vet and agriculture, to be given to drug companies that usually do the continuous education activities.	-	-	-	3.6.3.1 6 months	
	3.6.3.2 Mandate that all drug company events or seminars include a specific number of slides related to IPC and AMR.	-	-	-	3.6.3.2 9 months	
3.6.4 Include hygiene and infection prevention and control as core content in training of veterinary professionals.	3.6.4.1 Close communication between. FAO and PAAF to put a joint yearly plan of education activities related to IPC.	-	-	-	3.6.4.1 1 year	
	3.6.4.2 Include hygiene and infection prevention and control as	3.6.4.2.1 IPC credits mandatory for promotion in Vet. Associations	-	-	3.6.4.2.1 6 months	

	mandatory prerequisite for promotion of for the veterinary workers.					

B. IPC Monitoring Plan

Strategic interventions	Activity	Sub-activity	Sub-sub-activity	Sub-sub-sub-activity	Indicator	Purpose	Calculation	Frequency	Data source	Method	Baseline
Strategic Objective 3.1 Emphasize the national infection prevention and control program in healthcare at the National and Health care facility levels.											
3.1.1 Create a formal organizational structure to ensure proper development and use of infection prevention and control policies and strategies	3.1.1.1 Infection Control Organizational structure is already established and functioning.	-	-	-	3.1.1.1 Already available						3.1.1.1 Already available
	3.1.1.2 To make official that IPC is part of	3.1.2.1 Decree from MOH about IPC			3.1.2.1 The decree was issued.						3.1.2.1 Already available

	the organogram of each hospital with Terms of Reference and allocated staff	department in each hospital with TOR, and staffing organization									
	3.1.1.3 IPC departments in hospitals and they work closely with the central IPC Directorate	3.1.1.3.1 To impose IPC programs in all hospitals	3.1.1.3.1.1 IPC program availability is checked by accreditation standards		3.1.1.3.1.1 already exists						3.1.1.3.1.1 Already established
		3.1.1.3.2 IPC programs are available in all hospitals and they work under the umbrella of the	-	-	3.1.1.3.2 % of Hospitals with IPC programs						3.1.1.3.1.2 Already established

		Central IPC directorate.									
3.1.2 Implement laws for mandatory compliance of the facilities with IPC standards	3.1.2.1 Decree from MOH	3.1.2.1.1 Decree that recommends that all HCF have to abide by IPC Recommendations.	3.1.2.1.1.1 IPC Directorate puts the detailed IPC measures that should be required from each HCF, and sent to MOH to be included in ministry	-	3.1.2.1.1.1 List is sent from IPC Directorate to MOH Director		3.1.2.1.1.1 Yes/No	3.1.2.1.1.1 Once	3.1.2.1.1.1 IPC Directorate/ MOH	3.1.2.1.1.1 Checking	3.1.2.1.1.1 Not available
			3.1.2.1.1.2 Decree is issued by MOH	-	3.1.2.1.1.2 Decree availability and dissemination	3.1.2.1.1.2 Abiding by IPC standards is a must in hospitals	3.1.2.1.1.2 Yes/No	3.1.2.1.1.2 once	3.1.2.1.1.2 IPC Directorate/ MOH	3.1.2.1.1.2 Checking	3.1.2.1.1.2 Not available
		3.1.2.1.2 Medical responsibilities. Add details IPC standard	3.1.2.1.2.1 Add compliance to IPC measures and recommendations	-	3.1.2.1.2.1 The Medical responsibility list is updated and it includes	3.1.2.1.2.1 To make it official through medical Decisions that obedience	3.1.2.1.2.1 Yes/No	3.1.2.1.2.1 Once /year until they appear in the law	3.1.2.1.2.1 IPC Directorate/ MOH	3.1.2.1.2.1 Checking	3.1.2.1.2.1 IPC exists in hospitals and centrally but there

		compliance in hospitals	to the list of medical responsibilities of hospitals as listed by MOH		the statement about IPC measures.	to IPC measures is a must in Hospitals					is no law, so far, that enforces it in the hospitals.
3.1.3 WHO IPC Core component based guidelines are established in all HCF	3.1.3.1 Availability of endorsed IPC based on WHO IPC core components	-	-	-	3.1.3.1 Available						3.1.3.1 Available
	3.1.3.2 IPC policies and procedures are included in hospital accreditation standards	-	-	-	3.1.3.2 Available						3.1.3.2 Available
	3.1.3.3 IPC policies and procedures are being audited regularly by	-	-	-	3.1.3.3 Available						3.1.3.3 Available

	accreditation bodies										
	3.1.3.4 National infection control policies and guidelines are distributed and periodically updated	3.1.3.4.1 Regular update of national IPC guidelines	3.1.3.4.1.1 On going, but needs to be speeded up by increasing manpower in IPC nationwide in central office and in hospitals	-	3.1.3.4.1.1 Proportion of staff that is needed that has been actually employed	3.1.3.4.1.1 speed up the process of updating policies and guidelines	3.1.3.4.1.1 Number of newly employed in IPC. /Number needed X 100	3.1.3.4.1.1 Once /6 months until all are employed.	3.1.3.4.1.1 IPC Directorate / MOH	3.1.3.4.1.1 Checking	3.1.3.4.1.1 The request has been sent to MOH and approval was given, employment still in process.
		3.1.3.4.2 A direct channel with WHO consultant regarding few queries and new recommendations	3.1.3.4.2.1 Communicate this need to WHO office in Kuwait	3.1.3.4.2.1.1 Letter from MOH/IPC directorate to WHO office in Kuwait asking for direct channel with a consultant for queries whenever they occur	3.1.3.4.2.1.1 Percent of queries to WHO that have been timely answered.	3.1.3.4.2.1 To have a direct channel with a WHO consultant that helps giving answers to questions based on WHO guidelines and recommendations	3.1.3.4.2.1 Number of timely answered queries /Number of needed consultations X 100	3.1.3.4.2.1 Once/year	3.1.3.4.2.1 MOH/WHO	3.1.3.4.2.1 Checking	3.1.3.4.2.1 Not available

						that might arise					
			3.1.3.4.2.2 Communicate this need to Regional WHO office	3.1.3.4.2.2 Request from WCO to Regional office.							
		3.1.3.4.3 Regular update of National IPC policies and procedures	3.1.3.4.3.1 Need updating + speeding up the process		3.1.3.4.3.1 % of hospitals that have polices updated in the last 2 years or less.		3.1.3.4.3.1 Number of hospitals with updated policies in the last 2 years or less/Total number of hospitals X 100	3.1.3.4.3.1 Once/Year	3.1.3.4.3.1 Hospitals / Central IPC Directorate	3.1.3.4.3.1 Checking	3.1.3.4.3.1 Partially available
	3.1.3.5 National IPC Guidelines and policies are being taught	3.1.3.5.1 TOT periodically performed nationally	-	-	3.1.3.5.1 % IPC professionals that are trained annually	3.1.3.5.1 To have a unified centralized training of IPC professionals.	3.1.3.5.1 Number of IPC professionals trained annually /total number of IPC professionals X100	3.1.3.5.1 Once/year	3.1.3.5.1 MOH/ Central IPC Directorate	3.1.3.5.1 Checking	3.1.3.5.1 Ongoing, Exact numbers are unknown.
		3.1.3.5.2 Continuous	3.1.3.5.2.1 Mandate		3.1.3.5.2.1 Decree is done and						3.1.3.5.2.1 Yes/no

		training of HCW about IPC policies in hospitals is available	from MOH that it is mandatory to all HCW to attend at least 1 yearly and 1 upon employment		sent to hospitals.						
			3.1.3.5.2.2 Improve attendance to these general HCW IPC training sessions	3.1.3.5.2.2.1 Attendance is reported to hospital administrators and action taken to improve attendance	3.1.3.5.2.2.1 % of HCW that attend the training sessions yearly		3.1.3.5.2.2.1 Number of HCW attendees /total number of HCW /year X100	3.1.3.5.2.2.1 Once/year	3.1.3.5.2.2.1 Hospitals/ Central IPC Directorate	3.1.3.5.2.2.1 Data collection	3.1.3.5.2.2.1 Training is recommended and provided, attendance is suboptimal
				3.1.3.5.2.2.2 Attendance evidence is available in yearly Hospital IPC report							

				and monitored by IPC Directorate							
3.1.4 Monitor and evaluate compliance with the IPC guidelines	3.1.4.1 Checklists and audit tools are prepared and applied	–	_	–	3.1.4.1 and 3.1.4.2 Percent of policies that have corresponding audit tools.	3.1.4.1 and 3.1.4.2 To make audit tools unified nationally and readily available and to facilitate National data collection if needed	3.1.4.1 and 3.1.4.2 Number of policies with audit tools/Total number of policies X100	3.1.4.1 and 3.1.4.2 Once/year	3.1.4.1 and 3.1.4.2 IPC directorate	3.1.4.1 and 3.1.4.2 Checking	3.1.4.1 and 3.1.4.2 Partially available
	3.1.4.2 Regular updates of these audit tools	3.1.4.2.1 Check new policies if they have their audit tools prepared and disseminated and check old tools if	-	-							

		they need update									
	3.1.4.3 Audit plan available in hospitals	3.1.4.3.1 Audit plan is checked in standards of the National Accreditation Program applied by the Quality and Accreditation Directorate	-	-	3.1.4.3.1 Done and ongoing						3.1.4.3.1 Done and ongoing
		3.1.4.3.2 Central audit plan is being prepared annually and distributed to all hospitals	-	-	3.1.4.3.2 Done and ongoing	3.1.4.3.2 % of hospitals that perform audit according to the centralized audit plan and audit. tools.	3.1.4.3.2 Number of hospitals that perform audit according to the centralized audit plan and audit tools/total number of	3.1.4.3.2 Once/year	3.1.4.3.2 Hospitals/ Digital central IPC program	3.1.4.3.2 Data collection	3.1.4.3.2 Partially performed

							hospitals X100				
		3.1.4.3.3 Audit report is sent to central IPC directorate with corrective actions.	-	-	3.1.4.3.3 Done and ongoing	3.1.4.3.3 % of hospitals that report the results of their audits to IPC	3.1.4.3.3 Number of hospitals that report the results of their audits to IPC/Total number of hospitals X100	3.1.4.3.3 Once/year	3.1.4.3.3 Hospitals/ Digital central IPC program	3.1.4.3.3 Data collection	3.1.4.3.3 Partially performed
	3.1.4.4 Establish national process indicators	3.1.4.4.1 1st set of process indicators: -CLABSI -CAUTI -VAP	3.1.4.4.1.1 Put the basic training material	-	3.1.4.4.1.1 Each one of the 4 procedures has its own bundle established	3.1.4.4.1.1 To improve quality of care by using the bundle approach in all HCF	3.1.4.4.1.1 Yes/No	3.1.4.4.1.1 Checking	3.1.4.4.1.1 MOH/ IPC directorate	3.1.4.4.1.1 Checking	3.1.4.4.1.1 Not available
			3.1.4.4.1.2 Update of the already available bundle of care in each of the mentioned bundles, by	3.1.4.4.1.2 Prepare the updated bundles	3.1.4.4.1.2 Availability of 3 updated bundles	3.1.4.4.1.2 To make quality of care up-to-date regarding the 3 procedures and to improve outcome	3.1.4.4.1.2 Yes or no x 3 (For each bundle)	3.1.4.4.1.2 Once /6 months until availability	3.1.4.4.1.2 IPC directorate	3.1.4.4.1.2 Checking	3.1.4.4.1.2 Old version of bundles available

			including new evidence-based items to the bundle								
			3.1.4.4.1.3 Train the IPC professionals nationwide on the updated bundles	3.1.4.4.1.3 .1 TOT workshops	3.1.4.4.1.3 % IPC professionals trained about the new bundles	3.1.4.4.1.3 To disseminate the updated bundles to all IPC professionals nationally	3.1.4.4.1.3 Number of IPC professionals trained about the new bundles /Total number of IPC professionals.	3.1.4.4.1.3 Once/year	3.1.4.4.1.3 IPC directorate/Hospitals	3.1.4.4.1.3 Data collection	3.1.4.4.1.3 IPC professionals have been trained on the older version of the bundles.
			3.1.4.4.1.4 Engage all HCW with the bundles by training, audit and feedback.	3.1.4.4.1.4 .1 Prepare the ground in the hospitals: Letter to hospital directors about the bundles project its importanc	3.1.4.4.1.4 .1 Letter sent or not		3.1.4.4.1.4 .1 Yes /No	3.1.4.4.1.4 .1 Once	3.1.4.4.1.4 .1 IPC directorate/ MOH	3.1.4.4.1.4 .1 Checking	3.1.4.4.1.4.1 Not available

				e and its processes							
				3.1.4.4.1.4.2 Update the material to be taught to HCW by IPC professionals, according to the updated bundles.	3.1.4.4.1.4.2 % of material directed to HCW that has been updated	3.1.4.4.1.4.2 To synchronize the teaching of the IPC bundle material with the training of the HCW other than the IPC professionals.	3.1.4.4.1.4.2 Updated bundle material directed to HCW/Number of bundles x100	3.1.4.4.1.4.2 Once/Year	3.1.4.4.1.4.2 IPC directorate/Hospital training material	3.1.4.4.1.4.2 Checking	3.1.4.4.1.4.2 The material to be taught to HCW is based on. the classical bundle training
				3.1.4.4.1.4.3 In-hospital training sessions by IPC professionals to all concerned HCW. Include Bundle training in the yearly IPC training	3.1.4.4.1.4.3 Compliance with performance indicator for each bundle	3.1.4.4.1.4.3 To increase the compliance to bundles to prevent HAI and improve the quality of care		3.1.4.4.1.4.3 Once/Year	3.1.4.4.1.4.3 Hospitals	3.1.4.4.1.4.3 Checking	3.1.4.4.1.4.3 The material to be taught to HCW is based on. the classical bundle training

				and in peri-employment training.							
				3.1.4.4.1.4.4 Auditing compliance to these bundles on monthly basis and report to IPC directorate monthly	3.1.4.4.1.4.4 <u>Process Indicator for each of the 3 bundles:</u> <u>For each bundle:</u> % Compliance by the specific bundle /opportunities of audit for each bundle	3.1.4.4.1.4.4 To increase the compliance with the updated bundles and improve the related quality of care	3.1.4.4.1.4.4 % of auditing opportunities that are compliant with the bundle checklist/total number of audited compliance with updated bundle X 100	3.1.4.4.1.4.4 twice/year	3.1.4.4.1.4.4 Hospitals Central Digital IPC system	3.1.4.4.1.4.4 Data collection	3.1.4.4.1.4.4 There are already process indicators related to the old bundles
		3.1.4.4.2 Update outcome indicators for the 3 bundles above (CLABSI, CAUTI, VAP)	3.1.4.4.2.1 Review updated CDC outcome indicators and update already measured	-	3.1.5.4.2.1 Number of outcome indicator tools and benchmark is updated.	3.1.5.4.2.1 To be in line with international data benchmark.	3.1.5.4.2.1 Number of updates outcome bundles	3.1.5.4.2.1 Once until all 3 indicators are updates	3.1.5.4.2.1 IPC Directorate	3.1.5.4.2.1 Checking	3.1.5.4.2.1 Outcome bundles methodology need revision and update

		according to new CDC/ guidelines	bundles outcome indicators accordingly								
		3.1.4.4.3 Integrate process and outcome indicators for each bundle, and use in the analysis and corrective actions	3.1.4.4.3.1 Put a road map for integrating analysis of outcome and process indicators related to the bundles	-	3.1.5.4.3.1 Proportion of bundles whose analysis integrates process and outcome data	3.1.5.4.3.1 To use all the available data and means to improve outcome results	3.1.5.4.3.1 Number of bundles whose analysis integrates process and outcome data/3	3.1.5.4.3.1 Once/6 months	3.1.5.4.3.1 IPC Directorate	3.1.5.4.3.1 Data collection	3.1.5.4.3.1 Process and outcome bundles are not being interpreted together yet
		3.1.4.4.4 Introduce SSI bundle	3.1.4.4.4.1 preparation of material	-	3.1.5.4.4.1 material that is prepared	3.1.5.4.4.1 To track and minimize SSI	3.1.5.4.4.1 Yes/no	3.1.5.4.4.1 Once	3.1.5.4.4.1 IPC Directorate	3.1.5.4.4.1 Literature search WHO/International literature	3.1.5.4.4.1 Not done
			3.1.4.4.4.2 Implementation of SSI bundle	3.1.4.4.4.2.1 Teaching of IPC professionals by central IPC directorate	3.1.5.4.4.2 % hospitals start submitting process and outcome indicators for SSI.	3.1.5.4.4.2 To measure SSI compliance to bundles elements and to track SSI incidence	3.1.5.4.4.2 Number of hospitals start submitting process and outcome indicators for SSI/	3.1.5.4.4.2 Once/Year	3.1.5.4.4.2 Hospitals/ IPC directorate	3.1.5.4.4.2 Checking	3.1.5.4.4.2 Not available

							Total number of hospitals x100				
				3.1.4.4.4.2.2 Teaching of healthcare providers inside the hospitals by IPC professionals							
				3.1.4.4.4.2.3 Data collection							
3.1.5 IPC programs/ office in LTCF working in close cooperation with IPC directorate in MOH	3.1.5.1 Mandate from MOH that IPC program/ with employee with TOR and specified budget are available in LTCF	3.1.5.1.1 Communication between MOH and Public Authority of Disability Affairs regarding IPC in LTCF and being overseen	3.1.5.1.1.1 Letter from MOH to Public Authority of Disability Affairs asking to establish IPC in each LTCF and to have the		3.1.5.1.1.1 Present						

	the central and the "branches".	by the IPC directorate	personnel work closely with IPC directorate delegate to LTCF.								
			3.1.5.1.1.2 Letter from Public Authority of Disability Affairs to LTCF that recommends IPC in each LTCF and organizes the communication with MOH		3.1.5.1.1.2 Letter sent		3.1.5.1.1.2 Yes /No	3.1.5.1.1.2 Once	3.1.5.1.1.2 MOH	3.1.5.1.1.2 Checking	3.1.5.1.1.2 Partially available
		3.1.5.1.2 Established Guidelines for IPC in LTCF	3.1.5.1.2.1 Preparation of the LTCF guidelines and their endorsement by Public Authority	-	3.1.5.1.2.1 Availability of the endorsed guidelines and set of policies and procedures	3.1.5.1.2.1 Proper unified IPC practices at LTCF	3.1.5.1.2.1 Yes /No	3.1.5.1.2.1 Once	3.1.5.1.2.1 MOH	3.1.5.1.2.1 Checking	3.1.5.1.2.1 Not available

			of Disability Affairs								
			3.1.5.1.2.2 Dissemination of LTCF Policies and Procedures	3.1.5.1.2.2.1 TOT of LTCF IPC focal persons	3.1.5.1.2.2 % focal IPC persons in LTCF trained on the guidelines /total number of LTCF IPC focal persons.	3.1.5.1.2.1 Proper unified IPC practices at LTCF	3.1.5.1.2.1 Number of focal persons trained /total number of focal persons *100	3.1.5.1.2.1 Once/year	3.1.5.1.2.1 MOH	3.1.5.1.2.1 Checking	3.1.5.1.2.1 Not available
Strategic objective 3.2 To have the HAI and AMR information digitalized and sent to IPC directorate as a digital report											
3.2.1 Software for hospital data entry, analysis and generating both hospital and national reports	3.2.1.1 Subcommittee from IPC directorate sends a letter to Information system department at MOH explaining what is required and asking for the software				3.2.1 Software developed and working	3.2.1 Simplify the follow-up on tracking AMR/HAI data by MOH IPC directorate	3.2.1 Yes/No	3.2.1 Once	3.2.1 MOH/ IPC directorate	3.2.1 Checking	3.2.1 Not available
	3.2.1.2				See above						

	Information system dep. presents projects (either in-house, or ready to buy) with budget providing										
	3.2.1.3 Agreement between IPC directorate and information system dep. to choose one system				See above						
	3.2.1.4 Apply the system in the hospitals				See above						
	3.2.1.5 Apply the Digital HAI/AMR System for National data				See above						

	collection from individual hospitals to central IPC directorate										
3.2.2 To Shift all hospital information system from paper to digital mode.	3.2.2.1 MOH recommends from hospitals to have an electronic patient and data information system.	3.2.2.1.1 Letter from MOH to hospitals	-	-	3.2.2.1.1 Letter is sent		3.2.2.1.1 Yes /No	3.2.2.1.1 Once	3.2.2.1.1 MOH	3.2.2.1.1 Checking	3.2.2.1.1 Partially available in some hospitals
	3.2.2.2 Increase the number of hospitals that have digitalized their medical information system	-	-	-	3.2.2.2 % hospitals with digital information system	3.2.2.2 improving all aspects of patient care	3.2.2.2 Number of hospitals with electronic medical records/Total number of hospitals *100	3.2.2.2 Once/year	3.2.2.2 Hospitals	3.2.2.2 Checking	3.2.2.2 Partially available in some hospitals
3.2.3 Connect Infection Control	3.2.3.1 Connect Infection Control departme	3.2.3.1.1 Letter from MOH to ask all	-	-	3.2.3.1.1 % IC dep connected with	3.2.3.1.1 proper HAI surveillance and	3.2.3.1.1 Number of-IC dep connected with	3.2.3.1.1 Once/year	3.2.3.1.1 Hospitals/ IPC directorate / MOH	3.2.3.1.1 Checking	3.2.3.1.1 partially available in some hospitals

Departments to electronic medical records	nts in all hospitals with the Heath information system and Laboratory information system at the hospital level	hospitals to connect IC dep. with HIS and LIS at the hospital level			HIS/LIS in hospitals	prevention thus improving patient care	HIS/LIS in hospitals /Total number of hospitals *100				
		3.2.3.1.2 Decree from MOH to all hospitals who have an electronic Health information system to link their Lab AMR data to the Hospital system	-	-	3.2.3.1.2 % of IC dep connected with electronic AMR data in hospitals	3.2.3.1.2 Better HAI and AMR surveillance on the national level	3.2.3.1.2 number of IC dep connected with electronic AMR data in hospitals /Total number of hospitals *100	3.2.3.1.2 Once/year	3.2.3.1.2 Hospitals/ IPC directorate/ MOH	3.2.3.1.2 Checking	3.2.3.1.2 Not available
	3.2.3.2 Develop electronic				3.2.3.2 electronic outbreak	3.2.3.2 Better managem	3.2.3.2 Yes/No	3.2.3.2 Once	3.2.3.2 Hospitals	3.2.3.2 Checking	3.2.3.2 Not available

	outbreak reporting system for data entry, analysis and generating reports.				reporting system available	ent and control of outbreaks					
	3.2.3.3 Develop electronic reporting system for data entry, analysis and generating hospital/national reports for bundles of care.				3.2.3.3 Bundles data collection, analysis and generating hospitals /national reports is done through. an electronic advanced system Yes/No	3.2.3.3 Better monitoring and auditing of bundles of care	3.2.3.3 Yes/No	3.2.3.3 Once	3.2.3.3 Hospitals /IPC directorate	3.2.3.3 Checking	3.2.3.3 Not available
	3.2.3.4 Develop electronic infection prevention and control system capable of	3.2.3.4.1 Electronic system has a function for self diagnosis of HAIs and			3.2.3.4. % of HAIs and outbreaks in hospitals are automatically	3.2.3.4.1 Better tracking and management of HAIs and outbreaks and	3.2.3.4.1 Number HAIs and outbreaks detected/ Total number of HAIs and outbreaks	3.2.3.4.1 Once/year	3.2.3.4.1 IPC directorate/ Hospitals	3.2.3.4.1 Checking	3.2.3.4.1 Not available

	self-identifying HAI and detecting outbreaks	automatically detects outbreak			detected by the IT system	preventing spread				
Strategic Objective 3.3 Enhance IPC education in all health- related specialties and among HCW.										
3.3.1 Include IPC as a core element in education and training of healthcare professionals	3.3.1.1 Include infection control in undergraduate curricula for health care students (medical, nursing, dental and pharmaceutical).	3.3.1.1.1 Prepare module about IPC and AMR to be included in all health specialties in universities/PAAET.	-	-	3.3.1.1.1 Module is available	3.3.1.1.1 To provide all health specialties with IPC material to be taught in undergraduate and post graduate education	3.3.1.1.1 Yes/No	3.3.1.1.1 Once	3.3.1.1.1 IPC Directorate	3.3.1.1.1 Checking	3.3.1.1.1 Not available
		3.3.1.1.2 MOH letter to MOHE and PAAET to ask to include this modules into the undergrads and graduate	-	-	3.3.1.1.2 Letters sent	3.3.1.1.2 To make it official and speed up the inclusion of these modules into the curricula	3.3.1.1.2 Yes/No	3.3.1.1.2 Once	3.3.1.1.2 IPC Directorate	3.3.1.1.2 Checking	3.3.1.1.2 Not sent yet

		health students' curricula									
		3.3.1.1.3 Modules sent to Kuwait university / PAAET to include it in curricula			3.3.1.1.3 % health specialties that include IPC module	3.3.1.1.3 To incorporate IPC training in all health specialties including dentistry	3.3.1.1.3 Health specialties programs that include IPC module/Total health specialties programs X 100	3.3.1.1.3 Once/6 months until all programs do include IPC modules	3.3.1.1.3 Universities/PAAET	3.3.1.1.3 Data collection	3.3.1.1.3 Partially available
3.3.2 Enhance IPC education among undergraduates and higher education health students	3.3.2.1 Include infection control in continuing education of healthcare workers and mandatory prerequisite for promotion	3.3.2.1.1 Provide IPC courses with CE credits in universities, hospitals, MOH, PAAET PAAF Include CME Credit			3.3.2.1.1 Number of IPC courses/ year	3.3.2.1.1 To provide opportunity of IPC education among non-IPC HCW and to promote IPC as a job among students and HCW	3.3.2.1.1 Number/ year	3.3.2.1.1 Once/year	3.3.2.1.1 Universities/PAAET KIMS	3.2.2.1.1 Data collection	3.3.2.1.1 Not available

		10% IPC									
		3.3.2.1.2 Request that when CE credits for physicians, nurses, or pharmacists is needed, 10% of these credits should be about IPC.			3.3.2.1.2 % professionals have 10% of their CE credits are related to IPC	3.3.2.1.2 To provide IPC education to all HCW, and not to IPC professionals alone	3.3.2.1.2 Number of HC professionals that have CE related to IPC/Total number of professionals who are requested to have CE credits.	3.3.2.1.2 Once/year	3.3.2.1.2 Syndicates of HC professionals (MDs, nurses, pharmacists, dentists, physiotherapists, technicians)	3.3.2.1.2 Data collection	3.3.2.1.2 Not available
		3.3.2.1.3 In hospitals, yearly and upon employment, mandatory attendance of IPC lectures	-	-	3.3.2.1.3 % hospitals that mandated that all employee get IPC training upon employment and yearly IPC lecture.	3.3.2.1.3 To update and remind and engage HCW with IPC	3.3.2.1.3 Number of hospitals that have this program /total number of hospitals	3.3.2.1.3 Once/year	3.3.2.1.3 Hospitals	3.3.2.1.3 Data collection	3.3.2.1.3 Partially available
	3.3.2.2 Hygiene and IPC education provided	3.3.2.2.1 Require IPC education by drug	3.3.2.2.1.1 Request to include few topics about IPC	3.3.2.2.1.1.1 Letter to be sent	3.3.2.2.1.1.1 Yes/No		3.3.2.2.1.1.1 Yes/No	3.3.2.2.1.1.1 Once/conference	3.3.2.2.1.1.1 conference organizers	3.3.2.2.1.1.1 Checking	3.3.2.2.1.1.1 Not available

	outside formal teaching programs	companies, hospitals, LTCFs, FAO, and medical/veterinary associations	in conferences agendas								
Strategic Objective 3.4 Prevent occupational infections in HCWs											
3.4.1 Develop a comprehensive program of vaccination to protect HCWs from vaccine preventable diseases	-	-	-	-	3.4.1 % of HCWs professionals that are vaccinated	3.4.1 Prevent vaccine preventable diseases	3.4.1 Number of HCW who are vaccinated/Total number of HCW*100	3.4.1 Once/year	3.4.1 MOH Hospitals/ Public Health Directorate	3.4.1 Checking	3.4.1 Partially available
3.4.2 Develop policies and procedures to protect healthcare workers from	-	-	-	-	3.4.2 Yes/No	3.4.2 Prevent occupational exposure to infections among HCW	3.4.2 Yes/No	3.4.2 Once	3.4.2 Hospitals	3.4.2 Checking	3.4.2 Partially available

occupational exposure to infections.											
3.4.3 Availability of Airborne Isolation Rooms in all hospitals	3.4.3.1 screening mapping and updating the recommendations according to the expected need according to need	-	-	-	3.4.3.1 Yes/No	3.4.3.1 proper management of airborne infections and improving quality of care	3.4.3.1 Yes/No	3.4.3.1 Once	3.4.3.1 Hospitals	3.4.3.1 Checking	3.4.3.1 Partially available
3.4.4 Mandate to hospitals to provide airborne isolation rooms (AII) available as per the updated recommendations	-	-	-	-	3.4.4 Percent hospitals have enough AII rooms as per MOH recommendation	3.4.4 Prevent spread of airborne infections plus proper management	3.4.4 Number of hospitals with enough AII rooms /total number of hospitals* 100	3.4.4 Once/year	3.4.4 MOH Hospitals	3.4.4 Checking	3.4.4 Partially available
Strategic Objective 3.5 Adequate waste management in hospitals											
3.5.1	3.5.1.1	3.5.1.1.1	3.5.1.1.1.1	-	3.5.1.1.1.1		3.5.1.1.1.1 Yes/No	3.5.1.1.1.1 Once	3.5.1.1.1.1 MOH	3.5.1.1.1.1 Checking	3.5.1.1.1.1

Put National Guidelines	National policies, strategies and plans for healthcare waste management is in place	Unify recommendations between KEPA and MOH	Create a committee from MOH and KEPA that unifies the recommendation and the road map of all types of waste that are generated in healthcare		Committee members are nominated				KEPA		Not available
			3.5.1.1.1.2 The committee reviews waste policies that are related to HCF and unifies recommendations and provides the proper ways of	-	3.5.1.1.1.2 Percent chapters that represent conflict between recommendations of the 2 ministries that have been reviewed and unified	3.5.1.1.1.2 Unify recommendation and thus proper methods of supervision	3.5.1.1.1.2 number of chapters edited /total number of chapters* 100	3.5.1.1.1.2 Once	3.5.1.1.1.2 MOH KEPA	3.5.1.1.1.2 Checking	3.5.1.1.1.2 Not available

			supervision								
3.5.2 Supervision of waste disposal from public hospitals	3.5.2.1 Create a committee for the supervision of waste disposal from public hospitals	-	-	-	3.5.2.1 Available and ongoing						
3.5.3 Supervision of waste disposal in private hospitals	3.5.3.1 Create a committee for the supervision of waste disposal in private hospitals	-	-	-	3.5.3.1 Yes/No	3.5.3.1 overseeing proper waste disposal	3.5.3.1 Yes/No	3.5.3.1 Once	3.5.3.1 private hospitals	3.5.3.1 Checking	3.5.3.1 Not available
3.5.4 Waste policies are being audited by KEPA	3.5.4.1 Organization of supervision of waste disposal inside and from private hospitals	-	-	-	3.5.4.1 % Public hospitals are being audited for waste disposal.	3.5.4.1 Ensure proper waste management and prevention of environment contamination	3.5.4.1 Number of audited hospitals/ total number of hospitals *100	3.5.4.1 Once/year	3.5.4.1 KEPA	3.5.4.1 Checking	3.5.4.1 Not available
	3.5.4.2		-	-	3.5.4.2		3.5.4.2 Yes/No	3.5.4.2 Once	3.5.4.2 KEPA	3.5.4.2 Checking	3.5.4.2

	Designate 1 unit at KEPA to oversee the waste in hospitals				% Private hospitals where waste management is being supervised						Not available
Strategic Objective 3.6 To enhance infection prevention and control programs in veterinary and agriculture settings											
3.6.1 Availability of IPC guidelines in veterinary practices	3.6.1.1 Implementation of OIE guidelines regarding IPC in veterinary field	3.6.1.1.1 Committee in PAAF that regularly checks updates in OIE guidelines regarding IPC in veterinary field, and updates the guidelines accordingly	-	-	3.6.1.1.1 Committee is formed	3.6.1.1.1 To have up-to-date guidelines and to have local responsible bodies involved rather than international NGOs alone.	3.6.1.1.1 Guidelines availability and Update at least once/3 years	3.6.1.1.1 Once/year	3.6.1.1.1 PAAF	3.6.1.1.1 Checking the guidelines.	3.6.1.1.1 Guidelines available, need improved governance
		3.6.1.1.2 Overseeing the implementation of national IPC guidelines	3.6.1.1.2 Regular audits to farms	3.6.1.1.2 Put a yearly audit plan	3.6.1.1.2 % Farms that are being audited yearly for IPC measures.	3.6.1.1.2 To check the application of IPC guidance in farms	3.6.1.1.2 Number of farms that are being audited yearly for IPC	3.6.1.1.2 Once/year	3.6.1.1.2 Farms	3.6.1.1.2 Data collection	3.6.1.1.2 Not performed

		in Vet field and OIE good practices					measures/ Total number of farms X 100				
3.6.2 Include IPC in licensing of Vets	3.6.2.1 Include questions about OIE IPC guidelines and vaccinations in all vets licensing exams or interviews.	3.6.2.1.1 Prepare a set of questions related to IPC in Vets to be included in licensing exams and interviews.	-	-	3.6.2.1.1 Availability of IPC questions in licensing exams (Yes/No)	3.6.2.1.1To promote revision of IPC practices in preparation for pre-employment interviews and exams	3.6.2.1.1 Yes/No	3.6.2.1.1 Yearly	3.6.2.1.1 PAAF Exam material	3.6.2.1.1 Checking	3.6.2.1.1 Not available
3.6.3 Include IPC in Continuous education of Vets and professionals in Agriculture	3.6.3.1 Prepare a slide bank related to IPC in vet and agriculture, to be given to drug companies that usually do the continuous	-	-	-	3.6.3.1 Yes/No	3.6.3.1 Improve IPC knowledge among professionals in vet/agriculture fields	3.6.3.1 Yes/No	3.6.3.1 Once	3.6.3.1 PAAF	3.6.3.1 Checking	3.6.3.1 Not available

	education activities.										
	3.6.3.2 Mandate that all drug company events or seminars include a specific number of slides related to IPC and AMR.	-	-	-	3.6.3.2 Mandate available or not	3.6.3.2 To oblige drug companies that are almost the only provider of CE, to include IPC in their presentations.	3.6.3.2 Mandate issued: Yes/No	3.6.3.2 Once	3.6.3.2 PAAF	3.6.3.2 Checking	3.6.3.2 Not available
3.6.4 Include hygiene and infection prevention and control as core content in training of veterinary professionals.	3.6.4.1 Close communication between. FAO and PAAF to put a joint yearly plan of education activities related to IPC.	-	-	-	3.6.3.2 Joint education plan between FAO and PAAF that includes IPC-related training	3.6.3.2 To provide CE by nonprofit organizations to eliminate the possibility of commercial bias while teaching IPC	3.6.3.2 Plan available: Yes/No	3.6.3.2 Once/year	3.6.3.2 PAAF FAO	3.6.3.2 Checking	3.6.3.2 Not available
	3.6.4.2	3.6.4.2.1	-	-	3.6.4.2.1	3.6.4.2.1	3.6.4.2.1	3.6.4.2.1 Once	3.6.4.2.1	3.6.4.2.1 Checking	3.6.4.2.1

	Include hygiene and infection prevention and control as mandatory prerequisite for promotion of for the veterinary workers.	IPC credits mandatory for promotion in Vet. Associations			Mandate available or not	To enhance IPC education and update among vets.	Mandate issued yes/no		Vet association		Not available

Annex 5

A. Antimicrobial Use Strategic Plan

Activity	Sub-activity	Sub-sub-activity	Date	Milestone for strategic objective
Strategic Objective 4.1 Ensure governance of antibiotic axis pillar and follow up of the activities of this pillar				
4.1.1 Identify who will be the ABX arm pillar focal point in each ministry/authority and assign the TOR			4.1.1 6 months	4.1 2 years
4.1.2 Prepare clear TOR of the focal person for ABX in each ministry/ authority			4.1.2 2 months	
4.1.3 Assign the job to a defined person/position in each ministry/ authority, and nomination by the director of each ministry.			4.1.3 3 months	
4.1.4 Put TOR and reimbursement plan for the different tasks.			4.1.4 3 months	
4.1.5 Nominate the stakeholders for the task force of the pillar			4.1.5 4 months	
Strategic Objective 4.2 Ensure uninterrupted access to high-quality antimicrobial medicines				
4.2.1 Put clear criteria for standards of quality safety and efficiency of ABX			4.2.1 System is in place	4.2 Available
4.2.2 Put a system of controlling that all available ABX in the country should meet the international standards listed above			4.2.2 Already available, Only ABX that are licensed by WHO, EMEA or FDA, are allowed in the market	

otherwise they are not allowed to be in the market.				
4.2.3 All ABX should be tested by a system that identifies counterfeit prior to licensing.			4.2.3 Available	
4.2.4 Put regulations that prohibit the sale of counterfeit products			4.2.4 Available	
4.2.5 The system that controls quality assurance of ABX has the authority to stop counterfeit products from being licensed and marketed			4.2.5 available	
Strategic Objective 4.3 Develop and enforce legislation and regulations on prescription and dispensing of medicine including antibiotics				
4.3.1 Develop and implement national essential medicine list guided by the WHO Model List of Essential Medicines	4.3.1.1 Finalize the essential medicine list that is being prepared at MOH		4.3.1.1 6 months	4.3 4 years
4.3.2 Mandate that every institution has an essential medicine list			4.3.2 6 months	
4.3.3 Each institution has an essential medicine list and this is checked in accreditation standards include checking the availability of the essential medicine list	4.3.3.1 Mandate from MOH that once the national essential medicine list is available, all hospitals including public and private hospitals should formulate their own list		4.3.3.1 8 months	
	4.3.3.2 Include the availability of essential medicine list into the license renewal	4.3.3.2.1 Private hospital renewal license	4.3.3.2.1 8 months	

	conditions of private hospitals	checklist should include the availability of essential medicine list		
4.3.4 Re imbursement plan is based on essential medicine list in public and private hospitals			4.3.4 8 months	
Strategic Objective 4.4 Start AMS program in primary healthcare				
4.4.1 Create a technical group that puts national ABX use guidelines for outpatient care based on International guidelines and National AMR profiles: can be a subcommittee from the national task force for the ABX pillar for proper use of ABX	4.4.1.1 Put TOR and renewal conditions of the focal group of stakeholders		4.4.1.1 3 months	4.4 5 years
	4.4.1.2 Assign the members of this committee		4.4.1.2 3 months	
	4.4.1.3 Put TOR and official renewal time for the guidelines committee		4.4.1.3 3 months	
4.4.2 Guidelines in primary healthcare are available and are regularly updated			4.4.2 6 months	
	4.4.2.1 Training workshop about ABX guidelines in primary healthcare		4.4.2.1 5 years	
4.4.3 Apply AMS in primary healthcare: Monitoring ABX consumption and Link prescription to diagnoses	4.4.3.1 Project ABX consumption documentation and surveillance in primary healthcare	4.4.3.1.1 Put a proposal for this project	4.4.3.1.1 8 months	

	4.4.3.2 Start collecting data and link it to diagnosis		4.4.3.2 10 months	
	4.4.3.3 Data analysis and feedback to prescribers		4.4.3.3 1 year	
	4.4.3.4 Employ more pharmacists in primary healthcare		4.4.3.4 1 year	
	4.4.3.5 Improve manpower with professionals for the AMS project in primary healthcare	4.4.3.5.1 Train available pharmacists on AMS and clinical pharmacy principles	4.4.3.5.1 18 months	
		4.4.3.5.2 Employ new clinical pharmacist specialized in AMS and 1 full time clinical microbiologist in primary healthcare directorate	4.4.3.5.2 18 months	
4.4.4 Update the digital system that is available in primary healthcare to integrate the ABX guidelines into the electronic system in the form of pop-ups			4.4.4 2 years	
Strategic Objective 4.5 Apply AMS In Public and Private hospitals				
4.5.1 Improve and measure appropriate use of antimicrobial agents in healthcare	4.5.1.1 Nominate who will be the AMS focal person (Could be the ABX pillar focal person)		4.5.1.1 3 months	4.5 5 years

4.5.2 Identify the National AMS Task force (Could be a subcommittee of the ABX pillar Task force) the National AMS Technical team	4.5.2.1 AMS technical group is assigned (subgroup from the ABX technical committee. +other specialists like IT, etc)		4.5.2.1 3 months	
	4.5.2.2 TOR of the technical groups are well defined They include: -guidelines for inpatient and outpatient care. -put or endorse diagnostic pathways, treatment and national AMS targets		4.5.2.2 3 months	
4.5.3 Put national guidelines either *de novo* or Endorse existing international guidelines with regular updates	4.5.3.1 MOH puts national guidelines for common community acquired infections (CAI)		4.5.3.1 6 months	
	4.5.3.2 Hospitals put institutional guidelines for treatment of Healthcare associated (HAI) according to their local epidemiology, with the help of taskforce members	4.5.3.2.1 Mandate for hospitals to issue HAI treatment guidelines based on local epidemiology and with the help of taskforce members	4.5.3.2.1 6 months	
		4.5.3.2.2 Organize the work of taskforce members with the different hospitals to assist in putting their own HAI guidelines	4.5.3.2.2 8 months	
		4.5.3.2.3	4.5.3.2.3	

		HAI treatment guidelines should be reviewed every year	once/ year	
	4.5.3.3 Dissemination and implementation of these treatment guidelines in hospital practice.	4.5.3.3.1 Workshops for discussion and endorsement of these guidelines with practicing physicians all over the country	4.5.3.3.1 1 year	
		4.5.3.3.2 Distribution of educational material in the form of booklets, brochures, posters, &pocket cards, or equivalent softcopies available on mobile phones	4.5.3.3.2 1 year	
		4.5.3.3.3 Post the guidelines on the MOH website and integrate them into the intranet of each hospital	4.5.3.3.3 1yr, 3 months	
		4.5.3.3.4 Integrate the guidelines into the electronic medical record, in the form of pop-ups	4.5.3.3.4 2 years	
4.5.4 Make AMS programs mandatory in each hospital (presence of AMS team/ committee)	4.5.4.1 Mandate by MOH for this issue		4.5.4.1 1 y 6 months	
	4.5.4.2 Build AMS manpower	4.5.4.2.1 Train microbiologists, clinical pharmacists and Infectious	4.5.4.2.1 1 y 6 months	

		Disease specialists on AMS through national workshops		
Strategic Objective 4.6 Quality control of antimicrobials used in animals and plants				
4.6 ABX used in the agriculture/ veterinary are under the same control as those used in humans Pharmaceutical and Herbal Medicines Registration and Control Administration/The Dug Inspection Control			4.6 Already available	4.6 available
Strategic Objective 4.7 Restrict the use of critically important ABX to human health in the veterinary field				
4.7.1 Establish the list of critically important antibiotics for humans in the animal sector.			4.7.1 3 months	4.7 2 years
4.7.2 Determine from this list which antibiotics should be restricted for use to humans			4.7.2 3 months	
4.7.3 Issue a decree that the critically important ABX to human health are not to be used in animals whether in individual treatment or in herd therapy			4.7.3 6 months	
4.7.4 Prohibit the importation of these critically important ABX for vet use	4.7.4.1 Decree that prohibits the importation and sale of these ABX in the vet field		4.7.4.1 6 months	
Strategic Objective 4.8 Organize the use of antimicrobial agents in terrestrial and aquatic animals and agriculture.				

4.8.1 Put (or endorse) guidelines regarding the use of ABX in animals and agriculture			4.8.1 8 months	4.8 5 years
4.8.2 Disseminate these guidelines among veterinarians	4.8.2.1 Booklets/ Brochures/app that summarize the key points in these guidelines.		4.8.1.1 18 months	
	4.8.2.1 Regular workshops for veterinary specialists regarding the application of these guidelines		4.8.2.1 1 year	
4.8.3 Restrict selling ABX for animal and agriculture health to exclusively prescriptions by vets	4.8.3.1 Decree that vet pharmacies should dispense ABX only according to vet prescriptions, and should submit these prescriptions with the evidence of selling to PAAF.		4.8.3.1 2 years	
4.8.4 Control the use of ABX in animals	4.8.4.1. Detection of the ABX residues in milk, meat, poultry and eggs		4.8.4.1. Already available	4.8.4.1. Already available
Strategic Objective 4.9 Capacity building among vets in antimicrobial use and AMR				
4.9.1 Provide training courses for vets for ABX use according to guidelines and provide certificate.			4.9.1 2 years	4.9 4 years
4.9.2 Study baseline consumption imported antibiotics in this field	4.9.2.1 Pharmaceutical Dep in PAAF Committee that will study and document this consumption		4.9.2.1 2 years	

	and compare it to international benchmark			

B. <u>Antimicrobial Use Monitoring Plan</u>

Activity	Sub-activity	Sub-sub-activity	Indicator	Purpose	Calculation	Frequency	Data source	Method	Baseline
Strategic Objective 4.1 Ensure governance of antibiotic axis pillar and follow up of the activities of this pillar									
4.1.1 Identify who will be the ABX arm pillar focal point in each ministry /authority and assign the TOR			4.1.1 available						
4.1.2 Prepare clear TOR of the focal person for ABX in each ministry authority			4.1.2 Yes/No	4.1.2 proper organization and follow-up on the work in this pillar	4.1.2 Yes/No	4.1.2 Once	4.1.2 AMR committee	4.1.2 Checking	4.1.2 Not available
4.1.3 Assign the job to a defined person/position in each			4.1.3 Proportion of ministries/authorities where ABX	4.1.3 proper monitoring and surveillance on the work in this pillar	4.1.3 number of ministries / authorities with assigned	4.1.3 once	4.1.3 AMR Inter-ministerial executive committee	4.1.3 checking	4.1.3 not available

ministry authority, and nomination by the director of each ministry/ authority.			arm focal person is assigned		focal persons/total number of concerned ministries/authorities*100				
4.1.4 Put TOR And reimbursement plan for the different tasks.			4.1.4 Yes/No	4.1.4 proper organization and follow-up on the work of this axis	4.1.4 Yes/No	4.1.4 Once	4.1.4 MOH NMCG/ Focal person	4.1.4 Checking	4.1.4 Not available
4.1.5 Nominate the stakeholders for the task force of the pillar			4.1.5 ABX use task force group is formed Yes/No	4.1.5 assign responsibilities to specific persons regarding the work in this pillar	4.1.5 Yes/No	4.1.5 Once	4.1.5 MOH PAAF KEPA PAFN	4.1.5 Checking	4.1.5 Not available
Strategic Objective 4.2 Ensure uninterrupted access to high-quality antimicrobial medicines									
4.2.1 Put clear criteria for standards of quality safety and efficiency of ABX			4.2.1 System is in place						
4.2.2 Put a system of controlling			4.2.2 Already available						

that all available ABX in the country should meet the international standards listed above otherwise they are not allowed to be in the market.									
4.2.3 All ABX should be tested by a system that identifies counterfeit prior to licensing.			4.2.3 System already in place						
4.2.4 Put regulations that prohibit the sale of counterfeit products			4.2.4 System already in place						
4.2.5 The system that controls quality assurance of ABX has the authority to stop			4.2.5 System already In place						

counterfeit products from being licensed and marketed									
Strategic Objective 4.3 Develop and enforce legislation and regulations on prescription and dispensing of medicine including antibiotics									
4.3.1 Develop and implement national essential medicine list guided by the WHO Model List of Essential Medicines	4.3.1.1 Finalize the essential medicine list that is being prepared at MOH		4.3.1.1 List is issued Yes/No	4.3.1.1 regulate prescription and dispensing of medications including antimicrobials	4.3.1.1 Yes/No	4.3.1.1 Once	4.3.1.1 MOH Central Medical Stores Directorate	4.3.1.1 Checking	4.3.1.1 task in progress
4.3.2 Mandate that every institution has an essential medicine list			4.3.2 Yes/No	4.3.2 regulate prescription and dispensing of medications including antimicrobials on the facility level	4.3.2 Yes/No	4.3.2 Once	4.3.2 MOH Undersecretary general ABX focal person	4.3.2 Checking	4.3.2 Not available
4.3.3 Each institution has an essential medicine list and this is checked in accreditation standards	4.3.3.1 Mandate from MOH that once the national essential medicine list is available,		4.3.3.1 Yes/No	4.3.3.1 put a legal frame for the prescription and dispensing of medicines including	4.3.3.1 Yes/No	4.3.3.1 Once	4.3.3.1 MOH Undersecretary general ABX focal person	4.3.3.1 Checking	4.3.3.1 Not available

include checking the availability of the essential medicine list	all hospitals including public and private hospitals should formulate their own list			antimicrobials					
	4.3.3.2 Include the availability of essential medicine list into the license renewal conditions of private hospitals	4.3.3.2.1 Private hospital renewal license checklist should include the availability of essential medicine list	4.3.3.2.1 Licensing checklist includes the item of essential medicine list or not	4.3.3.2.1 having an essential list is an obligation and represents a standard of good practice of medicine	4.3.3.2.1 Yes/No	4.3.3.2.1 Once	4.3.3.2.1 MOH/ Medical Licensing Dep	4.3.3.2.1 Checking	4.3.3.2.1 Not available
4.3.4 Reimbursement plan is based on essential medicine list in public and private hospitals			4.3.4 % of reimbursed ABX that are listed in the essential medicine list	4.3.4 making essential list an obligation as a standard of good practice of medicine	4.3.4 number of reimbursed antibiotics/total number of available antibiotics*100	4.3.4 once/year	4.3.4 MOH	4.3.4 data collection	4.3.4 Not available
Strategic Objective 4.4 Start AMS program in primary healthcare									
4.4.1 Create a technical group that puts national ABX use guidelines	4.4.1.1 Put TOR and renewal conditions of the		4.4.1.1 TOR put Yes or no	4.4.1.1 organize the AMS work that this taskforce is	4.4.1.1 Yes/No	4.4.1.1 Once	4.4.1.1 MOH/ National Committee of proper ABX use	4.4.1.1 Checking	4.4.1.1 Not available

for outpatient care based on International guidelines and National AMR profiles: can be a subcommittee from the national task force for the ABX pillar for proper use of ABX	focal group of stakeholders			responsible for					
	4.4.1.2 Assign the members of this committee		4.4.1.2 TOR put Yes or no	4.4.1.2 oversee AMS work in this sector	4.4.1.2 Yes/No	4.4.1.2 Once	4.4.1.2 MOH National Committee of proper ABX use.	4.4.1.2 Checking	4.4.1.2 Not available
	4.4.1.3 Put TOR and official renewal time for the guidelines committee		4.4.1.3 TOR put Yes or no	4.4.1.3 oversee guideline developmen t	4.4.1.3 Yes/No	4.4.1.3 Once	4.4.1.3 MOH National Committee of proper ABX use.	4.4.1.3 Checking	4.4.1.3 Not available
4.4.2 Guidelines in primary			4.4.2 Guidelines available	4.4.2 ensure judicious	4.4.2 Yes/No	4.4.2 Once	4.4.2 Primary Healthcare	4.4.2 Checking	4.4.2 Not available

healthcare are available and are regularly updated			Yes or no	antimicrobial use in primary healthcare			Directorate/ technical committee/ National Committee of proper ABX use.		
	4.4.2.1 Training workshop about ABX guidelines in primary healthcare		4.4.2.1 Proportion of primary healthcare physician who attend every year	4.4.2.1 primary care physicians rationally prescribe antimicrobials	4.4.2.1 number of primary care physicians who attend the training workshops/total number of primary healthcare physicians *100	4.4.2.1 Once/year	4.4.2.1 Primary healthcare/ technical committee	4.4.2.1 Checking	4.4.2.1 Not available
4.4.3 Apply AMS in primary healthcare: Monitoring ABX consumption and Link prescription to diagnoses	4.4.3.1 Project ABX consumption documentation and surveillance in primary healthcare	4.4.3.1.1 Put a proposal for this project	4.4.3.1.1 Project is put	4.4.3.1.1 follow-up on management of antimicrobials in primary healthcare	4.4.3.1.1 Yes/No	4.4.3.1.1 Once	4.4.3.1.1 Primary healthcare and AMR committee	4.4.3.1.1 Checking	4.4.3.1.1 Not available
	4.4.3.2 Start collecting data and link it to diagnosis		4.4.3.2 Proportion of primary healthcare centers that are feeding	4.4.3.2 assessment of the practice in these centers and	4.4.3.2 Number of primary healthcare centers that are feeding	4.4.3.2 Once/year	4.4.3.2 National Committee for ABX use /Primary	4.4.3.2 Data Collection	4.4.3.2 Not available

			data into the project	thus ability to give feedback to prescribers	data into the project/Total number of primary healthcare centers *100		healthcare Directorate		
	4.4.3.3 Data analysis and feedback to prescribers		4.4.3.3 Proportion of primary healthcare centers that receive annual report with feedback about ABX prescription	4.4.3.3 improvemen t of practice and thus standard of care and proper application of AMS in this sector	4.4.3.3 Number of primary healthcare centers that receive annual report with feedback about ABX prescription/ Total number of primary Health care centers *100	4.4.3.3 Once/year	4.4.3.3 primary healthcare directorate	4.4.3.3 Data collection	4.4.3.3 Not available
	4.4.3.4 Employ more pharmacists in primary healthcare		4.4.3.4 Number of pharmacists that are employed	4.4.3.4 Surveil, monitor on the proper use of antibiotics in primary healthcare	4.4.3.4 Yes/NO	4.4.3.4 Once	4.4.3.4 Primary healthcare directorate/ Pharmaceuti cal Services Directorate	4.4.3.4 Checking	4.4.3.4 Not available
	4.4.3.5 Improve manpower with professionals for the AMS	4.4.3.5.1 Train available pharmacists on AMS and clinical	4.4.3.5.1 Number of pharmacists in primary healthcare who have a	4.4.3.5.1 oversee AMS practices by qualified pharmacists	4.4.3.5.1 Yes/No	4.4.3.5.1 Once	4.4.3.5.1 Primary healthcare directorate /Pharmaceut	4.4.3.5.1 Checking	4.4.3.5.1 Not available

	project in primary healthcare	pharmacy principles	certificate in AMS training				ical Services Directorate		
		4.4.3.5.2 Employ new clinical pharmacist specialized in AMS and 1 full time clinical microbiologist in primary healthcare directorate	4.4.3.5.2 Clinical pharmacists are employed, Yes/No	4.4.3.5.2 oversee AMS practices in primary healthcare by qualified professionals (pharmacist and microbiologist)	4.4.3.5.2 Yes/No	4.4.3.5.2 Once	4.4.3.5.2 Primary healthcare directorate /Pharmaceutical Services Directorate	4.4.3.5.2 Checking	4.4.3.5.2 Not available
4.4.4 Update the digital system that is available in primary healthcare to integrate the ABX guidelines into the electronic system in the form of pop-ups			4.4.4 updated electronic system available or not	4.4.4 facilitate AMS application through user friendly software	4.4.4 Yes/No	4.4.4 Once	4.4.4 Primary Heath care directorate/ /Information System Dep.	4.4.4 Checking	4.4.4 Not available
Strategic Objective 4.5 Apply AMS In Public and Private hospitals									
4.5.1	4.5.1.1		4.5.1.1	4.5.1.1	4.5.1.1 Yes/No	4.5.1.1 Once	4.5.1.1 MOH	4.5.1.1 Checking	4.5.1.1 Not available

Improve and measure appropriate use of antimicrobial agents in healthcare	Nominate who will be the AMS focal person (Could be the ABX pillar focal person)		AMS focal person is nominated	oversee AMS work in hospitals					
4.5.2 Identify the National AMS Task force (Could be a subcommittee of the ABX pillar Task force) the National AMS Technical team	4.5.2.1 AMS technical group is assigned (subgroup from the ABX technical committee. +other specialists like IT, etc)		4.5.2.1 Task force members are nominated Yes/No	4.5.2.1 oversee AMS work in hospitals	4.5.2.1 Yes/No	4.5.2.1 Once	4.5.2.1 MOH	4.5.2.1 Checking	4.5.2.1 Not available
	4.5.2.2 TOR of the technical groups are well defined They include: -guidelines for inpatient and outpatient care.		4.5.2.2 TOR put	4.5.2.2 oversee AMS work in hospitals	4.5.2.2 Yes/No	4.5.2.2 Once	4.5.2.2 MOH	4.5.2.2 Checking	4.5.2.2 Not available

	-put or endorse diagnostic pathways, treatment and national AMS targets								
4.5.3 Put national guidelines either *de novo* or Endorse existing international guidelines with regular updates	4.5.3.1 MOH puts national guidelines for common community acquired infections (CAI)		4.5.3.1 CAI guidelines developed Yes/No	4.5.3.1 ensure proper prescribing and use of antimicrobials	4.5.3.1 Yes/No	4.5.3.1 Once	4.5.3.1 AMS Task force Group	4.5.3.1 Checking	4.5.3.1 Not available
	Hospitals put institutional guidelines for treatment of Healthcare associated infections (HAI) according to their local epidemiology, with the help of taskforce members	4.5.3.2.1 Mandate for hospitals to issue HAI treatment guidelines based on local epidemiology and with the help of taskforce members	4.5.3.2.1 Mandate issued Yes/No	4.5.3.2.1 putting HAI guideline is obligatory	4.5.3.2.1 Yes/No	4.5.3.2.1 Once	4.5.3.2.1 MOH/task force	4.5.3.2.1 Checking	4.5.3.2.1 Not available
		4.5.3.2.2	4.5.3.2.2	4.5.3.2.2	4.5.3.2.2	4.5.3.2.2	4.5.3.2.2	4.5.3.2.2	4.5.3.2.2

		Organize the work of taskforce members with the different hospitals to assist in putting their own HAI guidelines	Proportion of hospitals that have HAI guidelines based on their own epidemiology.	to see if hospitals abide by developing institutional HAI guidelines	number of hospitals with HAI guidelines/Total number of hospitals*100	Once/year	MOH/ Hospitals	data collection	Partially available in some hospitals
		4.5.3.2.3 HAI treatment guidelines should be reviewed every year	4.5.3.2.3 Proportion of hospitals that have guidelines updated	4.5.3.2.3 continuous follow-up and reduction of inappropriate antibiotic use	4.5.3.2.3 number of hospitals with HAI guidelines updated/Total number of hospitals*100	4.5.3.2.3 Once/year	4.5.3.2.3 MOH/ Hospitals	4.5.3.2.3 data collection	4.5.3.2.3 Partially available in some hospitals
	4.5.3.3 Dissemination and implementation of these treatment guidelines in hospital practice.	4.5.3.3.1 Workshops for discussion and endorsement of these guidelines with practicing physicians all over the country	4.5.3.3.1 Number of regions where guidelines workshops have been performed	4.5.3.3.1 proper application of guidelines recommendations	4.5.3.3.1 Yes/No	4.5.3.3.1 Once/year	4.5.3.3.1 MOH	4.5.3.3.1 Checking	4.5.3.3.1 Not available

		4.5.3.3.2 Distribution of educational material in the form of booklets, brochures, posters, &pocket cards, or equivalent softcopies available on mobile phones	4.5.3.3.2 Proportion of hospitals that have the softcopies available on the mobile phones of staff	4.5.3.3.2 facilitate dissemination and implementation of these treatment guidelines in hospital practice	4.5.3.3.2 Number of hospitals that have the softcopies available on the mobile phones of staff/Total number of hospitals*100	4.5.3.3.2 Once/year	4.5.3.3.2 MOH/Hospitals	4.5.3.3.2 data collection	4.5.3.3.2 not available
		4.5.3.3.3 Post the guidelines on the MOH website and integrate them into the intranet of each hospital	4.5.3.3.3 Proportion of hospitals that have the guidelines posted on their intranet	4.5.3.3.3 facilitate access to these treatment guidelines	4.5.3.3.3 Number of hospitals that have the guidelines posted on their intranet/Total number of hospitals*100	4.5.3.3.3 Once/year	4.5.3.3.3 MOH/Hospitals	4.5.3.3.3 data collection	4.5.3.3.3 not available
		4.5.3.3.4 Integrate the guidelines into the electronic medical record, in	4.5.3.3.4 Proportion of hospitals that have guidelines recommendations integrated in	4.5.3.3.4 remind prescribers on a regular basis of recommendations and facilitate	4.5.3.3.4 Number of hospitals that have guidelines recommendations integrated in	4.5.3.3.4 Once/year	4.5.3.3.4 Hospitals	4.5.3.3.4 data collection	4.5.3.3.4 Not available

		the form of pop-ups	the electronic medical records system	implementation of AMS at the bedside	the electronic medical records system /Total number of hospitals*100				
4.5.4 Make AMS programs mandatory in each hospital (presence of AMS team/ committee)	4.5.4.1 Mandate by MOH for this issue		4.5.4.1 Mandate issued Yes/No	4.5.4.1 standardize the application of AMS in hospitals and make it obligatory	4.5.4.1 Yes/No	4.5.4.1 Once	4.5.4.1 MOH	4.5.4.1 Checking	4.5.4.1 Not available
	4.5.4.2 Build AMS manpower	4.5.4.2.1 Train microbiologists, clinical pharmacists and Infectious Disease specialists on AMS through national workshops	4.5.4.2.1 Percent microbiologists and clinical pharmacists that have attended at least 1 AMS workshop	4.5.4.2.1 build a strong AMS workforce for better implementation of AMS standards in hospitals	4.5.4.2.1 Number of microbiologists and clinical pharmacists that have attended at least 1 AMS workshop/Total number of these professionals *100	4.5.4.2.1 Once/year	4.5.4.2.1 Task force	4.5.4.2.1 Data collection	4.5.4.2.1 Not available
Strategic Objective 4.6 Quality control of antimicrobials used in animals and plants									
			4.6 Already available						

4.6 ABX used in the agriculture/ veterinary are under the same control as those used in humans Pharmaceuti cal and Herbal Medicines Registration and Control Administrati on/The Dug Inspection Control									
Strategic Objective 4.7 Restrict the use of critically important ABX to human health in the veterinary field									
4.7.1 Establish the list of critically important antibiotics for humans in the animal sector.			4.7.1 List put Yes/No	4.7.1 limit the use of critically important ABX in the animal sector.	4.7.1 Yes/No	4.7.1 Once	4.7.1 ABX task force	4.7.1 Checking	4.7.1 Not available
4.7.2 Determine from this list which antibiotics should be restricted for			4.7.2 List put Yes/No	4.7.2 limit the use of critically important ABX in the animal sector.	4.7.2 Yes/No	4.7.2 Once	4.7.2 ABX task force	4.7.2 Checking	4.7.2 Not available

use to humans									
4.7.3 Issue a decree that the critically important ABX to human health are not to be used in animals whether in individual treatment or in herd therapy			4.7.3 Decree issued Yes /No	4.7.3 put a legal frame work for restricting the use of critically important antibiotics	4.7.3 Yes/No	4.7.3 Once	4.7.3 ABX task force	4.7.3 Checking	4.7.3 Not available
4.7.4 Prohibit the importation of these critically important ABX for vet use	4.7.4.1 Decree that prohibits the importation and sale of these ABX in the vet field		4.7.4.1 Decree is issued Yes/No	4.7.4.1 put a legal framework and reinforce the prohibition of importation and sale of critically important ABX in the vet field	4.7.4.1 Yes/No	4.7.4.1 Once	4.7.4.1 PAAF	4.7.4.1 Checking	4.7.4.1 Not available
Strategic Objective 4.8 Organize the use of antimicrobial agents in terrestrial and aquatic animals and agriculture.									
4.8.1 Put (or endorse) guidelines			4.8.1 Guidelines are established	4.8.1 ensure proper antimicrobial	4.8.1 Yes/No	4.8.1 Once	4.8.1 PAAF	4.8.1 Checking	4.8.1 Not available

regarding the use of ABX in animals and agriculture			Yes/No	use in these fields					
4.8.2 Disseminate these guidelines among veterinarians	4.8.2.1 Booklets/ Brochures/app that summarize the key points in these guidelines.		4.8.1.1 Proportion of Vet clinics that have easy access to these updated guidelines	4.8.1.1 facilitate access and implementation of guidelines recommendations	4.8.1.1 Number of Vet clinics that have easy access to these updated guidelines/total number of vet clinics*100	4.8.1.1 Once/year	4.8.1.1 PAAF	4.8.1.1 data collection	4.8.1.1 not available
	4.8.2.1 Regular workshops for veterinary specialists regarding the application of these guidelines		4.8.2.1 proportion of veterinary specialists attending these workshops	4.8.2.1 proper implementation of these guidelines	4.8.2.1 NUMBER of veterinary specialists attending these workshops/total number of specialists*100	4.8.2.1 Once/year	4.8.2.1 PAAF	4.8.2.1 data collection	4.8.2.1 Not available
4.8.3 Restrict selling ABX for animal and agriculture health to exclusively	4.8.3.1 Decree that vet pharmacies should dispense ABX only according to vet		4.8.3.1 Decree is issued Yes/No	4.8.3.1 put a legal framework for restricting sale of antibiotics in these fields	4.8.3.1 Yes/No	4.8.3.1 Once	4.8.3.1 PAAF	4.8.3.1 Checking	4.8.3.1 Not available

prescriptions by vets	prescriptions , and should submit these prescriptions with the evidence of selling to PAAF.								
4.8.4 Control the use of ABX in animals	4.8.4.1. Detection of the ABX residues in milk, meat, poultry and eggs		4.8.4.1. Already available	4.8.4.1. Abx use in food is controlled					
Strategic Objective 4.9 Capacity building among vets in antimicrobial use and AMR									
4.9.1 Provide training courses for vets for ABX use according to guidelines and provide certificate.			4.9.1 Proportion of vets that have a yearly certificate	4.9.1 make sure that vets properly prescribe and dispense antimicrobials	4.9.1 number of vets who attend the certification training/total number of vets *100	4.9.1 once/year	4.9.1 PAAF	4.9.1 data collection	4.9.1 Not available
4.9.2 Study baseline consumption imported antibiotics in this field	Pharmaceutical Dep in PAAF Committee that will study and document this consumption and compare it to		4.9.2.1 Report issued Yes/No	4.9.2.1 see how much vets are abiding to guidelines and to be able to compare to international data	4.9.2.1 Yes/No	4.9.2.1 Once	4.9.2.1 PAAF	4.9.2.1 Checking	4.9.2.1 Not available

	international benchmark								