



<p>Donor funds can be made available for AMR related activities</p> <p>Identify internal donor fund streaming / better integration of AMR related issues into existing programs</p>	<p>Limited duration of availability of donor funds</p>	<p>Financial resources</p>
<p>Conduct training and awareness on AMR (IPC, antimicrobial stewardship, animal health, aquatic animal health, food safety etc.)</p> <p>Integrate HAI surveillance with AMR reporting using Infection control nurses and link nurses in health facilities. Each health facility to have an infection control officer (clinician or microbiologist) responsible for AMR and antimicrobial stewardship.</p> <p>Animal health establish national focal point (vet), include IPC, HAI and stewardship component in animal health. Reporting of outbreaks in veterinary facilities etc. Assess laboratory capacity / integrate and support for laboratory component of animal AMR related surveillance/ Food safety: establish antimicrobial residue testing</p>	<p>Sustaining of IPC and AMR related activities as trained staff maybe allocated for other tasks: (pandemic preparedness, Quality related activities etc).</p> <p>High turnover of trained staff</p>	<p>Technical capacity</p>
<p>Establish well defined AMR governance structure, with dedicated unit for coordination of AMR related activities and annual plan</p>	<p>Sustainability and high human turn over</p>	<p>Structures or enablers for implementation</p>





	<p>Establish well defined AMR governance structure, with dedicated unit for coordination of AMR related activities and annual plan</p>		
	<p>Identify champions at different levels (political, councils, social media, religious etc).</p> <p>TOTs for AMR related education and training (could be the ICN or Infection control Officer at health facility level)</p>	<p>Competing interest from private sector on reporting such as outbreaks etc.</p>	Implementation of NAP AMR activities
	<p>Use surveillance data for standard of care and economic case for implementing AMR activities</p> <p>Strengthen monitoring indicators (process and outcome based) for measuring NAP implementation and use for advocacy</p>	<p>Limited data (monitoring and surveillance) shared within and in-between sectors may lead to inconsistent messaging on AMR</p>	Monitoring and Data



Annex 2. Situation analysis of NAPAMR 2017 to 2022 implementation



Table 13: Situation Analysis of NAP AMR 2017-2022 implementation

Strategic Objective	Planned Strategic intervention	Sub-Activities	Target	Status
1. Awareness	1.1: To improve awareness of AMR amongst the general public and professionals	Conduct KAP Studies on AMR, AMU,(human and animal) environmental relationships in different target groups (school students and teachers, general public, policy makers, clinicians, pharmacists, nursing staff, farmers in poultry/ goat/aquaculture farming, pet owners and pet shop owners)	2017	2
		Design evidence-based communication campaigns with accurate and relevant messages targeting priority groups	2018	2
		Roll out communication campaigns on AMR	2017-2018	2
		Incorporate AMR and related topics in school grade 1-12 school curricula. Limited scale testing of revised curriculum along with regular audit of courses will be conducted before planning a nationwide scale up by 2022	2019	3
		Evaluate communication campaigns followed by nationwide implementation. Pilot campaigns will be evaluated in 2019. This will be followed by nationwide scale up and scale out of awareness campaigns in 2019 with regular monitoring and evaluation		2
	1.2 Improve knowledge of AMR and related topics in professionals through professional education and training deployed at national scale	Conduct KAP Studies to assess gaps in knowledge on AMR, hygiene & IPC, environmental relationships in professional groups	2017-2018	2
		Revise and roll out professional development courses of human and animal health, the food industry and agriculture sectors to include topics on AMR and related issues. Roll out of courses will be done on a limited scale along with concurrent regular audits followed by nationwide scale up.	2019-2020	1
	Revise undergraduate and postgraduate curricula in human and animal health, Food industry and Agriculture sector to include topics on AMR and related issues. Limited scale testing of revised curriculum along with regular audit of courses will be conducted before planning a nationwide scale up in next phase of NAP	2020-2022	1	

Strategic Objective	Planned Strategic Intervention	Sub-Activities	Target	Status
2. Surveillance of AMR	2.1 Establish a national coordination structure for surveillance of AMR	Establish AMR Surveillance Coordination Unit, define mandates, terms of reference and identify a focal point. The ASCU will be located in the MFDA	2017	1
		Develop a One Health AMR guidelines and plan for surveillance in humans, animal and food industry based on international standards and guidelines	2017-2018	1
		Enlist priority pathogens and antimicrobials for surveillance in human, animal and food industry	2017-2018	3
		Assess and inventory of resources for sentinel environmental surveillance (ASCU with EPA and Ministry of Environment)		1
		Conduct trainings on AMR surveillance for surveillance staff		1
		Develop an integrated human and animal IT platform for AMR surveillance reporting. WHONET platform will be implemented for epidemiological and laboratory AMR surveillance data entry, storage and transmission in human clinical and food testing labs		1
		Implement National AMR Surveillance Program including sentinel environmental surveillance of antimicrobial resistance organisms and antimicrobial residues. IGMH, Regional Hospitals and Atoll Hospitals with existing Bacterial AST facility will be targeted in the pilot phase. Additionally, ADK Hospital from private sector will be included as a surveillance site. For animal surveillance selected poultry commercial, goat farms and aquaculture farms will be recruited and specimens submitted to NHL	2019-2022	2
		Establish formal linkage of National AMR Surveillance Programme and WHO GLASS	2021-2022	2
	2.2: Build laboratory capacity under the leadership of a National Referral Laboratory (NRL) to produce high-quality microbiological data for patient and food-safety management and support surveillance activities.	Identify National Reference Laboratory (NRL) for AMR Surveillance in Maldives with expertise in methods for confirming and characterising specific pathogens, performing susceptibility testing, organising quality assurance and participating in external quality assurance schemes (EQARDS). The Microbiology Laboratory at IGMH will be identified as NRL.		2
		Identify participating laboratories of National AMR Surveillance Network that are capable of identifying target pathogens and perform susceptibility testing (centres as per section 2.1)		2
2.3 Develop a multi-centric surveillance system on the national scale to provide early warning of emerging resistance and monitoring of secular trends at national and sub-national levels.	Establish a network of agencies for AMR hazard and risk assessment	2017-2019	1	



Strategic Objective	Planned Strategic Intervention	Sub-Activities	Target	Status
		Develop and disseminate guidelines and national standards for systematic collection, sharing, and assessment of AMR hazard events		1
		Enlist priority pathogens and AMAs for AMR hazard risk assessment		2
		Conduct surveys to establish baseline estimates and trends of AMR to determine risks and establish thresholds for alerts and action systems		1
		Establish a central library or database on AMR risk information	2020-2021	2
		Conduct and communicate comprehensive real time analysis of AMR hazards in the human, animal, food industry and environment sector to inform programme planning and action	2021-2022	1
3. Hygiene, Infection Prevention and Control (IPC)	3.1: To establish a national infection prevention and control programme through full implementation and compliance with the IPC guidelines within healthcare settings, animal husbandry systems, fisheries and the food chain	Evaluate existing IPC, and Biosecurity guidelines. Develop a national IPC policy, mandating the creation and harmonization of National IPC Programmes in healthcare facilities and food production systems (poultry, goat farms, aquaculture)		2
		Develop IPC guidelines with implementation for infection prevention and control in all health care settings (hospital and ambulatory) in human sector; IPC/biosecurity in animal health facilities (hospital and ambulatory), vaccination, and biosecurity in the farm to fork chain		2
		Identify target groups to be trained in IPC from different sectors and at different levels		2
		Train target groups in different sectors in IP		2
		Roll out IPC program in human health, animal health and food industry		2
		Review existing professional curricula for content on IPC and develop training modules for their incorporation into professional courses		2
		Assess National IPC Programme and recommend Nationwide scale up in human, animal healthcare facilities, food production systems.		2





Strategic Objective	Planned Strategic intervention	Sub-Activities	Target	Status
	3.2: Decrease Hospital Acquired Infection (HAI) and associated AMR (Human Health)	Develop guidelines for Hospital Associated Infection (HAI) Surveillance	2017-2018	3
		Implement a pilot scale on HAI surveillance in select public and private healthcare facilities	2019-2022	3
		Integrate HAI surveillance network into National AMR surveillance network; Conduct formal assessment of HAI Surveillance network for nationwide scale-up	2022	1
	3.3: To limit the development and spread of AMR outside health settings	Review and evaluate the existing national campaigns on water, sanitation & hygiene (WASH), food safety, and vaccination in humans and animals	2017	2
		Implement formal campaigns for sanitation and hygiene in human, animal, food animal production sector	2018	2
		Evaluate existing vaccination programme in human and animal sectors for their effectiveness and coverage		3 Human
		Evaluate existing vaccination programme in human and animal sectors for their effectiveness and coverage		1 Animal
		Review and revise undergraduate and post graduate curricula to include course content related to water, sanitation, hygiene and food handling practices	2018-2019	2
		Evaluate campaigns on hygiene and sanitation	2019	2





Strategic Objective	Planned Strategic Intervention	Sub-Activities	Target	Status
4: Optimise Use of Antimicrobial Medicines	4.1: Establish a national Antimicrobial Stewardship Programme on a national scale to improve and measure the appropriate use of antimicrobials	Develop a national AMR containment policy and organizational framework within the charter of the Policy	2017-2019	3
		Formulate a regulatory framework for control of antimicrobial substances in human, animal sectors and food industry		2
		Develop standard treatment guidelines (STGs) for antimicrobial use in human and animal healthcare and food industry		2
		Conduct surveys to characterize institutional Antimicrobial Stewardship Programmes (AMSP)		2
		Develop evidence-based guidelines for a National AMSP		3
		Implement AMR containment policy for control of human and veterinary use of antimicrobial substances in human and animal health care, ambulatory and community settings and food industry	2018-2022	2
	4.2: Regulate post-marketing quality of drugs to ensure access to safe and quality antibiotics	Formulate a National Drug Policy with special reference to AMAs and AMR applicable to human, animal health, and food industry. Introduce legislation and regulations on AMAs for veterinary use.	2017	2
		Strengthen existing National Drug Regulatory Authority and establish additional regulatory frameworks. Human resource and technical capacity of National Health Laboratory of MFDA will be strengthened to establish systematic surveillance of quality of imported drugs and food at points of entry	2017-2019	3
		as well as post marketing surveillance of drugs and food. MFDA will cover drugs used in human health, extend similar regulatory framework to import medicines for animal health, aquaculture and food production		1
		Establish import procurement systems favourable to regulatory compliance		1
		Establish a system for the coordination and collation of data on drug quality		3
		Establish and implement an institutional network with the capacity for quality control and enforcement of regulatory provisions for antimicrobial agents or APIs	2017 -2022	2
		Conduct independent periodic surveys to estimate the extent of OTC and inappropriate sales of antibiotics and APIs		3





		as well as post marketing surveillance of drugs and food. MFDA will cover drugs used in human health, extend similar regulatory framework to import medicines for animal health, aquaculture and food production		1
		Establish import procurement systems favourable to regulatory compliance		1
		Establish a system for the coordination and collation of data on drug quality		3
		Establish and implement an institutional network with the capacity for quality control and enforcement of regulatory provisions for antimicrobial agents or APIs	2017 -2022	2
		Conduct independent periodic surveys to estimate the extent of OTC and inappropriate sales of antibiotics and APIs		3





Strategic Objective	Planned Strategic Intervention	Sub-Activities	Target	Status
	4.3: Establish mechanisms to monitor antimicrobial usage on a national scale to inform interventions to reduce overuse and promote prudent use of antimicrobial substances	Establish AMU Surveillance coordination structure	2017	1
		Design an AMU and residue monitoring program in humans, animals and food industry; develop guidelines to implement residue testing	2018	2 AMU humans only
		Implement AMU surveillance and residue testing	2019-2022	2 AMU only
		Conduct integrated analysis of AMU, AMR and residue surveillance data to guide programme planning		2 AMU only
5: (Economic) Case For Sustainable Investments And Increase Investments In New Medicines, Diagnostic Tools, Vaccines And Other Interventions To Reduce Antimicrobial Use	To promote sustainable investment in new medicines, diagnostic tools, vaccines and other interventions by developing a strategic research agenda and national research policy	Create an inventory of relevant networks, initiatives, institutions and experts involved in AMR research	2017-2018	2
		Develop a Strategic research agenda, with systematically prioritised research areas and knowledge gaps in the field of AMR		1
		Develop a National AMR Research Policy	2017-2018	1
		Establish a multi-stakeholder platform to guide AMR research and innovation	2018-2019	1
		Document and disseminate to different stakeholders, evidence on AMR and related issues for policy and programme intervention	2020-2022	1



Annex 3. Tripartite AMR Country Self-Assessment Survey 2022 Maldives (TrACSS)- AMR governance component

Table 14: Tripartite AMR Country Self assessment Survey 2022 Maldives (TrACSS)- AMR governance component

NAP AMR governance			
Summary of multisector indicators		Sectors involved in AMR multisector coordination	
Formulated multisector coordination mechanism	NO	Human health	YES
Developed NAP AMR	YES	Terrestrial animal health	YES
Implementing NAP AMR	YES	Aquatic animal health	NO
Country in the process of revising NAP AMR or developing new one	YES	Plant health	YES
Country has a monitoring and evaluation plan for AMR	NO	Food production	NO
Country has government supported nationwide awareness campaigns	NO	Food safety	YES
Country has established or started the implementation of an integrated surveillance system for AMR	NO	Environment	YES

Annex 4: Facility level data collection tool for IPC and Antimicrobial Stewardship Program (AMSP)

Annex 4: Facility level data collection tool for IPC and Antimicrobial Stewardship Program (AMSP)

Assessment on Facility level (Infection Prevention and Control (IPC) and Antimicrobial Stewardship (AMS) program (World Health 2018, World Health Organization 2018, Purva, Randeep et al. 2019)

Name of the healthcare facility: _____

Total inpatient bed number _____

Services provided by the facility:

- OPD
- IPD
- Surgical
- Day care (dialysis etc):

Date of filling the assessment form: dd /mm /year

Staff who took part in filling the form (Put the main responsible person as number one)

	Name	Designation	Job role	comment
1				
2				
3				
4				

Known published studies on IPC, HAI or AMR from the facility and/from Maldives. Please provide link below

- 1.
- 2.
- 3.
- 4.

PART 1: FACILITY LEVEL IPC PROGRAM

PART 1: FACILITY LEVEL IPC PROGRAM



Table 15: Facility level IPC program assessment tool (adapted from WHO)

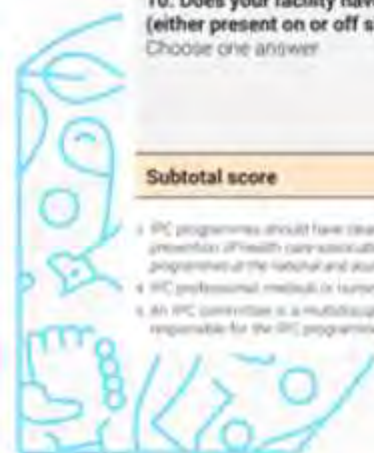
Core component 1: Infection Prevention and Control (IPC) programme

Question	Answer	Score
1. Do you have an IPC programme? ¹ Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, without clearly defined objectives	5
	<input type="checkbox"/> Yes, with clearly defined objectives and annual activity plan	10
2. Is the IPC programme supported by an IPC team comprising of IPC professionals? ² Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Not a team, only an IPC focal person	5
	<input type="checkbox"/> Yes	10
3. Does the IPC team have at least one full-time IPC professional or equivalent (nurse or doctor working 100% in IPC) available? Choose one answer	<input type="checkbox"/> No IPC professional available	0
	<input type="checkbox"/> No, only a part-time IPC professional available	2.5
	<input type="checkbox"/> Yes, one per > 250 beds	5
	<input type="checkbox"/> Yes, one per ≤ 250 beds	10
4. Does the IPC team or focal person have dedicated time for IPC activities?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
5. Does the IPC team include both doctors and nurses?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
6. Do you have an IPC committee ³ actively supporting the IPC team?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
7. Are any of the following professional groups represented/included in the IPC committee?		
Senior facility leadership (for example, administrative director, chief executive officer [CEO], medical director)	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
Senior clinical staff (for example, physician, nurse)	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Facility management (for example, biosafety, waste, and those tasked with addressing water, sanitation, and hygiene [WASH])	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
8. Do you have clearly defined IPC objectives (that is, in specific critical areas)? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, IPC objectives only	2.5
	<input type="checkbox"/> Yes, IPC objectives and measurable outcome indicators (that is, adequate measures for improvement)	5
	<input type="checkbox"/> Yes, IPC objectives, measurable outcome indicators and set future targets	10
9. Does the senior facility leadership show clear commitment and support for the IPC programme:		
By an allocated budget specifically for the IPC programme (that is, covering IPC activities, including salaries)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
By demonstrable support for IPC objectives and indicators within the facility (for example, at executive level meetings, executive rounds, participation in morbidity and mortality meetings)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
10. Does your facility have microbiological laboratory support (either present on or off site) for routine day-to-day use? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, but not delivering results reliably (timely and of sufficient quality)	5
	<input type="checkbox"/> Yes, and delivering results reliably (timely and of sufficient quality)	10
Subtotal score		/100

¹ IPC programmes should have clearly defined objectives (based on local epidemiology) and priorities according to risk assessment, and defined functions and activities that align with and contribute towards the prevention of health care-associated infections and antimicrobial resistance in health care. They should also include allocated, trained IPC professionals. See the WHO guidelines on core components of IPC programmes at the national and acute health care facility level for more information: <http://www.who.int/infection-prevention/publications/core-components/en/>, accessed 11 April 2018.

² IPC professional includes or training staff trained in a certified IPC course.

³ An IPC committee is a multidisciplinary group with interested stakeholders across the facility, which interacts with and advises the IPC team. An IPC team includes dedicated IPC professionals who are responsible for the IPC programme.



Core component 2: Infection Prevention and Control (IPC) guidelines

Question	Answer	Score
1. Does your facility have the expertise (in IPC and/or infectious diseases) for developing or adapting guidelines?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	7.5
2. Does your facility have guidelines available for:		
Standard precautions?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Hand hygiene?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Transmission-based precautions ¹	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Outbreak management and preparedness?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Prevention of surgical site infection? ²	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Prevention of vascular catheter-associated bloodstream infections?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Prevention of hospital-acquired pneumonia (HAP); all types of HAP including (but not exclusively) ventilator-associated pneumonia)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Prevention of catheter-associated urinary tract infections?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Prevention of transmission of multidrug-resistant (MDR) pathogens?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Disinfection and sterilization?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Health care worker protection and safety ³	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Injection safety?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Waste management?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Antibiotic stewardship? ⁴	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5

¹ Transmission-based Precautions are to be used in addition to Standard Precautions for patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission. They are based on the routes of transmission of specific pathogens (for example, contact, virus droplets). More information can be found in the United States Centers for Disease Control and Prevention Guidelines for Isolation Precautions (<https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf>, accessed 12 April 2018).

² If no surgical interventions are undertaken at your facility, choose answer "Yes".

³ Includes aspects of improving working conditions, detection of occupational diseases, health surveillance of workers, pre-employment screening and vaccinations.

⁴ Refers to the appropriate use of antimicrobials to improve patient outcomes while minimizing the development and spread of resistance. More information can be found in the WHO Global Framework for Development & Stewardship to Combat Antibiotic Resistance (<http://www.who.int/pbi/implementation/research/UpdatedRoadmap-Global-Framework-for-Development-Stewardship-to-combatAMR-2017-11-01.pdf?ua=1>, accessed 29 March 2018).



3. Are the guidelines in your facility consistent with national/international guidelines (if they exist)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
4. Is implementation of the guidelines adapted ⁱⁱ according to the local needs and resources while maintaining key IPC standards?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
5. Are frontline health care workers involved in both planning and executing the implementation of IPC guidelines in addition to IPC personnel?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
6. Are relevant stakeholders (for example, lead doctors and nurses, hospital managers, quality management) involved in the development and adaptation of the IPC guidelines in addition to IPC personnel?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	7.5
7. Do health care workers receive specific training related to new or updated IPC guidelines introduced in the facility?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
8. Do you regularly monitor the implementation of at least some of the IPC guidelines in your facility?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
Subtotal score		/100

ii. IPC team carefully reviews guidelines to prioritize activities according to needs and resources while maintaining key IPC standards





Core component 3: Infection Prevention and Control (IPC) education and training

Question	Answer	Score
1. Are there personnel with the IPC expertise (in IPC and/or infectious diseases) to lead IPC training?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
2. Are there additional non-IPC personnel with adequate skills to serve as trainers and mentors (for example, link nurses or doctors, champions)? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
3. How frequently do health care workers receive training regarding IPC in your facility? Choose one answer	<input type="checkbox"/> Never or rarely	0
	<input type="checkbox"/> New employee orientation only for health care workers	5
	<input type="checkbox"/> New employee orientation and regular (at least annually) IPC training for health care workers offered but not mandatory	10
	<input type="checkbox"/> New employee orientation and regular (at least annually) mandatory IPC training for all health care workers	15
4. How frequently do cleaners and other personnel directly involved in patient care receive training regarding IPC in your facility? Choose one answer	<input type="checkbox"/> Never or rarely	0
	<input type="checkbox"/> New employee orientation only for other personnel	5
	<input type="checkbox"/> New employee orientation and regular (at least annually) training for other personnel offered but not mandatory	10
	<input type="checkbox"/> New employee orientation and regular (at least annually) mandatory IPC training for other personnel	15
5. Does administrative and managerial staff receive general training regarding IPC in your facility? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
6. How are health care workers and other personnel trained? Choose one answer	<input type="checkbox"/> No training available	0
	<input type="checkbox"/> Using written information and/or oral instruction and/or e-learning only	5
	<input type="checkbox"/> Includes additional interactive training sessions (for example, simulation and/or bedside training)	10
7. Are there periodic evaluations of the effectiveness of training programmes (for example, hand hygiene audits, other checks on knowledge)? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, but not regularly	5
	<input type="checkbox"/> Yes, regularly (at least annually)	10
8. Is IPC training integrated in the clinical practice and training of other specialties (for example, training of surgeons involves aspects of IPC)? Choose one answer	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, in some disciplines	5
	<input type="checkbox"/> Yes, in all disciplines	10
9. Is there specific IPC training for patients or family members to minimize the potential for health care-associated infections (for example, immunosuppressed patients, patients with invasive devices, patients with multidrug-resistant infections)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
10. Is ongoing development/education offered for IPC staff (for example, by regularly attending conferences, courses)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	10
Subtotal score		/100



Core component 4: Health care-associated infection (HAI) surveillance

Question	Answer	Score
Organization of surveillance		
1. Is surveillance a defined component of your IPC programme?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
2. Do you have personnel responsible for surveillance activities?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
3. Have the professionals responsible for surveillance activities been trained in basic epidemiology, surveillance and IPC (that is, capacity to oversee surveillance methods, data management and interpretation)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
4. Do you have informatics/IT support to conduct your surveillance (for example, equipment, mobile technologies, electronic health records)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
Priorities for surveillance - defined according to the scope of care		
5. Do you go through a prioritization exercise to determine the HAIs to be targeted for surveillance according to the local context (that is, identifying infections that are major causes of morbidity and mortality in the facility)? ¹	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
6. In your facility is surveillance conducted for:		
Surgical site infections? ²	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Device-associated infections (for example, catheter-associated urinary tract infections, central line-associated bloodstream infections, peripheral-line associated bloodstream infections, ventilator-associated pneumonia)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Clinically-defined infections (for example, definitions based only on clinical signs or symptoms in the absence of microbiological testing)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Colonization or infections caused by multidrug-resistant ³ pathogens according to your local epidemiological situation?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Local priority epidemic-prone infections (for example, norovirus, influenza, tuberculosis [TB], severe acute respiratory syndrome [SARS], Ebola, Lassa fever)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Infections in vulnerable populations (for example, neonates, intensive care unit, immunocompromised, burn patients)? ⁴	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Infections that may affect health care workers in clinical, laboratory, or other settings (for example, hepatitis B or C, human immunodeficiency virus [HIV], influenza)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
7. Do you regularly evaluate if your surveillance is in line with the current needs and priorities of your facility? ¹	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5

¹ A prioritization exercise should be undertaken to determine which HAIs to target for surveillance according to the local context (for example, areas and/or patients most at risk according to available resources) (see interim practice manual supporting implementation of the WHO Guidelines on Core Components of Infection Prevention and Control Programmes at <http://www.who.int/infection-prevention/tools/core-components/en/>, accessed 3 May 2018).

² If no surgical interventions are undertaken at your facility, choose answer "Yes".

³ Multidrug-resistant: Non-susceptibility to at least one agent in three or more antimicrobial categories.

⁴ If vulnerable patient populations are not treated at your facility, choose answer "Yes".



Methods of surveillance

8. Do you use reliable surveillance case definitions (defined numerator and denominator according to international definitions [e.g. CDC NHSN/ECDC] ¹⁾ or if adapted, through an evidence-based adaptation process and expert consultation?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
9. Do you use standardized data collection methods (for example, active prospective surveillance) according to international surveillance protocols (for example, CDC NHSN/ECDC) or if adapted, through an evidence-based adaptation process and expert consultation?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
10. Do you have processes in place to regularly review data quality (for example, assessment of case report forms, review of microbiology results, denominator determination, etc.)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
11. Do you have adequate microbiology and laboratory capacity to support surveillance? <i>Choose one answer!</i>	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes, can differentiate gram-positive/negative strains but cannot identify pathogens	2.5
	<input type="checkbox"/> Yes, can reliably identify pathogens (for example, isolate identification) in a timely manner	5
	<input type="checkbox"/> Yes, can reliably identify pathogens and antimicrobial drug resistance patterns (that is, susceptibilities) in a timely manner	10

Information analysis and dissemination/data use, linkage, and governance

12. Are surveillance data used to make tailored unit/facility-based plans for the improvement of IPC practices?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
13. Do you analyze antimicrobial drug resistance on a regular basis (for example, quarterly/half-yearly/annually)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	5
14. Do you regularly (for example, quarterly/half-yearly/annually) feedback up-to-date surveillance information to:		
Frontline health care workers (doctors/nurses)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Clinical leaders/heads of department	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
IPC committee	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
Non-clinical management/administration (chief executive officer/chief financial officer)?	<input type="checkbox"/> No	0
	<input type="checkbox"/> Yes	2.5
15. How do you feedback up-to-date surveillance information? (at least annually) <i>Choose one answer</i>	<input type="checkbox"/> No feedback	0
	<input type="checkbox"/> By written/oral information only	2.5
	<input type="checkbox"/> By presentation and interactive problem-orientated solution finding	7.5

Subtotal score /100

¹⁾ United States Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN) (<https://www.cdc.gov/nhsn/index.html>, accessed 13 April 2018); European Centre for Disease Prevention and Control (ECDC) (<http://ecdc.europa.eu/en/about-us/partnerships-and-networks/disease-and-laboratory-networks/flai-net>, accessed 13 April 2018)



PART 2: FACILITY LEVEL AMS PROGRAM

Table 16: Facility level AMS program assessment tool

Assessment of Antimicrobial Stewardship Program (AMSP) activities in the facility		Established at facility ✓ X	Comment
Leadership support	Does your facility have a formal, written statement of support from facility administration that supports efforts to improve antibiotic use (antibiotic stewardship)?	<input type="checkbox"/>	
	Does your facility receive any budgeted financial support for antibiotic stewardship activities (e.g., support for salary, training, or IT support)?	<input type="checkbox"/>	
Accountability	Is a staff member directly responsible for coordination and program outcomes of stewardship activities at your facility?	<input type="checkbox"/>	
	Does your institution have a committee to review processes and outcomes of the stewardship program?	<input type="checkbox"/>	
	Does your antibiotic stewardship committee meet at least once every 6 months? Are the minutes of the stewardship committee communicated to all stakeholders?	<input type="checkbox"/>	
Key support for the antibiotic stewardship program	Does any of the staff below participate in the stewardship program to improve antibiotic use? Tick as appropriate		
	•Clinical pharmacist or other pharmacy staff	<input type="checkbox"/>	
	•Clinical pharmacologist or pharmacology staff	<input type="checkbox"/>	
	•ID physician (specialists in medicine, paediatrics and surgery who deal with pertinent infections)	<input type="checkbox"/>	
	•Infection prevention and control team/focal persons	<input type="checkbox"/>	
	•Quality improvement staff	<input type="checkbox"/>	
	•Clinical microbiologist	<input type="checkbox"/>	
	•IT department staff (not on committee but they help us as needed)	<input type="checkbox"/>	
•Clinical departments heads (not heads, but members. All the proceedings are communicated to the heads and they preside over the meeting when any of their units are being audited)	<input type="checkbox"/>		
•Hospital administration staff	<input type="checkbox"/>		