Core components for infection prevention and control programmes

Assessment tools for IPC programmes

GLOBAL ALERT AND RESPONSE

World Health Organization

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Requests for electronic versions of the ***Assessment tools for IPC programmes*** should be addressed to **infectioncontrol@who.int**

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Table of contents

Introduction 4
Purpose 4
Description of the tools 4
General instructions 6
Other published WHO assessment tools 6
Further development of the tools 7
Assessment tool for national IPC programmes 8
Assessment tool for hospital IPC programmes 20
Core components of national IPC programmes: rapid assessment 32
Core components of hospital IPC programmes: rapid assessment 35

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Abbreviations

AMR	Antimicrobial resistance
BSI	Bloodstream infection
ESBL	Extended-spectrum ß-lactamase
HAI	Health care-associated infection
HCF	Health care facility
HCW	Health care worker
HIV	Human immunodeficiency virus
HR	Human resources
ICU	Intensive care unit
IPC	Infection prevention and control
IT	Information technology
M&E	Monitoring and evaluation
MDR	Multi-drug-resistant
MoH	Ministry of Health
MRSA	Methicillin-resistant *Staphylococcus aureus*
NDM-1	New Delhi metallo-beta-lactamase-1
PDR	Pan-drug-resistant
PPE	Personal protective equipment
SSI	Surgical site infection
TB	Tuberculosis
XDR	Extensively drug-resistant
VAP	Ventilator-associated pneumonia
VRE	Vancomycin-resistant enterococci

Introduction

The WHO infection prevention and control (IPC) core components assessment tools (IPCAT) are based on the WHO document *Core components for infection prevention and control programmes*[1]. They correspond to the 8 core components of IPC programmes, which are essential in strengthening capacity for the prevention of health care-associated infections (HAI) and in preparing an effective response to emergencies involving communicable diseases.

The components of IPC programmes at both the national and the local level (healthcare facility) should be aligned and consistent, but at the same time the respective roles of national and local programmes should be distinct. A national IPC programme is intended to regulate, provide guidance, promote and supervise compliance with regulations, whereas a programme at the local level is focused on providing care in a safe and efficient manner for patients, health-care workers and others. Two separate IPC assessment tools were therefore developed: one for the national level (IPCAT-N) and another for the health-care facility level (IPCAT-H).

Purpose

The purpose of these evaluation tools is to help plan, organize and implement an IPC programme. It is very important to understand that the IPCATs are not intended to be used as audit tools[2]: they should be used for planning purposes, providing a road map for IPC implementation and strengthening, and for monitoring implementation.

The tools have been developed to provide a general overview rather than specifics on the status of HAI prevention and control activities. Neither specific IPC practices nor the risk of individual patients or specific cases are addressed.

Description of the tools

The tools were designed primarily in Microsoft Excel 2003[3]. Only very basic features of the software were used, and so it would not be difficult to translate the tools into different languages and adapt them to local requirements if needed. The printed versions of the tools included in this document are provided mainly for easy reference, but they also could be used when use of computers is not feasible or possible. When the printed versions are used, there is still a need to enter the data into the Excel workbook afterwards, in order to calculate the scores and visualize the data.

Both IPCAT workbooks include a title worksheet, site information worksheet, eight separate worksheets for the eight core components, a summary sheet, and several reference worksheets. Each component is divided into several sections with essential elements (indicators) of IPC programmes. Every element is a true/false statement. “1” is assigned if the element exists (implemented, introduced etc.), and “0” means the statement is false (i.e. the element does not exist).

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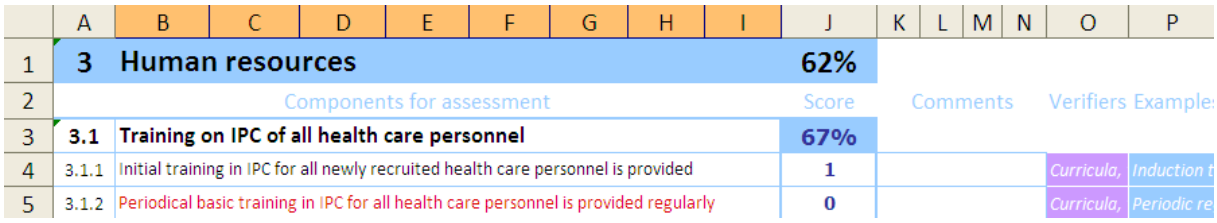
[1] Core Components for Infection Prevention and Control Programmes: Report of the Second Meeting of the Informal Network on Infection Prevention and Control in Health Care, Geneva, Switzerland, 26-27 June 2008, WHO/HSE/EPR/2009.1. Available at http://www.who.int/csr/resources/publications/WHO_HSE_EPR_2009_1/en/index.html

[2] For the audit purposes we suggest using the PAHO Nosocomial Infection Program Rapid Evaluation Guide (see the reference in the list of other WHO tools below)

[3] The instructions below are based on the assumption that the user is familiar (even if at a beginner level) with the Microsoft Excel software.

The data are entered directly onto the worksheets, and the user interface is shown in Fig. 1. The title of a core component and the resulting score for the whole component are in row 1, and the headings of the main fields are in row 2. In row 3 you can see the section title typeset in bold, and examples of indicators are in rows 4-5.

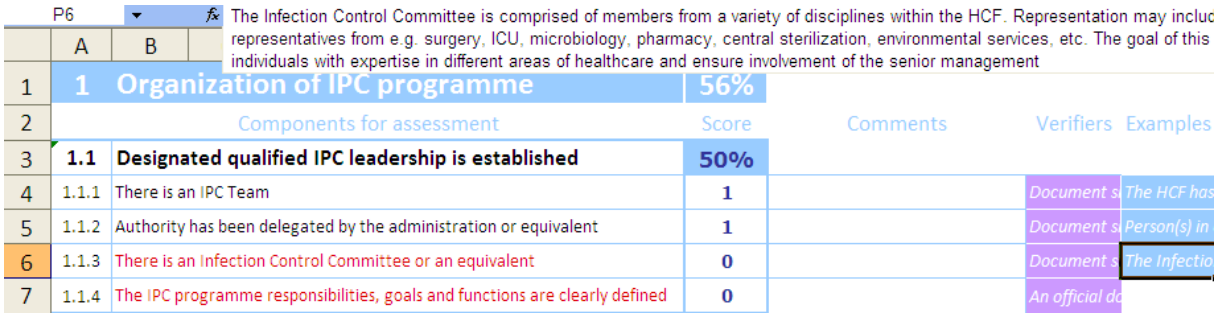


	A	B	J	O	P
1	3	Human resources	62%		
2		Components for assessment	Score	Verifiers	Example
3	3.1	Training on IPC of all health care personnel	67%		
4	3.1.1	Initial training in IPC for all newly recruited health care personnel is provided	1	Curricula,	Induction t
5	3.1.2	Periodical basic training in IPC for all health care personnel is provided regularly	0	Curricula,	Periodic re

Figure 1. Screenshot of the IPCAT interface

A negative answer automatically highlights the element in red for easy reference (see example as shown in Row 5). Evaluation scores are calculated automatically for every subcomponent (see the example in cell J3) and every core component in total (see cell J1 in Fig.1). There is also a field for comments (columns K-N on the figure above), a field with verifiers (column O), and a field with definitions and examples (column P).

The content of the cells with verifiers (column O) and examples/definitions (column P) cannot be seen in full until the cell is selected. Once the cell is selected (as in cell P6 in Fig. 2), the full text can be viewed in the formula bar.

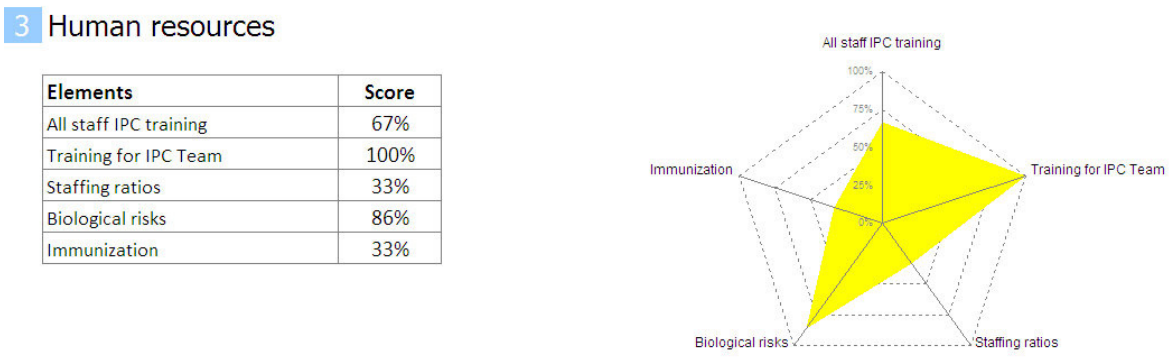


P6: The Infection Control Committee is comprised of members from a variety of disciplines within the HCF. Representation may includ representatives from e.g. surgery, ICU, microbiology, pharmacy, central sterilization, environmental services, etc. The goal of this individuals with expertise in different areas of healthcare and ensure involvement of the senior management

	A	B	Score	Comments	Verifiers	Examples
1	1	Organization of IPC programme	56%			
2		Components for assessment	Score	Comments	Verifiers	Examples
3	1.1	Designated qualified IPC leadership is established	50%			
4	1.1.1	There is an IPC Team	1		Document s	The HCF has
5	1.1.2	Authority has been delegated by the administration or equivalent	1		Document s	Person(s) in
6	1.1.3	There is an Infection Control Committee or an equivalent	0		Document s	The Infectio
7	1.1.4	The IPC programme responsibilities, goals and functions are clearly defined	0		An official do	

Figure 2. Screenshot of the IPCAT interface with the full text of an example provided in the formula bar

The assessment measurements are summarized for all core components and major subcomponents on a separate Summary page. The data are provided in tables and visualized in the bar and radar charts: see example in Fig.3 below.



3 Human resources

Elements	Score
All staff IPC training	67%
Training for IPC Team	100%
Staffing ratios	33%
Biological risks	86%
Immunization	33%

Figure 3. Screenshot of the IPCAT worksheet with the data visualization

General instructions

The IPCAT tools provide a quantitative evaluation of the different components of IPC programmes in a systematic way, allowing changes to be tracked over time. The resulting scores can be used to measure and monitor progress in implementing IPC programmes at all levels. It should be emphasized though that the calculated scores are only percentages that reflect the number of implemented core components: they should not be used for grading programmes/institutions and/or comparing them. A score below 100% simply means that there are certain elements of the IPC programme that are still to be implemented.

The binary nature of the indicators allows for easy interpretation of the results. Any single element is either fully implemented ("1") or not ("0"): any partially implemented or intermediate progress in achievement can be recorded in the comments fields[4], as well as any additional information, which may provide further clarification of the situation.

The IPCAT tools are intended to be used both for self-assessment and for external assessment (interview). The self-assessment can be sufficiently objective if the responders fully realize the purpose of the evaluation, which is not to grade nor to establish position in a rating, but to plan and implement.

One or more verifiers have been suggested for each indicator. However, these are just examples of sources of information that can be used to determine whether a certain indicator is present. IPCAT users are free to use other methods to establish the presence of indicators. If an external assessment is planned, it is advisable to inform both the assessors and the interviewees in advance of what documents may be requested as verifiers.

In addition to IPCAT-N and IPCAT-H, which are considered "comprehensive", rapid assessment tools have been developed: however, their use is limited and intended only for situations when available time is especially limited.

Although comprehensive, the full IPCAT tools are not exhaustive in their scope and they are not intended to be so. Other existing assessment/evaluation tools may be utilized when there is a need to evaluate a certain component of an IPC programme in greater depth. Several other WHO assessment tools related to IPC are listed below.

Other published WHO assessment tools

- *Protocol for Assessing National Surveillance and Response Capacities for the International Health Regulations (2005): A Guide for Assessment Teams Information*[5]
- *Checklist and indicators for monitoring progress in the development of IHR core capacities in States Parties*[6]
- *PAHO Nosocomial Infection Program Rapid Evaluation Guide*[7]
- *Hand Hygiene Self-Assessment Framework Tool*[8]

[4] E.g. when there is no yet a full-time IPC professional, but there is just a clinical microbiologist working part-time for the IPC programme, the score is not 0.5 (or any other value between 0 and 1): it remains 0 until the requirements for the IPC programme are fully met. Scoring 0 should never be a case for blaming people: this simply means that a certain element is missing and its implementation should be planned.

[5] http://www.who.int/ihr/publications/who_hse_ihr_201007/en/index.html

[6] http://www.who.int/ihr/IHR_Monitoring_Framework_Checklist_and_Indicators.pdf

[7] http://www.paho.org/English/AD/DPC/CD/amr-guiaInfecIH.pdf

[8] http://www.who.int/gpsc/country_work/hhsa_framework_October_2010.pdf

- *Tool for the Assessment of Injection Safety and the Safety of Phlebotomy, Lancet Procedures, Intravenous Injections and Infusions*[9]
- *Health care waste management assessment tool*[10]
- *Implementing the WHO Policy on TB Infection Control in Health-Care Facilities, Congregate Settings and Households: A framework to plan, implement and scale-up TB infection control activities at country, facility and community level*[11]

Further development of the tools

Comments and suggestions from the IPCATs users continue to be received from all over the world. We welcome this input which will allow us to revise and update the tools regularly. Minor changes will be reflected in the Excel documents, and major updates will be provided both in the Excel files and in the printed versions from time to time. The WHO Regional Office for the Eastern Mediterranean Region is in the process of developing an electronic version of the IPCATs on the Adobe AIR platform.

[9] http://www.who.int/injection_safety/Injection_safety_final-web.pdf

[10] http://www.who.int/entity/injection_safety/toolbox/en/Healthcarewastemanagementtool.xls

[11] http://www.stoptb.org/wg/tb_hiv/assets/documents/TBICImplementationFramework1288971813.pdf. The document contains several example assessment tools and sets of indicators

Assessment tool for national IPC programmes

IPCAT-N

Country

Country _____

National Health Authority[12] _____

Assessment mode

Self-assessment ☐ Interview ☐

Details of person[13] responding to the questionnaire

Name _____

Title/Position _____

Institution _____

Professional address _____

_____

Phone _____

Fax _____

E-mail _____

Date of Completion _____

Details of person completing the questionnaire

Name _____

Title/Position _____

Institution _____

Professional address _____

_____

Phone _____

Fax _____

E-mail _____

[12] Ministry of Health or equivalent

[13] Please insert additional page(s) if several people participated in the assessment

1 Organization of an IPC programme

	Components for assessment	☑	Suggested verifiers	Comments
1.1	**Designated qualified IPC leadership is established**			
1.1.1	Persons in charge of the programme can be identified[14]	☐	*Interview or Web site*	*Please indicate when the persons were appointed*
1.1.2	Authority has been delegated by the relevant administrative or political jurisdiction[15]	☐	*Document signed by most responsible national authority*	
1.1.3	Persons have available time for the tasks[16]	☐	*Interview*	
1.1.4	Persons in charge of the program have training in infection prevention and control in health care[17]	☐	*Diplomas or certificates, other proof of appropriate training*	
1.1.5	Persons in charge of the programme include both medical and nursing professionals	☐	*Interview*	
1.1.6	There is an identified budget for the activities to guarantee essential functions of the IPC programme[18]	☐	*An official document or budget summary*	
1.1.7	There is a decree or other legal instrument that creates the IPC programme and describes its scope, structure etc.	☐	*The document*	

1.2	**The scope of IPC is defined and includes:**			
1.2.1	Endemic HAI, associated or not with the use of devices or procedures during health care[19]	☐	*A national IPC programme/work plan*	
1.2.2	Epidemic HAI, originating both within and outside the population of the health-care facility[20]	☐	*A national IPC programme/work plan*	
1.2.3	HAI which are a consequence of the transmission of community-acquired infections to patients in the HCF[21]	☐	*A national IPC programme/work plan*	
1.2.4	Early detection and management of HAI epidemics to organize a prompt and effective response[22]	☐	*A national IPC programme/work plan*	

[14] Appointed technical team of trained professionals in charge of infection control, including for example medical doctors, nurses, epidemiologists, microbiologists, etc. The number of professionals comprising the team should be defined according to the national plans, scope and responsibilities of the programme

[15] Person(s) in charge has both responsibility and accountability for the programme

[16] Full time assignment for the IPC team

[17] Formal specific IPC training (theory and practice)

[18] Adequate and sustainable financial support to run the Infection Control Programme such as staff salaries, equipment, communication facilities, production of technical documents, supplies and training activities

[19] Infections originating within the health care facility associated with or without use of medical devices or procedures. The most common device-related infections are catheter-associated urinary tract infection (UTI), central line-associated bloodstream infection (BSI), ventilator-associated pneumonia (VAP). Examples of endemic infections not associated with medical devices are surgical site infections (except those related to implants), gastrointestinal infections (food poisoning) etc.

[20] Infections originating within the health care facility and spreading like an epidemic to large numbers. Examples: MRSA, NDM-1 etc.

[21] Infections originating in the community and getting transmitted in the health care facility. Examples: pandemic influenza, human cases of influenza A (H5N1), pulmonary tuberculosis, measles, viral haemorrhagic fevers, etc.

[22] Mechanism in place to ensure early recognition and investigation of number of similar cases or clusters; reinforce the prompt implementation of appropriate infection control precautions and use of personal protective equipment (PPE) by staff working with epidemic; ensure links between health-care facility and public health authorities and immediately report all available information about possible epidemics that represents a public health threat (e.g. pandemic influenza, communicable viral haemorrhagic fevers).

1.2.5	Coordinated response to control community-acquired infectious diseases, endemic or epidemic[23]	☐	*A national IPC programme/work plan*	
1.2.6	Contributing to prevention of the emergence of antimicrobial resistance and/or dissemination of resistant strains of microorganisms[24]	☐	*A national IPC programme/work plan*	
1.2.7	Minimizing the environmental impact of HAI and HAI control measures [25]	☐	*A national IPC programme/work plan*	

1.3	**The responsibilities of national IPC programme are defined and include:**			
1.3.1	Defining national goals and strategies[26]	☐	*A national IPC programme/work plan*	
1.3.2	Defining national work plan[27]	☐	*A national IPC programme/work plan*	
1.3.3	Defining legal/ethical framework[28]	☐	*A national IPC programme/work plan*	
1.3.4	Support to each level of the health system to establish IPC teams	☐	*A national IPC programme/work plan*	
1.3.5	Surveillance of HAI[29]	☐	*A national IPC programme/work plan*	
1.3.6	Support to investigations of epidemics in health care facilities	☐	*A national IPC programme/work plan*	
1.3.7	Development of guidelines and standardization of effective preventive practices	☐	*A national IPC programme/work plan*	
1.3.8	Setting policies on prevention and containment of antimicrobial resistance in health care facilities	☐	*A national IPC programme/work plan*	
1.3.9	Participating in setting general national policies on prevention and containment of AMR	☐	*A national IPC programme/work plan*	

1.4	**Procurement of adequate supplies[30] is assured**			
1.4.1	Resources needed for IPC activities are defined in collaboration with all levels [31]	☐	*An official document/plan*	
1.4.2	Provision of resources for IPC activities at all levels is facilitated [32]	☐	*Interview*	

[23] IPC national team works in coordination with the public health team(s) dealing with communicable diseases in the community

[24] Work in collaboration with other initiative(s) related to rational use of drugs/treatment of infectious disease. Adapt national policies for control measures for multi-resistant pathogens. In the absence of lab diagnosis, implement control measures based on risk factors.

[25] Compliance to policies on management of infectious waste, environmental disinfection etc

[26] Reduce infections associated with health care. The goals should be defined based on the country's priority problems (e.g. most common infections associated with health care), resources and values.

[27] Define actions to be undertaken, settings (e.g. hospital vs. community health care facilities) to target and the timeline (e.g. start in all HCFs or just a sample of HCFs) of actions.

[28] Define policies related to exposition of individuals to biological threats in the health care setting. Examples: HCWs involved in the frontline response of epidemics; decision on closure of a HCF due to epidemics and potential impact on the community.

[29] Please see the details in the surveillance component

[30] For hospitals under national health authority

[31] Plan with the respective level the needed resources for IPC activities such as staff, office equipment, communication facilities (e.g. telephone line, access to internet).

[32] Provision of resources including staff, office equipment, communication facilities (e.g. telephone line, access to internet).

1.4.3	Supplies needed for IPC activities are defined in collaboration with all levels [33]	☐	*An official document/plan*	
1.4.4	Provision of supplies for IPC activities at all levels is facilitated	☐	*Interview*	

2 Technical guidelines

2.1	Development and dissemination of national technical guidelines			
2.1.1	IPC programme has a mandate to produce guidelines for preventing and controlling HAI	☐	*The guidelines*	
2.1.2	The guidelines are for national coverage, including both public and private HCF	☐	*The guidelines*	
2.1.3	The guidelines are updated at least every 5 years	☐	*The guidelines*	
2.1.4	The development of guidelines involves the use of the best updated scientific knowledge	☐	*The guidelines*	
2.1.5	The development and update of guidelines involves participation of relevant health authorities, HCFs, scientific societies	☐	*The guidelines*	
2.1.6	Guidance developed specifically for low level of health care complexity/primary health care HCFs developed	☐	*The guidelines*	

2.2	Guidelines on Standard Precautions[34] developed and disseminated, including:			
2.2.1	Hand hygiene	☐	*The guidelines*	
2.2.2	Use of PPE to avoid direct unprotected contact with blood/body fluids	☐	*The guidelines*	
2.2.3	Cleaning, disinfection, and sterilization of reusable health care equipment[35]	☐	*The guidelines*	
2.2.4	Prevention and management of injuries from sharp instruments	☐	*The guidelines*	
2.2.5	Waste management	☐	*The guidelines*	
2.2.6	Laundry and environmental cleaning[36]	☐	*The guidelines*	
2.2.7	Injection safety	☐	*The guidelines*	
2.2.8	Respiratory hygiene	☐	*The guidelines*	

[33] Plan with the respective level the needed supplies for IPC activities such as single use (e.g. paper) towels, liquid soap, alcohol-based solution for hand hygiene, antimicrobial soaps for surgical scrub, safety boxes, disinfectants, personal protective equipment (e.g. gloves, gown, mask, eye protection, etc), material for packing items to be sterilized, trash bins and bags etc

[34] WHO aide – memoire: Standard infection control precautions in health care http://www.who.int/csr/resources/publications/EPR_AM2_E7.pdf

[35] It is expected that a recommendation for not re-processing disposable (single use) equipment is included in the guidelines

[36] The term "environmental cleaning" refers to general cleaning of environmental surfaces and to the maintenance of cleanliness in a HCF. It is the physical removal of organic materials such as dust and dirt, which removes a large proportion of microorganisms. Warm water with detergent is usually sufficient to remove all organic contamination. Certain clinical scenarios may require use of disinfectants: indications for use of environmental disinfection should be clearly formulated in the guidelines

2.3	Guidelines on how to apply isolation precautions developed and disseminated, including:			
2.3.1	Contact precautions	☐	*The guidelines*	
2.3.2	Droplet precautions	☐	*The guidelines*	
2.3.3	Airborne precautions	☐	*The guidelines*	

2.4	Guidelines on prevention of device-associated and site specific infections[37], including:			
2.4.1	Surgical site infections	☐	*The guidelines*	
2.4.2	Bloodstream infections	☐	*The guidelines*	
2.4.3	Urinary tract infections	☐	*The guidelines*	
2.4.4	Lower respiratory tract infections	☐	*The guidelines*	
2.4.5	HAI of gastrointestinal tract[38]	☐	*The guidelines*	

2.5	Guidelines on prudent use of antibiotics[39]			
2.5.1	Antimicrobial stewardship guideline/programme	☐	*The guidelines*	
2.5.2	Protocol on antimicrobial prophylaxis in surgery[40]	☐	*The guidelines*	
2.5.3	Protocols on use of antibiotics for main infectious syndromes	☐	*The guidelines*	
2.5.4	Policy on antimicrobials of restricted use[41]	☐	*The guidelines*	

3 Human resources

3.1	Required contents and elements for IPC training established			
3.1.1	Contents and elements for basic training in IPC for all health care personnel developed[42]	☐	*Plans/curricula/other documents*	
3.1.3	Contents and elements for specialized training of IPC professionals (technical teams) developed[43]	☐	*Plans/curricula/other documents*	

[37] Site specific HAI prevention guidelines, aseptic techniques, device management, prevention bundles etc.

[38] Food safety aspects in HCFs

[39] This is not necessarily under IPC programmes, but the IPC programmes should always be involved This activity should be implemented in collaboration with a programme dealing with rational use of drugs (if exists)

[40] Including obstetrics and gynaecology

[41] Certain antimicrobials may be subject to restriction because: 1) they may be last-line agents for resistant infections; widespread use will result in resistance and complete absence of therapeutic options; 2) these drugs may be more toxic than standard, equally effective therapy; 3) there may be less clinical information on efficacy than comparable agents; 4) these drugs typically have a higher cost than standard, equally effective therapy

[42] Induction and periodic training for all HCWs (i.e. physicians, nurses, dentists, medical assistants, medical and nursing students etc.), laboratory and other health-care workers (i.e. housekeeping) that provide patient care at any level and must perform clinical procedures in such a way as to minimize the risk of infection to self, patients, community and the environment

[43] Provided to physicians, nurses and other members of the IPC team. The knowledge and skills of this group include the contents and general principles of infection prevention and control, surveillance of infections, outbreak management and monitoring of clinical practices

3.2	Organization of training			
3.2.1	IPC concepts and practices included in the undergraduate curricula for formation of HCWs in medical and nursing schools	☐	*Curricula/interview*	
3.2.2	Professional (sub-) specialty training is provided for IPC professionals[44]	☐	*An official document*	
3.2.3	Periodic post-graduate training on IPC for all categories of HCWs is required[45]	☐	*An official document*	
3.2.4	Continuing education for IPC professionals is organized	☐	*An official document*	
3.2.5	National training courses on IPC for interested specialists are organized	☐	*Interview (a document if available)*	

3.3	Standards for adequate staffing ratios defined			
3.3.1	The relevant national authority has established the staffing ratio of IPC professionals and teams[46]	☐	*An official document*	*Please provide the ratios*
3.3.2	The relevant national authority has established the staffing ratios of staff in critical units[47]	☐	*An official document*	*Please provide the ratios*
3.3.3	An IPC link professional in each ward is required	☐	*An official document*	

3.4	Prevention and monitoring of occupational biological risks			
3.4.1	Prevention of percutaneous exposures of HCWs, patients and visitors to blood or body fluids is promoted	☐	*Interview*	
3.4.2	System to avoid sharp accidents and/or exposure to blood or body fluids is organized[48]	☐	*Interview*	
3.4.3	Monitoring and management (e.g. prophylaxis, treatment) of sharp accidents among HCW is promoted[49]	☐	*Interview*	
3.4.4	Monitoring and management of possible TB cases among HCWs is promoted	☐	*Interview*	
3.4.5	Regular assessment of other/new biological risks is promoted[50]	☐	*Interview*	

3.5	National HCWs immunization programme is implemented, including:

[44] IPC profession is officially recognized as a medical (sub-) specialty, included in the curricula for medical schools, diploma/certification is required

[45] In-service training on new threats, revised practices; refreshers

[46] The ratio to the number of beds, or admissions or any other indicator of workload. The well known ratio (still considered commonly a standard) established by the SENIC study is 1 IPC professional per 250 beds. Several countries introduced better ratios (e.g. 1 per 80 or 100 beds), but the optimum ratios still need to be studied

[47] Intensive care units, neonatal units, burn units, other units considered critical by national authorities

[48] e.g. safety boxes, gloves and other PPE items

[49] Existence of a mechanism for sharp injury reporting and post exposure prophylaxis (PEP)

[50] Special emphasis to pathogens involved in epidemics, incl. e.g. acute respiratory diseases

3.5.1	Immunization policies for hepatitis B[51]	☐	*Programme and coverage documents*	
3.5.2	Immunization policies for influenza	☐	*Interview*	
3.5.3	Immunization policies for rubella	☐	*Interview*	*Indicate here whether other policies exist (e.g. rubeola)*

4 Surveillance of HAI

4.1	**Coordination of surveillance at the national level**			
4.1.1	National IPC authority coordinates the national HAI surveillance system	☐	*Programme/plan*	
4.1.2	National IPC authority gathers available data on HAI at the country level	☐	*Interview*	
4.1.3	National IPC authority provides support to HCFs to report the HAI rates in a blame free culture[52]	☐	*Statement from the national IPC programme/interview*	

4.2	**National objectives of surveillance are defined and include:**			
4.2.1	Describing the status of HAI (i.e. incidence and/or prevalence, type, aetiology, severity, burden of disease)	☐	*Programme/plan*	
4.2.2	Identification of high-risk populations, procedures and exposures	☐	*Programme/plan*	
4.2.3	Early detection of outbreaks	☐	*Programme/plan*	
4.2.4	Assessment of the impact of interventions	☐	*Programme/plan*	

4.3	**National priorities for surveillance are defined and include:**			
4.3.1	Epidemic-prone infections	☐	*Programme/plan*	
4.3.2	Infections in vulnerable populations (e.g. neonates, burn patients, ICU patients, immunocompromised hosts)	☐	*Programme/plan*	
4.3.3	Infections that may cause severe outcomes	☐	*Programme/plan*	
4.3.4	Infections caused by MDR[53], XDR[54], and PDR[55] pathogens	☐	*Programme/plan*	
4.3.5	Infections associated with invasive devices or specific procedures (e.g. intravascular devices, surgery etc.)	☐	*Programme/plan*	

[51] To target 100 % of HCWs (see the WHA 60.26 at http://apps.who.int/gb/ebwha/pdf_files/WHA60/A60_R26-en.pdf)

[52] A culture where no blame is ascribed to individual actors, and most errors are viewed largely as system-based. It does not exclude accountability when traceable to truly negligent actions

[53] MDR: acquired non-susceptibility to at least one agent in three or more antimicrobial categories

[54] XDR: non-susceptibility to at least one agent in all but two or fewer antimicrobial categories

[55] PDR: non-susceptibility to all agents in all antimicrobial categories

4.3.6	Infections that may affect health-care workers in clinical, laboratory and other settings	☐	*Programme/plan*	
4.3.7	Infections that appear in the community but are associated with health care[56]	☐	*Programme/plan*	

4.4	**Methods of surveillance are defined and include the following:**			
4.4.1	Active[57] data collection methods	☐	*A document*	
4.4.2	Standardized definitions of infections	☐	*A document*	
4.4.3	Standardized definitions and data collection techniques for denominators	☐	*A document*	
4.4.4	System to evaluate effectiveness of HAI surveillance is in place	☐	*A document*	

4.5	**Information is analysed and disseminated to all interested parties**			
4.5.1	National IPC authority analyses and documents data on HAI at the country level	☐	*Report*	
4.5.2	National IPC authority analyses and documents data on HAI caused by multi-drug-resistant pathogens at the country level	☐	*Report*	
4.5.3	National IPC authority reports to interested parties on the national situation of HAI and special events[58]	☐	*Report/bulletin/distribution list*	
4.5.4	Reports provided contain both analysis and recommendations	☐	*Report*	

5 Microbiology laboratory support

5.1	**National IPC programme has microbiological support**			
5.1.1	National IPC authority advocates for strengthening of lab capacity in collaboration with the concerned national bodies [59]	☐	*Interview*	
5.1.2	Interaction between the national IPC authority and the microbiology services is institutionalised	☐	*Interview*	
5.1.3	Microbiological data on HAI agents are available for national surveillance and IPC activities	☐	*Surveillance report*	
5.1.4	Data on antimicrobial susceptibility patterns of relevant etiologic agents available for IPC activities	☐	*Report*	

[56] Post-discharge surveillance needs to be implemented

[57] Data collection is active when data are actively sought out, e.g. gathered by surveillance personnel by reviewing medical records and laboratory data on a regular basis. Surveillance is passive when the receiving side just waits for data reports to be sent in.

[58] The special events may include e.g. clusters of infectious disease patients, unexplained illnesses in health workers, emergence of novel AMR mechanisms etc

[59] IPC programme defines importance of and the needs for microbiological support of IPC

5.1.5	At least one national reference microbiology lab supports IPC activities	☐	*Interview*	

5.2	**Microbiological services are safe and of good quality**			
5.2.1	National IPC authority is involved in standardization of microbiology laboratory techniques[60]	☐	*Interview*	
5.2.2	National IPC authority is involved in developing microbiology laboratory biosafety standards and guidelines	☐	*Interview*	
5.2.3	National IPC authority supports in implementation of external lab quality control programmes	☐	*Interview*	

5.3	**The IPC programme has microbiological support to monitor and alert AMR mechanisms, including:**			
5.3.1	Methicillin-resistant *Staphylococcus aureus* (MRSA)	☐	*Interview*	
5.3.2	Vancomycin-resistant Enterococcus (VRE)	☐	*Interview*	
5.3.3	ESBL[61]-producing microorganisms	☐	*Interview*	
5.3.4	Carbapenem-resistant microorganisms	☐	*Interview*	
5.3.5	Other AMR organisms	☐	*Interview*	*Indicate here other AMR organisms*
5.3.6	Detection of novel AMR pathogens	☐	*Interview*	

6 Environment

6.1	**Physical requirements for IPC in healthcare facilities are clearly defined, including:**			
6.1.1	Provision of safe drinking-water[62]	☐	*Interview*	
6.1.2	Appropriate environmental ventilation in patient care areas[63]	☐	*Interview*	
6.1.3	Hand hygiene facilities[64]	☐	*Interview*	

6.2	**Participation of IPC in patient placement in health care settings is clearly defined:**			
6.2.1	Policies for placement of patient under isolation precautions in health care settings are defined	☐	*Policies*	
6.2.4	Policies for placement and flow of patients in health care settings are defined	☐	*Policies*	

[60] Including samples collection and transportation

[61] Extended-spectrum ß-lactamase

[62] It may not be suitable for all uses or for some patients, and further processing or treatment or other safeguards may be required. It is recommended that the IPC programme should include a water safety plan developed for HCFs. See more about water safety in the WHO Guidelines for drinking-water quality at http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html

[63] *Natural ventilation for infection control in health-care settings*, http://www.who.int/water_sanitation_health/publications/natural_ventilation/en/

[64] Access to hand-hygiene facilities with running water, soap, towels, and alcohol hand rub at the point of patient care

6.3	Medical waste management is clearly defined:			
6.3.1	Policies on segregation of medical waste are defined	☐	*Policies*	
6.3.2	Policies on storage and transportation of medical waste are defined	☐	*Policies*	
6.3.3	Policies on final destination of medical waste are defined	☐	*Policies*	

7 Monitoring & Evaluation

7.1	M&E framework for IPC is established at national level, including:			
7.1.1	There is a well-defined M&E plan with clear goals, targets and operational plans	☐	*Plans*	
7.1.2	Tools to collect information needed for M&E in a systematic way developed[65]	☐	*Tool(s)*	
7.1.3	National M&E activities are aligned with M&E activities at the local level	☐	*Interview*	

7.2	M&E indicators are defined			
7.2.1	The indicators are comparable over time	☐	*Reports*	
7.2.2	The indicators are linked to the targets established by the national IPC work plan	☐	*Work plan*	
7.2.3	Core indicators include both process and outcome indicators	☐	*List of indicators*	
7.2.4	Minimal set of core indicators for the HCFs in the country defined	☐	*List of indicators*	

7.3	M&E process and reporting			
7.3.1	Information on the national goals (outcomes and processes) and strategies is collected regularly	☐	*Reports*	
7.3.2	M&E of IPC activities and structure of the HCFs through audits or other officially recognised means is conducted regularly	☐	*Reports*	
7.3.3	Information collected is regularly analysed and used to inform decision making	☐	*Reports*	
7.3.4	IPC programme regularly reports on the state of the national IPC goals and strategies	☐	*Reports*	
7.3.5	Evaluation of the performance of local IPC programmes is performed in a blame free institutional culture	☐	*Interview*	

[65] Including M&E tools developed specifically for low level of health care complexity/primary health care HCFs

8 Links with public health and other services

8.1	Procedures for the links between HCF and public health/other services are defined			
8.1.1	Procedures for links between HCF and public health services are defined[66]	☐	*Interview*	
8.1.2	Procedures for links with other services[67] provided by MoH are defined	☐	*Interview*	
8.1.3	Procedures for links with other services not under MoH are defined	☐	*Interview*	

8.2	Events of interest to be reported among public health and HCF include:			
8.2.1	Outbreaks	☐	*Interview*	
8.2.2	Emergence of a new pathogen	☐	*Interview*	
8.2.3	An important pattern of resistance to antimicrobials	☐	*Interview*	
8.2.4	Unusual cluster of disease among HCW	☐	*Interview*	
8.2.5	HAI that appear in the community	☐	*Interview*	

8.3	Links with other existing programmes/services are established			
8.3.1	Tuberculosis programme	☐	*Interview*	
8.3.2	HIV programme	☐	*Interview*	
8.3.3	Other relevant public health programmes related to communicable diseases	☐	*Interview*	*Please list the programmes*
8.3.4	Laboratory services	☐	*Interview*	
8.3.5	Occupational health	☐	*Interview*	
8.3.6	Quality of care and/or patient safety and/or patient rights	☐	*Interview*	
8.3.7	Waste management and other environmental services	☐	*Interview*	
8.3.8	National initiative on rational use of drugs or equivalent	☐	*Interview*	
8.3.9	Public health surveillance system	☐	*Interview*	
8.3.10	Construction and renovation	☐	*Interview*	

[66] Coordinated surveillance and response to public-health emergencies due to communicable diseases
[67] See 8.3

8.4	**Preparedness and response to public-health emergencies**			
8.4.1	IPC elements integrated into the national general emergencies preparedness plans	☐	*Interview*	
8.4.2	The IPC programme is involved in coordination of response to public-health emergencies	☐	*Interview*	

Assessment tool for hospital IPC programmes

IPCAT-H

HEALTH CARE FACILITY CHARACTERISTICS

Evaluation date:			
Name of the hospital:			
City:		Country:	
Administrative status: state private university Other:			
Beds:		Annual discharges:	
Annual occupied bed days:			
Beds in Intensive Care Unit (ICU):		Microbiology laboratory:	
ICU beds for adults:		Number of isolations/year:	
ICU beds for paediatrics:		Number of antibiograms/year:	
ICU beds for neonatology:			
Mark the clinical or surgical services that the hospital has	**Clinical Service**	# Annual discharges	# Annual major surgeries or childbirths
	Surgery		
	Obstetrics		
	Paediatrics		
	Internal medicine		
	Neonatology		
	Adult intensive care		
	Other subspecialties		
Names and positions of the people interviewed:			
Names of evaluators:			

1 Organization of an IPC programme

	Components for assessment	☑	Suggested verifiers	Comments
1.1	**Designated qualified IPC leadership is established**			
1.1.1	There is an IPC Team[68]	☐	*Document signed by local authority*	
1.1.2	Authority has been delegated by the administration or equivalent[69]	☐	*Document signed by local authority*	
1.1.3	There is an Infection Control Committee or an equivalent[70]	☐	*Document signed by local authority, agenda and meetings minutes/reports*	
1.1.4	The IPC programme responsibilities, goals and functions are clearly defined	☐	*An official document (programme, plan or annual report)*	

1.2	**The scope of IPC is defined and includes:**			
1.2.1	Endemic HAI, associated or not with the use of devices or procedures during health care[71]	☐	*Related IPC guidelines/policies/procedures, surveillance data*	
1.2.2	Epidemic HAI, originating within the population of the health-care facility[72]	☐	*Related IPC guidelines/policies/procedures, outbreak reports*	
1.2.3	HAI which are a consequence of the transmission of community-acquired infections to patients in the HCF[73]	☐	*Related IPC guidelines/policies/procedures, outbreak reports*	
1.2.4	Early detection and management of HAI epidemics to organize a prompt and effective response[74]	☐	*Related IPC guidelines/policies/procedures, outbreak reports*	
1.2.5	Preventing the emergence of antimicrobial resistance and/or dissemination of resistant strains of microorganisms[75]	☐	*Related IPC guidelines/policies/procedures, surveillance/lab data*	
1.2.6	Minimizing the environmental impact of HAI and HAI control measures[76]	☐	*Related guidelines/policies/procedures*	

[68] The HCF has at least designated an infection prevention and control professional who leads the technical team of trained professionals responsible for infection control, including for example medical doctors, nurses, epidemiologists, microbiologists, etc.

[69] Person(s) in charge has both responsibility and accountability for the programme

[70] The Infection Control Committee is comprised of members from a variety of disciplines within the HCF. Representation may include hospital administrators, physicians, nurses, as well as representatives from e.g. surgery, ICU, microbiology, pharmacy, central sterilization, environmental services, etc. The goal of this interdisciplinary task force is both to bring together individuals with expertise in different areas of healthcare and ensure involvement of the senior management

[71] Infections originating within the health care facility associated with or without use of medical devices or procedures. The most common device-related infections are catheter-associated urinary tract infection (UTI), central line-associated bloodstream infection (BSI), ventilator-associated pneumonia (VAP). Examples of endemic infections not associated with medical devices are surgical site infections (except those related to implants), gastrointestinal infections (food poisoning) etc.

[72] Infections originating within the health care facility and spreading like an epidemic to large numbers. Examples: MRSA, NDM-1 etc.

[73] Infections originating in the community and getting transmitted in the health care facility. Examples: SARS, pandemic influenza, human cases of influenza A (H5N1), pulmonary tuberculosis, measles, viral haemorrhagic fevers, etc.

[74] Mechanism in place to ensure early recognition and investigation of number of similar cases or clusters; reinforce the prompt implementation of appropriate infection control precautions and use of personal protective equipment (PPE) by staff working with epidemic; ensure links between health-care facility and public health authorities and immediately report all available information about possible epidemics that represents a public health threat (e.g. pandemic influenza, communicable viral haemorrhagic fevers).

[75] Work in collaboration with other initiative(s) related to rational use of drugs/treatment of infectious disease. Adapt national policies for control measures for multi-resistant pathogens. In the absence of lab diagnosis, implement control measures based on risk factors.

[76] Compliance to policies on management of infectious waste, environmental disinfection etc

1.3	There is a budget adequate to meet programmed IPC activities			
1.3.1	There is an identified budget to guarantee functioning of the IPC Team	☐	*An official document of the HCF*	
1.3.2	There is an identified budget to guarantee activities related to implementation of the IPC programme in HCF	☐	*An official document of the HCF*	

1.4	Administrative and IT[77] support to the IPC team provided, including:			
1.4.1	A secretary with dedicated time	☐	*Interview*	
1.4.2	IT equipment	☐	*Interview*	
1.4.3	Internet access	☐	*Interview*	
1.4.4	Professional IT support	☐	*Interview*	

2 Technical guidelines

2.1	Adaptation of technical guidelines to the local level			
2.1.1	The HCF has guidelines for preventing and controlling health care associated infections	☐	*The guidelines*	
2.1.2	The guidelines are consistent with the national guidelines (if they exist)	☐	*Clear reference or national guidelines available for comparison*	
2.1.3	The guidelines are adapted to the local needs and resources	☐	*The guidelines*	
2.1.4	The guidelines in use are evidence-based	☐	*The guidelines*	
2.1.5	The guidelines are updated within last 5 years	☐	*The guidelines*	

2.2	Guidelines on standard precautions developed and disseminated, including:			
2.2.1	Hand hygiene	☐	*The guidelines*	
2.2.2	Use of PPE to avoid direct unprotected contact with blood/body fluids	☐	*The guidelines*	
2.2.3	Cleaning, disinfection, and sterilization of reusable health care equipment[78]	☐	*The guidelines*	
2.2.4	Prevention and management of injuries from sharp instruments	☐	*The guidelines*	
2.2.5	Waste management	☐	*The guidelines*	

[77] IT – Information Technology

[78] It is expected that a recommendation for not re-processing disposable (single use) equipment is included in the guidelines

2.2.6	Laundry and environmental cleaning[79]	☐	*The guidelines*	
2.2.7	Injection safety	☐	*The guidelines*	
2.2.8	Respiratory hygiene	☐	*The guidelines*	

2.3	**Guidelines on how to apply isolation precautions developed and disseminated, including:**			
2.3.1	Contact precautions	☐	*The guidelines*	
2.3.2	Droplet precautions	☐	*The guidelines*	
2.3.3	Airborne precautions	☐	*The guidelines*	

2.4	**Guidelines on prevention of device-associated and site specific infections, including:[80]**			
2.4.1	Surgical site infections	☐	*The guidelines*	
2.4.2	Bloodstream infections	☐	*The guidelines*	
2.4.3	Urinary tract infections	☐	*The guidelines*	
2.4.4	Lower respiratory tract infections	☐	*The guidelines*	
2.4.5	HAI of gastrointestinal tract[81]	☐	*The guidelines*	

2.5	**Guidelines on prudent use of antibiotics[82]**			
2.5.1	Antimicrobial stewardship guideline/programme	☐	*The guidelines*	
2.5.2	Protocol on antimicrobial prophylaxis in surgery[83]	☐	*The guidelines*	
2.5.3	Protocols on use of antibiotics for main infectious syndromes	☐	*The guidelines*	
2.5.4	Policy on antimicrobials of restricted use[84]	☐	*The guidelines*	

[79] The term "environmental cleaning" refers to general cleaning of environmental surfaces and to the maintenance of cleanliness in a HCF. It is the physical removal of organic materials such as dust and dirt, which removes a large proportion of microorganisms. Warm water with detergent is usually sufficient to remove all organic contamination. Certain clinical scenarios may require use of disinfectants: indications for use of environmental disinfection should be clearly formulated in the guidelines

[80] Site specific HAI prevention guidelines, aseptic techniques, device management, prevention bundles etc.

[81] Food safety aspects in HCFs

[82] This activity should be implemented in collaboration with a programme dealing with rational use of drugs (if exists)

[83] Including obstetrics and gynaecology

[84] Certain antimicrobials may be subject to restriction because: 1) they may be last-line agents for resistant infections; widespread use will result in resistance and complete absence of therapeutic options; 2) these drugs may be more toxic than standard, equally effective therapy; 3) there may be less clinical information on efficacy than comparable agents; 4) these drugs typically have a higher cost than standard, equally effective therapy

3 Human resources

3.1	Training on IPC of all health care personnel is provided regularly			
3.1.1	Initial training in IPC for all newly recruited health care personnel is provided[85]	☐	*Curricula, training materials, schedules, training records*	
3.1.2	Periodical basic training in IPC for all health care personnel is provided regularly[86]	☐	*Curricula, training materials, schedules, training records, certificates*	
3.1.3	IPC team is actively engaged in coordination and delivery of the training[87]	☐	*Curricula, training materials, schedules, training records*	

3.2	Specialized training of IPC professionals (technical teams) is provided regularly			
3.2.1	IPC professionals receive specialised training[88]	☐	*Curricula, training materials, schedules, training records*	
3.2.2	Periodical training for IPC professionals is done[89]	☐	*Curricula, training materials, schedules, training records, certificates*	
3.2.3	Access to updates is available to all members of the IPC technical teams[90]	☐	*Interview*	
3.2.4	Career development programme for IPC professionals is in place	☐	*Interview*	

3.3	Staffing ratios maintained			
3.3.1	The proper staffing ratio of IPC professionals and teams according to the national standards is maintained[91]	☐	*HR records*	*Please indicate the ratio*
3.3.2	The IPC team includes both doctors and nurses	☐	*HR records*	
3.3.3	The proper staffing ratio of staff in critical units according to the national standards is maintained	☐	*HR records*	

3.4	Prevention and monitoring of occupational biological risks			
3.4.1	Training of HCWs to prevent percutaneous exposures to blood or body fluids is provided[92]	☐	*Training materials, training records*	

[85] Induction training for all HCWs (i.e. physicians, nurses, dentists, medical assistants, etc.), laboratory and other health-care workers (i.e. housekeeping) that provide patient care at any level and must perform clinical procedures in such a way as to minimize the risk of infection to self, patients, community and the environment

[86] Periodic regular training for all HCW (i.e. physicians, nurses, dentists, medical assistants, etc.), laboratory and other health-care workers (i.e. housekeeping) that provide patient care at any level and must perform clinical procedures in such a way as to minimize the risk of infection

[87] IPC team coordinates/participates in delivering the training and participates in development of the training materials. Modern adult training methods are used.

[88] Provided to physicians, nurses and other professionals that are members of the IPC team. The knowledge and skills of this group include the contents and general principles of infection prevention and control, surveillance of infections, outbreak management and monitoring of clinical practices

[89] Both regular updates/refreshers and advanced training

[90] Periodic training is supported by administration (e.g. paid leave for IPC training etc.)

[91] The ratio to the number of beds, or admissions or any other indicator of workload. The well known ratio (still considered commonly a standard) established by the SENIC study is 1 IPC professional per 250 beds. Several countries introduced better ratios (e.g. 1 per 80 or 100 beds), but the optimum ratios still need to be studied

3.4.2	System in place to avoid sharp accidents and/or exposure to blood or body fluids[93]	☐	*Standards and/or observed (visit)*	
3.4.3	Monitoring and management (e.g. prophylaxis, treatment) of sharp accidents among HCW is assured[94]	☐	*Standards, record forms*	
3.4.4	System in place for rapid detection, isolation (e.g. separated well ventilated space) and management of TB cases	☐	*Standards, record forms*	
3.4.5	Training of HCWs on IPC measures for TB and highlighted information and precautions for MDR-TB cases	☐	*Training materials, training records*	
3.4.6	Monitoring and management of possible TB cases among HCWs is organized	☐	*Standards, record forms*	
3.4.7	Regular assessment of other/new biological risks is performed, and the risks are addressed[95]	☐	*Any records, reports*	

3.5	**HCWs immunization programme is implemented, including:**			
3.5.1	Immunization policies for hepatitis B[96]	☐	*Programme, records and coverage*	
3.5.2	Immunization policies for influenza	☐	*Programme, records and coverage*	
3.5.3	Immunization policies for rubella	☐	*Programme, records and coverage*	

4 Surveillance of HAI

4.1	**Organization of surveillance**			
4.1.1	Surveillance is conducted as an essential and well defined component of IPC programme	☐	*Written programme*	
4.1.2	Professional responsible for surveillance activities is trained in basic epidemiology, surveillance and IPC	☐	*Certificates, training records*	
4.1.3	IPC team has sufficient time to perform surveillance activities[97]	☐	*Interview*	

4.2	**Objectives of surveillance are defined, aligned with national objectives, and include:**			
4.2.1	Describing the status of HAI (i.e. incidence and/or prevalence, type, aetiology, severity, burden of disease)	☐	*Local document*	
4.2.2	Identification of high-risk populations, procedures and exposures	☐	*Local document*	

[92] Should be also provided to patients and visitors
[93] e.g. safety boxes, gloves and other PPE items
[94] Existence of a mechanism for sharp injury reporting and post exposure prophylaxis (PEP) and availability of records thereof
[95] Special emphasis to pathogens involved in epidemics, incl. e.g. acute respiratory diseases
[96] to target 100 % of HCWs
[97] but should not be more than 30%

4.2.3	Early detection of outbreaks	☐	*Local document*	
4.2.4	Assessment of the impact of interventions	☐	*Local document*	

4.3	**Priorities for surveillance are defined according to the scope of care and include:**			
4.3.1	Epidemic-prone infections	☐	*Local document*	
4.3.2	Infections in vulnerable populations (e.g. neonates, burn patients, ICU patients, immunocompromised hosts)	☐	*Local document*	
4.3.3	Infections that may cause severe outcomes	☐	*Local document*	
4.3.4	Infections caused by MDR[98], XDR[99], and PDR[100] pathogens	☐	*Local document*	
4.3.5	Infections associated with invasive devices or specific procedures (e.g. intravascular devices, surgery etc.)	☐	*Local document*	
4.3.6	Infections that may affect health-care workers in clinical, laboratory and other settings	☐	*Local document*	
4.3.7	Infections that appear in the community but are associated with health care[101]			

4.4	**Methods of surveillance are defined and include the following:**			
4.4.1	Active data collection methods[102]	☐	*Surveillance records, interview*	
4.4.2	Standardized definitions of infections are used	☐	*Local document*	
4.4.3	Standardized definitions and data collection techniques for denominators are used	☐	*Local document, interview*	
4.4.4	System to evaluate effectiveness of HAI surveillance is in place	☐	*Evaluation report*	

4.5	**Information is analysed and disseminated to all interested parties**			
4.5.1	Rates of HAI under surveillance are calculated regularly[103]	☐	*Reports*	
4.5.2	Analysis of HAI trends that identifies problems and proposes solutions is performed regularly[104]	☐	*Reports*	
4.5.3	Analysis of antimicrobial drug resistance is performed regularly[103]	☐	*Reports*	

[98] MDR: acquired non-susceptibility to at least one agent in three or more antimicrobial categories
[99] XDR: non-susceptibility to at least one agent in all but two or fewer antimicrobial categories
[100] PDR: non-susceptibility to all agents in all antimicrobial categories
[101] Post-discharge surveillance needs to be implemented
[102] At least weekly case-finding in risk groups by reviewing medical records and laboratory data
[103] At least for the minimum set of surveillance indicators
[104] At least annually

4.5.4	Reports provided contain both analysis and recommendations	☐	*Reports*	
4.5.5	Up-to-date information is available and known in all departments involved in surveillance	☐	*Distribution lists, bulletins, interview*	

5 Microbiology laboratory support

5.1	**Good quality and safe microbiological laboratory services are available**			
5.1.1	The HCF has access to microbiological laboratory services[105]	☐	*Interview/visit to lab*	
5.1.2	Lab specialist(s) trained in clinical microbiology	☐	*Certificates, training records*	
5.1.3	Microbiology activities evaluated periodically by internal quality control	☐	*Quality control records on identification and susceptibility testing*	
5.1.4	The lab participates in external quality control at least once a year	☐	*Reference lab report*	
5.1.5	Laboratory biosafety standards implemented	☐	*Standards, interview*	

5.2	**Interaction between IPC activities and the microbiology laboratory**			
5.2.1	IPC programme liaises IPC activities with those of the microbiology laboratory	☐	*Interview*	
5.2.2	Microbiological data on HAI agents are available for surveillance and IPC activities	☐	*Reports*	
5.2.3	Data on antimicrobial susceptibility patterns of relevant etiologic agents available for IPC activities	☐	*Reports*	

5.3	**The HCF has capability[106] to identify pathogens most relevant for IPC, including:**			
5.3.1	Aerobic bacteria to species level in blood cultures and sterile sites	☐	*Interview, reports*	
5.3.2	Viral agents[107]	☐	*Interview, reports*	
5.3.3	M. tuberculosis	☐	*Interview, reports*	
5.3.4	Candida spp.	☐	*Interview, reports*	

5.4	**The HCF is able to identify antimicrobial susceptibility of isolated pathogens, including:**			
5.4.1	Susceptibility patterns of most frequent HAI agents	☐	*Interview, reports*	
5.4.2	Methicillin-resistant Staphylococcus aureus	☐	*Interview, reports*	

[105] There is a clinical microbiology lab or a contact with external provider of microbiological support

[106] By its own laboratory or external provider

[107] Hepatitis, HIV, adenovirus, influenza, respiratory syncytial virus, rotavirus etc

	(MRSA)			
5.4.3	Vancomycin-resistant Enterococcus (VRE)	☐	*Interview, reports*	
5.4.4	ESBL-producing microorganisms	☐	*Interview, reports*	
5.4.5	Carbapenem-resistant microorganisms	☐	*Interview, reports*	

5.5	**Standardized techniques and procedures used for samples collection and transportation**			
5.5.1	Indications and techniques for sample collection are standardized and known to clinicians	☐	*Interview*	
5.5.2	Specimen collection and shipment manual updated at least every 5 years and circulated	☐	*Guidelines*	

6 Environment

6.1	**Water for consumption**			
6.1.1	Safe drinking-water is available[108]	☐	*Interview, lab records*	
6.1.2	Permanent availability of drinking water	☐	*Interview*	

6.2	**Hand hygiene facilities**			
6.2.1	Access to hand-hygiene facilities with running water at the point of patient care is available	☐	*Direct observation*	
6.2.2	Access to alcohol hand rub at the point of patient care is available	☐	*Direct observation*	
6.2.3	Access to soap at the point of patient care is available	☐	*Direct observation*	
6.2.4	Access to towels at the point of patient care are available	☐	*Direct observation*	

6.3	**Environmental ventilation**			
6.3.1	Permanent environmental ventilation in patient care areas is available[109]	☐	*Interview, direct observation*	
6.3.2	Ventilation systems in HCFs are maintained regularly	☐	*Maintenance records*	

6.4	**Patient placement in health care settings**			
6.4.1	Policies for placement of patient under isolation precautions in health care settings are defined	☐	*Policies*	

[108] It may not be suitable for all uses or for some patients, and further processing or treatment or other safeguards may be required. It is recommended that the IPC programme should include a water safety plan developed for the HCF. See more about water safety in the WHO Guidelines for drinking-water quality at http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html

[109] *Natural ventilation for infection control in health-care settings*, http://www.who.int/water_sanitation_health/publications/natural_ventilation/en/

6.4.2	Policies for placement and flow of patients in health care settings are defined	☐	*Policies*	

6.5	**Medical waste management**			
6.5.1	Policies on segregation of medical waste are defined	☐	*Policies*	
6.5.2	Policies on transportation of medical waste are defined	☐	*Policies*	
6.5.3	Policies on final destination of medical waste are defined	☐	*Policies*	
6.5.4	Training of professionals involved in management of medical waste organized regularly	☐	*Training records*	

6.6	**Other hygienic requirements**			
6.6.1	Policies for storage conditions for supplies are defined[110]	☐	*Policies*	
6.6.2	Participation of IPC team if remodelling/construction are performed in areas with activities of clinical importance	☐	*Interview*	
6.6.3	Precautions during building and renovation work to avoid infectious complications in individuals in HCF[111]	☐	*Interview*	

7 Monitoring & Evaluation

7.1	**M&E framework is established**			
7.1.1	Well-defined M&E plan with clear goals, targets and operational plans	☐	*Plans*	
7.1.2	Tools to collect information needed for M&E in a systematic way developed	☐	*Tool(s)*	
7.1.3	M&E activities within HCF are aligned with national M&E activities	☐	*Interview*	
7.1.4	Information collected is regularly analysed and used to inform the day to day management	☐	*Interview*	

7.2	**M&E indicators are defined and used**			
7.2.1	The indicators are comparable over time	☐	*Reports*	
7.2.2	The indicators are linked to the targets established by the IPC programme work plan	☐	*Work plan*	
7.2.3	There is a number of key indicators comparable with other HCFs in the country	☐	*Interview*	

[110] e.g. dry and free of dust

[111] Building and renovation in progress in health-care facilities should incorporate proper containment of dust and particles, especially if they affect ICU patients, burn units, operating rooms, immunocompromised patients

7.2.4	Core indicators include both process and outcome indicators	☐	*List of indicators*	

7.3	**Reporting of M&E data**			
7.3.1	HCF regularly reports on the state of the IPC goals and strategies and the impact of the IPC activities	☐	*Reports*	
7.3.2	Evaluation of the performance of local IPC programmes is performed in a blame free institutional culture[112]	☐	*Interview*	

8 Links with public health and other services

8.1	**Links between HCF and other external services are established**			
8.1.1	Links between HCF and public health services are established[113]	☐	*Interview*	
8.1.2	Links with other services providing health care are established[114]	☐	*Interview*	
8.1.3	Links with other services related to health care and response to emergencies are established[115]	☐	*Interview*	

8.2	**Events of interest to link public health and HCF include:**			
8.2.1	Outbreaks	☐	*Interview*	
8.2.2	Emergence of a new pathogen	☐	*Interview*	
8.2.3	An important pattern of resistance to antimicrobials	☐	*Interview*	
8.2.4	Unusual cluster of disease among HCW	☐	*Interview*	

8.3	**Links with other existing programmes/services at HCF level are established[116]**			
8.3.1	Prevention and containment of antimicrobial resistance/antimicrobial pharmacy	☐	*Interview*	
8.3.2	Tuberculosis programme	☐	*Interview*	
8.3.3	HIV programme	☐	*Interview*	
8.3.4	Other relevant public health programmes related to communicable diseases	☐	*Interview*	
8.3.5	Laboratory services	☐	*Interview*	

[112] A culture where no blame is ascribed to individual actors, and most errors are viewed largely as system-based. It does not exclude accountability when traceable to truly negligent actions

[113] Coordinated surveillance and response to public-health emergencies due to communicable diseases. IPC should be an integral part of the plan for preparedness to emergencies in communicable diseases

[114] e.g. Emergency Medical Services

[115] Logistics, IT & Communications, Transport, Security etc

[116] Preferably through link staff

8.3.6	Occupational health	☐	*Interview*	
8.3.7	Quality of care and/or patient safety and/or patient rights	☐	*Interview*	
8.3.8	Waste management and other environmental services	☐	*Interview*	
8.3.9	Coordination with the HCF administration of the procurement of supplies and equipment related to IPC	☐	*Interview*	

Core components for national IPC programmes: rapid assessment

	Components for assessment	☑	Suggested verifiers	Comments
1	**Organization of IPC Programme**			
1.1	Persons in charge of the programme can be identified[117]	☐	*Interview*	
1.2	Authority of the programme has been established by the relevant administrative or political jurisdiction[118]	☐	*Document signed by national authority*	
1.3	Persons in charge of the program have training in infection prevention and control in health care[119]	☐	*Diplomas or certificates*	
1.4	The scope and functions of IPC are clearly defined	☐	*A national IPC programme/work plan*	
1.5	There is an identified budget for the activities to guarantee essential functions of the IPC programme[120]	☐	*An official document*	
2	**Technical guidelines**			
2.1	IPC programme has a mandate to produce guidelines for preventing and controlling HAI	☐	*The guidelines*	
2.2	The guidelines are for national coverage, including public/private HCF	☐	*The guidelines*	
2.3	The guidelines are updated at least every 5 years	☐	*The guidelines*	
2.4	The development of guidelines involves the use of the best updated scientific knowledge	☐	*The guidelines*	
2.5	The development of guidelines involves participation of health authorities, HCFs, scientific societies etc.	☐	*The guidelines*	
3	**Human resources**			
3.1	Contents and elements for basic training in IPC for all health care personnel developed[121]	☐	*Plans/curricula/other documents*	
3.2	Contents and elements for specialized training of IPC professionals (technical teams) developed[122]	☐	*Plans/curricula/other documents*	

[117] Appointed technical team of trained professionals in charge of infection control, including for example medical doctors, nurses, epidemiologists, microbiologists, etc. The number of professionals comprising the team should be defined according to the national plans, scope and responsibilities of the programme

[118] Person(s) in charge has both responsibility and accountability for the Programme

[119] Formal specific IPC training (theory and practice)

[120] Adequate and sustainable financial support to run the Infection Control Programme such as staff salaries, equipment, communication facilities, production of technical documents, supplies and training activities

[121] Induction and periodic training for all HCWs (i.e. physicians, nurses, dentists, medical assistants, etc.), laboratory and other health-care workers (i.e. housekeeping) that provide patient care at any level and must perform clinical procedures in such a way as to minimize the risk of infection to self, patients, community and the environment

[122] Provided to physicians, nurses and other professionals that are members of the IPC team. The knowledge and skills of this group include the contents and general principles of infection prevention and control, surveillance of infections, outbreak management and monitoring of clinical practices

3.3	The national authority has established the staffing ratio of IPC professionals and teams[123]	☐	*An official document*	*Please indicate the ratio(s)*
3.4	Prevention and monitoring of occupational biological risks is promoted	☐	*Interview*	
3.5	National programme of immunization of HCWs is implemented[124]	☐	*Programme and coverage*	

4	**Surveillance**			
4.1	National IPC authority gathers, analyses, documents, and reports data on HAI at the country level	☐	*Report(s)*	
4.2	National IPC authority gathers, analyses, documents, and reports data on AMR at the country level	☐	*Report(s)*	
4.3	National objectives and priorities of surveillance are defined[125]	☐	*Programme/plan*	
4.4	National IPC authority standardizes definitions and methods of surveillance	☐	*Programme/plan*	
4.5	National IPC authority provides support to HCFs to report the HAI rates in a blame free culture[126]	☐	*Interview*	

5	**Microbiology laboratory support**			
5.1	National IPC authority advocates for strengthening of lab capacity[127]	☐	*Interview*	
5.2	Microbiological data on HAI agents are available for national surveillance and IPC activities	☐	*Surveillance report*	
5.3	Data on antimicrobial susceptibility patterns of relevant etiologic agents available for IPC activities	☐	*Report*	
5.4	National IPC authority is involved in standardization of microbiology laboratory techniques[128]	☐	*Interview*	
5.5	National IPC authority is involved in developing microbiology laboratory biosafety standards and guidelines	☐	*Interview*	

[123] The ratio to the number of beds, or admissions or any other indicator of workload. The optimum ratios still need to be studied

[124] Immunization for hepatitis B (aiming to 100% coverage), influenza, rubella…

[125] Objectives may include the following: describing the status of HAI (i.e. incidence and/or prevalence, type, etiology, severity, burden of disease), identification of high-risk populations, procedures and exposures, early detection of outbreaks, assessment of the impact of interventions. Priorities may include the following: infections that may become epidemic in the health-care facility, infections in vulnerable populations (e.g. neonates, burn patients, ICU patients, immunocompromised hosts), infections that may cause severe outcomes, infections caused by multi-drug resistant pathogens, infections associated with invasive devices or specific procedures (e.g. intravascular devices, surgery etc.), infections that may affect health-care workers in clinical, laboratory and other settings

[126] A culture where no blame is ascribed to individual actors,and most errors are viewed largely as system-based. It does not exclude accountability when traceable to truly negligent actions

[127] in collaboration with the concerned national bodies

[128] including samples collection and transportation

6	Environment			
6.1	Requirements for provision of safe water are defined[129]	☐	*Interview*	
6.2	Requirements for appropriate environmental ventilation in patient care areas are defined	☐	*Interview*	
6.3	Requirements for hand hygiene facilities are required[130]	☐	*Interview*	
6.4	Policies for placement of patient under isolation precautions in health care settings are defined	☐	*Policies*	
6.5	Policies on medical waste management are defined	☐	*Policies*	

7	Monitoring & Evaluation			
7.1	Information on the national goals (outcomes and processes) and strategies is collected regularly[131]	☐	*Reports, plan*	
7.2	Tools to collect information needed for M&E in a systematic way developed	☐	*Tool(s)*	
7.3	M&E indicators are defined[132]	☐	*Indicators*	
7.4	IPC programme regularly reports on the state of the national IPC goals and strategies	☐	*Reports*	
7.5	Evaluation of the performance of local IPC programmes is performed in a blame free institutional culture[133]	☐	*Interview*	

8	Links with public health and other services			
8.1	Procedures for the links between HCF and public health services are defined[134]	☐	*Interview*	
8.2	Links with other services providing health care (HC) are established[135]	☐	*Interview*	
8.3	Links with other services not under MoH (but related to HC and response to emergencies) are established	☐	*Interview*	
8.4	IPC elements integrated into the national general emergencies preparedness plans	☐	*Interview*	
8.5	The IPC programme is involved in coordination of response to public-health emergencies	☐	*Interview*	

[129] Cold water of drinking quality

[130] Access to hand-hygiene facilities with running water, soap, towels, and alcohol hand rub in areas designated for patient care

[131] There is a well-defined M&E plan with clear goals, targets and operational plans

[132] The indicators are comparable over time, linked to the targets established by the national IPC workplan, and the core indicators include both process and outcome indicators

[133] A culture where no blame is ascribed to individual actors,and most errors are viewed largely as system-based. It does not exclude accountability when traceable to truly negligent actions

[134] Events of mandatory reporting and other communications incl. coordinated surveillance and response to public-health emergencies due to communicable diseases

[135] e.g. tuberculosis, HIV programme, laboratory services, occupational health, quality of care and/or patient safety and/or patient rights, waste management and other environmental services, national initiative on rational use of drugs or equivalent, other relevant programmes

Core components for hospital IPC programmes: rapid assessment

	Components for assessment	☑	Suggested verifiers	Comments
1	**Organization of IPC Programme**			
1.1	There is an IPC Team[136]	☐	*Document signed by local authority*	
1.2	There is an Infection Control Committee or an equivalent[137]	☐	*Document signed by local authority, agenda and meetings minutes/reports*	
1.3	The IPC programme responsibilities, goals and functions are clearly defined	☐	*An official document of the HCF (programme, plan or annual report)*	
1.4	There is an identified budget to guarantee essential functions of the IPC Team[138]	☐	*A national IPC programme/work plan*	
1.5	There is an identified budget to guarantee activities related to implementation of the IPC programme in HCF[139]	☐	*An official document*	
2	**Technical guidelines**			
2.1	The HCF has guidelines for preventing and controlling health care associated infections	☐	*The guidelines*	
2.2	The guidelines are consistent with the national guidelines (if they exist)	☐	*Clear reference or national guidelines available for comparison*	
2.3	The guidelines are adapted to the local needs and resources	☐	*The guidelines*	
2.4	The guidelines in use are evidence-based	☐	*The guidelines*	
2.5	The guidelines are updated within last 5 years	☐	*The guidelines*	
3	**Human resources**			
3.1	Both initial and periodical basic training in IPC for all health care personnel is provided regularly[140]	☐	*Plans/curricula/other documents*	
3.2	Both initial and periodical specialized training for IPC professionals is provided[141]	☐	*Plans/curricula/other documents*	

[136] The HCF has at least designated an infection control professional who leads the technical team of trained professionals responsible for infection control, including for example medical doctors, nurses, epidemiologists, microbiologists, etc.

[137] The Infection Control Committee is comprised of members from a variety of disciplines within the HCF. Representation may include hospital administrators, physicians, nurses, as well as representatives from e.g. surgery, ICU, microbiology, pharmacy, central sterilization, environmental services, etc. The goal of this interdisciplinary task force is both to bring together individuals with expertise in different areas of healthcare and ensure involvement of the senior management

[138] Adequate and sustainable financial support to run the Infection Control Programme such as staff salaries, equipment, communication facilities etc

[139] Adequate and sustainable financial support to training activities and procurement of supplies for IPC activities such as single use (e.g. paper) towels, liquid soap, alcohol-based solution for hand hygiene, antimicrobial soaps for surgical scrub, safety boxes, disinfectants, personal protective equipment (e.g. gloves, gown, mask, eye protection, etc), material for packing items to be sterilized, trash bins and bags etc

[140] Induction and periodic training for all HCWs (i.e. physicians, nurses, dentists, medical assistants, etc.), laboratory and other health-care workers (i.e. housekeeping) that provide patient care at any level and must perform clinical procedures in such a way as to minimize the risk of infection to self, patients, community and the environment

[141] Provided to physicians, nurses and other professionals that are members of the IPC team. The knowledge and skills of this group include the contents and general principles of infection prevention and control, surveillance of infections, outbreak management and monitoring of clinical practices

3.3	The proper staffing ratio of IPC professionals and teams according to the national standards is maintained[142]	☐	*An official document*	
3.4	Prevention and monitoring of occupational biological risks is organized	☐	*Interview*	
3.5	HCWs immunization programme is implemented[143]	☐	*Programme and coverage*	

4	**Surveillance**			
4.1	Professional responsible for surveillance activities is trained in basic epidemiology, surveillance and IPC	☐	*Certificates, training records*	
4.2	IPC team has sufficient time (but no more than 30%) to perform surveillance activities[144]	☐	*Interview*	
4.3	Objectives and priorities of surveillance are defined and aligned with national programme[145]	☐	*Local document*	
4.4	Surveillance is conducted with active data collection methods and standardized case definitions[146]	☐	*Surveillance records*	
4.5	Surveillance data is analysed and disseminated to all interested parties[147]	☐	*Reports, distribution lists, bulletins*	

5	**Microbiology laboratory support**			
5.1	Microbiological data on HAI agents are available for surveillance and IPC activities[148]	☐	*Reports*	
5.2	Data on antimicrobial susceptibility patterns of relevant etiologic agents available for IPC activities[149]	☐	*Reports*	
5.3	Microbiology activities evaluated periodically by internal quality control	☐	*Quality control records on identification and susceptibility testing*	
5.4	The lab participates in external quality control at least once a year	☐	*Reference lab report*	
5.5	Laboratory biosafety standards implemented	☐	*Standards, interview*	

[142] The ratio to the number of beds, or admissions or any other indicator of workload. The optimum ratios still need to be studied. Please comment if there is no national standard

[143] Immunization for hepatitis B (aiming to 100% coverage), influenza, rubella…

[144] e.g. 10 or more hours per week for every 100 beds

[145] Objectives may include the following: describing the status of HAI (i.e. incidence and/or prevalence, type, etiology, severity, burden of disease), identification of high-risk populations, procedures and exposures, early detection of outbreaks, assessment of the impact of interventions. Priorities may include the following: infections that may become epidemic in the health-care facility, infections in vulnerable populations (e.g. neonates, burn patients, ICU patients, immunocompromised hosts), infections that may cause severe outcomes, infections caused by multi-drug resistant pathogens, infections associated with invasive devices or specific procedures (e.g. intravascular devices, surgery etc.), infections that may affect health-care workers in clinical, laboratory and other settings

[146] Data collection is active when data are actively sought out, e.g. gathered by surveillance personnel by reviewing medical records and laboratory data on a regular basis. Surveillance is passive when the receiving side just waits for data reports to be sent in.

[147] Reports contain both analysis and recommendations, up-to-date information is available and known in all departments involved in surveillance

[148] There is a clinical microbiology lab or a contact with external provider of microbiological support. The HCF has capability to identify pathogens most relevant for IPC, including e.g. aerobic bacteria to species level in blood cultures and sterile sites, viral agents, M. tuberculosis, Candida sp. etc

[149] There is a clinical microbiology lab or a contact with external provider of microbiological support. The HCF is able to identify antimicrobial susceptibility of isolated pathogens, including susceptibility patterns of most frequent HAI agents, and identify alert microorganisms, e.g. Methicillin-resistant Staphylococcus aureus, Vancomycin-resistant Enterococcus, ESBL-producing microorganisms, Carbapenem-resistant microorganisms

6	Environment			
6.1	Safe water for consumption is available[150]	☐	*Interview*	
6.2	Permanent environmental ventilation in patient care areas is available[151]	☐	*Interview, direct observation*	
6.3	Hand hygiene facilities are available[152]	☐	*Interview*	
6.4	Policies for placement of patient under isolation precautions in health care settings are defined	☐	*Policies*	
6.5	Policies on medical waste management are defined	☐	*Policies*	

7	Monitoring & Evaluation			
7.1	Well-defined M&E plan with clear goals, targets and operational plans exists	☐	*Plan*	
7.2	Tools to collect information needed for M&E in a systematic way developed	☐	*Tool(s)*	
7.3	M&E indicators are defined[153]	☐	*Indicators*	
7.4	HCF regularly reports on the state of the IPC goals and strategies and the impact of the IPC activities	☐	*Reports*	
7.5	Evaluation of the performance of the IPC programme is performed in a blame free institutional culture[154]	☐	*Interview*	

8	Links with public health and other services			
8.1	Links between HCF and public health services are defined[155]	☐	*Interview*	
8.2	Links with other services providing health care are established[156]	☐	*Interview*	
8.3	Links with other services not under MoH (but related to health care and response to emergencies) are established	☐	*Interview*	
8.4	IPC elements integrated into the local general emergencies preparedness plans	☐	*Interview*	
8.5	The IPC programme is involved in coordination of response to public-health emergencies	☐	*Interview*	

[150] Cold water of drinking quality

[151] The ventilation system can be: natural ventilation, mechanical ventilation, or mixed-mode (e.g. natural ventilation and exhaust fan)

[152] Access to running water, soap, towels, and alcohol hand rub in areas designated for patient care

[153] The indicators are comparable over time, linked to the targets established by the IPC workplan, and the core indicators include both process and outcome indicators

[154] A culture where no blame is ascribed to individual actors, and most errors are viewed largely as system-based. It does not exclude accountability when traceable to truly negligent actions

[155] Events of mandatory reporting and other communications incl. coordinated surveillance and response to public-health emergencies

[156] e.g. tuberculosis programme, HIV programme, laboratory services, occupational health, quality of care and/or patient safety and/or patient rights, waste management and other environmental services, national initiative on rational use of drugs or equivalent, other relevant programmes