



**World Health
Organization**



***Minimum requirements* for starting the
implementation of the WHO core
components of infection prevention
and control programmes:
a new approach**

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Acknowledgements: contributing experts

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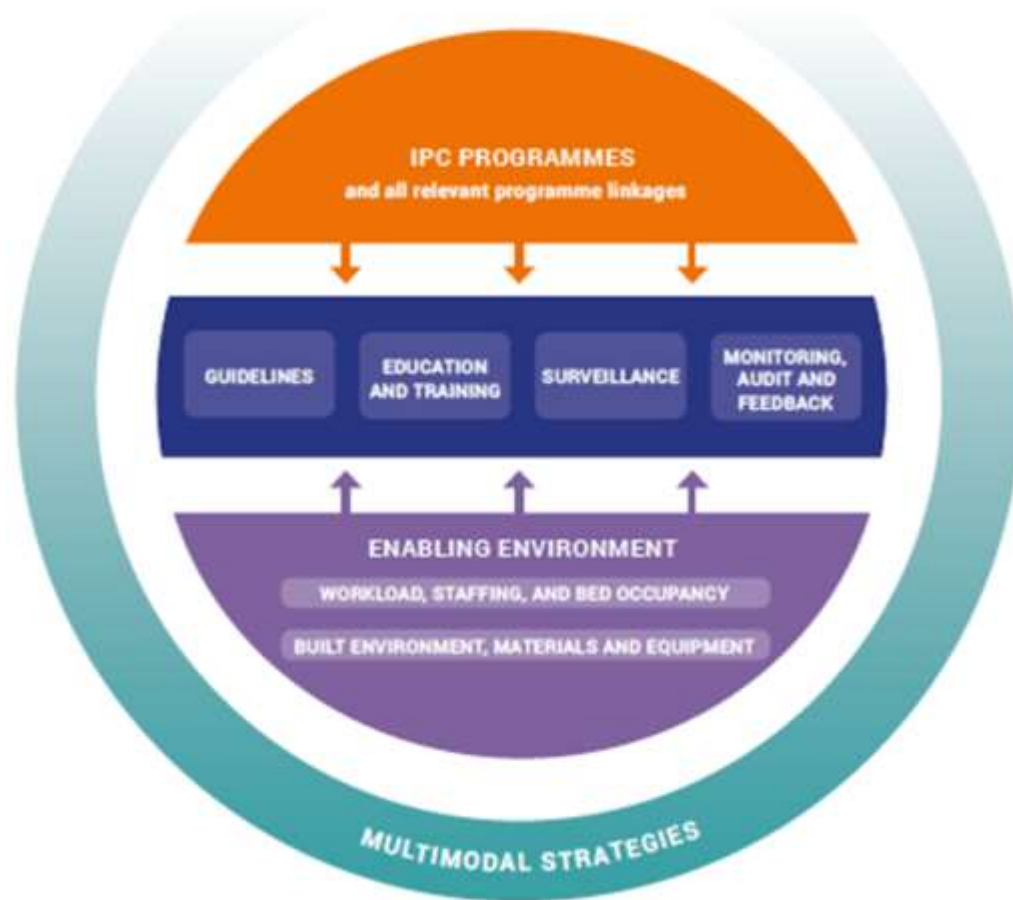
The importance of IPC



- Preventing harm to patients, health workers and visitors due to infection in health care facilities is fundamental to achieve **quality care, patient safety, health security** and the reduction of health care-associated infections (HAIs) and antimicrobial resistance (AMR).
- Similarly, preventing and reducing the transmission of infectious diseases that pose **global threats**, (e.g., pandemic influenza, Ebola virus disease and other viral haemorrhagic fevers), is paramount.
- Clean, safe care is a **patient right** and should also be the duty and pride of all those working in the health care sector.



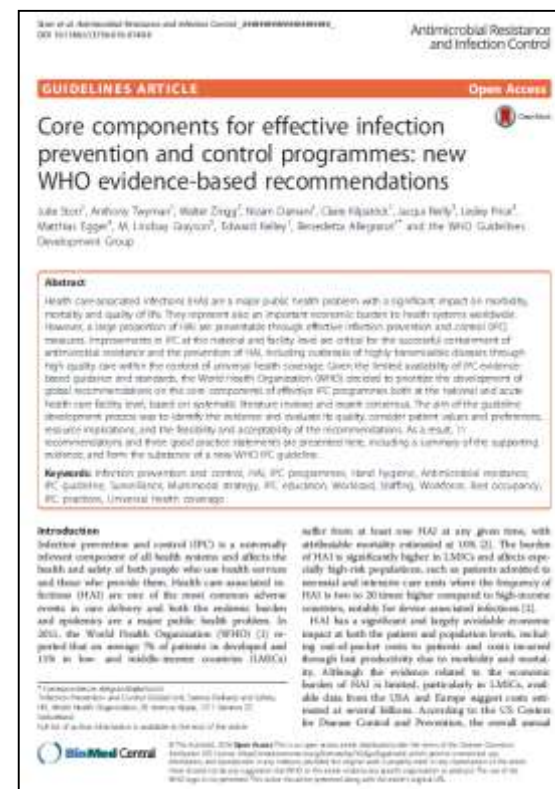
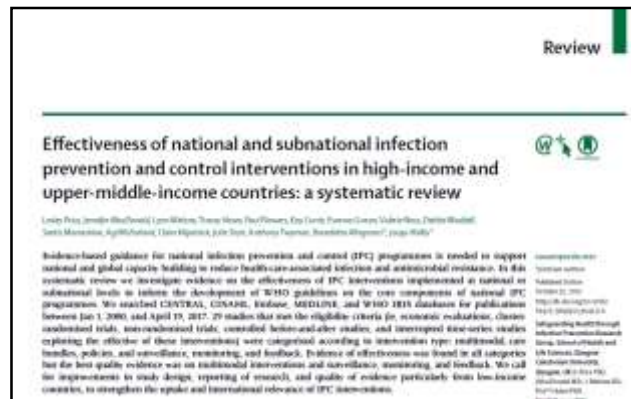
WHO core components for effective IPC programmes



- 8 Core components
 - 8 Facility level
 - 6 National level
- 11 evidence*-based recommendations
- 3 good practice statements
 - * Evidence from LMICs:
 - 7 high-quality studies
 - 22 lower quality

R = recommendation; GPS: good practice statement

WHO Core Components of IPC Programmes - *the evidence basis*



- <http://www.who.int/infection-prevention/publications/ipc-components-guidelines/en/>
- Zingg W et al. *TLID* 2015
- Storr J et al. *ARIC* 2017
- Presley L et al. *TLID* 2017

Indicators of IPC in human health



Global Database for Antimicrobial Resistance Country Self Assessment



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Global Database for Antimicrobial Resistance Country Self Assessment



A - No national IPC programme or operational plan is available.



B - A national IPC programme or operational plan is available. National IPC and water, sanitation and hygiene (WASH) and environmental health standards exist but are not fully implemented.



C - A national IPC programme and operational plan are available and national guidelines for health care IPC are available and disseminated. Selected health facilities are implementing the guidelines, with monitoring and feedback in place.



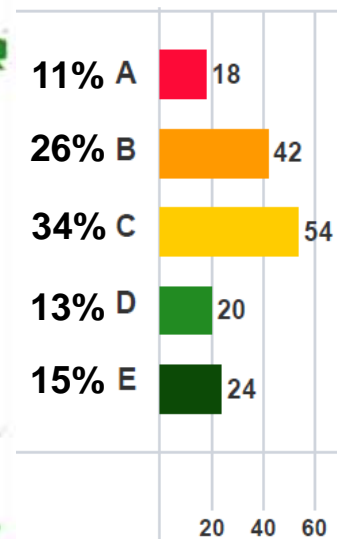
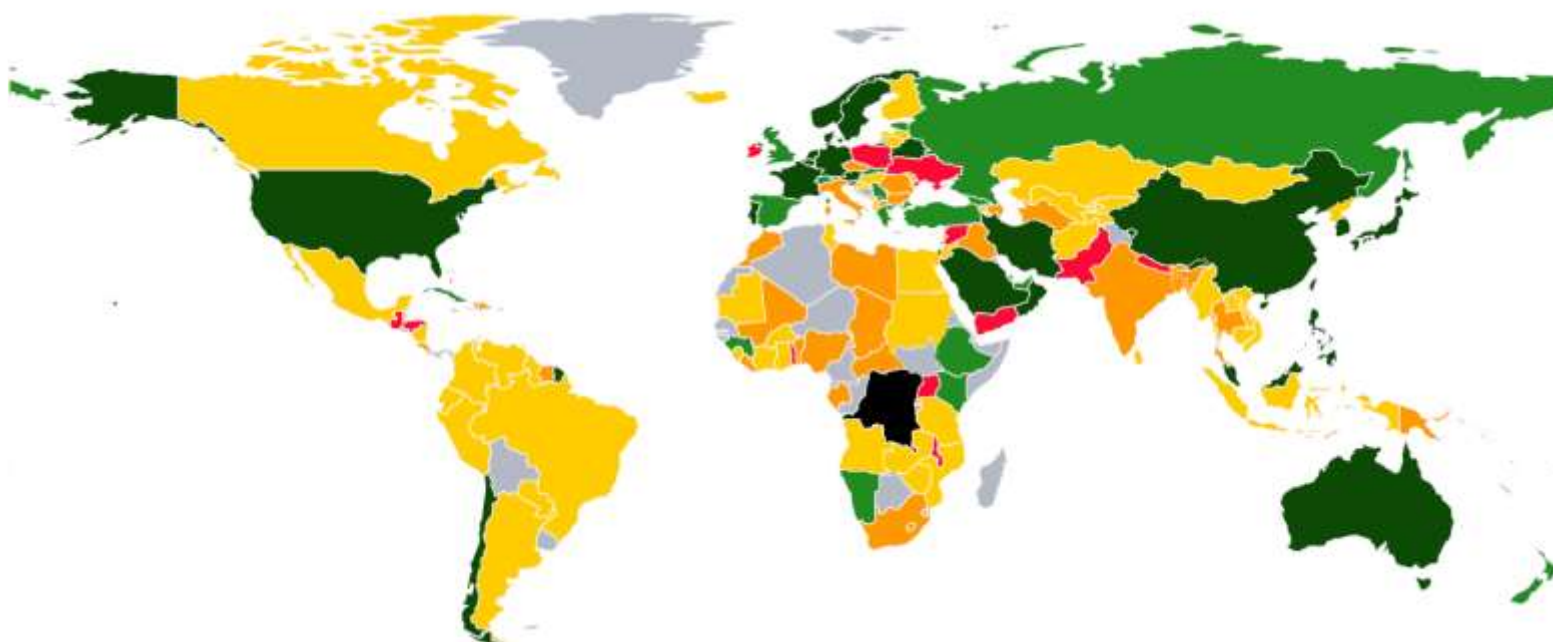
D - National IPC programme available according to the WHO IPC core components guidelines and IPC plans and guidelines implemented nationwide. All health care facilities have a functional built environment (including water and sanitation), and necessary materials and equipment to perform IPC, per national standards.



E - IPC programmes are in place and functioning at national and health facility levels according to the WHO IPC core components guidelines. Compliance and effectiveness are regularly evaluated and published. Plans and guidance are updated in response to monitoring.

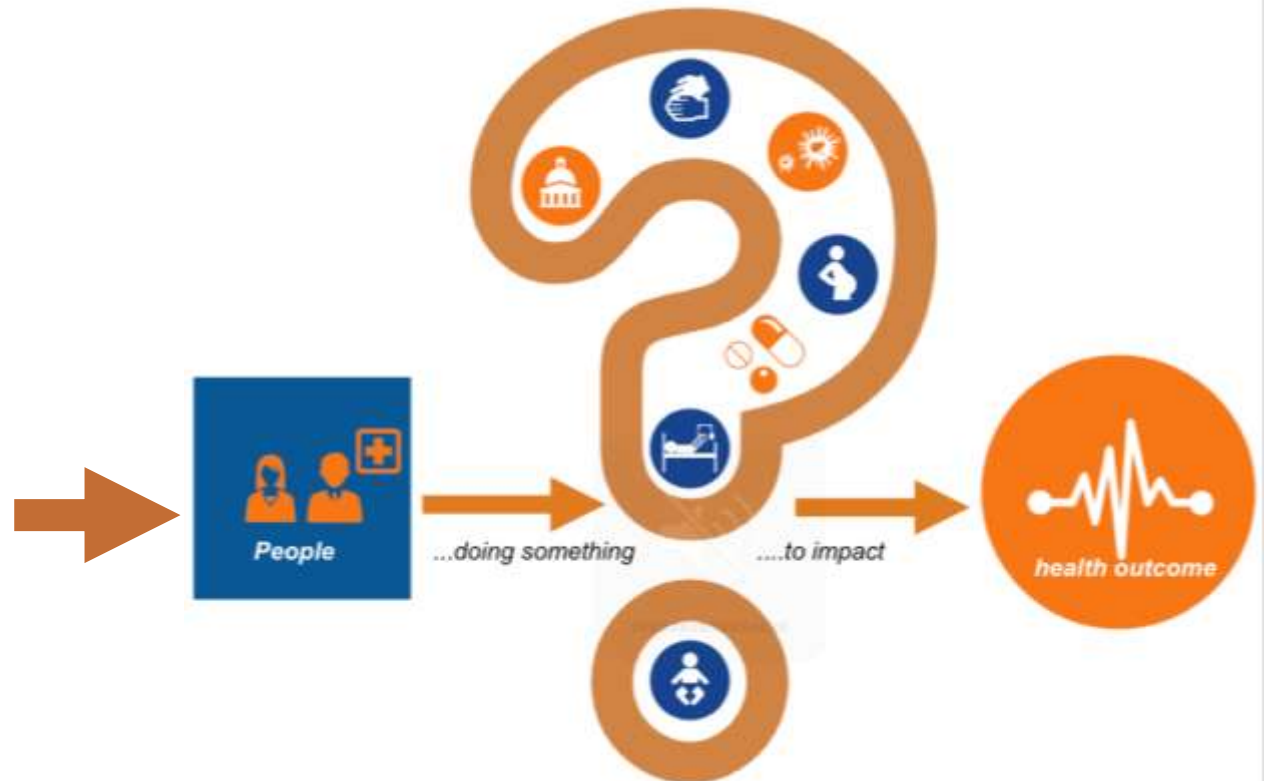
<https://amrcountryprogress.org/>

IPC situation worldwide, 2018-2019

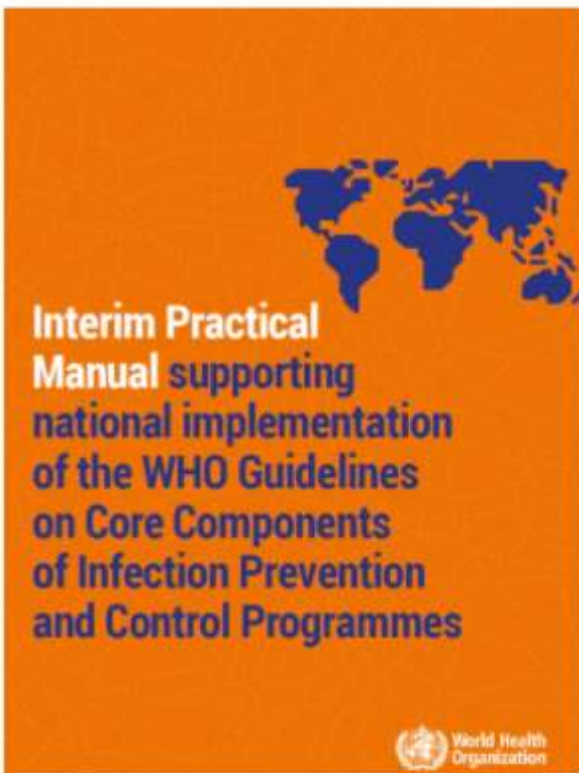


8.1	World	AFR	AMER	EMR	EUR	SEAR	WPR
A	18	4	4	4	4	1	1
B	42	10	8	4	8	6	6
C	54	12	13	5	15	4	5
D	20	4	2	2	11	0	1
E	24	0	2	3	12	0	7

Translating guidelines into action



Implementation resources and assessment tools for national and facility level



Core components for infection prevention and control programmes
National level assessment tool*

* This tool is based on the 2011 WHO Guidelines on core components for infection prevention and control programmes at the national and health facility levels. It is a draft document for consultation and feedback. It is not intended for use as a final assessment tool. Refer to the updated minimum standards for infection prevention and control assessment tool (IPCAT-2).

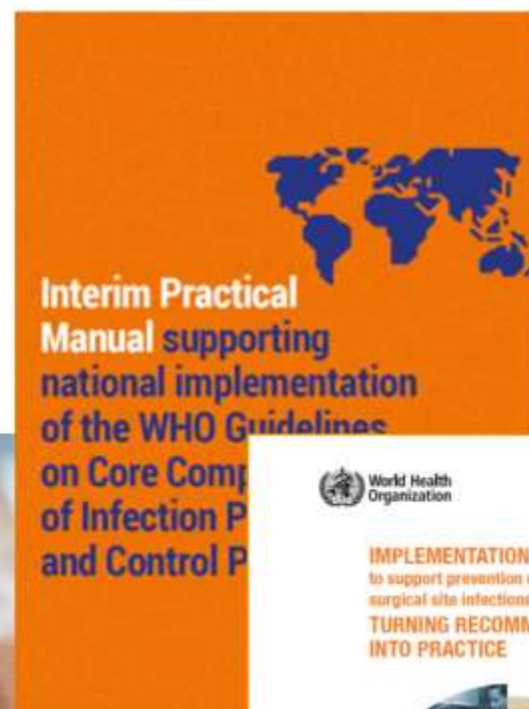
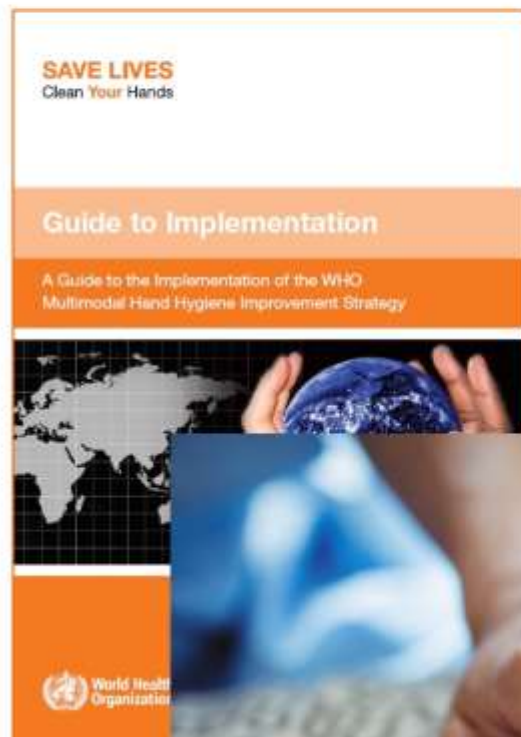
National health authority	
Country	
Details of person responsible for the questionnaire	Details of person completing the questionnaire (Health Facility Assessment)
Name	Name
Designation	Designation
WHO ID	WHO ID
Phone	Phone
Details of assessment (IPCAT-1)	Assessment results (IPCAT-2)
Details of previous assessment (IPCAT-1)	Assessment results (IPCAT-2)

This tool is based on the 2011 WHO Guidelines on core components for infection prevention and control programmes at the national and health facility levels. It is a draft document for consultation and feedback. It is not intended for use as a final assessment tool. Refer to the updated minimum standards for infection prevention and control assessment tool (IPCAT-2).

The tool is available in English and French. For more information on the tool, please visit the WHO website: <http://www.who.int/infection-prevention/tools/core-components/en/>



Implementation manuals



Ultimate goal



- For all countries: to achieve implementation/improvement of the **full** requirements of **all** core components to effectively reduce HAIs and AMR.
- The 8 core components of IPC are the ‘wheels of the cart’ that will ensure patients a safe journey while in a health care facility.
- Especially for countries where IPC is limited or does not exist, it is critical to start this journey by ensuring that at least ***minimum requirements for IPC*** are in place.

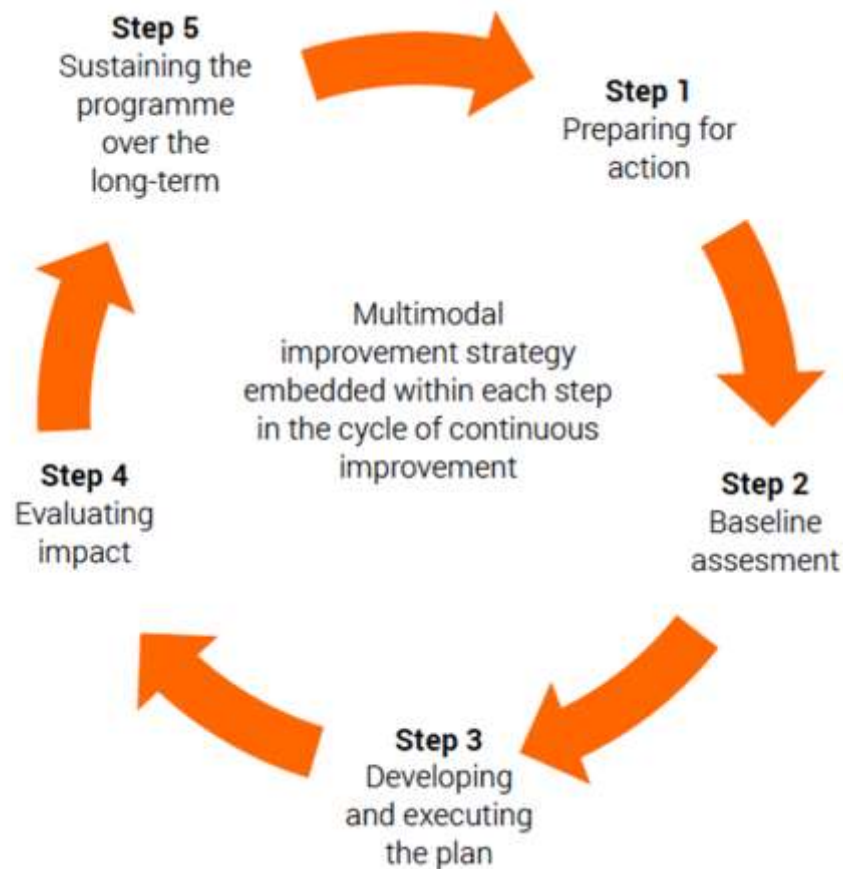
So, what are the *minimum requirements*?

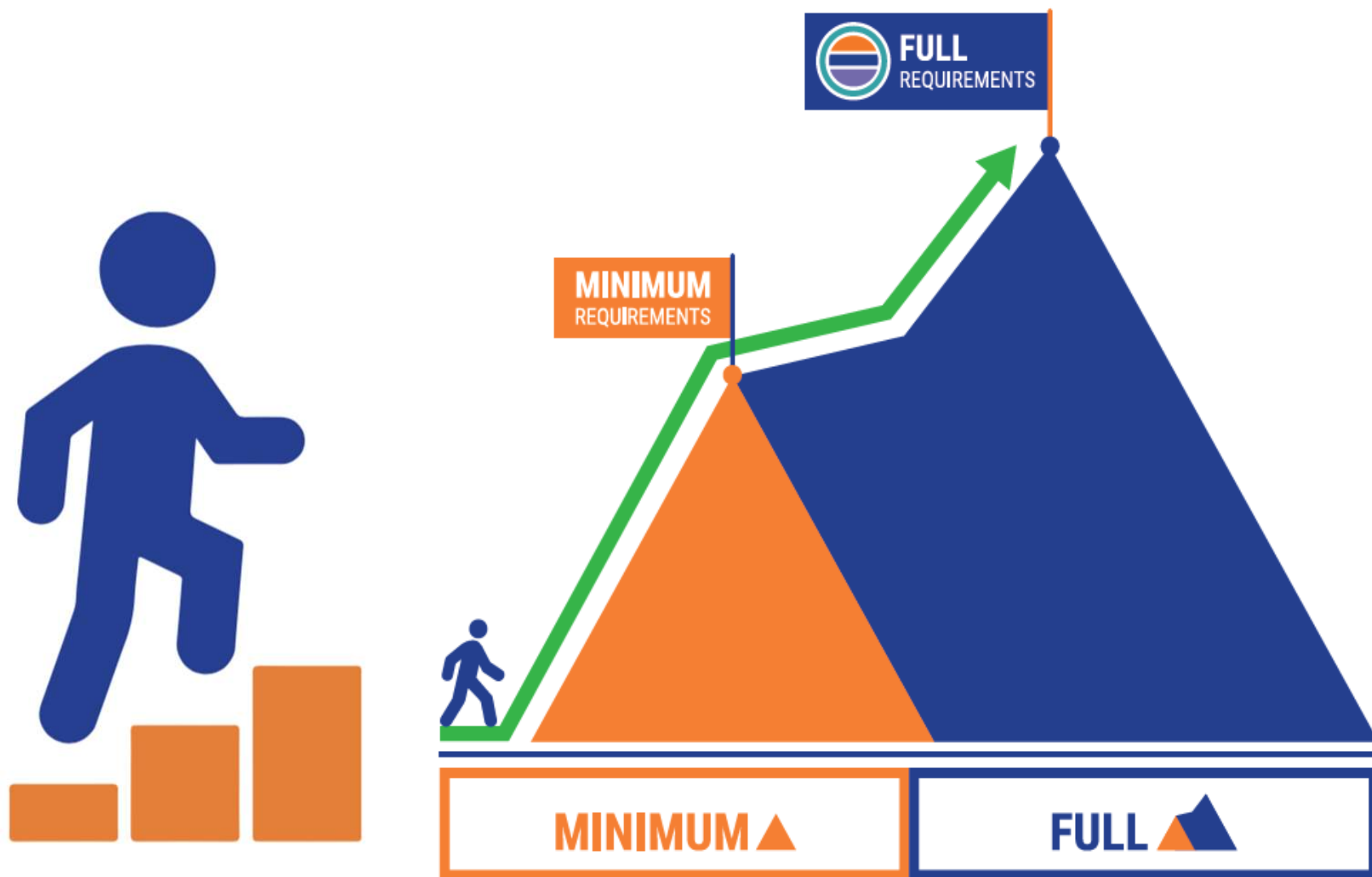
Thus, the minimum requirements represent the starting point for undertaking the journey to build strong and effective IPC programmes at the national and facility level (Fig. 2) and **SHOULD** be in place for all countries and healthcare facilities to support further progress towards full implementation of all core components.

The *minimum requirements* are defined as:

IPC standards that should be in place at the national and facility level to provide minimum protection and safety to patients, HCWs and visitors, based on the WHO core components for IPC programmes.

A stepwise approach





Our approach to minimum requirements development

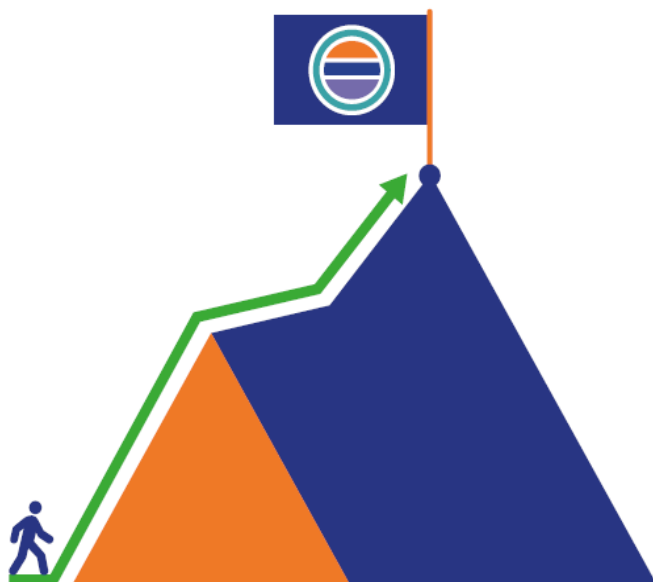


- Aim: Identify minimum IPC requirements according to the national and facility levels (tertiary, secondary and primary).
- Foundational material = CC guidelines
- **3-pronged approach:**
 1. **Global inventory** of available standards on IPC minimum standards
 - a. 21 country specific, 1 pan-regional (PAHO) & 1 regional initiative
 2. **Systematic review** of the scientific and gray literature
 - a. 7871 titles screened, 164 full manuscripts, 47 included
 3. International expert consensus on the identification of the

New, launched on 19 November 2019!



MINIMUM REQUIREMENTS for infection prevention and control programmes



The starting point for implementing the World Health Organization core components of infection prevention and control programmes at the national and health care facility level



Anyone interested in understanding and implementing the *minimum requirements* should read the WHO Guidelines on core components of IPC programmes (1) and the manuals supporting their implementation at the national and facility levels (2, 3).

The main target audience of this document are IPC and AMR focal points/leads, policy makers, senior managers and other professionals with the mandate of or interested in developing or strengthening IPC programmes at the national, sub-national and facility level.

<https://www.who.int/infection-prevention/publications/core-components/en/>

BOX 1
STRUCTURE OF THE MINIMUM REQUIREMENTS (PART 3)

WHAT	WHO	HOW	WHY	FULL REQUIREMENTS
<i>Minimum requirements</i>	<i>Is responsible for action</i>	<i>To measure progress</i>	<i>Rationale and additional details on the minimum requirements</i>	<i>Full core component requirements</i>
Text of the <i>minimum requirements</i> for each IPC core component identified by expert consensus according to national and health care facility level and based on existing IPC and WASH recommendations and standards.	Identification of those who have the mandate to ensure that the <i>minimum requirements</i> are put in place and sustained or can play a role.	Indicators to be used to track implementation and progress for each <i>minimum requirement</i> are available from different WHO monitoring tools.	Explanations about the reasons for selecting the agreed <i>minimum requirements</i> (rationale) and additional details explaining their content and importance.	Comprehensive list of the actions and requirements* to achieve full implementation of each IPC core component. Note that these exist only for acute care hospitals because the WHO recommendations on IPC core components apply mainly to these facilities and not specifically to primary care facilities.

* Note that in some cases, there are no major differences compared to the *minimum requirements*.

Classification of health care facilities used in the document



Primary health care facilities: Facilities that provide outpatient services, family planning, antenatal care, maternal, newborn and child health services (including delivery), for example, health centres, health posts and small district hospitals.

Source: WHO. Water and sanitation for health facility improvement tool (WASH FIT). 2017 (<https://apps.who.int/iris/bitstream/handle/10665/254910/9789241511698-eng.pdf;jsessionid=0A60107AA8F5A27C5FD16B0823D3F4FA?sequence=1>)

Secondary health care facilities included:

- **Primary-level hospital:** Few specialties—mainly internal medicine, obstetrics and gynaecology, paediatrics and general surgery, or just general practice; limited laboratory services available for general, but not specialized, pathological analysis.
- **Secondary-level hospital:** Highly differentiated by its function with 5 to 10 clinical specialties; size ranges from 200 to 800 beds; often referred to as a *provincial or district hospital*.

Tertiary health care facilities: Highly specialized staff and technical equipment, for example, cardiology, intensive care unit and specialized imaging units; clinical services highly differentiated by function; may have teaching activities; size ranges from 300 to 1500 beds; often referred to as a *teaching or university or regional hospital*.

Source: WHO. Disease control priorities in developing countries. 2008 (<https://www.who.int/management/facility/ReferralDefinitions.pdf>).

Core component 1: IPC programmes



Facility level: An IPC programme with a dedicated, trained team should be in place in each acute health care facility (strong)

National level: Stand-alone, active national IPC programme with clearly defined objectives, functions and activities as well as linked with relevant national programmes (GPS)

- Clearly defined objectives, functions and annual action plans
- Dedicated, trained IPC professionals (1 IP/250 beds) & multidisciplinary team & linkages to other programmes
- Budget & support from the senior management leadership
- Good quality microbiological laboratory

Minimum requirements: CC1

NATIONAL LEVEL



MINIMUM REQUIREMENTS

A functional IPC programme should be in place, including at least:

- one full-time focal point trained in IPC.
- a dedicated budget for implementing IPC strategies/plans.

FACILITY LEVEL



■ PRIMARY CARE:

IPC trained health care officer

- Trained IPC link person, with dedicated (part-) time in each primary health care facility.
- One IPC-trained health care officer at the next administrative level (for example, district) to supervise the IPC link professionals in primary health care facilities.

■ SECONDARY CARE:

functional IPC programme

- Trained IPC focal point (one full-time trained IPC Officer [nurse or doctor]) as per the recommended ratio of 1:250 beds with dedicated time to carry out IPC activities in all facilities (for example, if the facility has 120 beds, one 50% full-time equivalent dedicated officer).
- Dedicated budget for IPC implementation.

■ TERTIARY CARE:

functional IPC programme

- At least one full-time trained IPC focal point (nurse or doctor) with dedicated time per 250 beds.
- IPC programme aligned with the national programme and with a dedicated budget.
- Multidisciplinary committee/team.
- Access to microbiology laboratory.

Core component 2: IPC guidelines



Evidence-based guidelines should be developed and implemented for the purpose of reducing HAI and AMR. Education & training of relevant HCW on guideline recommendations and monitoring of adherence should be undertaken.

- Strong recommendation (combined national & facility)
- Expertise required
- Local prioritization
- Providing resources for implementation
- HCWs education on recommended practices
- Monitoring implementation

IPC Guidelines

- The **basic set of IPC guidelines** should include the following:
 - **Standard precautions** (see core component 1)
 - **Transmission-based precautions**, including patient identification, placement and the use of personal protective equipment.
 - **Aseptic technique** for invasive procedures (including surgery) and device management for clinical procedures, according to the scope and type of care delivered at the facility level.
 - **Specific guidelines to prevent the most prevalent HAIs** (for example, catheter-associated urinary tract infection, SSI, central line-associated bloodstream infection, ventilator-associated pneumonia) depending on the context and complexity of care.

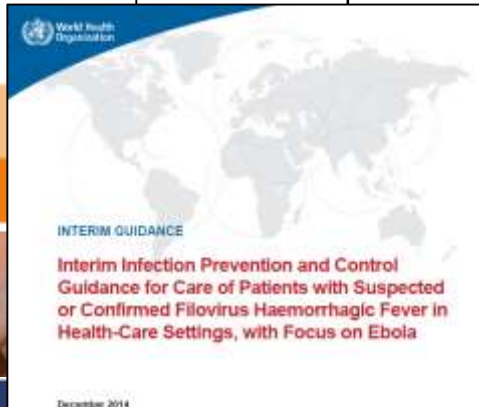
2. Guidelines & implementation

WHO IPC global guidelines



WHO Guidelines
on Hand Hygiene in Health Care

First Global Patient Safety Challenge
Clean Care is Safer Care



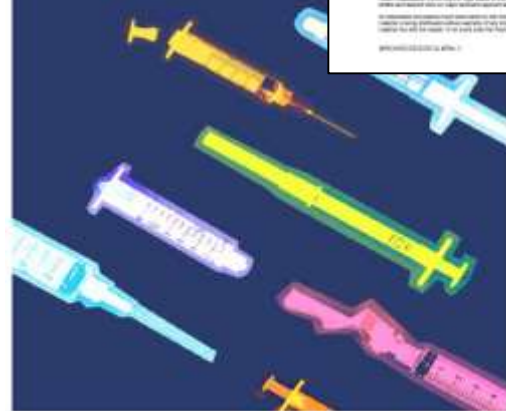
GLOBAL GUIDELINES
FOR THE PREVENTION OF
SURGICAL SITE INFECTION



Decontamination
and Reprocessing
of Medical Devices
for Health Care
Facilities



WHO guideline on the use
of safety-engineered syringes
for intramuscular, intradermal
and subcutaneous injections
in health care settings



WHO guidelines on
tuberculosis infection
prevention and control
2019 update



Global guidelines for the
prevention and control
of carbapenem-resistant
Enterobacteriaceae,
Acinetobacter baumannii and
Pseudomonas aeruginosa
in health care facilities



Minimum requirements: CC2

NATIONAL LEVEL



MINIMUM REQUIREMENTS

National IPC guidelines

- Evidence-based, ministry-approved guidelines adapted to the local context and reviewed at least every five years.

FACILITY LEVEL



■ PRIMARY CARE:

facility-adapted standard operating procedures (SOPs) and their monitoring

- Evidence-based facility-adapted SOPs based on the national IPC guidelines.
- At a minimum, the facility SOPs should include:
 - hand hygiene
 - decontamination of medical devices and patient care equipment
 - environmental cleaning
 - health care waste management
 - injection safety
 - HCW protection (for example, post-exposure prophylaxis, vaccinations)
 - aseptic techniques
 - triage of infectious patients
 - basic principles of standard and transmission-based precautions.
- Routine monitoring of the implementation of at least some of the IPC guidelines/ SOPs.

■ SECONDARY AND TERTIARY CARE:

all requirements as for the primary health care facility level, with additional SOPs on:

- standard and transmission-based precautions (for example, detailed, specific SOPs for the prevention of airborne pathogen transmission);
- septic technique for invasive procedures, including surgery;
- specific SOPs to prevent the most prevalent HAIs based on the local context/ epidemiology;
- occupational health (specific detailed SOP).

Core component 3: IPC education & training



Facility level: IPC education should be in place for all health care workers by utilizing team- and task-based strategies that are participatory and include bedside and simulation training to reduce the risk of HAI and AMR. (strong)

National level: The national IPC programme should support education and training of the health workforce as one of its core functions (GPS)

- **Pre-graduate, post-graduate, in-service** training
- **Evaluations** of training impact
- **Collaboration** with local academic institutions and professional organizations

Minimum requirements: CC3

NATIONAL LEVEL



MINIMUM REQUIREMENTS

National training policy and curriculum

- National policy that all HCWs are trained in IPC (in-service training).
- An approved IPC national curriculum aligned with national guidelines and endorsed by the appropriate body.
- National system and schedule of monitoring and evaluation to check on the effectiveness of IPC training and education (at least annually).

FACILITY LEVEL



■ PRIMARY CARE:

IPC training for all front-line clinical staff and cleaners upon hiring

- All front-line clinical staff and cleaners must receive education and training on the facility IPC guidelines/SOPs upon employment.
- All IPC link persons in primary care facilities and IPC officers at the district level (or other administrative level) need to receive specific IPC training.

■ SECONDARY CARE:

IPC training for all front-line clinical staff and cleaners upon hire

- All front-line clinical staff and cleaners must receive education and training on the facility IPC guidelines/SOPs upon employment.
- All IPC staff need to receive specific IPC training.

■ TERTIARY CARE:

IPC training for all front-line clinical staff and cleaners upon hire and annually

- All front-line clinical staff and cleaners must receive education and training on the facility IPC guidelines/SOPs upon employment and annually.
- All IPC staff need to receive specific IPC training.

Core component 4: HAI surveillance



Facility level: Facility-based HAI surveillance should be performed to guide IPC interventions and detect outbreaks with timely feedback of results (strong)

National level: National HAI surveillance programmes and networks that include mechanisms for timely data feedback and with the potential to be used for benchmarking (strong)

- **Budget, leadership support and linkages** to other surveillances and health information systems needed
- **Standardized definitions**, appropriate methods, **good quality laboratory support**, quality control needed
- **Training and expertise** needed
- **Timely reporting** and feedback

Minimum requirements: CC4

NATIONAL LEVEL



MINIMUM REQUIREMENTS

IPC surveillance and a monitoring technical group

- Establishment by the national IPC focal point of a technical group for HAI surveillance and IPC monitoring that:
 - is multidisciplinary;
 - develops a national strategic plan for HAI surveillance (with a focus on priority infections based on the local context) and IPC monitoring.

FACILITY LEVEL



■ PRIMARY CARE

- HAI surveillance is not required as a minimum requirement at the primary facility level, but should follow national or sub-national plans, if available (for example, detection and reporting of outbreaks affecting the community is usually included in national plans).

■ SECONDARY CARE

- HAI surveillance should follow national or sub-national plans.

■ TERTIARY CARE: functional HAI surveillance

- Active HAI surveillance should be conducted and include information on AMR:
 - enabling structures and supporting resources need to be in place (for example, dependable laboratories, medical records, trained staff), directed by an appropriate method of surveillance;
 - the method of surveillance should be directed by the priorities/plans of the facility and/or country.
- Timely and regular feedback needs to be provided to key stakeholders in order to lead to appropriate action, in particular to the hospital administration.

Core component 5: Multimodal strategies World Health Organization

Facility level: At the facility level IPC activities should be implemented using multimodal strategies to improve practices and reduce HAI & AMR. (strong)

National level: National IPC programmes should coordinate and facilitate the implementation of IPC activities through multimodal strategies on a nationwide or sub-national level. (strong)

A **multimodal strategy** comprises **several elements or components** (3 or more; usually 5) **implemented in an integrated way** with the aim of improving an outcome and changing behaviour. It includes tools, such as bundles and checklists, developed by multidisciplinary teams that **take into account local conditions**.

What is a multimodal strategy?



- *It is “THE” modern way to implement IPC interventions*
 - ✓ to achieve the change of system, climate and behaviour supporting IPC progress and, ultimately, the measurable impact that benefits patients and health care workers (outcome)
- **Multimodal thinking** means that IPC practitioners do not focus only on single strategies to change practices (for example, training and education), but consider a range of strategies that target different influencers of human behaviour, e.g. procurement, monitoring and feedback, infrastructures or organizational culture.
- All (five) elements should be considered and necessary action taken, based on the local context and situation informed by periodic assessments. “Unimodal” strategies are less likely to result in improvements and are short-lived and not sustainable.

IPC improvement strategy: multimodal thinking

Figure 5.1 The five components of the WHO multimodal hand hygiene improvement strategy



In other words, the WHO multimodal improvement strategy addresses these five areas:

2. Teach it (training & education)



Who needs to be trained? What type of training should be used to ensure that the intervention will be implemented in line with evidence-based policies and how frequently?

Does the facility have trainers, training aids, and the necessary equipment?

Practical example: when implementing injection safety interventions, timely training of those responsible for administering safe injections, including carers and community workers, are important considerations, as well as adequate disposal methods.

4. Sell it (reminders & communications)



How are you promoting an intervention to ensure that there are cues to action at the point of care and messages are reinforced to health workers and patients?

Do you have capacity/funding to develop promotional messages and materials?

Practical example: when implementing interventions to reduce catheter-associated bloodstream infection, the use of visual cues to action, promotional/reinforcing messages, and planning for periodic campaigns are important considerations.

1. Build it (system change)



What infrastructures, equipment, supplies and other resources (including human) are required to implement the intervention?

Does the physical environment influence health worker behaviour? How can ergonomics and human factors approaches facilitate adoption of the intervention?

Are certain types of health workers needed to implement the intervention?

Practical example: when implementing hand hygiene interventions, ease of access to handrubs at the point of care and the availability of WASH infrastructures (including water and soap) are important considerations. Are these available, affordable and easily accessible in the workplace? If not, action is needed.

3. Check it (monitoring & feedback)



How can you identify the gaps in IPC practices or other indicators in your setting to allow you to prioritize your intervention?

How can you be sure that the intervention is being implemented correctly and safely, including at the bedside? For example, are there methods in place to observe or track practices?

How and when will feedback be given to the target audience and managers? How can patients also be informed?

Practical example: when implementing surgical site infection interventions, the use of key tools are important considerations, such as surveillance data collection forms and the WHO checklist (adapted to local conditions).

5. Live it (culture change)



Is there demonstrable support for the intervention at every level of the health system? For example, do senior managers provide funding for equipment and other resources? Are they willing to be champions and role models for IPC improvement?

Are teams involved in co-developing or adapting the intervention? Are they empowered and do they feel ownership and the need for accountability?

Practical example: when implementing hand hygiene interventions, the way that a health facility approaches this as part of safety and quality improvement and the value placed on hand hygiene improvement as part of the clinical workflow are important considerations.

Minimum requirements: CC5

NATIONAL LEVEL



MINIMUM REQUIREMENTS

Multimodal improvement strategies for IPC interventions

- Use of multimodal strategies to implement IPC interventions according to national guidelines/SOPs under the coordination of the national IPC focal point (or team, if existing).

FACILITY LEVEL



■ PRIMARY CARE: multimodal strategies for priority IPC interventions

- Use of multimodal strategies – at the very least to implement interventions to improve hand hygiene, safe injection practices, decontamination of medical instruments, devices and environmental cleaning.

■ SECONDARY CARE: multimodal strategies for priority IPC interventions

- Use of multimodal strategies – at the very least to implement interventions to improve each one of the standard and transmission-based precautions, and triage.

■ TERTIARY CARE: multimodal strategies for all IPC interventions

- Use of multimodal strategies to implement interventions to improve each one of the standard and transmission-based precautions, triage, and those targeted at the reduction of specific infections (for example, surgical site infections or catheter-associated infections) in high-risk areas/patient groups, in line with local priorities.

Core component 6: Monitoring/audit of IPC indicators & feedback



Facility level: Regular monitoring/audit and timely feedback of health care practices should be undertaken according to IPC standards. Feedback should be provided to all audited persons and staff. (strong)

National level: A national IPC monitoring and evaluation programme should be established to assess the extent to which standards are being met and activities performed. Hand hygiene monitoring with feedback should be a key performance indicator. (strong)

- To achieve behaviour change or other improvements
- To document progress and impact
- Essential: timely feedback and data
- interpretation for action
- Integration/alignment with other monitoring systems needed
- Hand hygiene: national KPI

Minimum requirements: CC6

NATIONAL LEVEL



MINIMUM REQUIREMENTS

IPC surveillance and monitoring technical group

- Establishment by the national IPC focal point of a technical group for HAI surveillance and IPC monitoring that:
 - is multidisciplinary;
 - develops a national strategic plan for HAI surveillance and IPC monitoring and, for IPC indicators monitoring:
 - develops recommendations for minimum indicators (for example, hand hygiene);
 - develops an integrated system for the collection and analysis of data (for example, protocols, tools)
 - provides training at the facility level to collect and analyse these data.

FACILITY LEVEL



■ PRIMARY CARE

- Monitoring of IPC structural and process indicators should be put in place at primary care level, based on IPC priorities identified in the other components. This requires decisions at the national level and implementation support at the sub-national level.

■ SECONDARY AND TERTIARY CARE

- A person responsible for the conduct of the periodic or continuous monitoring of selected indicators for process and structure, informed by the priorities of the facility or the country.
- Hand hygiene is an essential process indicator to be monitored.
- Timely and regular feedback needs to be provided to key stakeholders in order to lead to appropriate action, particularly to the hospital administration.

Core Component 7: Workload, staffing & bed occupancy (facility level)



Facility level only: In order to reduce the risk of HA and the spread of AMR the following should be addressed: (1) bed occupancy should not exceed the standard capacity; (2) health care worker staffing levels should be adequately assigned according to patient workload.
(strong)

- **Overcrowding** recognized as being a **public health issue** that can lead to disease transmission
- Standards for bed occupancy should be **one patient per bed** with **adequate spacing between beds** (at least 1 metre)
- **HCWs staffing** levels should be adequately assigned according to patient workload

WHO Workload Indicators of Staffing Need (WISN) method

http://www.who.int/hrh/resources/wisn_user_manual/en/

Minimum requirements: CC7 (facility level)



MINIMUM REQUIREMENTS

■ PRIMARY CARE

- **To reduce overcrowding:** a system for patient flow, a triage system (including referral system) and a system for the management of consultations should be established according to existing guidelines, if available.
- **To optimize staffing levels:** assessment of appropriate staffing levels, depending on the categories identified when using WHO/national tools (national norms on patient/staff ratio), and development of an appropriate plan.

■ SECONDARY AND TERTIARY CARE

- **To standardize bed occupancy:**
 - establish a system to manage the use of space in the facility and to establish the standard bed capacity for the facility;
 - hospital administration enforcement of the system developed;
 - no more than one patient per bed;
 - spacing of at least one metre between the edges of beds;
 - overall occupancy should not exceed the designed total bed capacity of the facility.
- **To reduce overcrowding and optimizing staffing levels:** same *minimum requirements* as for primary health care.

Core Component 8: Built environment, materials & equipment for IPC (facility level)



At the facility level patient care activities should be undertaken in a clean and/or hygienic environment that facilitates practices related to the prevention and control of HAI, as well as AMR, including all elements around the WASH infrastructure and services and the availability of appropriate IPC materials and equipment. *(GPS)*

At the facility level, materials and equipment to perform appropriate hand hygiene should be readily available at the point of care. *(strong)*

- All requirements to achieve **appropriate clean and hygienic environment, WASH services, and materials and equipment for IPC**, in particular for HH

WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. Joint Monitoring Programme definitions of improved water/sanitation. 2019;

WHO. Guidelines on [sanitation and health](#). 2018;

WHO. [Essential environmental health standards in health care](#). 2008;

WHO. Safe management of wastes from health care. [2014](#);

Minimum requirements: CC8 (facility level*)



MINIMUM REQUIREMENTS

■ PRIMARY CARE:

- Water should always be available from a source on the premises (such as a deep borehole or a treated, safely managed piped water supply) to perform basic IPC measures, including hand hygiene, environmental cleaning, laundry, decontamination of medical devices and health care waste management according to national guidelines.
- A minimum of two functional, improved sanitation facilities should be available on-site, one for patients and the other for staff; both should be equipped with menstrual hygiene facilities.
- Functional hand hygiene facilities should always be available at points of care/toilets and include soap, water and single-use towels (or if unavailable, clean reusable towels) or alcohol-based handrub (ABHR) at points of care and soap, water and single-use towels (or if unavailable, clean reusable towels) within 5 metres of toilets.
- Sufficient and appropriately labelled bins to allow for health care waste segregation should be available and used (less than 5 metres from point of generation); waste should be treated and disposed of safely via autoclaving, high temperature incineration, and/or buried in a lined, protected pit.
- The facility layout should allow adequate natural ventilation, decontamination of reusable medical devices, triage and space for temporary cohorting/isolation/physical separation if necessary.
- Sufficient and appropriate IPC supplies and equipment (for example, mops, detergent, disinfectant, personal protective equipment (PPE) and sterilization) and power/energy (for example, fuel) should be available for performing all basic IPC measures according to *minimum requirements/SOPs*, including all standard precautions, as applicable; lighting should be available during working hours for providing care.

- WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. Joint Monitoring Programme definitions of improved water/sanitation. 2019;
- WHO. Guidelines on [sanitation and health](#). 2018;
- WHO. [Essential environmental health standards in health care](#). 2008;
- WHO. Safe management of wastes from health care. 2014;

* The **national health system, IPC programme and any other relevant body** should coordinate and support the implementation of this core component at the facility level.

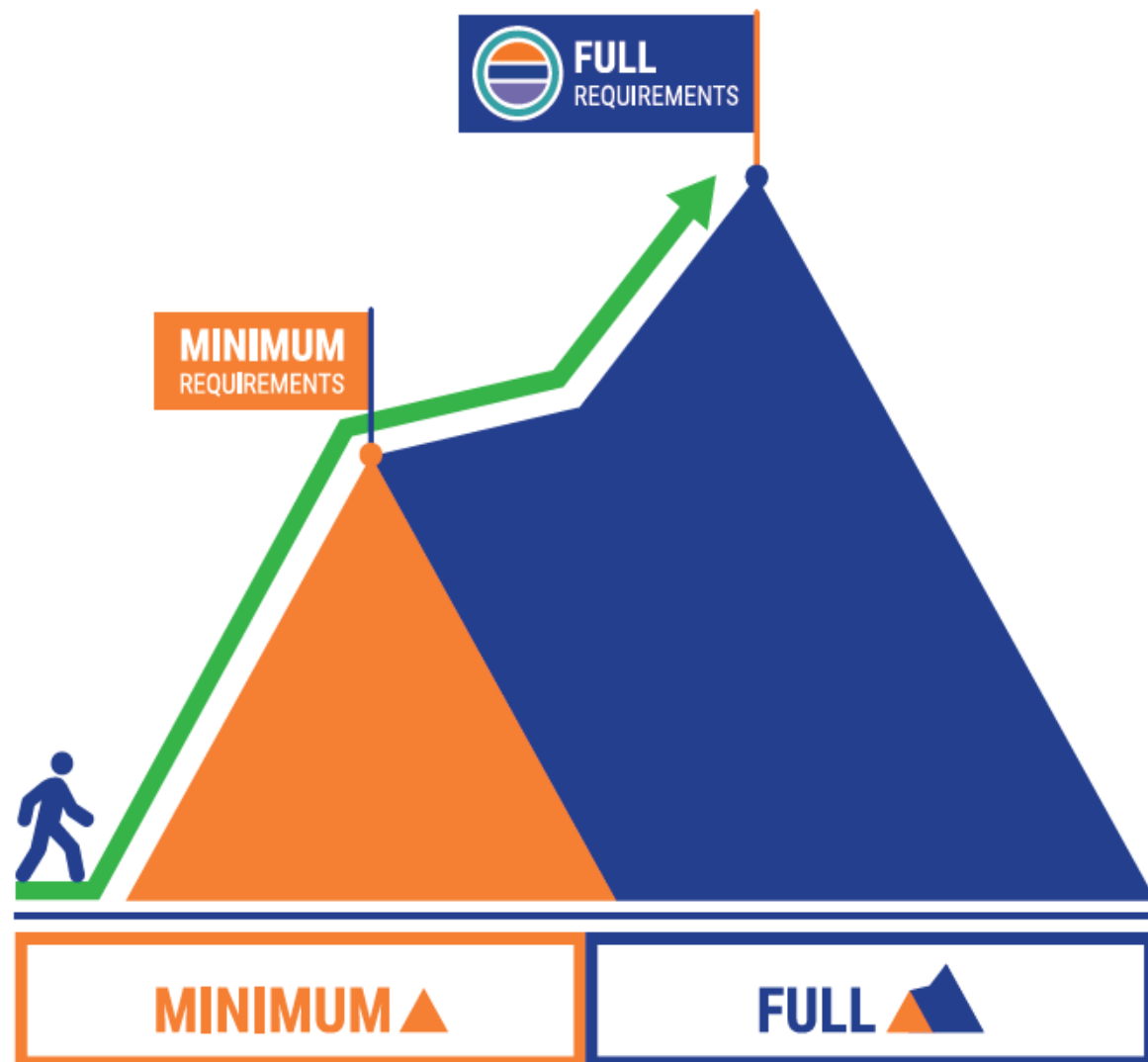
Minimum requirements: CC8 (facility level*)



■ SECONDARY AND TERTIARY CARE:

- A safe and sufficient quantity of water should be available for all required IPC measures and specific medical activities, including for drinking, and piped inside the facility at all times - at a minimum to high-risk wards (for example, maternity ward, operating room/s, intensive care unit).
- A minimum of two functional, improved sanitation facilities that safely contain waste available for outpatient wards should be available and one per 20 beds for inpatient wards; all should be equipped with menstrual hygiene facilities.
- Functional hand hygiene facilities should always be available at points of care, toilets and service areas (for example, the decontamination unit), which include ABHR and soap, water and single-use towels (or if unavailable, clean reusable towels) at points of care and service areas, and soap, water and single-use towels (or if unavailable, clean reusable towels) within 5 metres of toilets.
- Sufficient and appropriately labelled bins to allow for health care waste segregation should be available and used (less than 5 metres from point of generation) and waste should be treated and disposed of safely via autoclaving, incineration (850° to 1100°C), and/or buried in a lined, protected pit.
- The facility should be designed to allow adequate ventilation (natural or mechanical, as needed) to prevent transmission of pathogens.
- Sufficient and appropriate supplies and equipment and reliable power/energy should be available for performing all IPC practices, including standard and transmission-based precautions, according to *minimum requirements/SOPs*; reliable electricity should be available to provide lighting to clinical areas for providing continuous and safe care, at a minimum to high-risk wards (for example, maternity ward, operating room/s, intensive care unit).
- The facility should have a dedicated space/area for performing the decontamination and reprocessing of medical devices (that is, a decontamination unit) according to *minimum requirements/SOPs*.
- The facility should have adequate single isolation rooms or at least one room for cohorting patients with similar pathogens or syndromes, if the number of isolation rooms is insufficient

* The **national health system, IPC programme and any other relevant body** should coordinate and support the implementation of this core component at the facility level.



Infection prevention and antibiotic use in surgical services



GLOBAL GUIDELINES
FOR THE PREVENTION OF
SURGICAL SITE INFECTION



EML document on surgical antibiotic prophylaxis – 2019



HANDLE ANTIBIOTICS WITH CARE IN SURGERY

Misuse of antibiotics puts all surgical patients at risk



Up to 33% of surgical patients get a postoperative infection, of which 51% can be antibiotic resistant



Up to 15% of women around the world get an infection after a caesarean section



43% of patients have surgical antibiotic prophylaxis (SAP) inappropriately continued after the operation

REDUCE

the risk of surgical site infection (SSI) by improving SAP and infection prevention and control practices

IMPROVE

quality of care and patient safety and reduce antimicrobial resistance (AMR) through SSI reduction

WHAT SHOULD HEALTH WORKERS DO TO PREVENT AMR IN SURGERY?



Give intravenous SAP
- when recommended, depending on the type of operation
- within 120 minutes preceding surgical incision



For effective SAP, adequate antibiotic tissue concentrations should be present at the time of surgical incision and throughout the procedure. Thus, antibiotics with a short half-life should be administered closer to incision time.



Improvement of antibiotic use in surgical services should be part of the antimicrobial stewardship programme.

WHO SHOULD BE INVOLVED IN ENSURING APPROPRIATE ANTIBIOTIC USE IN SURGERY



WHAT SHOULD YOU NOT DO?



Avoid prolonging SAP postoperatively



Avoid antibiotic wound irrigation



Avoid continuing antibiotic prophylaxis because there is a drain (evaluate each case)



Avoid giving antibiotic treatment unless there is a proven or suspected SSI or other infection



These recommendations are based on evidence from studies in adult patients, but they are considered valid also for paediatric patients.



www.who.int/infection-prevention/publications/sai-guidelines/en

<http://apps.who.int/iris/bitstream/10665/250680/1/9789241549882-eng.pdf?ua=1>

<http://www.who.int/infection-prevention/tools/focus-amr/en/>

<https://www.who.int/medicines/publications/essentialmedicines/UNEDITED TRS 2019 EC22 Sept.pdf?ua=1>

2017 WHO global guidelines to prevent the spread of CROs

- Factors considered:

- Evidence
- Resources implications
- Feasibility
- Patient values and preferences, incl. ethical issues
- Research gaps
- Acceptability

- 8 recommendations

- Key areas:

- Multimodal strategy
- Hand hygiene
- Surveillance
- Contact precautions
- Patient isolation
- Environmental cleaning
- CRE-CRAB-CRPsA surveillance cultures of the environment
- Monitoring, Audit and Feedback



Implementation Manual & Strategy



Implementation manual to prevent and control the spread of carbapenem-resistant organisms at the national and health care facility level

Interim practical manual supporting implementation of the Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, *Acinetobacter baumannii* and *Pseudomonas aeruginosa* in health care facilities



<https://www.who.int/infection-prevention/tools/focus-amr/en/>



Chapter 1: National strategy

Chapter 2: key principles for implementation at facility level

Table 1. Chapters 3-5 at-a-glance

	Chapter 3	Chapter 4	Chapter 5
Title	Surveillance	Contact precautions, including hand hygiene and isolation	Environmental cleaning, including surveillance cultures of the environment
Guideline recommendation(s) addressed	<ul style="list-style-type: none">• Recommendations 1, 3, 7, 8.• Recommendation 8 is addressed within the section on multimodal strategies.	<ul style="list-style-type: none">• Recommendations 1, 2, 4, 5, 8.• Recommendation 8 is addressed within the section on multimodal strategies.	<ul style="list-style-type: none">• Recommendations 1, 6, 7, 8.• Recommendation 8 is addressed within the section on multimodal strategies.

IPC to reduce burden of AMR

An advocacy document aimed at policy-makers

- Provides shocking data on the health and economic impact of HAIs and AMR
- IPC is cost-saving in controlling AMR and saves lives
- Patient story from Vanessa Carter, who was harmed by an antibiotic-resistant health care-associated infection
- Role of IPC in attaining Universal Health Coverage
- Central role of IPC core components and introduction to the IPC minimum requirements
- <https://www.who.int/infection-prevention/tools/focus-amr/en/>

Antimicrobial Resistance (AMR)

A major public threat

INFECTION PREVENTION AND CONTROL (IPC) IS ESSENTIAL IN CURBING AMR

Antimicrobial resistance is a global crisis that threatens a century of progress in health and achievement of the Sustainable Development Goals and achieving Universal Health Coverage.

Alarming levels of resistance have been reported in countries of all income levels, with the result that common diseases are becoming untreatable, and lifesaving medical procedures riskier to perform.

Recently, experts have warned about carbapenem-resistant Enterobacteriaceae (CRE) – an emerging ‘superbug’ resistant to the carbapenem class of antibiotics, often considered the drugs of last resort for many infections. Moreover, the remaining options can be very toxic.

**In European countries the number of deaths due to AMR has doubled between 2007 and 2015.
The increase was:**

4x

DUE TO CRE

6x

DUE TO CARBAPENEM-RESISTANT
KLEBSIELLA PNEUMONIA



THE FACE OF ANTIBIOTIC RESISTANCE :

Vanessa Carter was 25 in 2004 when she had a car accident; as a result, she lost her right eye and suffered many other complications due to an antibiotic-resistant healthcare-associated infection.

“Seven years down the line of failing surgeries I ended with an infection; on top of that, the infection was antibiotic-resistant and I lost huge portions of my face. Doctors kept on prescribing antibiotics without consulting each other and there was no central record of treatment.

We should be teaching patients why IPC, including cleaning hands, plays a role towards fighting bacterial infections both in and out of hospital.

Antibiotic resistance should be common knowledge, but communication is lacking at every point in the system.”

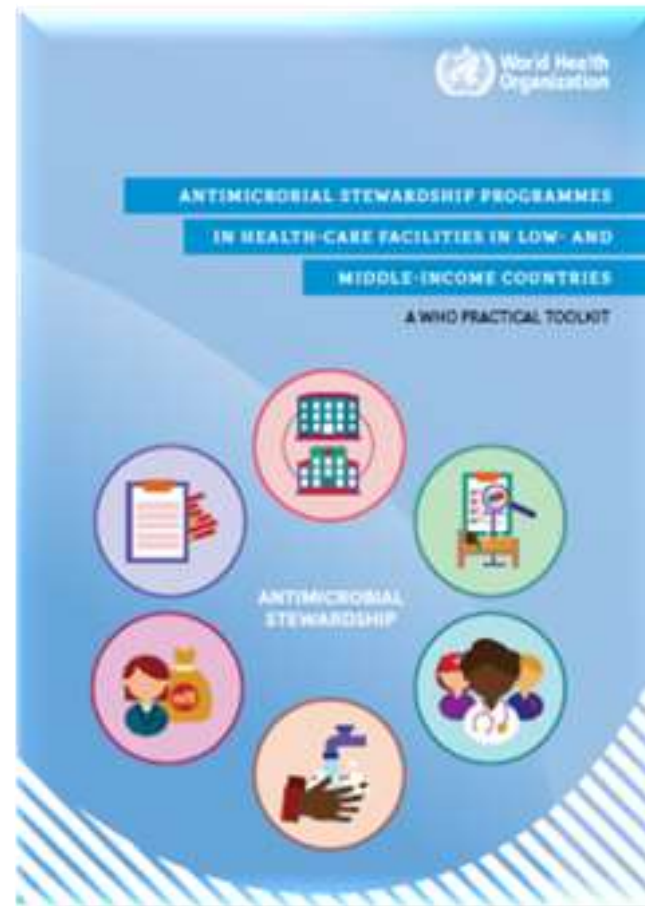
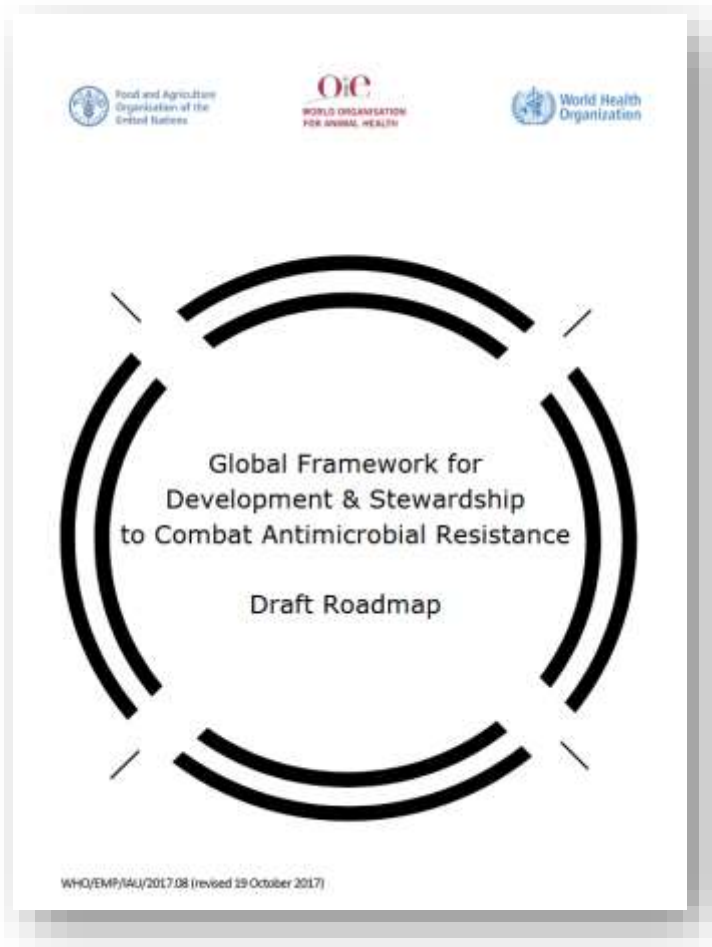
WHO IPC Training Package

- Leadership and IPC program management
- Prevention of urinary tract infections
- Prevention of catheter-associated bloodstream infections
- Prevention of respiratory tract infections
- Prevention of surgical site infections
- Reprocessing of medical devices
- Outbreak management in healthcare settings
- **IPC to control antibiotic resistance**
- HAI surveillance
- Injection safety

- Slides deck
- Trainer's manual
- Student's handbook
- Videos
- E-learning module



Antimicrobial stewardship and monitoring antibiotic consumption



Sources: Global framework for development and stewardship to combat antimicrobial resistance, draft. Geneva: World Health Organization; 2018 (<http://apps.who.int/medicinedocs/documents/s23198en/s23198en.pdf>)
Antimicrobial stewardship programmes in health care facilities in low- and middle-income countries. A WHO practical toolkit. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/bitstream/handle/10665/329404/9789241515481-eng.pdf>)

Key
resource

THANK YOU

WHO Infection Prevention and Control



Learn more at: <http://www.who.int/infection-prevention/en/>



World Health
Organization