

Traversing across countries and economics: the critical components of an IPC programme

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Rationale for the Guidelines

1. IPC is one part of the solution to address the global threat of **AMR** – what are the critical elements (core components) that every country should have in place to achieve effective IPC?

2017

- Deadline for all countries to have in place a national action plan to tackle AMR
- IPC one of the five action areas to be addressed



Rationale for the Guidelines

- 2. Focus on the global health security agenda and International Health Regulations (IHR) which position IPC as a key strategy for dealing with public health threats of international concern.
- Remember IHR is the only international "law" that addresses IPC
- IPC is an IHR Core Capacity!





3. SDGs & IPC

Rationale for the Guidelines



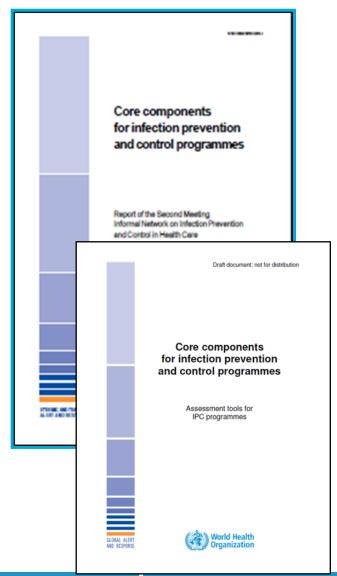
3.8. Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Infection Prevention & Control – the foundation of quality essential health services & critical to effective WASH

Need for evidence-based recommendations

- Building upon:

Core components Checklist Organization of IPC programmes Technical guidelines Human resources (training, staffing, occupational health) Surveillance of diseases and of compliance with IPC practices Microbiology laboratory support Clean and safe environment Monitoring and evaluation of IPC programmes Links with public health and other services





WHO Core Components of IPC Programmes at the National and Acute Health Care Facility Level



What's new in these Guidelines?

Many of the principles of what constitute the central elements of IPC programmes remain the same as those presented in 2009. However, the following aspects are highlighted as new:

THE APPROACH

- Evidence-based: 3 systematic reviews
- Evidence selection based on quality
- Based on country experience and expert consensus

NEW RECOMMENDATIONS

See next page for summary recommendations/good practice statements

IMPLEMENTATION FOCUS

Commitment to supporting implementation in low-and-middleincome countries Focus on multimodal behaviour change approaches and bundles

Focus on WASH-IPC integration, environment & human factors

Focus on AMR, IHR and IPC interface

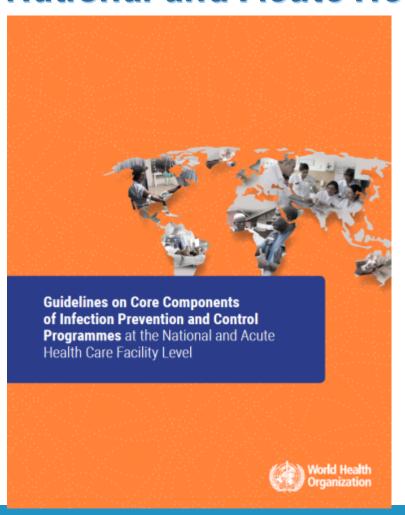


http://www.who.int/infection-prevention/publications/core-components/en/

- Storr J et al. ARIC 2017
- Price L et al. Lancet Infect Dis, in press



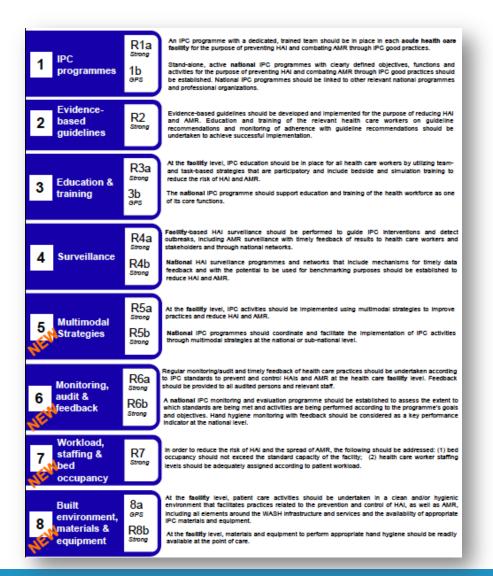
New WHO Guidelines on Core Components of IPC Programmes at the National and Acute Health Care Facility Level



Focus on preventing HAIs and combating AMR



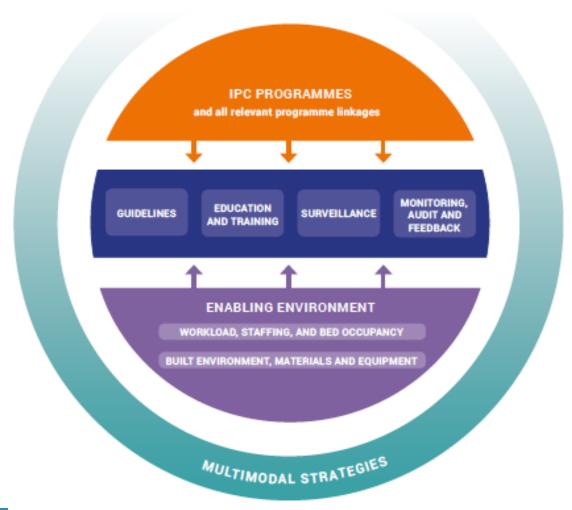
New WHO core components for IPC programmes



- 8 Core components
 - 8 Facility level
 - 6 National level
- 11 evidence-based recommendations
- 3 good practice statements



Leadership, a key factor for success of comprehensive IPC programmes









Core component 1: IPC programmes

1 IPC Programmes

R1a Strong R1b GPS An IPC programme with a dedicated, trained team should be in place in each **acute health care facility** for the purpose of preventing HAI and combating AMR through IPC good practices.

Stand-alone, active **national** IPC programmes with clearly defined objectives, functions and activities for the purpose of preventing HAI and combating AMR through IPC good practices should be established. National IPC programmes should be linked to other relevant national programmes and professional organizations.

Evidence from 2 studies shows that IPC programmes including dedicated, trained professionals are effective in reducing HAIs in acute care facilities

- Clearly defined objectives, functions and objectives
- Dedicated, trained IPC professionals & multidisciplinary team
- Support from the facility leadership
- Good quality microbiological laboratory



Core component 2: IPC guidelines

2 Evidence
Based
Guidelines



Evidence-based guidelines should be developed and implemented for the purpose of reducing HAI and AMR. Education and training of relevant health care workers on guideline recommendations and monitoring of adherence with guideline recommendations should be undertaken to achieve successful implementation.

Evidence from 6 studies shows that guidelines on the most important IPC good practices and procedures implemented in combination with health care workers' education and training are effective to reduce HAI

- Expertise required
- Local prioritization
- Providing resources for implementation
- HCWs education on recommended practices
- Monitoring implementation



Core component 3: IPC education & training

3 Education & Training

R3a Strong

3b GPS At the facility level IPC education should be in place for all health care workers by utilizing teamand task-based strategies that are participatory and include bedside and simulation training to reduce the risk of HAI and AMR.

The **national** IPC programme should support education and training of the health workforce as one of its core functions.

Evidence (15 studies at facility level) shows that IPC education that involves frontline health care workers in a practical, hands-on approach and incorporates individual experiences is associated with decreased HAI and increased hand hygiene compliance

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



Core component 4: HAI surveillance

4

Surveillance

R4a Strong

R4b Strong **Facility**-based HAI surveillance should be performed to guide IPC interventions and detect outbreaks, including AMR surveillance with timely feedback of results to health care workers and stakeholders and through national networks.

National HAI surveillance programmes and networks that include mechanisms for timely data feedback and with the potential to be used for benchmarking purposes should be established to reduce HAI and AMR.

Evidence (13 studies at facility level, 1 at national level) shows that <u>HAI</u> surveillance leads to a decrease in HAI (including central lineassociated bloodstream infections, ventilator-associated pneumonia, SSI, catheter-related urinary tract infections and catheter-related bloodstream infections), and that <u>timely feedback</u> of results is <u>influential in the</u> implementation of effective IPC actions

- Standardized definitions, appropriate methods, good quality laboratory support, quality control needed
- Training and expertise needed



Core component 5: Multimodal strategies



At the **facility** level IPC activities should be implemented using multimodal strategies to improve practices and reduce HAI and AMR.

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

Evidence (44 studies at national, 14 at facility level) shows that implementing IPC activities at facility level using multimodal strategies is effective to improve IPC practices and reduce HAI (particularly hand hygiene compliance, central line-associated bloodstream infections, ventilator-associated pneumonia, infections caused by MRSA and *C. difficile*)

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.



Core Component 5: Multimodal Strategies

The Five Components of the WHO multimodal hand hygiene improvement strategy

1a. System change – alcohol-based handrub at point of care

1b. System change – access to safe, continuous water supply, soap and towels

2. Training and education

3. Evaluation and feedback

4. Reminders in the workplace

5. Institutional safety climate

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



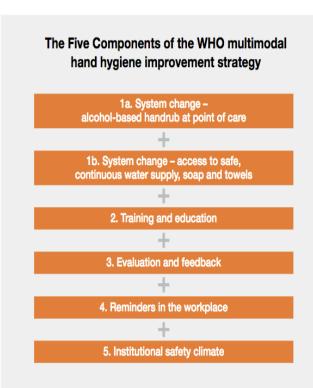
(culture change)

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.

Multimodal approaches for implementation

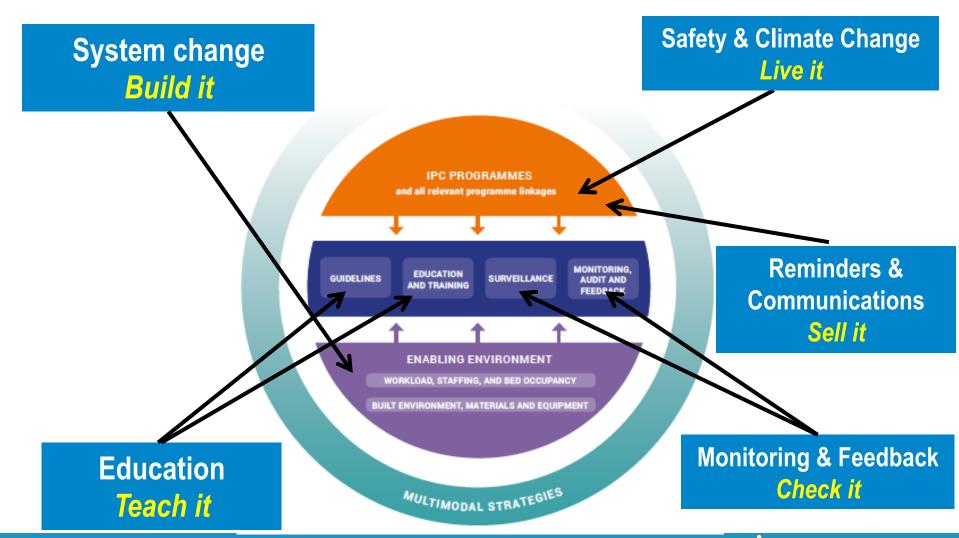


	Executive Leaders	Team Leaders	Staff
Engage	How does this make the world a better place?		
Educate	What do we need to do better?		
Execute	How can we do it with our resources and culture?		
Evaluate	How do we know we made a difference?		

Comprehensive Unit-based Safety Program (CUSP)

- 1. Educate staff on science of safety
- 2. Identify defects
- 3. Assign an executive to the unit
- 4. Learn from one defect per quarter
- 5. Implement teamwork tools

Implementation success depends on a multimodal approach





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



Regular monitoring/audit and timely feedback of health care practices should be undertaken according to IPC standards to prevent and control HAIs and AMR at the health care **facility** level. Feedback should be provided to all audited persons and relevant staff.

A **national** IPC monitoring and evaluation programme should be established to assess the extent to which standards are being met and activities are being performed according to the programme's goals and objectives. Hand hygiene monitoring with feedback should be considered as a key performance indicator at the national level.

Evidence (6 studies at facility level, 1 at national level) showed that regular monitoring/auditing of IPC practices paired with regular feedback (individually and/or team/unit) is effective to increase adherence to care practices and to decrease overall HAI

- To achieve behaviour change or other process modification
- To document progress and impact



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





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

Evidence from 19 studies shows that <u>bed occupancy exceeding</u> the standard capacity of the facility is <u>associated with increased risk of HAI</u> in acute care facilities, in addition to <u>inadequate health</u> care worker staffing levels

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



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



8a GPS

R8b Strong 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.

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

Evidence from 11 studies shows that <u>availability of equipment and products at</u> the <u>point of care</u> leads to increased compliance with good practices and reduction of HAI.

In 6/11 studies, the intervention consisted of the <u>ready availability and optimal</u> <u>placement of hand hygiene materials and equipment</u> in areas designated for <u>patient care</u> or where other health care procedures are performed and led to a significant increase of hand hygiene compliance.

 Appropriate clean and hygienic environment, WASH services and materials and equipment for IPC, in particular for HH



New IPC core components: implications for low and middle income countries (1)

- Limited access to qualified and trained IPC professionals
- Limited human resources
- Inadequate budgets
- Implementation challenges
- Need for adaptation or tailoring to the cultural setting and local context, and according to available resources
- Availability of human resources and training, quality microbiological/laboratory support, information technology, and data management systems are <u>requirements for</u> <u>surveillance and auditing</u>; in their absence, surveillance based on clinical data could be considered.



New IPC core components: implications for low and middle income countries (2)

However:

- Resources invested are worth the net gain, irrespective of the context and despite the costs incurred
- Not all solutions require additional resources
- Some solutions can likely be low cost and local production (e.g. alcohol-based hand rubs) should be encouraged
- Partnerships or partners' collaborations could assist in the achievement of the core components delivery and funding



Interim Practical
Manual supporting
national implementation
of the WHO Guidelines
on Core Components
of Infection Prevention
and Control Programmes



To provide clear direction and supporting resources to aid the development of a practical, outcome-focused action plan, informed by local examples and existing realities



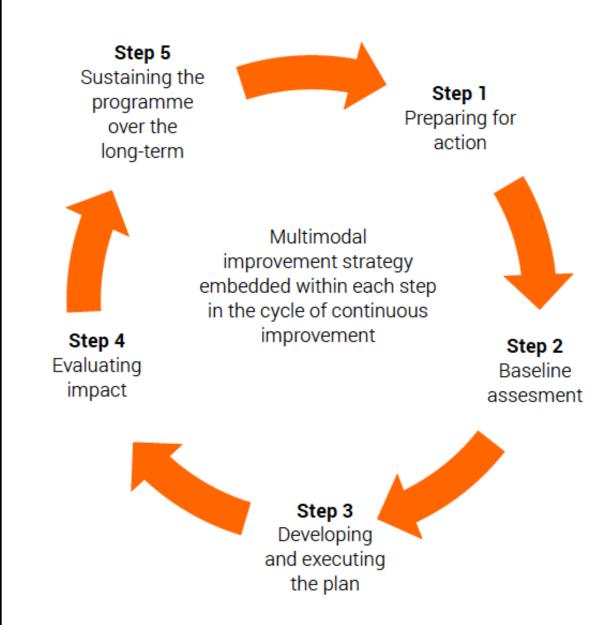
To describe how to operationalize the plan based on evidence and national-level implementation experience



To support sustainability of the plan with a focus on integrating and embedding IPC within relevant national policies and strategies



approach Stepwise



Case study examples

Example: core component 1

Case study 1



Building an IPC programme as a core activity: the case of Chile

Chile is a middle-income country with a strong public sector and a Ministry of Health that regulates 186 public hospitals and a similar number of private facilities. In the early 1980s, outbreaks of HAIs with high media coverage motivated the creation of a national programme. This started with appointing IPC nurses to 12 hospitals and their basic training to perform point prevalence studies in intensive care units. Soon after, IPC nurses were appointed to over 60 larger facilities trained by yearly national seminars that included doctors and microbiologists. Training of IPC teams aimed to establishing a surveillance system, problem solving using local data with evidence-based interventions according

Case study 2



Building an IPC programme in the face of adversity: the story of Liberia



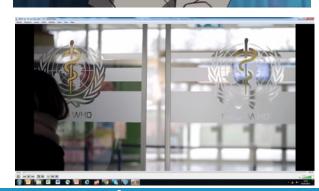
Liberia is representative of many low-income countries in that prior to the outbreak of Ebola virus 34/41

Implementation resources for the WHO IPC Core Components Guidelines









http://www.who.int/infection-prevention/tools/ World Health core-components/en/

Conclusions & perspectives

- The WHO CC are a road map to indicate how IPC can effectively prevent harm due to HAI and AMR
 - Need for better quality evidence, incl. on cost-effectiveness; evidence from LMICs urgently needed
- Feasibility and results firstly depend on political engagement
- Implementation is key to translate policies into practices
 - not always easy and taking time
 - prioritization/stepwise
 - multimodal/multidisciplinary strategies
 - people-centered
 - integrated within clinical procedures
 - innovative and locally adapted (to specific cultures and resource level)



THANK YOU!!! And please join us:

World Antibiotic Awareness Week, 13-19 November

2017 & Global Hand Hygiene Campaign, 5 May 2018



Save the date: World Antibiotic Awareness Week 2017

This year, World Antibiotic Awareness Week will be held from 13 to 19 November. WHO is encouraging all Member States, health partners and students, and the public to join this campaign and help raise awareness of antibiotic resistance.

Event announcement







Anyone, of any age, in any country can get an antibioticresistant infection

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Everyone can help reduce the spread of antibiotic resistance