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New IPC recommendations from WHO - The importance of IPC actions in fighting the AMR burden

Prof. Benedetta Allegranzi
IPC Global Unit, SDS/HIS, WHO HQ

Hosted by Prof. Didier Pittet
University of Geneva Hospitals

www.webbertraining.com November 14, 2016

New WHO Infection Prevention and Control Global Unit

Protecting patient and health worker lives across the world through excellence in infection prevention and control

HEALTH CARE WITHOUT AVOIDABLE INFECTIONS

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3 http://www.who.int/gpsc/en/ World Health Organization

Why IPC is so important for global health

- IPC occupies a unique position in the field of patient safety and quality of care, as it is universally relevant to every health worker and patient, at every health care interaction
- Without effective IPC it is impossible to achieve *quality* health care delivery and strong health systems

IPC contributes to achieving the following global health priorities:

I. Sustainable development goals (SDGs) 3.1-3, 3.8, 3.d and 6

II. AMR global and national action plans
III. Preparedness and response to outbreaks
IV. International Health Regulations
V. Post-Ebola recovery plans
VI. Quality universal health coverage
VII. Patient and health worker safety
VIII. WHO Global Strategy on integrated people-centred health services

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Global Action Plans & National Action Plans

Global strategic objectives	Examples of key actions for national action plans
1. Improve awareness and understanding of AMR	• Risk communication • Education
2. Strengthen knowledge through surveillance and research	• National AMR surveillance system • Laboratory capacities • Research and development
3. Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures	• IPC in health care (incl. liaison with WASH) • Community level prevention (incl. liaison with WASH) • Animal health
4. Optimize the use of antimicrobial medicines	• Access to qualified antimicrobial medicines • Animal health
5. Ensure sustainable investment in countering antimicrobial resistance	• Measuring the burden of AMR • Assessing investment needs • Establishing procedures for participation

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Why IPC in health care to combat AMR?

- Transmission of resistant bacteria from patient to patient (and to others) within health-care facilities amplifies the problem of AMR
- IPC best practices are crucial to combat AMR for two main reasons:
  1. they reduce occurrence of infection (any type of infection, not only due to resistant germs) by preventing microbial transmission, and consequently reduce antibiotics use (pressure) and therefore AMR
  2. they limit or stop the spread of multi-drug resistant microorganisms
- Countless success stories from around the globe document that effective IPC programs can reduce the spread of infection and recurrence of resistant bacteria in health care

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New IPC recommendations from WHO
Prof. Benedetta Allegranzi, World Health Organization IPC Global Unit
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http://www.who.int/campaigns/world-antibiotic-awareness-week/en/

8 http://www.who.int/gpsc/en/

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WHO IPC team

In the context of SDS focus: ***safe, high quality integrated health services*** ***delivered through knowledge, innovation, collaborations*** ***and*** ***people-centeredness***

Functions

1. Leadership, connecting and coordinating
2. Campaigns and advocacy
3. Technical guidance and implementation
4. Capacity building
5. Measuring and learning

Technical areas of work 2015-17

- IPC capacity building
- IPC to combat AMR
- Surveillance & burden of HAIs
- Hand hygiene in health care
- Injection safety
- Prevention of infections associated with invasive procedures (e.g. surgery and catheters) - sepsis

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Working across the 3 levels of WHO & with Member States and partners

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1. Country Capacity Building

2. Implementation Approaches

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IPC capacity building

- To **support** countries in their effort to strengthen or build reliable, resilient, effective IPC programmes and AMR national action plans
- To **encourage** countries to integrate IPC within national quality efforts in the context of universal health coverage
- To **provide** evidence- and expert consensus-based recommendations and an adaptable implementation framework
- To **facilitate** inter-country sharing and cooperation

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Example of country support: IPC at the core of National Recovery Plans in the 3 Ebola countries

Support also provided to "preparedness" countries (http://www.who.int/csr/en/) and countries developing AMR/NAPs

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Implementation of IPC best practices

- **Standards, innovation & adaptation**

Guidelines → Implementation strategies & tools → Behavioural change

- **Enabling environment & patient safety culture**

IPC measures → Enabling environment / Patient safety culture → Impact at the point of care

- **Focus on LMICs**

Operational research → Adapted interventions → Evidence for low-resource settings

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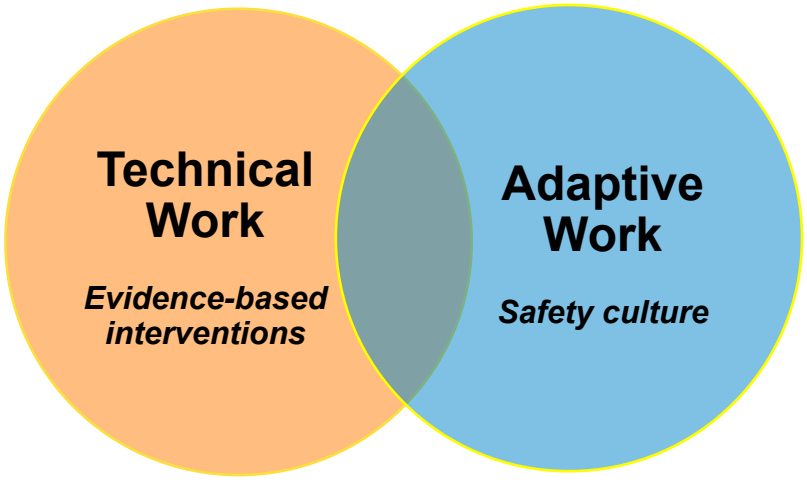

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Why new guidelines on core components for effective IPC programmes

- No international evidence-based recommendations available
- Support to countries for the development of their national action plans to combat antimicrobial resistance
- Support for the recovery phase in countries affected by the Ebola virus disease outbreak
- Need for advancing the global IPC agenda on the basis of:
  - Field experiences
  - Recent research developments (i.e. implementation science, behavioural change approaches)

17 More specifically…. World Health Organization

Rationale for the Guidelines

1. IPC is one part of the solution to address the threats of **epidemics, pandemics and AMR** – IPC protects people from harm – 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

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Rationale for the Guidelines

2. Renewed focus on the **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!

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Rationale for the Guidelines

3. **Sustainable Development Goals** 3 and 6 and the requirement for effective, integrated IPC programmes to support **quality health service delivery in the context of universal health coverage and water, sanitation and health (WASH)** at national and facility levels.

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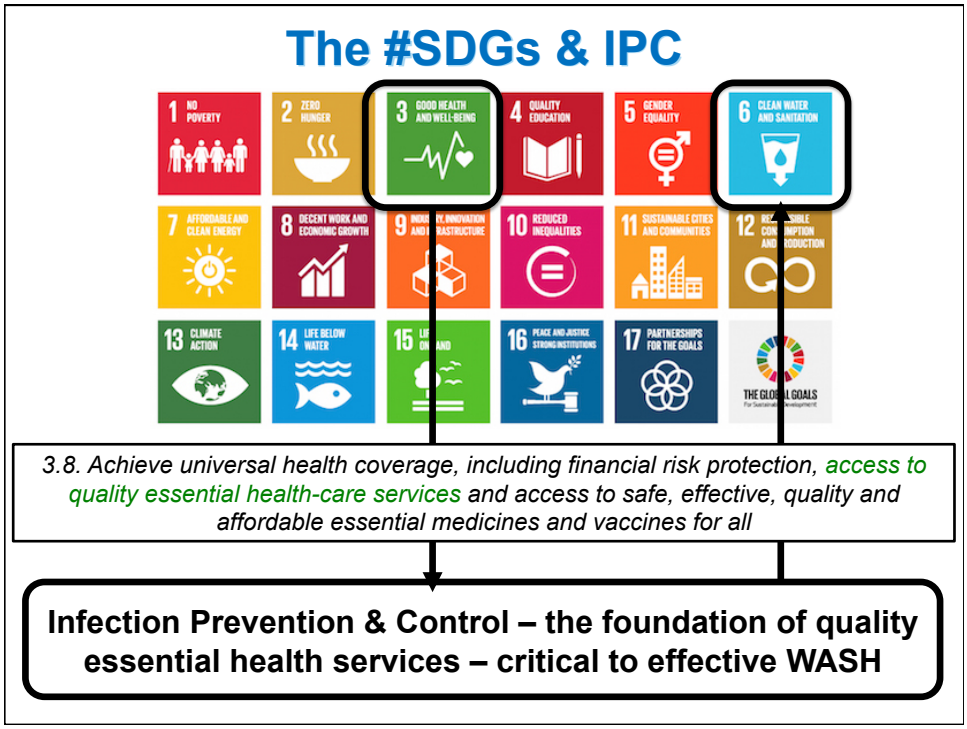
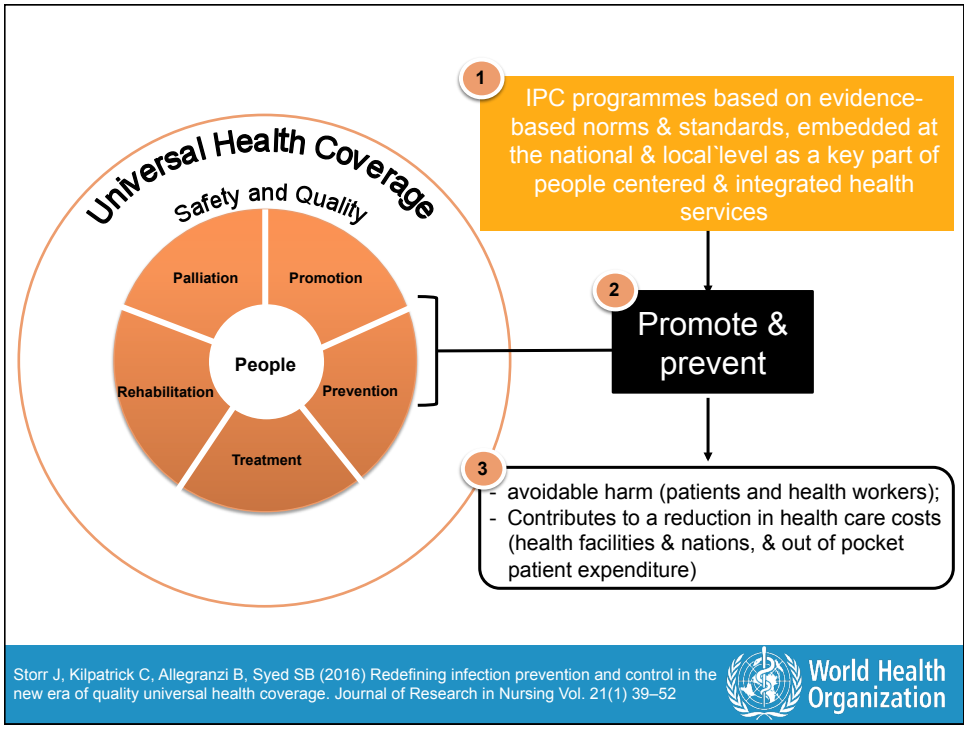
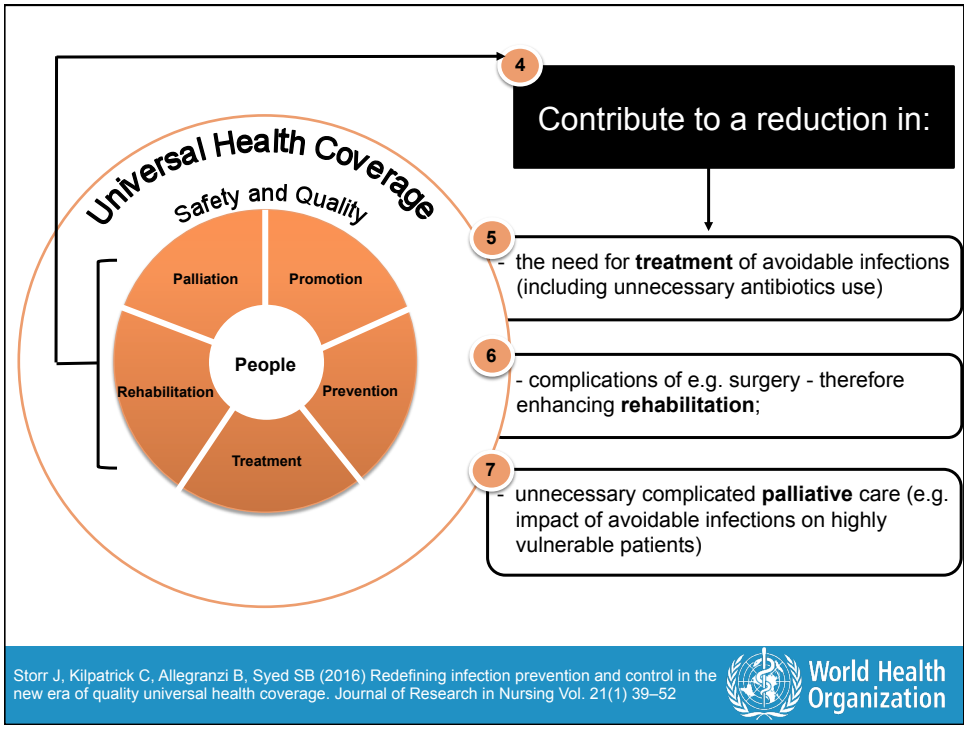

The #SDGs & IPC
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12
13 CLIMATE ACTION
14 LIFE BELOW WATER
16 PEACE AND JUSTICE STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
THE GLOBAL GOALS
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


Universal Health Coverage
Safety and Quality
Palliation
Promotion
People
Rehabilitation
Prevention
Treatment
1
IPC programmes based on evidence-based norms & standards, embedded at the national & local`level as a key part of people centered & integrated health services
2
Promote & prevent
3
- avoidable harm (patients and health workers);
- Contributes to a reduction in health care costs (health facilities & nations, & out of pocket patient expenditure)
Storr J, Kilpatrick C, Allegranzi B, Syed SB (2016) Redefining infection prevention and control in the new era of quality universal health coverage. Journal of Research in Nursing Vol. 21(1) 39–52
World Health Organization


Universal Health Coverage
Safety and Quality
Palliation
Promotion
People
Rehabilitation
Prevention
Treatment
4
Contribute to a reduction in:
5
- the need for **treatment** of avoidable infections (including unnecessary antibiotics use)
6
- complications of e.g. surgery - therefore enhancing **rehabilitation**;
7
- unnecessary complicated **palliative** care (e.g. impact of avoidable infections on highly vulnerable patients)
Storr J, Kilpatrick C, Allegranzi B, Syed SB (2016) Redefining infection prevention and control in the new era of quality universal health coverage. Journal of Research in Nursing Vol. 21(1) 39–52
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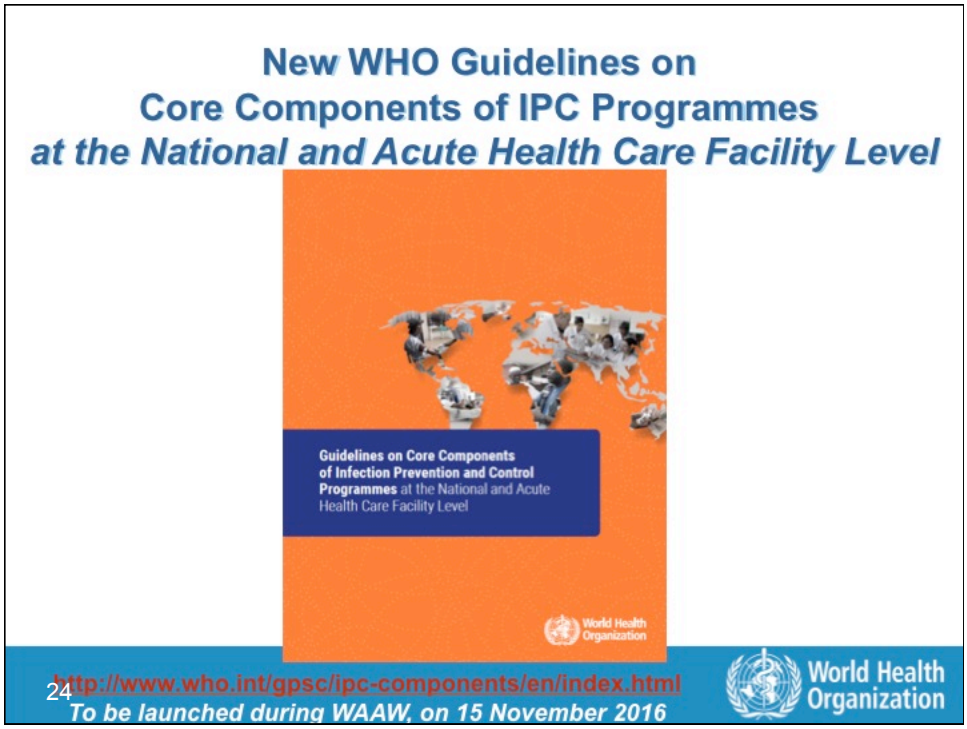
New WHO Guidelines on
Core Components of IPC Programmes
at the National and Acute Health Care Facility Level
Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Health Care Facility Level
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http://www.who.int/gpsc/ipc-components/en/index.html
To be launched during WAAW, on 15 November 2016
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New IPC recommendations from WHO
Prof. Benedetta Allegranzi, World Health Organization IPC Global Unit
Sponsored by the World Health Organization

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-middle-income countries

- Focus on multimodal behaviour change approaches and bundles
- Focus on WASH-IPC integration, environment & human factors
- Focus on AMR, IHR and IPC interface

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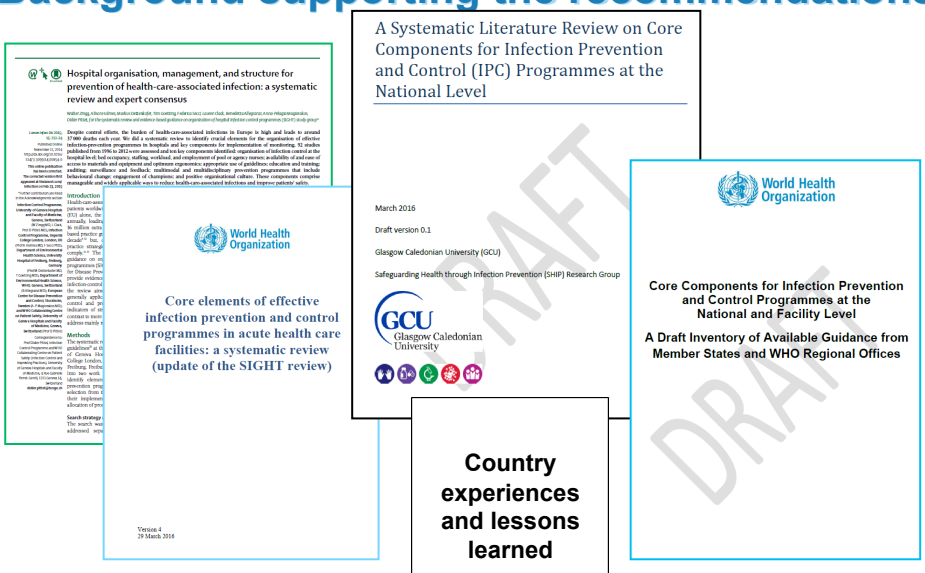
http://www.who.int/gpsc/ipc-components/en/index.html
25 *To be launched during WAAW 2016*
World Health Organization

Background supporting the recommendations



Country experiences and lessons learned

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Systematic reviews methods

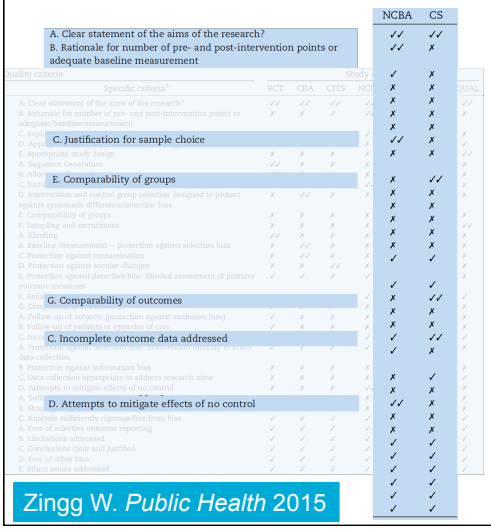
- **Inclusion**
  - Any **quantitative study** using recognised methodology
  - Any **qualitative study** using a recognised methodology
  - Studies using mixed-methods' approaches
  - Acute care
- **Exclusion:** Retrospective and cross-sectional studies, reviews, letters, theses, conference proceedings and opinion articles; outbreak control
- **Search strategy**
  - MEDLINE, the Cochrane Controlled Trials Register, EMBASE, the Outbreak database, PsychINFO, HMIC, World Health Organization Institutional Repository for Information Sharing (WHO IRIS), and Cumulative Index to Nursing and Allied Health Literature (CINAHL)
  - 1 January 1996 to 31 December 2015
  - In English, Spanish, French, Portuguese, German
- **Outcomes**
  - *Healthcare-associated infections*
  - *Infections due to multidrug-resistant organisms*
  - *Hand hygiene (compliance and ABHR consumption)*

9 Dimensions

#	Thematic Area	Description
1	Organization & Structure	Organizational and structural arrangements Access to IPC professionals and role of mgmt
2	Surveillance	Targets and methods of HAI surveillance, outbreak management and role of feedback
3	Education and training	Methods and effectiveness of educating and training HCWs
4	Behaviour change strategies	Multimodal/bundle strategies
5	Standard and transmission based precautions	Effectiveness of local policies and resources for standard and transmission based isolation strategies
6	Auditing	Process of auditing
7	Patient participation	Patient empowerment and involvement
8	Target setting	Setting targets or goals
9	Knowledge management	Range of strategies to identify, create and distribute information and data within and out of an institution

Methods for quality assessment

- Integrated quality Criteria for Reviews Of Multiple Study designs" (ICROMS)



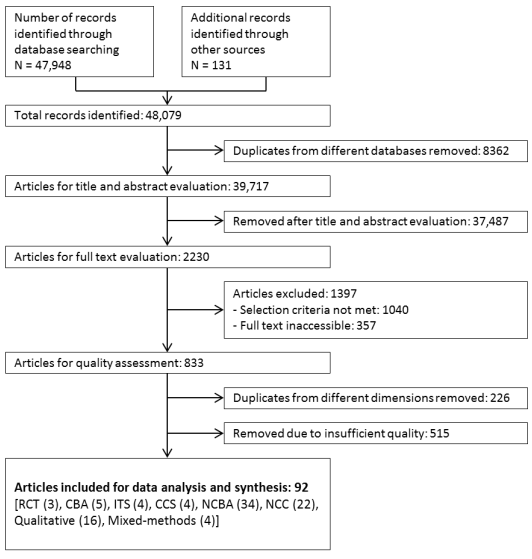
Zingg W. *Public Health* 2015

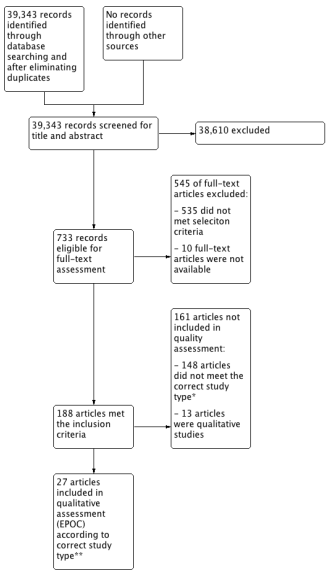
SIGHT update & national review: studies meeting Cochrane's Effective Practice and Organization of Care (EPOC) criteria:

- Full economic evaluations or partial economic evaluations
- Randomized controlled trials (RCT)
- Cluster randomized trials (CRT)
- Non-randomized trials (NRT)
- Controlled before and after studies (CBA)
- Interrupted time series (ITS) studies

Total: 87422 hits → 119 selected

Facility level systematic reviews (1996-2015)

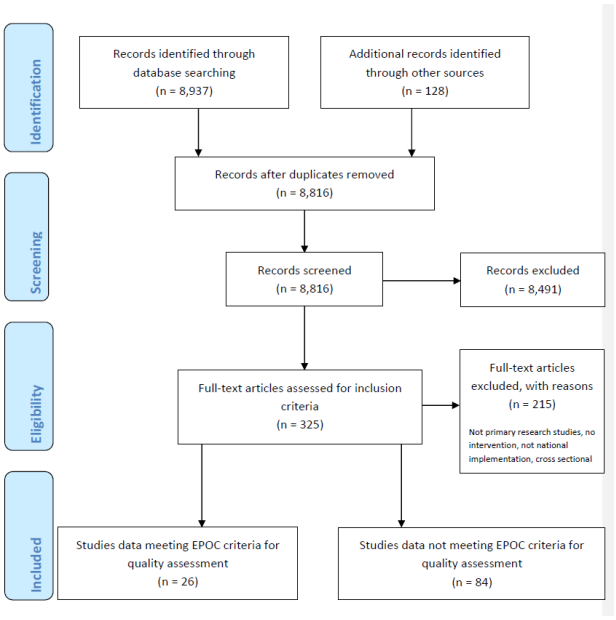




Zingg W. *Lancet Infect Dis* 2015; 15: 212-224

Total: 87422 hits → 119 selected

National level systematic review (2000-2015)



Methods for recommendations development

- **Development of recommendations:**
  - According to the standard GRADE decision making process, based on
    - scientific evidence
    - expert consensus & country experience
- **Strength of recommendations:**
  - **"Strong"** – the expert panel was confident that benefits outweighed risks / considered to be adaptable for implementation in most (if not all) situations and patients should receive the intervention as the course of action.
  - **"Conditional"** – the panel considered that benefits of the intervention probably outweighed the risks / a more structured decision-making process should be undertaken, based on stakeholder consultation and the involvement of patients and health care professionals.
- **Good practice statements:**
  - developed instead of recommendations based on expert opinion about the utmost importance of the subject, in the absence of methodologically sound, direct evidence on the effectiveness of interventions.

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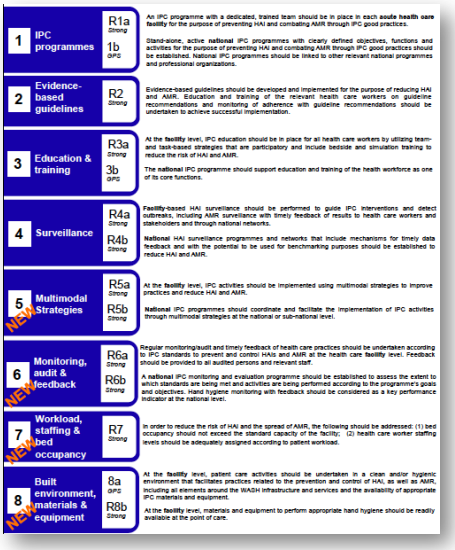
New WHO core components for IPC programmes



- **8 Core components**
- 11 evidence based recommendations
- 3 good practice statements

33 R= recommendation; GPS: good practice statement

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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.

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Core Component 1: Facility level - Key remarks

The IPC programme should have:

- clearly defined **objectives** based on local epidemiology and priorities according to risk assessment and functions to contribute towards the prevention of HAI and the spread of AMR in health care
- **dedicated, trained professionals** in every acute health care facility (minimum ratio one full-time or equivalent infection preventionist [nurse or physician] per 250 beds
- **support from the facility leadership** by providing materials as well as organizational and administrative support through the allocation of a protected and dedicated budget
- **good quality microbiological laboratory** support to be effective

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Core Component 1: National level - Key remarks

- The organization of national IPC programmes must be established with clear objectives, functions, appointed IPs and a defined scope of responsibilities. Minimum objectives include:
  - Goals to be achieved for endemic and epidemic infections
  - Development of recommendations for IPC processes and practices that are known to be effective in preventing HAI and the spread of AMR
- The organization of the programme should include:
  - Appointed **technical team** of trained IPs, including medical and nursing professionals
  - The technical teams should have:
    - formal IPC training and allocated time according to tasks
    - the authority to make decisions and to influence field implementation
    - a protected and dedicated budget according to IPC activity and support national authorities and leaders
- There should be an established and maintained **linkage** between national IPC programmes and other related programmes
- An **official multidisciplinary group, committee** or an equivalent structure should be established to interact with the IPC technical team
- Good quality **microbiological support** provided by at least one national reference laboratory is a critical factor for an effective national IPC programme.

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Core Component 2: IPC Guidelines

2	Evidence Based Guidelines	R2 *Strong*	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.

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Core Component 2: IPC Guidelines

Key remarks (national and HCF level)

- **Appropriate IPC expertise** is necessary to write or adapt and adopt a guideline both at the national and health care facility level. Guidelines should be evidence-based and reference international or national standards. Adaptation to local conditions should be considered for the most effective uptake and implementation.
- **Monitoring adherence** to guideline implementation is essential.
- Guidelines should be **prioritized locally** based on the most frequent and/or risky practices and adapted to local circumstances.

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Core Component 2: IPC Guidelines

Key remarks (national level)

- Developing relevant evidence-based national IPC guidelines and related implementation strategies is one of the **key functions of the national IPC programme.**
- The national IPC programme should also ensure that the **necessary infrastructures and supplies** to enable guideline implementation are in place.
- The national IPC programme should support and mandate health care workers' **education and training** focused on the guideline recommendations.

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Core Component 2: IPC Guidelines

Key remarks

- 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.

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Core Component 3: IPC Education & Training

3 Education & Training	R3a *Strong*	**At the 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.
	3b *GPS*	The **national** IPC programme should support education and training of the health workforce as one of its core functions.

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Core Component 3: Facility level - Key remarks

- IPC education and training should be a part of an **overall health facility education strategy,** including new employee orientation and the provision of continuous educational opportunities for existing staff, regardless of level and position
- Educational approaches should be **informed by behavioural change theories and methods.** Teaching the basic concepts and theories of microbiology, infectious diseases and IPC, using a range of educational modalities to maximize the impact of practical and in-service training. Such training should be complementary to WASH training.
- Three categories of human resources were identified as **targets for IPC training:**
  - IPC specialists
  - all health care workers involved in service delivery and patient care, and
  - other personnel that support health service delivery (administrative and managerial staff, auxiliary service staff, cleaners)
- **Periodic evaluations** of both the effectiveness of training programmes and assessments of staff knowledge should be undertaken on a routine basis.

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Core Component 3: National level - Key remarks

- The **IPC national team** plays a key role to support and make IPC training happen at the facility level.
- To support the development and maintenance of a skilled, knowledgeable health workforce, national pre-graduate and postgraduate IPC curricula should be developed in **collaboration with local academic institutions.**
- In the curricula development process, it is advisable to refer to international curricula and networks for specialized IPC programmes and to adapt these documents and approaches to national needs and local available resources.
- The national IPC programme should provide guidance and recommendations for **in-service training** to be rolled out at the facility level according to detailed IPC core competencies for health care workers and covering all professional categories listed in Core Component 3a.

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Core Component 4: HAI surveillance

4 Surveillance	R4a *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.
	R4b *Strong*	**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.

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Core Component 4:
Facility level - Key remarks (1)

- The responsibility for planning and conducting surveillance and analysing, interpreting and disseminating the collected data remains usually with the **IPC committee and the IPC team.**
- Surveillance of HAI is **critical to inform and guide IPC strategies**
- Health care facility surveillance should be **based on national recommendations and standard definitions and customized to the facility** according to available resources with clear objectives and strategies.
- Surveillance should be conducted by staff trained in a **national training program for performing surveillance**
- Surveillance **should provide information for:**
  - Describing the status of infections associated with health care (incidence and/or prevalence, type, aetiology and, ideally, data on severity and the attributable burden of disease).
  - Identification of high-risk populations, procedures and exposures.
  - Identification of the most relevant AMR patterns.
  - Early detection of clusters and outbreaks (early warning system).
  - Evaluation of the impact of interventions.

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Core Component 4: Facility level - Key remarks (2)

- **Quality microbiology and laboratory capacity** is essential to enable reliable HAI surveillance.
- A system for surveillance **data quality assessment** is of the utmost importance.
- Methods for detecting infections should be **active and prospective** (prevalence or incidence studies).
- Hospital-based infection surveillance systems should be **linked to integrated public health infection surveillance systems.**
- Surveillance reports should be **disseminated in a timely manner** to those at the managerial or administration level (decision-makers) and the unit/ward level (frontline health care workers).
- The responsibility for planning and conducting surveillance and analysing, interpreting and disseminating the collected data remains usually with the IPC committee and the IPC team.

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Core Component 4: National level - Key remarks (1)

- National HAI surveillance systems feed into **general public health capacity building and the strengthening of essential public health functions**
- Establishing a national HAI surveillance programme **requires full support and engagement by governments and other respective authorities, allocation of human and financial resources**
- **National surveillance should have:** clear objectives, a standard set of case definitions, methods for detecting infections and the exposed population, a process for the analysis of data and reports and a method for evaluating the quality of the data
- **Clear regular reporting lines** of HAI surveillance data from the local facility to the national level should be established
- It is important to **triangulate IPC data with WASH monitoring and services** in an effort to help identify the source of the problem

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Core Component 4: National level - Key remarks (2)

- **International guidelines on HAI definitions** are important, but it is the **adaptation at country level** that is critical for implementation
- **Good quality microbiological support** provided by at least one national reference laboratory is a critical factor for an effective national IPC surveillance programme
- A **national training program for performing surveillance** should be established to ensure the appropriate and consstent application of national surveillance guidelines and corresponding implementation toolkits

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Core Component 5: Multimodal Strategies

5 Multimodal Strategies NEW

R5a *Strong*
R5b *Strong*

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.

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.

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Core Component 5: Facility level - Key remarks

- Successful multimodal interventions:
  - should be associated with an **overall organizational culture change** as effective IPC can be a reflector of quality care, a positive organizational culture and an enhanced patient safety climate.
  - require **coordination and teamwork** across the organization or health facility
  - include the **involvement of champions or role models** in several cases
- Implementation of multimodal strategies within health care institutions needs to be **linked with national quality aims and initiatives** including health care quality improvement initiatives or health facility accreditation bodies.

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Core Component 5: National level - Key remarks

- The national approach to coordinating and supporting local (health facility level) multimodal interventions should be within the **mandate of the national IPC programme** and be considered within the context of other quality improvement programmes or health facility accreditation bodies.
- **Ministry of health support and the necessary resources**, including policies, regulations and tools, are essential for effective central coordination.
- Successful multimodal interventions should be **associated with overall cross-organizational culture change** as effective IPC can be a reflector of quality care, a positive organizational culture and an enhanced patient safety climate.
- Strong consideration should be given to **country adaptation of implementation strategies reported in the literature**, as well as to **feedback of results to key stakeholders** and education and training of all relevant persons involved in the implementation of the multimodal approach.

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

6 Monitoring, Audit & Feedback — NEW

R6a *Strong*

R6b *Strong*

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.

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World Health Organization

Core Component 6: facility level – key remarks

- The **main purpose** of auditing/monitoring practices is to **achieve behaviour change or other process modification** to improve the quality of care and practice, with the result being the reduction in the risk of HAI and AMR spread.
- Monitoring and feedback are also aimed at **engaging stakeholders**, creating partnerships and developing working groups and networks.
- **Sharing the audit results and providing feedback** not only with those being audited (**individual change**), but also with hospital management and senior administration (**organizational change**) are critical steps.
- **IPC programmes should be periodically evaluated** to assess the extent to which the objectives are met, the goals accomplished, whether the activities are being performed according to requirements and to identify aspects that may need improvement identified via standardized audits.

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World Health Organization

Core Component 6: National level – key remarks

- Regular monitoring and evaluation provides a **systematic method to document the progress and impact of national programmes** in terms of defined indicators, e.g. tracking hand hygiene improvement as a key indicator, including hand hygiene compliance monitoring.
- National level monitoring and evaluation should have in place mechanisms that:
  - Provide **regular reports** on the state of the national goals (outcomes and processes) and strategies.
  - Regularly monitor and evaluate the **WASH services, IPC activities and structure** of the health care facilities through audits or other officially recognized means.
  - Promote the evaluation of the performance of local IPC programmes in a non- punitive institutional culture.

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World Health Organization

Core Component 7: Workload, staffing & bed occupancy

7 NEW **Workload, Staffing & Bed Occupancy** — R7 *Strong*

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.

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World Health Organization

Core Component 7: Facility level – key remarks

- Standard for bed occupancy should be **one patient per bed with adequate spacing** (1 metre) **between patient beds**
- Intended capacity could vary from original designs and across facilities and countries.
- In exceptional circumstances where bed capacity is exceeded, hospital management should act to ensure **appropriate staffing levels** that could meet patient demand, and the adequate distance between beds.
- These principles apply to all units and departments with inpatient beds, including emergency departments.
- The **WHO Workload Indicators of Staffing Need (WISN) method** provides health managers with a systematic way to determine how many health workers of a particular type are required to cope with the workload of a given health facility and decision making (http://www.who.int/hrh/resources/wisn_user_manual/en/).
- Overcrowding was recognized as being a public health issue that can lead to disease transmission

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World Health Organization

Core Component 8: Built environment, materials & equipment for IPC

8 NEW **Built Environment, materials & Equipment**

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.

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World Health Organization

Core Component 8: Built environment, materials & equipment for IPC

8a. Key Remarks (1)

- An **appropriate environment, WASH services and materials and equipment for IPC** are a core component of effective IPC programmes at health care facilities.
- Ensuring an **adequate hygienic environment** is the responsibility of senior facility managers and local authorities.
- The **central government and national IPC and WASH programmes** also play an important role in developing standards and recommending their implementation regarding adequate WASH services in health care facilities, the hygienic environment, and the availability of IPC materials and equipment at the point of care.
- **WHO standards for drinking water quality, sanitation and environmental health** in health care facilities should be implemented.

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World Health Organization

Core Component 8: Built environment, materials & equipment for IPC

8b. Key Remarks

- WHO standards* for the adequate number and appropriate position of hand hygiene facilities should be implemented in all health care facilities.

* This requires that a hand hygiene product (for example, alcohol-based hand rub, if available) be easily accessible and as close as possible – within arm's reach of where patient care or treatment is taking place. Point-of-care products should be accessible without having to leave the patient zone. The WHO *Guidelines on hand hygiene in health care* state: "minimum sink-to-bed ratio 1:10 and 1:1 in isolation rooms"

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World Health Organization

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 requirements for surveillance and auditing; in their absence, surveillance based on clinical data could be considered.

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World Health Organization

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 and
- 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

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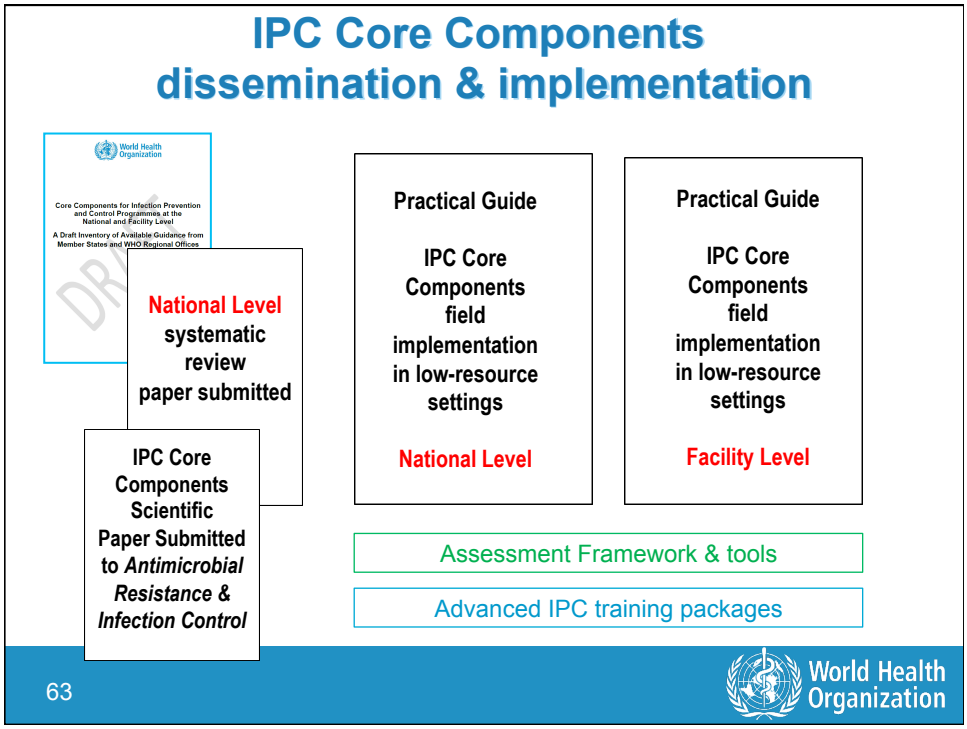
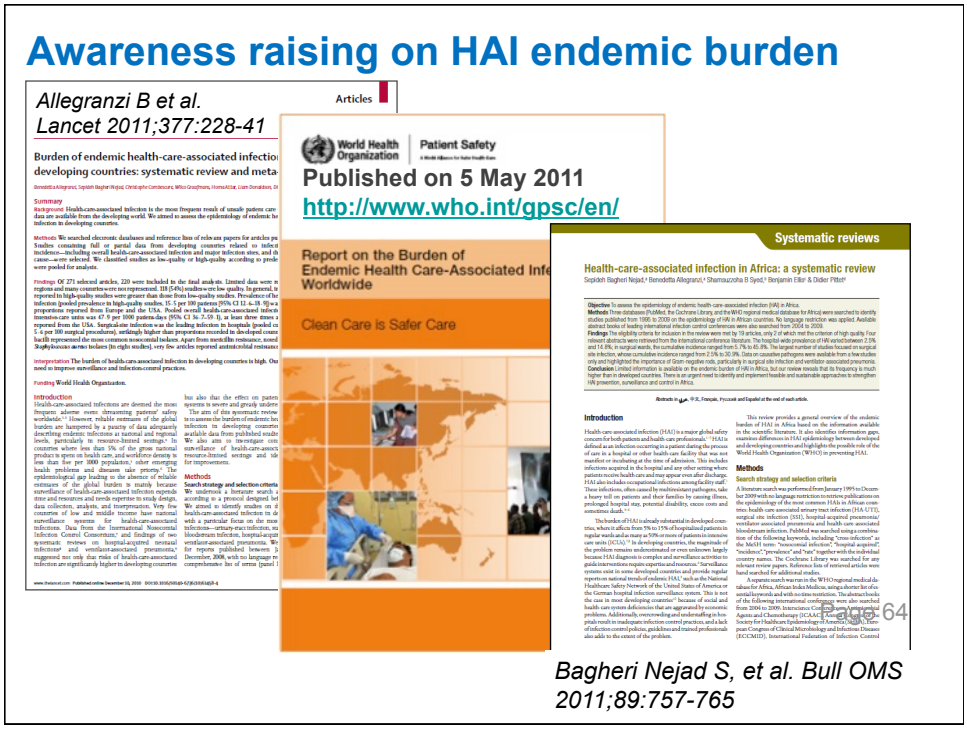
World Health Organization

New IPC recommendations from WHO
Prof. Benedetta Allegranzi, World Health Organization IPC Global Unit
Sponsored by the World Health Organization





Hosted by Prof. Didier Pittet, University of Geneva Hospitals
A Webber Training Teleclass
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Surgical Site Infection (SSI)

- **Second most frequent type of HAI in Europe & USA**
  - Most frequent type of HAI on admission (67% in US, 33% in Europe)
- **SSI incidence** = 0.9% (USA 2014)
- **AMR:** 39-51% SSI pathogens are resistant to standard prophylactic antibiotics in the USA
- **Most frequent type of HAIs in LMICs**
- **SSI incidence in LMICs**:
  - 7.1 per 100 procedures
  - 11 per 100 operated patients
- In Africa, up to 20% of C sections lead to a wound infection
- **Surgical sepsis = 30% of all septic patients**

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World Health Organization

Main reasons for developing global guidelines for SSI prevention

- High global epidemiological burden
- Highly preventable infection
- No recent evidence-based guidelines
- Need for a global perspective
- Need for taking into account balance between benefits and harms, evidence quality level, cost and resource use implications, and patient values and preferences

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New IPC recommendations from WHO
Prof. Benedetta Allegranzi, World Health Organization IPC Global Unit
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WHO
GLOBAL
SSI
PREVENTION
GUIDELINES

WHO SSI Prevention Guidelines

- **27** systematic reviews & meta-analysis
- **29** recommendations
- **30** core chapters

Key updates on:

- Timing & duration of surgical ATB prophylaxis
- ATB use with drains
- *S. aureus* carriers' decolonization
- Glucose control
- Normovolemia
- Oxygenation
- Wound irrigation
- Antimicrobial sutures

& A LOT MORE....

Abstracts presented at 26th ECCMID, Amsterdam 2016
The Lancet Infectious Diseases & official launch, 3 November 2016

WHO global guidelines for SSI prevention

http://www.who.int/gpsc/ssi-guidelines/en/
Launched on3 November 2016

World Health Organization

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4 recommendations specifically focus on improving antibiotic use in surgery

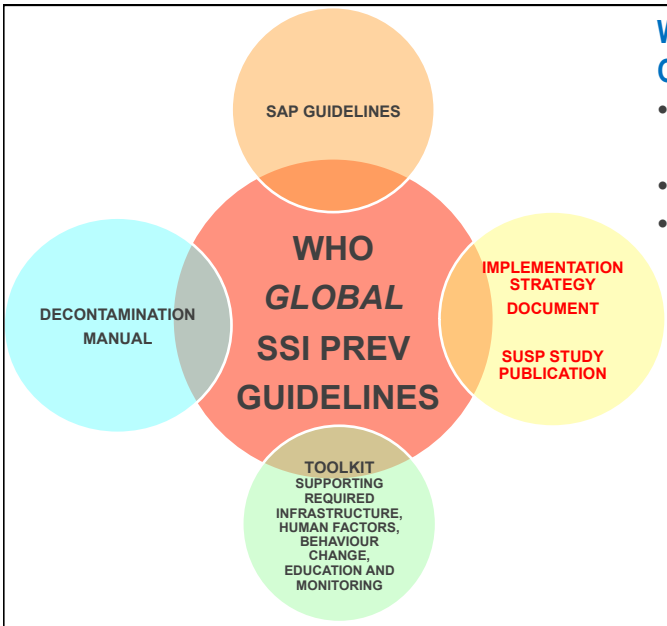
1. **Optimal timing** EV surgical antibiotic prophylaxis (SAP)
   - SAP should be administered prior to the surgical incision when indicated (depending on the type of operation)
   - The administration of SAP within 120 minutes before incision, while considering the half-life of the antibiotic
2. **Recommendations against:**
   1. antibiotic wound irrigation
   2. antibiotic prophylaxis in presence of a drain
   3. SAP prolongation in the post-operative period

69 World Health Organization

Important considerations for implementation in low-resource settings

- Some recommendations will NOT be resource demanding or they will even allow avoidance of unnecessary costs (e.g. no antibiotic prophylaxis prolongation; no laminar flow)
- Some recommendations will contribute to reducing AMR
- For others, careful evaluation should be made about:
  - Additional costs involved and/or limited product availability (e.g. alcohol-based hand rubs, chlorhexidine gluconate alcohol-based antiseptic solutions, antimicrobial sutures)
  - Need for staff training (e.g. increased oxygenation)
  - Need for specific expertise (e.g. glucose control; normovolemia)
  - Need for technical laboratory capacity (e.g. *S. aureus* carrier identification)
  - Involving organisational resources for appropriate administration (e.g. antibiotic timing)
  - Reuse and contamination risks (e.g. clippers)
  - Infrastructure constraints (e.g. limited access to clean water)
- Local production and solutions should be encouraged

70 *The Lancet Infectious Diseases, submitted* World Health Organization



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THANK YOU!!!

WHO Infection Prevention and Control Global Unit

HEALTH CARE WITHOUT AVOIDABLE INFECTIONS

Learn more at: http://www.who.int/gpsc/en/

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World Health Organization

Join UN, WHO and partners in the WAAW!

World Antibiotic Awareness Week

11 November 2016 – This year World Antibiotic Awareness Week will be held from 14 to 20 November 2016. The campaign aims to increase awareness of global antibiotic resistance and to encourage best practices among the general public, health workers, policy-makers and the agriculture sector to avoid the further emergence and spread of antibiotic resistance.

- Read real life stories
- Download the posters
- More about the campaign

WHO

http://www.who.int/campaigns/world-antibiotic-awareness-week/en/

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