


Global Infection Prevention & Control Priorities 2018-2022: A Call For Action
Prof. Benedetta Allegranzi, WHO Infection Prevention and Control Global Unit
Sponsored by the World Health Organization Infection Prevention and Control Global Unit



World Health Organization

**Global Infection Prevention & Control
 Priorities 2018-2022:
 A Call For Action**

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

Hosted by Dr. Nizam Damani

Sponsored by the World Health Organization Infection Prevention and Control Global Unit
www.webbertraining.com January 24, 2018

HAIs worldwide: 1 in 10 patients

Allegranzi B et al. Lancet 2011;377:228-41

Burden of endemic health-care-associated infection in developing countries: systematic review and meta-analysis

Summary

Background Endemic health-care-associated infection in the new regions results in avoidable patient morbidity and mortality. We conducted a systematic review and meta-analysis to estimate the burden of endemic health-care-associated infection in developing countries.

Methods We searched electronic databases and references lists of health-care-associated infection published in English, covering 1980 to present. We included studies that reported prevalence of health-care-associated infection in developing countries. We extracted data on the prevalence of health-care-associated infection in different countries and regions. We used random-effects meta-analysis to estimate the overall prevalence of health-care-associated infection in developing countries. We also conducted subgroup analyses by region and by type of health-care-associated infection.

Results We included 118 studies from 47 countries. The overall prevalence of health-care-associated infection in developing countries was 10.4% (95% CI 8.7-12.1). The prevalence of health-care-associated infection was highest in Africa (12.1%, 95% CI 10.5-13.7), followed by Asia (10.1%, 95% CI 8.8-11.4), and Latin America (9.1%, 95% CI 7.9-10.3). The prevalence of health-care-associated infection was highest in hospitals (11.1%, 95% CI 9.7-12.5), followed by long-term care facilities (10.1%, 95% CI 8.9-11.3), and ambulatory care (9.1%, 95% CI 8.0-10.2). The prevalence of health-care-associated infection was highest in Africa (12.1%, 95% CI 10.5-13.7), followed by Asia (10.1%, 95% CI 8.8-11.4), and Latin America (9.1%, 95% CI 7.9-10.3).


Conclusion The burden of health-care-associated infection in developing countries is high. Our findings support the need for infection prevention and control measures in these countries.

Articles



Report on the Burden of Endemic Health Care-Associated Infection Worldwide

Clean Care is Safer Care



Abstracts

Systematic reviews

Health-care-associated infection in Africa: a systematic review

Summary

Background Health-care-associated infection in Africa is a major public health problem. We conducted a systematic review to estimate the burden of health-care-associated infection in Africa.

Methods We searched electronic databases and references lists of health-care-associated infection published in English, covering 1980 to present. We included studies that reported prevalence of health-care-associated infection in Africa. We extracted data on the prevalence of health-care-associated infection in different countries and regions. We used random-effects meta-analysis to estimate the overall prevalence of health-care-associated infection in Africa. We also conducted subgroup analyses by country and by type of health-care-associated infection.

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Conclusion The burden of health-care-associated infection in Africa is high. Our findings support the need for infection prevention and control measures in these countries.

Bagheri Nejad S, et al. WHO Bull 2011;89:757-765

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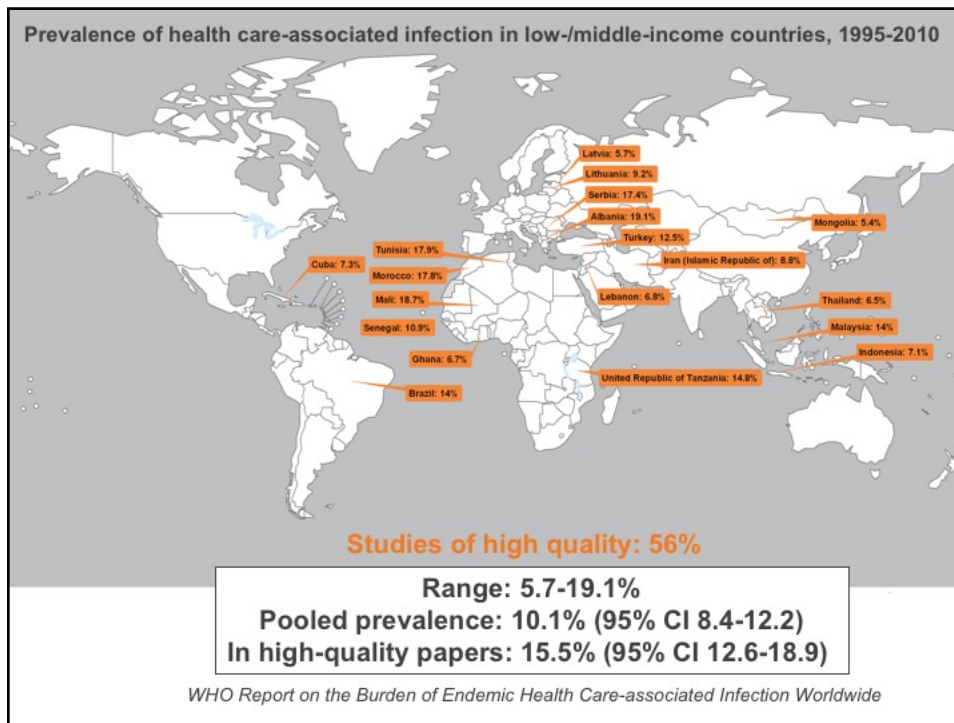
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Bagheri Nejad S, et al. WHO Bull
2011;89:757-765

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ECDC Point Prevalence Study 2011-12

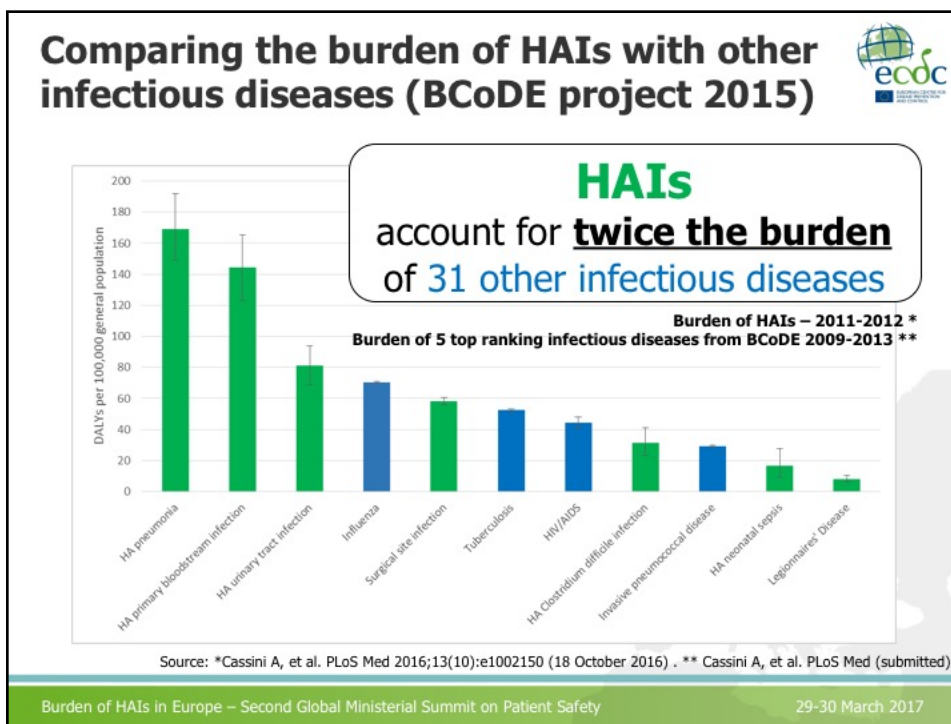
(ECDC, Point Prev Report 2011-12)

HAI type	LN-INT	P50 (LN-INT)	HAI inc. %	(95% CI)	N HAIs /year	(95% CI)	% of total HAIs	(95% CI)
Pneumonia/LRT	8.9	6.7	0.95	(0.58-1.66)	860 938	(522 771-1 500 038)	24.4	(14.8-42.5)
Urinary tract	8.0	6.3	0.98	(0.58-1.72)	888 106	(527 129-1 554 275)	25.2	(14.9-44.0)
Surgical site	15.0	9.3	0.60	(0.33-1.17)	543 149	(298 167-1 062 673)	15.4	(8.4-30.1)
Bloodstream	11.3	8.7	0.35	(0.19-0.93)	312 822	(171 262-844 423)	8.9	(4.9-23.9)
Gastro-intestinal	13.3	9.3	0.29	(0.14-0.66)	258 327	(127 121-593 452)	7.3	(3.6-16.8)
Systemic	7.5	5.7	0.26	(0.11-1.82)	236 387	(100 646-1 647 657)	6.7	(2.9-46.7)
Skin/soft tissue	12.8	9.0	0.11	(0.05-0.31)	103 146	(43 564-277 627)	2.9	(1.2-7.9)
Other HAI types	13.2	7.9	0.36	(0.17-0.85)	326 903	(151 302-770 238)	9.3	(4.3-21.8)
Total HAIs ^(a)					3 529 778	(1 941 962-8 250 382)		

HAI prevalence: 6%

87,539 affected patients every day

Estimated incidence per year: 3,2 M (1,9-5,2) affected patients
 Estimated deaths per year: 91,000



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Factors associated with sepsis mortality

- **31.5 million** sepsis and **19.4 million** severe sepsis cases, with potentially **5.3 million deaths** annually
- Hospital mortality for sepsis: 17%
- Hospital mortality for severe sepsis: 26%

	OR (95% CI)	p value
SAPS 3	1.03 (1.02-1.04)	<0.0001
Resource availability*
High	1.00	..
Intermediate	1.20 (0.72-1.98)	0.484
Low	1.67 (1.02-2.75)	0.045
Health-care-associated infection	1.55 (1.13-2.12)	0.0069
Septic shock	1.71 (1.24-2.37)	0.0013
Compliance with bundles
Non-compliance with antibiotics	1.00	..
Compliance at least with antibiotics	0.63 (0.44-0.89)	0.0090
Compliance with 6-h bundle	0.56 (0.37-0.84)	0.0059

WHO. Report by the Secretariat. WHA A70.13. <http://apps.who.int/ghris/wha70.html>
 Machado F et al. Lancet ID 2017

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Toll of AMR in USA

The toll of AR in the US alone is staggering

Estimated minimum number of illnesses and deaths caused annually by antibiotic resistance*:

At least

 **2,049,442** illnesses
 **23,000** deaths

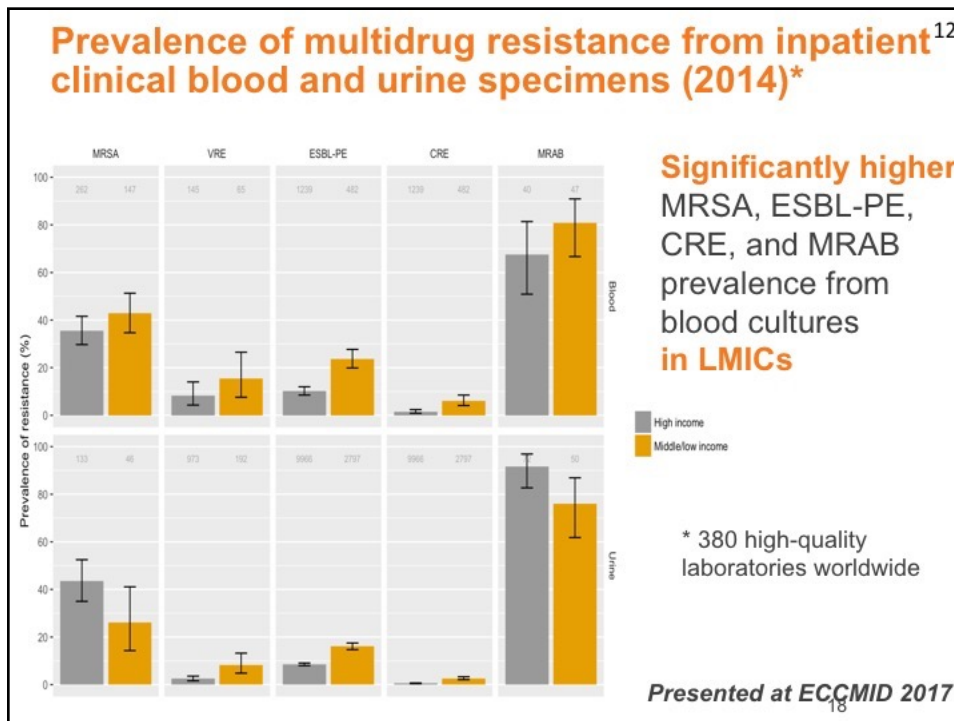
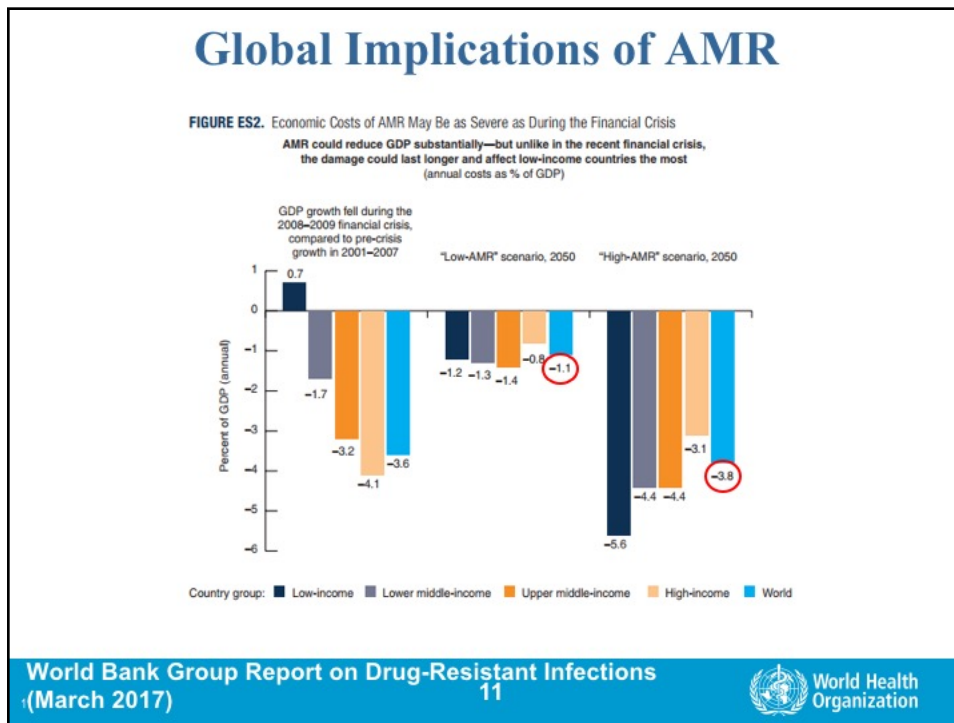
**bacteria and fungus included in this report*

PLUS at least 500,000 illnesses and 15,000 deaths from C. difficile infections

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Global AMR Surveillance System (GLASS)

- GLASS early implementation (2015-19):
 - Data on the status of national AMR surveillance
 - Aggregated national AMR data for priority pathogen-antibacterial combinations
 - Antibiotic susceptibility test (AST) data from blood and other priority specimens sent routinely to labs for clinical purposes
 - GLASS promotes a shift from surveillance based solely on lab data to a system to a system that includes epidemiological, clinical, and population-level data

GLASS country enrolment status, as of December 2017

49 countries



First GLASS report January 2018!

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Carbapenem Resistance in 2015

Figure 3-9. Klebsiella pneumoniae. Percentage (%) of invasive isolates with resistance to carbapenems, by country, EU/EEA countries, 2015

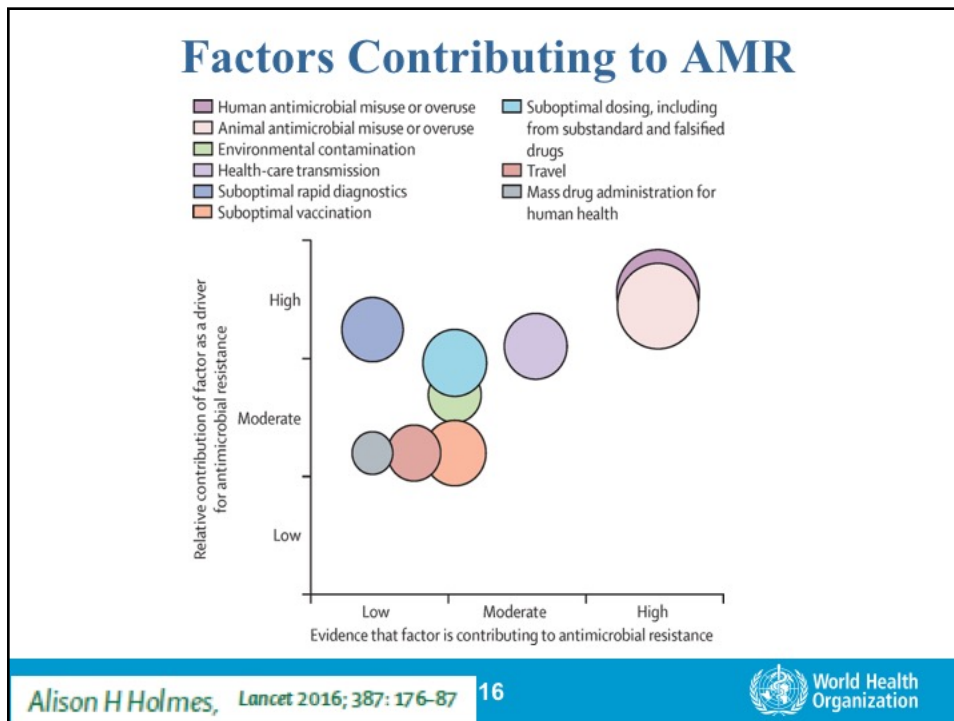
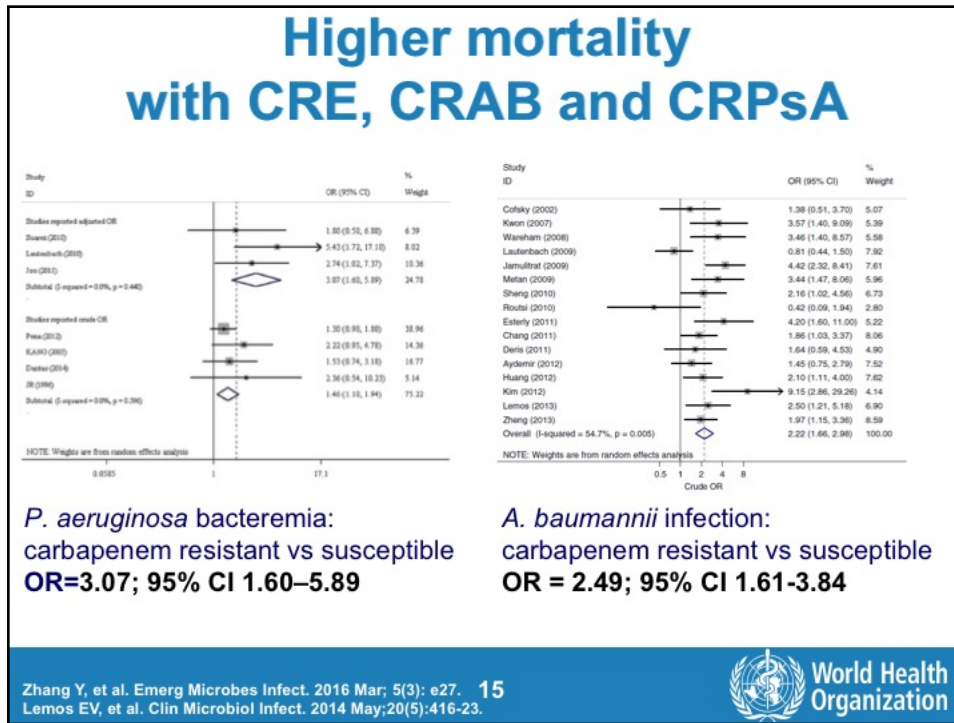
Figure 3-10. Pseudomonas aeruginosa. Percentage (%) of invasive isolates with resistance to carbapenems, by country, EU/EEA countries, 2015

Figure 3-11. Acinetobacter spp. Percentage (%) of invasive isolates with resistance to carbapenems, by country, EU/EEA countries, 2015

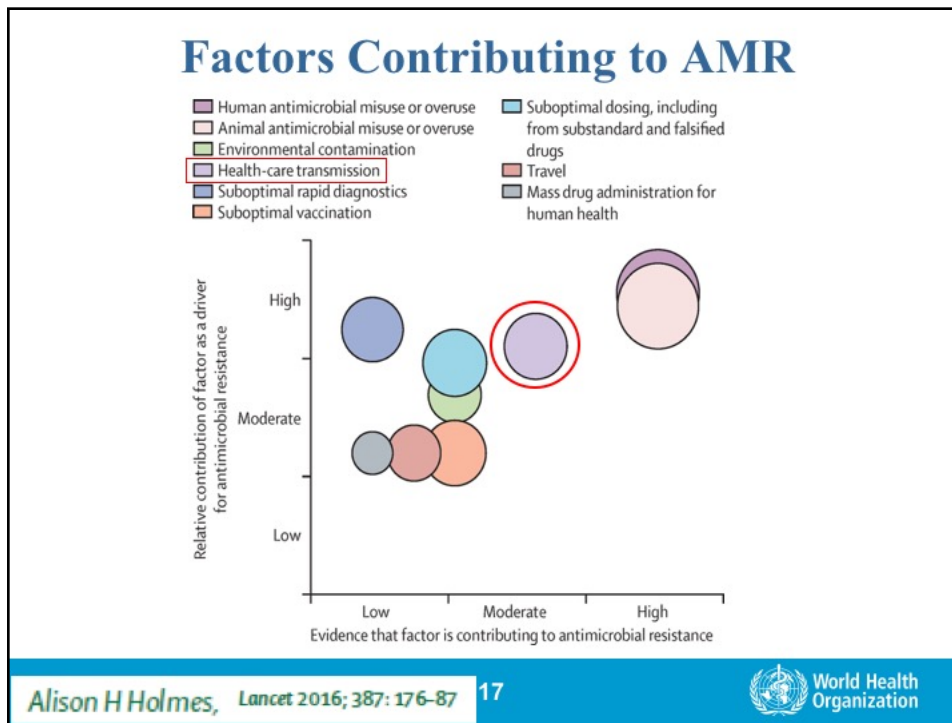
- *K. pneumoniae*: 8.1% (top left)
- *P. aeruginosa*: 17.8% (top right)
- *Acinetobacter spp.*: 12/27 countries had resistance \geq 50% (bottom left)

Antimicrobial resistance surveillance in Europe: technical report. Stockholm: ECDC; 2015
 Rapid risk assessment: carbapenem-resistant *Acinetobacter baumannii* in healthcare settings. Stockholm: ECDC; 2016.

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Why IPC in health care to combat AMR?

Exploring the evidence base for national and regional policy interventions to combat resistance *Lancet* 2016; 387: 285-95

Osman A Dar, Rumina Hasan, Jørgen Schlundt, Stephan Harbarth, Grazia Caleo, Fazal K Dar, Jasper Littmann, Mark Rweyemamu, Emmeline J Buckley, Mohammed Shahid, Richard Kock, Henry Lishi Li, Haydar Giha, Mishal Khan, Anthony D So, Khalid M Bindayna, Anthony Kessel, Hanne Bak Pedersen, Govin Permanand, Alimuddin Zumla, John-Arne Røttingen, David L Heymann

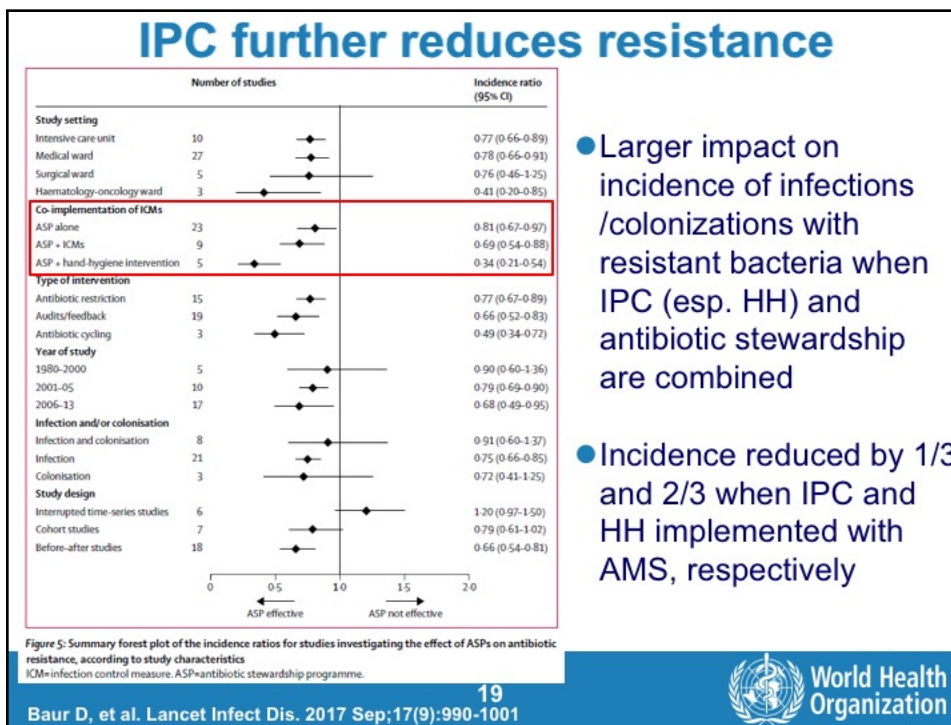
IPC interventions can:

- minimise the spread of pathogens, including R ones
- decrease the likelihood of infection in health-care settings
- reduce the overall need for antimicrobials

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- Larger impact on incidence of infections /colonizations with resistant bacteria when IPC (esp. HH) and antibiotic stewardship are combined
- Incidence reduced by 1/3 and 2/3 when IPC and HH implemented with AMS, respectively

Why IPC is so important for patient outcomes

>30% Reduction Effective IPC programmes lead to more than a 30% reduction in HAI rates

25-57% Reduction Surveillance contributes to a 25-57% reduction in HAIs

50% Reduction Improving hand hygiene practices may reduce pathogen transmission in health care by 50%

13-50% Reduction Strong IPC plans, implemented across the USA between 2008 and 2014, reduced central line-associated bloodstream infections by 50%, surgical site infections (SSIs) by 17% and MRSA bacteraemia by 13%

56% Reduction MRSA declined by 56% over a four-year period in England in line with a national target

44% Reduction A safety culture and prevention programme reduced SSI risk in African hospitals by 44%

80% Compliance Between 2010 and 2015 Australia achieved and sustained 80% hand hygiene compliance in hospitals nationwide

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


Health care without avoidable infections
The critical role of infection prevention and control

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



3 GOOD HEALTH AND WELL-BEING



6 CLEAN WATER AND SANITATION

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

Linkages

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Leadership, connecting, coordinating

Guidelines & implementation

Campaigns & advocacy

Capacity building

Measuring & learning

**WHO IPC
Global Unit
Functions**



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


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CDC's International Infection Control Program (IICP): Activities



Respond Rapidly to Outbreaks

- Provide technical assistance in outbreak investigations in healthcare settings
- Collaborate with domestic and international partners on response efforts to ensure rapid and effective response



Improve Infection Prevention and Control Capacity

- Work with ministries of health to adapt and promote policies, guidelines and training materials for use at the national and local level
- Provide technical assistance for the implementation of infection prevention programs
- Identify and refine best practices for preventing healthcare-associated infections
- Promote innovative solutions through domestic and international partnerships



Reduce the Global Burden of Drug Resistance

- Assist in the development of national policies and plans to combat antimicrobial resistance in healthcare settings
- Provide tools and technical assistance for countries to detect, track and respond to antimicrobial resistance in healthcare settings
- Promote appropriate use of antibiotics

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Global IPC Network

- Supported collaboratively by WHO and CDC and coordinated by WHO
- to enhance local, national (Member States) and international coordination and collaboration in the field of IPC and
- to support WHO's and Member States' efforts on IPC, from preparedness to IPC systems and programmes' strengthening, outbreak prevention and control, as well as capacity building for surveillance.

Ultimate goal: reduction of HAI (including in the context of outbreaks) and addressing the global burden of AMR in support of all Member States and WHO priorities

http://www.who.int/infection-prevention/about/GIPC_Network/en/

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Global IPC Network

2017- IPC PRIORITIES AND CHALLENGES OVER THE NEXT 5 YEARS

- **At national level:**
 - for settings where IPC has just started
 - for settings with advanced IPC programmes
- **At global level**

http://www.who.int/infection-prevention/about/GIPC_Network/en/
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Global infection prevention and control priorities 2018–22: a call for action

The Ebola virus disease outbreak in west Africa, and the rapid spread of other emerging viruses, such as the severe acute respiratory syndrome in the Middle East, respiratory syndrome coronavirus, showed how limited or non-existent infection prevention and control (IPC) programmes, combined with an inadequate water supply, poor sanitation, and a weak hygiene infrastructure in health facilities, can threaten global health security. In such outbreaks, instead of serving as points where disease was contained, health-care facilities became dangerous places for outbreak amplification among staff and patients and transmission back to communities. According to WHO, defective IPC practices during everyday health-care delivery also cause harm to hundreds of millions of patients worldwide every year.^{1,2} The European Centre for Disease Prevention and Control estimated that more than 7.5 million new cases of health-care-associated infection occur every year in Europe, with a cumulative burden estimated at 100 million hospital days that is higher than all other reported 20 communicable diseases. The burden of health-care-associated infections was also recently highlighted in southeast Asian countries. Many health systems fail to build strong foundations to reduce the risk and spread of health-care-associated outbreaks. They also tolerate an unacceptably poor level of IPC in everyday practice. It is now urgent to consider IPC capacity building and actual implementation as global health priorities. This would create a unique opportunity to make IPC a strong contributor to the achievement of the health-related Sustainable Development Goals (particularly 3.6, 3.9, 5.a, 5.c, and 6), including quality universal health coverage (UHC). It would also help effective implementation of other major global health priorities, including the intervention blocks (Regulation, antimicrobial resistance (AMR) action plans, patient and health worker safety, and integrated people-centred care).³

Among its efforts in this field, WHO coordinates the Global IPC (GIPC) Network. This brings together major IPC organisations with the aim to enhance local, national, and international collaboration. It also supports country efforts in strengthening IPC systems and programmes, outbreak preparedness and response, and capacity building for surveillance. In early 2017, GIPC Network participants and WHO identified priorities for the next 5 years at both the country and global (panel) level. Together with the recent WHO guidelines on core components of IPC programmes,⁴ the new priorities will be a source of direction and focus for decision-makers and influencers at national and international health-care levels.

Panel Call for action

Resolutions for IPC at country level

Core areas of IPC target areas

- Develop and revise national standards, including IPC policy development and enforcement
- Availability of resources (both human and financial)
- Establishment and evolution of IPC programme at the national and acute health facility level to ensure strong training and staff time engagement and accountability
- Action to increase availability of evidence-based IPC knowledge and expertise

Core areas with international programmes

- Increased accessibility with IPC to quality behaviour
- Development of advanced information technology tools to support IPC monitoring and implementation
- Facilitation of information through virtual and communications to secure resources and engagement
- Credible incentives considering the local context to increase compliance rates
- Enhanced education and training to embed IPC knowledge across all disciplines

Resolutions for IPC at the global level

Strengthen WHO's leadership in IPC

- Strengthen IPC visibility and advocacy across all WHO regions and institutions
- Lead on IPC knowledge development, create standardised tools and evidence that can be adopted locally, target to adopt and disseminate better research practice
- Foster and promote IPC as a marker of quality essential to universal IPC minimum standards
- Build active networks and monitor communication, ensure that patients and quality improvement bodies, as well as the health workers across all disciplines, are engaged in the IPC

Develop the role of IPC globally by better embed AMR

- Strengthen the power to take action against a "top-down" disinfectant, especially, against AMR
- Improve existing international initiatives effectively within available data and other information on the impact of IPC solutions on AMR
- Support the use of data to help people understand the IPC programmes can lead to AMR risk reduction

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**Global infection prevention and control priorities 2018–22:
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Priorities for IPC at country level

Countries where IPC has just started

- Decisive and visible political commitment, including IPC policy development and enforcement
- Availability of resources (both human and infrastructure)
- Establishment and execution of IPC programmes at the national and acute health facility levels to ensure advocacy, training and data for future improvement and sustainability
- Action to increase availability of in-country IPC knowledge and expertise

**Global infection prevention and control priorities 2018–22:
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Priorities for IPC at country level

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



**Focus on
preventing
HAIs and
combating
AMR**



Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Health Care Facility Level




Core components for effective infection prevention and control programmes: new WHO evidence-based recommendations

Storr J et al. ARIC 2017


<https://aricjournal.biomedcentral.com/articles/10.1186/s13756-016-0149-9>

- <http://www.who.int/infection-prevention/publications/core-components/en/>
- Storr J et al. *ARIC 2017*

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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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Systematic reviews

Review
UPDATE OF
Zingg W et al. Lancet Infect Dis 2015;
15: 212-22

Hospital organisation, management, and structure for prevention of health-care-associated infection: a systematic review and expert consensus

Walter Zingg, Alison Holmes, Markus Dettenkofer, Tim Goetting, Felix Uicker Pflanz, for the systematic review and evidence-based guidance of...

Despite control efforts, the burden of health-care-associated infection prevention programmes in hospitals and long-term care facilities published from 1995 to 2012 were assessed and reviewed at hospital level: bed occupancy, staffing, workload, and access to materials and equipment and optimum expert auditing, surveillance and feedback; multimodal and behavioural change; engagement of champions; and manageable and widely applicable ways to reduce health...

Lancet Infect Dis 2015; 15: 212-22
 Published Online November 11, 2014
 http://dx.doi.org/10.1016/S1473-3099(14)70184-0
 This online publication has been corrected. The corrected version first appeared at the Lancet.com website on Feb 23, 2015.

Price L et al. Lancet Infect Dis;
October 31, 2017

Effectiveness of national and subnational infection prevention and control interventions in high-income and upper-middle-income countries: a systematic review

Lesley Price, Jennifer MacDonald, Lynn Malone, Tracy Howe, Paul Flowers, Kay Currie, Evonne Curzon, Valerie Ness, Debbie Waddell, Sanku Manuvelan, Agi McFarland, Claire Kipatnick, Julia Stone, Anthony Teyman, Benedetta Allegranzi, Jaquie Reilly**

Evidence-based guidance for national infection prevention and control (IPC) programmes is needed to support national and global capacity building to reduce health-care-associated infection and antimicrobial resistance. In this systematic review we investigate evidence on the effectiveness of IPC interventions implemented at national or subnational levels to inform the development of WHO guidelines on the core components of national IPC programmes. We searched CENTRAL, CINAHL, Embase, MEDLINE, and WHO IRIS databases for publications between Jan 1, 2000, and April 19, 2017. 29 studies that met the eligibility criteria for economic evaluations, cluster-randomised trials, non-randomised trials, controlled before-and-after studies, and interrupted time-series studies exploring the effective of these interventions) were categorised according to intervention type: multimodal, care bundles, policies, and surveillance, monitoring, and feedback. Evidence of effectiveness was found in all categories but the best quality evidence was on multimodal interventions and surveillance, monitoring, and feedback. We call for improvements in study design, reporting of research, and quality of evidence particularly from low-income countries, to strengthen the uptake and international relevance of IPC interventions.

Lancet Infect Dis 2017
 *Joint first authors
 Published Online October 31, 2017
 http://dx.doi.org/10.1016/S1473-3099(17)30479-9
 Supporting Health through Infection Prevention Research Group, School of Health and Life Sciences, Glasgow Caledonian University, Glasgow, UK; L. Price PhD, St. Vincent's Hospital, Perth, Western Australia

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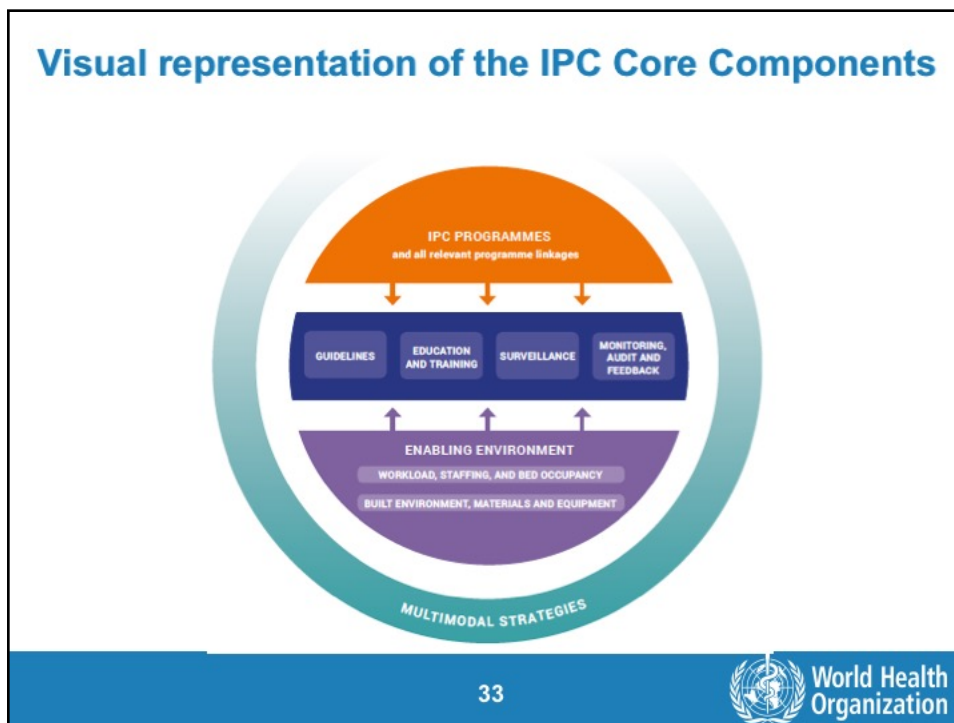
New WHO core components for IPC programmes

1	IPC programmes	R1a Strong 1b 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. Standardised, 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 organisations.
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 the relevant health care workers on guideline recommendations and monitoring of adherence with guideline recommendations should be undertaken to achieve successful implementation.
3	Education & training	R3a Strong 3b GPS	At the facility level, IPC education should be in place for all health care workers by utilising team- and team-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.
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 data the potential to be used for benchmarking purposes should be established to reduce HAI and AMR.
5	Multimodal strategies	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 at the national or subnational level.
6	Monitoring, audit & feedback	R6a Strong R6b Strong	Regular monitoring/audit and timely feedback of health care practices should be undertaken according to IPC objectives to prevent and control HAI 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 countries are doing well 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.
7	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 operating capacity of the facility; (2) health care worker staffing levels should be adequately assigned according to patient workload.
8	Built environment, materials & equipment	8a GPS 8b 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.

R= recommendation; GPS: good practice statement

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**Global infection prevention and control priorities 2018–22:
a call for action**

Countries with advanced IPC programmes

- Increased accountability with IPC as a quality indicator
- Development of advanced information technology tools to support IPC monitoring and implementation
- Translation of information through enhanced communications to sustain awareness and engagement
- Credible incentives considering the local context to increase compliance rates
- Enhanced education and training to embed IPC knowledge across all disciplines

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**Global infection prevention and control priorities 2018–22:
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Health topics Data Media centre Publications Countries Programmes Governance About WHO

Service delivery and safety

WHO Global Learning Laboratory for Quality UHC

Service delivery and safety

About us

Areas of work

Learning Pods

What is a Learning Pod?

Activated Learning Pods

National Quality Policies and Strategies

The GLL recognizes that national quality policies and strategies are pivotal in strengthening health systems, making progress towards UHC and achieving the SDGs. As one of the three focus areas of the GLL, the Learning Pod on national quality policies and strategies (NQPS) aims to engage multiple professionals on key issues relating to NQPS. The Learning Pod will: foster knowledge sharing between countries on NQPS to support national action; enhance capacity of participating individuals on key NQPS technical areas, collate and share tools and resources to support NQPS; identify different pathways for developing and implementing NQPS; harvest NQPS 'change nuggets' from participating individuals to catalyze action; and ensure effective linkages with specific technical areas.

1. GLL overview
 2. Why join the GLL?
 3. Who can join?
 4. Register and connect
 5. Webinar series
 6. Publications
 7. Learning Pods
 8. Emerging GLL Knowledge Products

<http://www.who.int/servicedeliverysafety/areas/qhc/gll/en/index6.html>

Infection Prevention Control and Water Sanitation and Hygiene

The Learning Pod on Infection Control and Water Sanitation and Hygiene (IPC and WASH) Learning Pod is unique in that it provides a unique opportunity for the two disciplines of IPC and WASH to connect and collaborate across the globe. The interaction of the two areas has potential to be a force for good in support of quality UHC! In addition to sharing experiences, this Learning Pod will give members the opportunity to build technical capacity through an online discussion forum and have access to webinars and a repository of resources. Members will also have the opportunity to expand their networks by meeting and collaborating with other people across the IPC and WASH communities and beyond.

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Hand Hygiene Australia

- Central HH database
- New direct-entry HH compliance App
 - i-Phones, other Smart-devices
 - Benefits:
 - Reduces data management time by 50%
 - No duplicate data entry and errors
 - Mobile devices common and cheap
 - Flexible reporting options

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Courtesy by Prof Lindsay Grayson


Austin Health

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Manage infection

Infection control in operating theatres: Inventing the wheel?



Infection control system
Flow sheets and associated documents are available at <http://doctorsinthetheatre.com.au/infection-control-documents/>.



Royal Darwin Hospital has introduced a new system to manage infection control in the perioperative environment.

Infection control is a critical component of modern healthcare due to the ever increasing presence of multi-resistant organisms (MRO). The management strategies required to prevent the spread of infections are therefore paramount.

Fortunately, general infection control strategies such as hand hygiene and barrier protection are well established in australian healthcare institutions.

However, these generalised approaches to infection control do not translate very well to the peri-operative environment. Due to high patient turnover, frequent staff interaction with patients and surroundings and patient movement through multiple clinical areas, applying ward-based infection control strategies to theatres is impractical and unsustainable. These limitations inevitably lead to poor adherence to infection control measures and therefore risk of cross infection.

Furthermore, attempting to interpret and apply these general policies to the operating theatre environment results in confusion and potentially unnecessary delays to operating lists.

To address these issues, we set out to develop an infection control strategy tailored to the perioperative environment. The aim was to maintain adequate infection control measures while minimising the disruption to operating theatre workflow. We contacted infection control departments at multiple Australian hospitals and were surprised to find that none of them had operating theatre specific policies.

Working side by side with the infection control department at our institution (Royal Darwin Hospital, Darwin, NT), we were able to produce a series of reference flow sheets outlining the infection control requirements for each type of infection prevention.


The written pathogens are classified into five categories: contact, airborne, skin, droplet and carbapenem resistant enterobacteriaceae (CRE). These flow sheets are stored on the infection control trolley (aka tuggy) with all the required personal protective equipment (PPE).

Staff members are able to bring the trolley to the specific operating theatre, refer to the relevant flow sheet and prepare the theatre appropriately.

These flow sheets provide specific and easy to understand management plans that include theatre preparation, intra-operative requirements, recovery plans, cleaning, linen processing and waste disposal. It also provides clarification on how staff can remain "clean" or "contaminated" in the operating theatre environment during the various phases of the peri-operative process.

Above left: Dr. Zuzak Lazzari with the infection control trolley (tuggy)

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Global infection prevention and control priorities 2018–22: a call for action

Priorities for IPC at the global level

Strengthen IPC in the health system perspective

- Strengthen IPC visibility and advocacy: convince decision-makers and stakeholders
- Lead on IPC knowledge development: create standardised curricula templates that can be adapted locally (“adapt to adopt”) and stimulate further research on priority areas
- Foster and promote IPC as a marker of quality: establish international IPC minimum standards
- Build active networks and stronger communications: - ensure that patient safety and quality improvement leaders, as well as other health workers across all disciplines, are engaged to advocate for IPC

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https://www.escmid.org/research_projects/eucic/training_programme/

ESCMID MANAGING INFECTIONS PROMOTING SCIENCE

MEMBERS & ORGANIZATION | RESEARCH & PROJECTS | PROFESSION & CAREER | ESCMID PUBLICATIONS | DATES & EVENTS | NEWS & MEDIA

Research & Projects

- ECCMO
- ESCMID Conferences
- Study Groups
- EUCIC**
 - Current activities
 - Organization
 - Training programme**
 - Basic Module
- EUCAST
- Fighting Resistance
- Ingelise Corner
- Networking Corner

EUCIC Infection Prevention and Control Certificate

Infection Control Africa Network Resources Current Outbreaks News About Project

Education

- Training Brochure (ICAN in collaboration with Stellenbosch University)**
Training Booklet Short Course Revised 31 Oct 2017
- IPC Accreditation Board for Africa (IABA)**
 - IABA CPD Accreditation Standards Declaration
 - IABA Continuous Professional Development Activity Accreditation Form (For providers)
 - Annex I CPD Activity Template
 - Annexes II and III
 - Annex IV Feedback
- Webber Teleclass – Portuguese**
WHO IPC Core Components and WHO Guidelines

Hand Hygiene Excellence Workshop 2017

<http://www.icanetwork.co.za/education/>

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WHO IPC Advanced Training Modules

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



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Global infection prevention and control priorities 2018–22: a call for action

Elevate the role of IPC specifically to better combat AMR

- Strengthen the power to act: secure support for a “top-down” chief executive approach, empower IPC leads
- Improve evidence presentation to leaders: effectively outline available data and other information on the impact of IPC solutions on AMR
- Expand the narrative: help people visualise how IPC programmes can lead to AMR risk reduction

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**THE ROLE OF INFECTION PREVENTION AND CONTROL
IN PREVENTING ANTIBIOTIC RESISTANCE IN HEALTH CARE**

On average, 1 in every 10 patients is affected by health care-associated infections (HAIs)
• Antibiotic-resistant HAs can double or more the likelihood of death
• Over 50% of surgical site infections can be resistant to antibiotics

Effective infection prevention and control (IPC) and water, sanitation and hygiene (WASH) stops the spread of antibiotic-resistant organisms

IPC and WASH in health care protects patients and health workers from avoidable infections

The building blocks of IPC and WASH in health care facilities are:
• effective hygiene practices, including hand hygiene
• core components of IPC programmes
• a clean, well-functioning environment and equipment

This leads to:
• less spread of antibiotic-resistant organisms
• a reduced need for antibiotics

Every infection prevented is an antibiotic treatment avoided
• Play your role in controlling antibiotic resistance!
• Ensure IPC programmes are in place and champion IPC practices

IPC saves millions of lives every year

HANDLE ANTIBIOTICS WITH CARE


Source: World Health Organization. Infection prevention and control. Available at: <http://dx.doi.org/10.1016/j.lan.2017.10.011> | World Health Organization. Water, sanitation and hygiene. Available at: <http://dx.doi.org/10.1016/j.lan.2017.10.011>. All necessary permissions have been obtained by the World Health Organization to ensure the information contained in this document. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation of the results of this material lies with the reader. In no way shall the World Health Organization be liable for damage arising from its use.

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

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● 8 evidence-based 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

<http://www.who.int/infection-prevention/publications/focus-am/en/>

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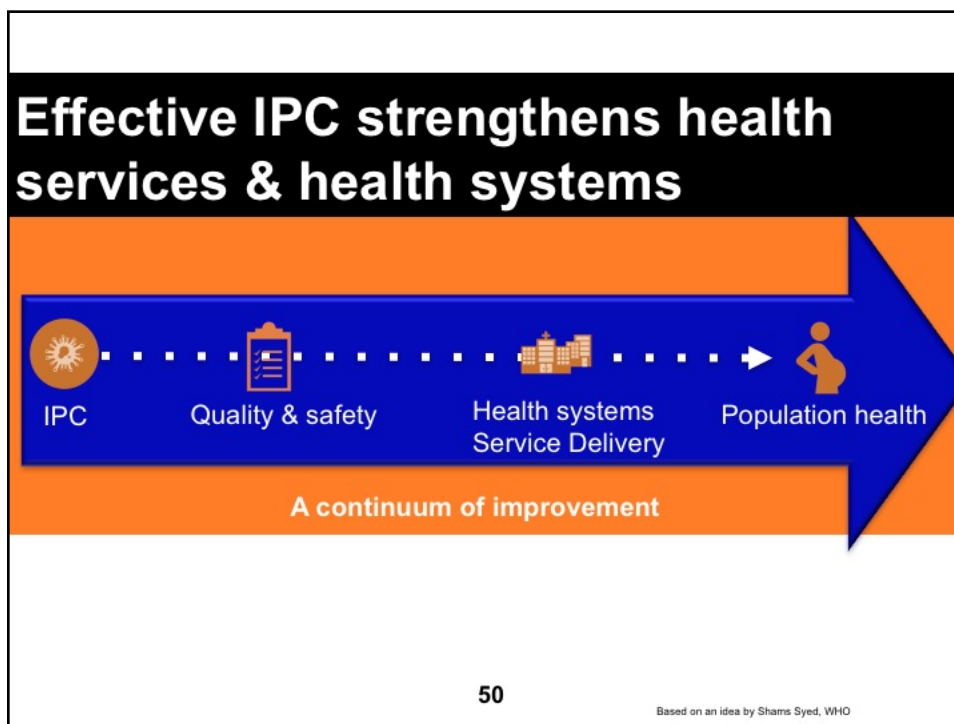
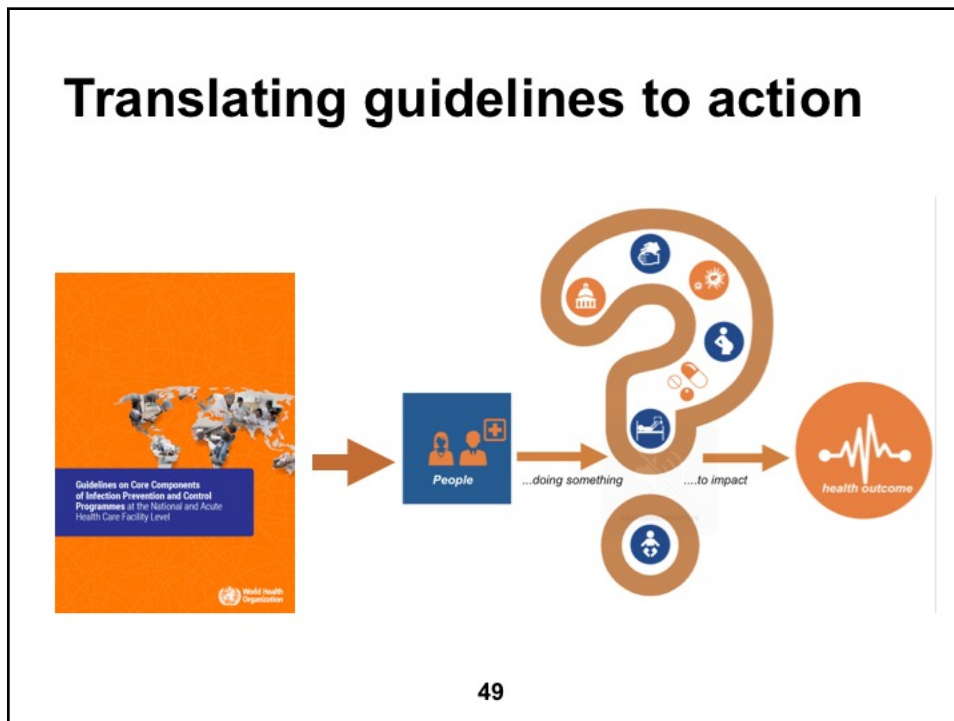
WHO SSI prevention guidelines - 4 recommendations specifically focus on improving antibiotic use in surgery

- 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

<http://www.who.int/infection-prevention/publications/ssi-guidelines/en/>

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Core component 5: Multimodal strategies

5 **Multimodal Strategies**

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.

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**.

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The key approach for IPC implementation

The Five Components of the WHO multimodal hand hygiene improvement strategy

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The key approach for IPC implementation

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:

- 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 well equipped and how ready are the facility to adopt the intervention?
 Are certain types of health workers needed to implement the intervention?

Practical example: when implementing hand hygiene interventions, sites of access to handrubs at the point of care and the availability of water infrastructure (including water and soap) are important considerations. Are these available, affordable and easily accessible in the workplace? If not, action is needed.
- 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 practice and best practices?
 Does the facility have trainers, training aids, and the necessary equipment?

Practical example: when implementing infection safety interventions, levels of training of those responsible for administering safety systems, including letters and community workers, are important considerations, as well as adequate methods.
- 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 prevention, the use of key tools are important considerations, such as surveillance data collection forms and the WHO checklist (adapted to local conditions).
- 4. Sell it (messengers & communications)**

How are you promoting an intervention to ensure that there are champions in 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 alert, promote, and encourage messages, and planning for periodic campaigns are important considerations.
- 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 implementation?
 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 operates, this as part of safety and quality improvement, and the role of patient safety systems implemented as part of the clinical workflow are important considerations.

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Technical Work

Evidence-based interventions

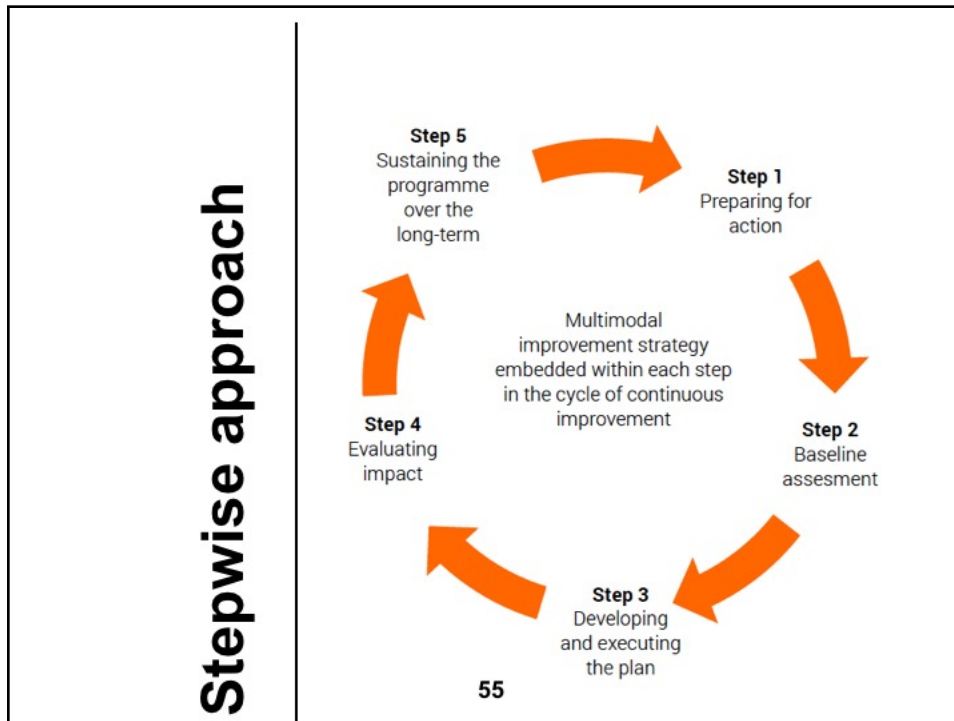
Adaptive Work

Safety culture

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Implementation resources for the WHO IPC Core Components Guidelines

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

National policy-maker engagement brief

PROBLEM? SOLUTION?

Practical Guide

IPC Core Components field implementation

Facility Level

- <http://www.who.int/infection-prevention/tools/core-components/en/>
- Storr J et al. *ARIC* 2017


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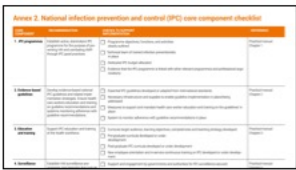
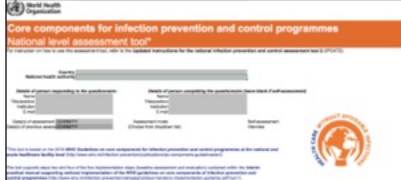
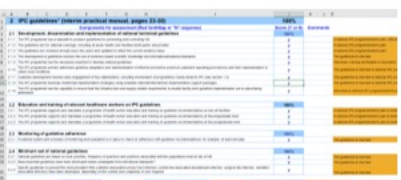
National & facility-level assessment tools




1. DRAFT - WHO IPC Self-Assessment Framework 2017 - Health care facility level

Core component 1: IPC programme


Question	Answer	Score
1. Do you have an IPC programme? Choose one answer	No	0
	Yes, without clearly defined responsibilities	5
	Yes, with clearly defined responsibilities and functions and annual work plan	10
2. Is your IPC programme supported by an IPC Team comprising trained IPC professionals? Choose one answer	No	0
	Yes	10
3. Is there a full-time infection preventionist or equivalent (ITE) (nurse or doctor, working 100% in IPC) available? Choose one answer	No infection preventionist available	0
	Yes, one FTE per > 250 beds	5
4. Does your IPC team include both doctors and nurses?	No	0
	Yes	10
5. Does your IPC team/local person have dedicated time for IPC activities?	No	0
	Yes	10
6. Do you have an Infection Control Committee or an equivalent actively supporting the IPC team?	No	0
	Yes	10
7. In addition to the IPC team which, if any of the following professional groups are represented?		


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Other WHO IPC Guidelines & Implementation Support

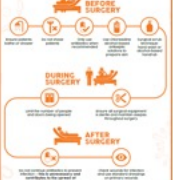
GLOBAL GUIDELINES FOR THE PREVENTION OF SURGICAL SITE INFECTION




Decontamination and Reprocessing of Medical Devices for Health Care Facilities




WHAT'S THE SOLUTION?
A range of procedures - before, during and after surgery - reduces the risk of infection




WHO guidelines on the use of single-dose pre-filled syringes for intramuscular, intravenous and subcutaneous injections in health care settings




UNSAFE INJECTIONS TRANSMIT HARMFUL INFECTIONS!
MAKE SMART INJECTION CHOICES




WHO Guidelines on Hand Hygiene in Health Care
First Global Patient Safety Challenge: Clean Care is Safer Care



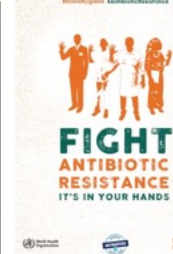
SAVE LIVES
Clean Your Hands
Guide to Implementation
A Guide to the Implementation of the WHO Multisectoral Hand Hygiene Implementation Strategy




WHO Guidelines on Hand Hygiene in Health Care
Hand Hygiene Self-Assessment Framework 2010



WHO Guidelines on Antibiotic Resistance
FIGHT ANTIBIOTIC RESISTANCE
IT'S IN YOUR HANDS



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The importance of leadership in IPC



We need to **influence** doctors, nurses, managers and politicians and **all disciplines** in health care!

Saint S, et al. *Infect Control Hosp Epidemiol* 2010 Sep;31(9):901-7.
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Learn more at: <http://www.who.int/infection-prevention/en/>

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SAVE LIVES: Clean Your Hands
WHO Hand Hygiene Campaign

Join us on 5 May 2018!

**“It's in your hands – prevent
 sepsis in health care”**

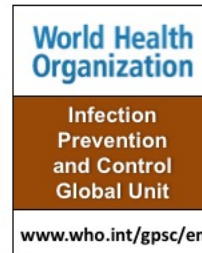
<http://www.who.int/infection-prevention/campaigns/clean-hands/en/> 61  World Health Organization

www.webbertraining.com/schedulep1.php	
January 25, 2018	PRACTICAL APPROACHES FOR MONITORING CLEANING IN HEALTHCARE FACILITIES Speaker: Prof. Curtis Donskey , Case Western Reserve University, Cleveland <i>(FREE Teleclass)</i>
February 8, 2018	PATIENTS ARE YOUR PARTNERS - WHY AND HOW THIS PARTNERSHIP WORKS Speaker: Ioana Popescu , Canadian Patient Safety Institute, Judy Birdsell and Kim Neudorf , Patients for Patient Safety Coalition
February 15, 2018	REFUGEE HEALTH: A NEW PERSPECTIVE FOR INFECTION PREVENTION AND CONTROL Speaker: Prof. Ruth Carrico , University of Louisville <i>(South Pacific Teleclass)</i>
February 21, 2018	IMPROVING THE KNOWLEDGE AND RECEPTIVENESS OF MEDICAL STUDENTS TOWARDS HAND HYGIENE: EXPLORING NEW APPROACHES Speaker: Dr. Rajneesh Kaur , Research Associate, University New South Wales, Australia
February 22, 2018	ROOT CAUSE ANALYSIS TO SUPPORT INFECTION CONTROL IN HEALTHCARE PREMISES Speaker: Dr Anne-Gaëlle Venier , University Hospital Centre of Bordeaux, France
	INFECTION PREVENTION IN NURSING HOMES AND PALLIATIVE CARE

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