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**Los componentes esenciales de los
programas de prevención y control
de infecciones: desde guías a
implementación en vida real**

**Benedetta Allegranzi
IPC Global Unit, WHO HQ**

Por qué es importante PCI?

>30%
Reduction

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

56%
Reduction

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

25-57%
Reduction

Surveillance contributes to a 25-57% reduction in HAIs

44%
Reduction

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

50%
Reduction

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

80%
Compliance

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

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%

- Programas de PCI efectivos contribuyen a una disminución de cifras de IAAS en 30%
- Vigilancia contribuye a una reducción de IAAS entre 25-57%
- Mejorar las prácticas de higiene de manos reduce la transmisión de patógenos en 50%
- 13-50%: Programas de PCI implementados en EEUU entre 2008-2014, redujeron infecciones del torrente sanguíneo asociadas a línea central en 50% infecciones de sitio quirúrgico por 17% y MRSA bacteriemia por 13%

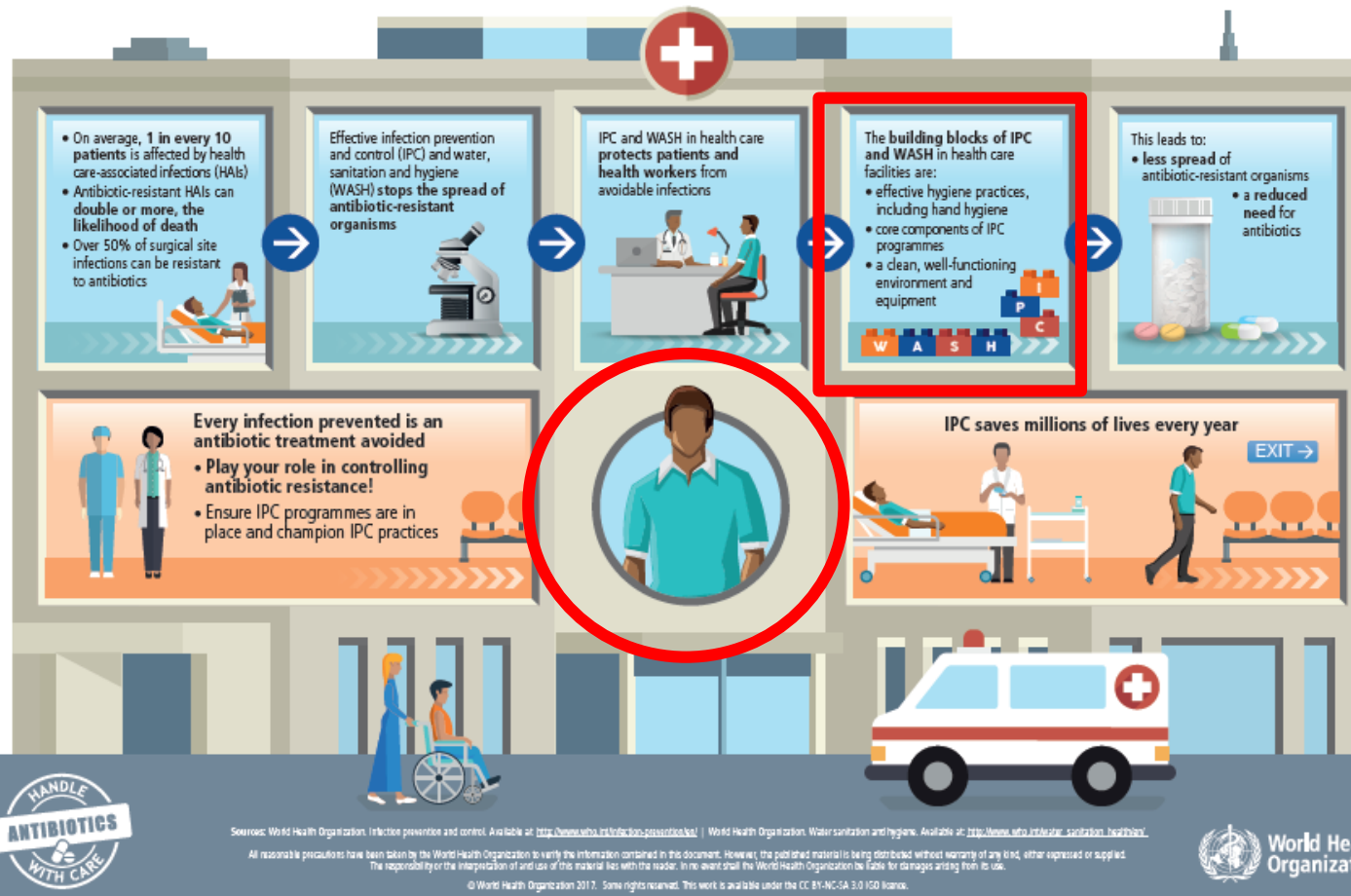
- MRSA se redujeron por 56% en Inglaterra en línea con objetivos nacionales
- Programa de seguridad y prevención redujo las infecciones de sitio quirúrgico en 44% en hospitales africanos
- Entre 2010-2015, Australia alcanzó y sostuvo 80% de cumplimiento con higiene de mano en hospitales nacionalmente

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

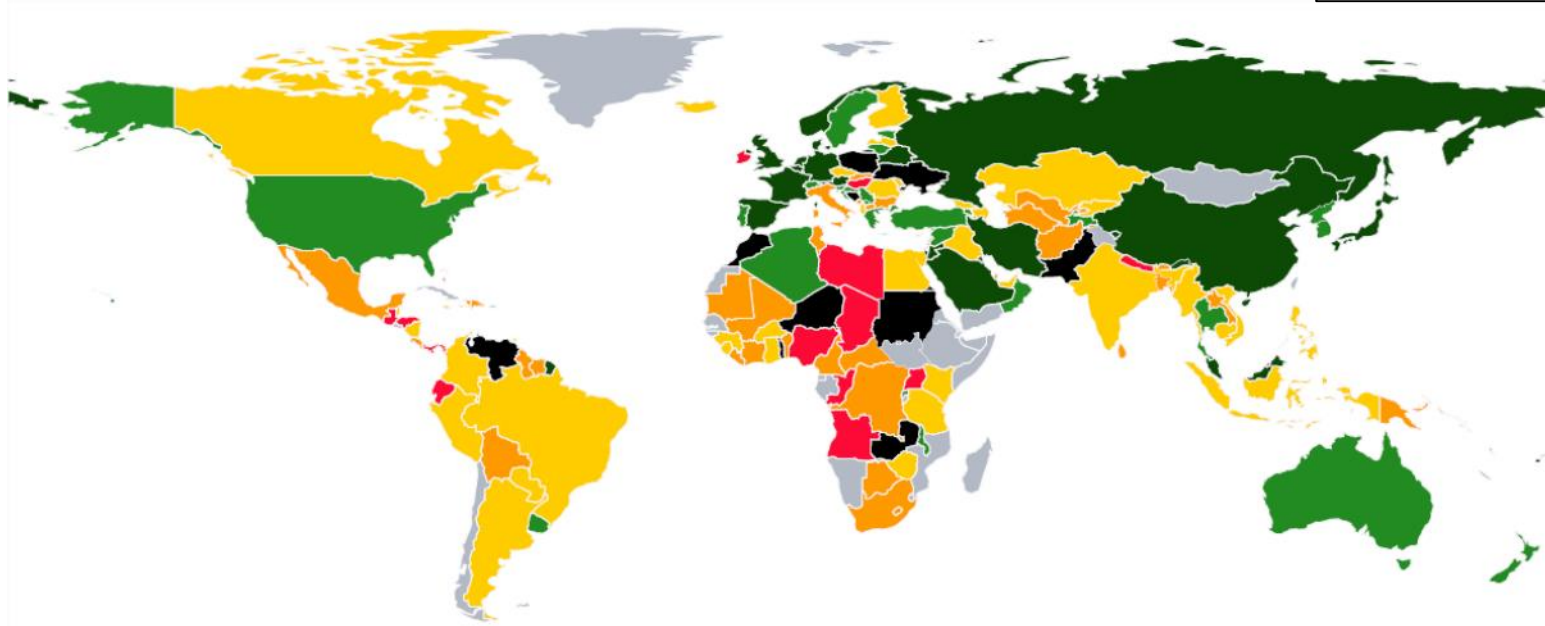


El rol de PCI en la Prevención de RAM en Atención de la Salud

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



Encuesta RAM 2017

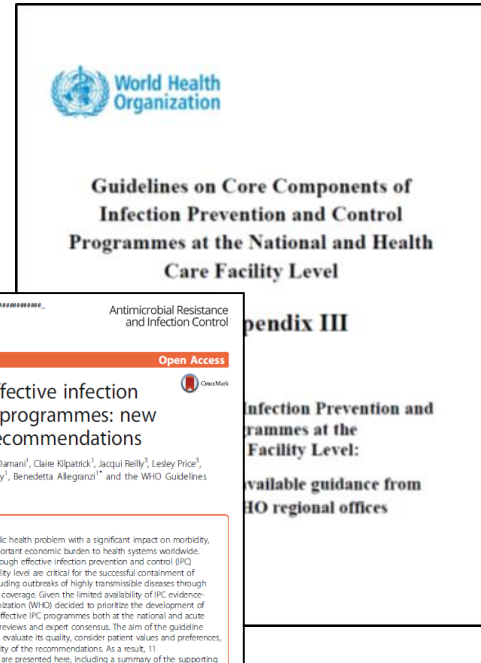
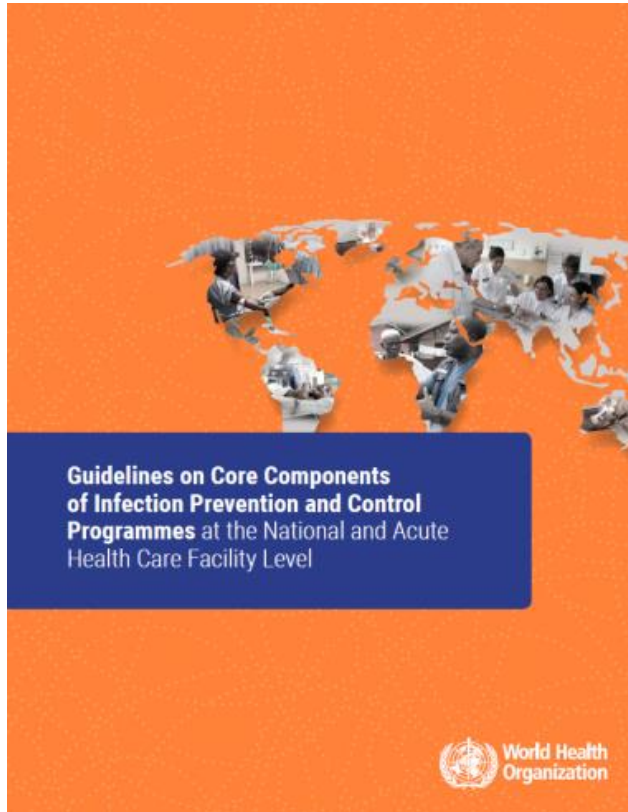


- **58.4%:** programa nacional de PCI o plan operacional y guías nacionales de PCI
- **14.9%:** cumplimiento y eficacia son evaluados y monitoreados

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



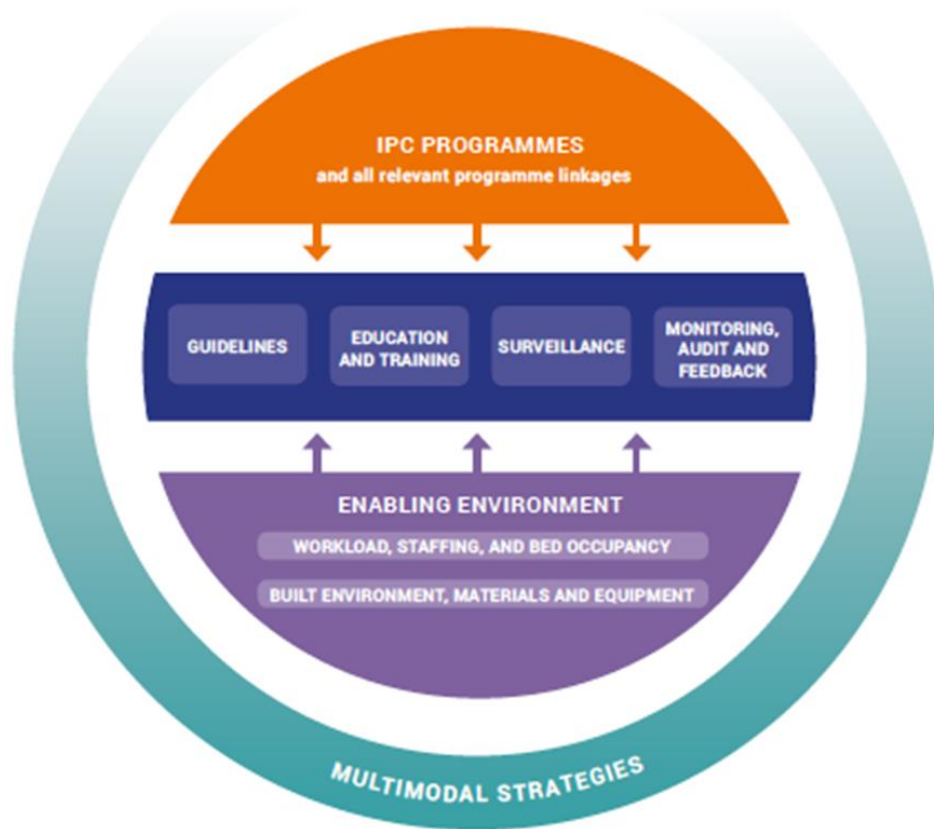
Enfoque es en prevención de IAAS y combatir RAM



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



Componentes esenciales de la OMS para programas de PCI efectivos



- **8 Componentes esenciales**

- 8 nivel establecimiento
- 6 nivel nacional

- 11 recomendaciones basadas en evidencia*

- 3 recomendaciones de buenas practicas

* Evidencias de países de bajo y medianos ingresos:

- 7 estudios de alta calidad
- 22 estudios de menor calidad

R= recomendación; GPS: good practice statement

Componente esencial 1: Programas de PCI

1

IPC Programmes

R1a
Strong

R1b
GPS

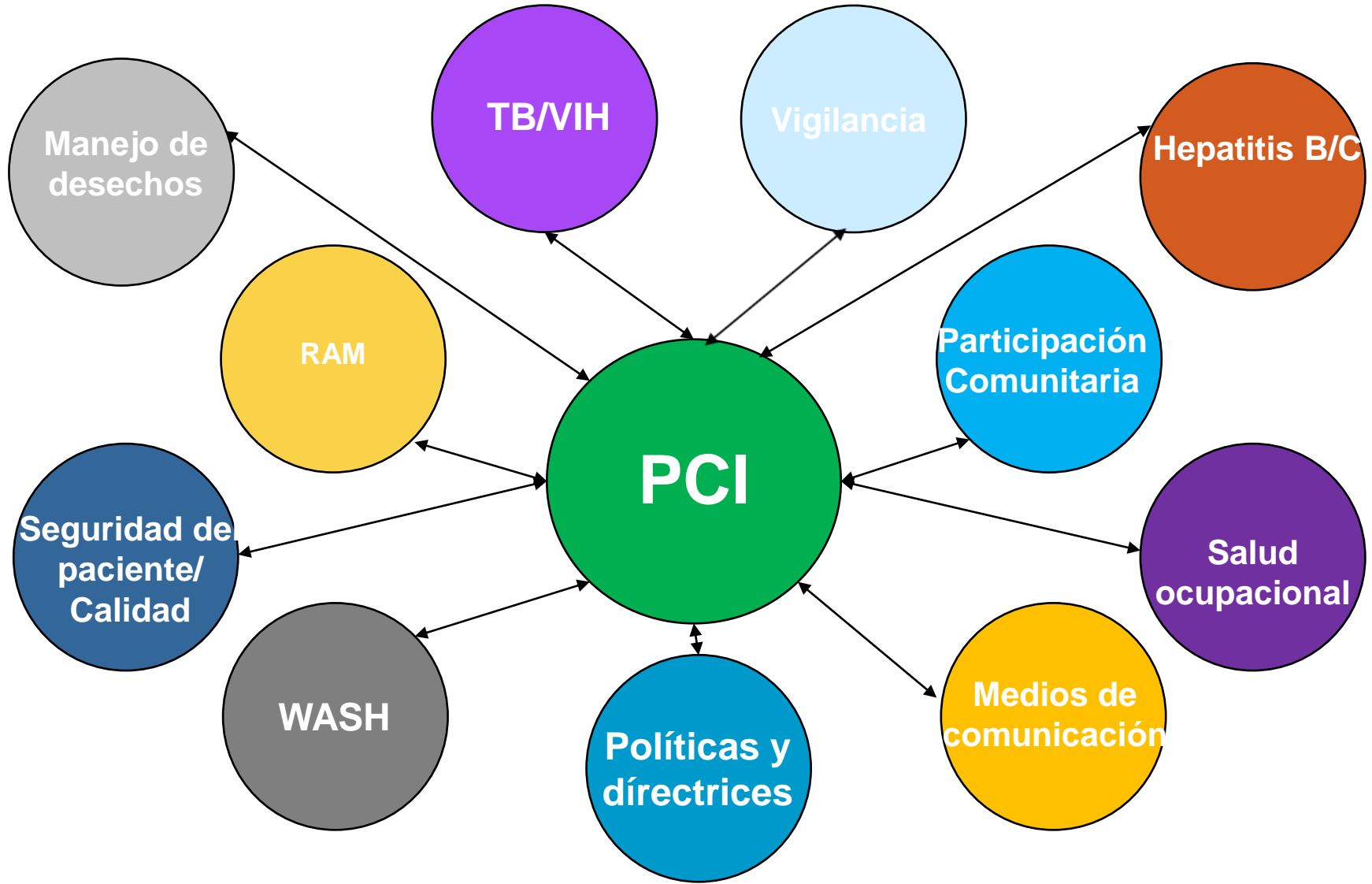
An IPC programme with a dedicated, trained team should be in place in each **acute health care facility** for the purpose of preventing HAI and combating AMR through IPC good practices.

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.

Evidencias de 2 estudios muestran que programas de PCI que incluyen a profesionales dedicados y entrenados son efectivos en la reducción de IAAS en centros de atención agudos

- Objetivos, funciones y planes de acción anuales claramente definidos
- Profesionales de PCI dedicados y capacitados(1:250 camas) y equipo multidisciplinario
- Presupuesto y apoyo de líderes de alta dirección
- Laboratorio microbiológico de buena calidad

Vinculación crítica con otros programas



Componente esencial 2: Directrices PCI

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.

Evidencia de 6 estudios muestra que directrices en mejores prácticas y procedimientos de PCI implementados con capacitación y educación de personal de la salud son efectivos en la reducción de las IAAS

- Experiencia es un requisito
- Priorización a nivel local
- Proveer recursos para implementación
- Educación de personal de la salud basado en prácticas recomendadas

Monitoreo de implementación



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Componente esencial 2: Directrices PCI

Observaciones claves:

El conjunto de directrices básicas de PCI debe incluir las siguientes:

- **Precauciones estándar** (ver componente esencial 1)
- **Precauciones según vía de transmisión**, incluyendo identificación de pacientes, postura y uso de equipos de protección personal(EPP).
- Técnica aséptica para procedimientos invasivos(incluyendo cirugía) y manejo de dispositivos para procedimientos clínicos, acordes al ámbito y tipo de cuidado entregado a nivel de establecimiento
- **Directrices específicas para prevenir las IAAS más prevalentes**(ej: infecciones urinarias asociados con catéteres, IISQ, ITS asociados a línea central, neumonía asociada con uso de ventilador) dependiendo del contexto y complejidad del cuidado



Directrices Globales de PCI recientes de la OMS



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

GLOBAL GUIDELINES FOR THE PREVENTION OF SURGICAL SITE INFECTION

Decontamination and Reprocessing of Medical Devices for Health Care Facilities

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



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



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

Componente clave 3: Educación y capacitación en PCI

3

Education & Training

R3a
Strong

3b
GPS

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.

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

Evidencia (15 estudios a nivel de establecimiento) muestra que educación en PCI que involucre a personal de la salud de primera línea, de manera **práctica y didáctica** e incorpora experiencias individuales es asociado con una disminución de IAAS y aumento de cumplimiento con higiene de manos.

- Entrenamiento a nivel de pre-grado, post-grado, formación en servicio
- Evaluación de impacto de capacitación
- Colaboración con organizaciones académicas locales y organizaciones profesionales

Kit de Capacitación en PCI de la OMS

- Liderazgo y gestión de programas de PCI
- Prevención de infecciones de tracto urinario
- Prevención de infecciones del torrente sanguíneo asociadas a catéteres
- Prevención de infecciones de vías respiratorias
- Prevención de heridas de sitio quirúrgico
- Reprocesar dispositivos médicos
- Manejo de brotes en contextos de servicios de salud
- PCI para controlar resistencia antimicrobiana
- Vigilancia IAAS
- Seguridad de inyecciones

- **Presentaciones**
- **Manual para instructor**
- **Manual para estudiantes**
- **Videos**
- **Módulo de entrenamiento virtual**



Componente esencial 4: Vigilancia IAAS

4

Surveillance

R4a
Strong

R4b
Strong

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

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

Evidencia (13 estudios a nivel de establecimiento, 1 a nivel nacional) muestra que vigilancia de las IAAS (incluyendo infecciones del torrente sanguíneo asociadas a línea central, neumonía asociada a ventiladores, IISQ, infecciones urinarias asociadas a catéter, y infecciones del torrente sanguíneo asociadas a catéteres) y retroalimentación oportuna influyen en la implementación de acciones PCI efectivas y contribuyen a una disminución de las IAAS

- Presupuesto, apoyo de dirección, y enlaces con otros sistemas de información de la salud y vigilancia son necesarios
- Definiciones estandarizadas, métodos apropiados y apoyo de laboratorios de Buena calidad, control de calidad son necesarios

Capacitación y conocimientos técnicos necesarios


Informes oportunos y uso de datos para planear programas de PCI son críticos



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Nuevo protocolo para infecciones de sitio quirúrgico basados en pruebas (SUSP)

Protocol for surgical site infection surveillance with a focus on settings with limited resources



Surgical site infection surveillance peri-operative data collection form

World Health Organization

1. Patient name, Age, Date of birth, Inpatient number, Date of admission, Sex, Primary diagnosis, Operating theater, Lead surgeon name, Onco.

2. ASA class, Weight, Height.

3. Surgical wound class, Clean, Contaminated, Dirty/Infected, Heavy contamination.

4. Start time (w/ to skin), End time (skin closing), Duration, Urgency of operation.

PRE-/PER-OPERATIVE PROCESS MEASURES

5. Patient preparation: Pre-op bath/shower, Antimicrobial soap used, Hair removal, HR Data, Surgical antibiotic prophylaxis, Antibiotic given, Postoperative antibiotics.

6. Other measure(s) - decided at local level.

Date form completed, Database entry, Signature.

Surgical site infection surveillance post-operative data collection form

World Health Organization

1. Patient name, Age, Date of birth, Inpatient number, Address (town/village), Telephone number 1, Telephone number 2, Whose telephone number, Checkoff.

2. Admission date to hospital for primary operation, Hospital discharge date.

Day	Date	Event	Antibio	SSI symptoms and other notes	Health worker initials
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

3. At each patient interaction, first check the patient's identification. Then assess or ask about the SSI symptoms.

4. Surgical Site Infection? Yes/No, Patient re-admitted for Surgical Site Infection? Yes/No, Date of re-admission for Surgical Site Infection, Discharge date.

5. Organism identified (if culture done), Infection symptoms, Surgeon/attending physician diagnosis.

6. Microbiology culture results, Specimen taken, Organism(s) identified, Antibiotic resistance/susceptibilities.

Date form completed, Database entry, Signature.

<http://www.who.int/infection-prevention/tools/surgical/SSI-surveillance-protocol.pdf?ua=1>



Componente esencial 5: Estrategias multimodales

5

Multimodal Strategies

R5a
Strong

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

R5b
Strong

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

Evidencia (44 estudios a nivel de establecimiento, 14 a nivel nacional) muestran que la implementación de actividades PCI a nivel de establecimiento utilizando estrategias multimodales es efectivo para mejorar las prácticas de PCI y reducir las IAAS (particularmente cumplimiento con higiene de manos, infecciones del torrente sanguíneo asociadas a línea central, neumonía asociada a ventiladores e infecciones causadas por MRSA y *C. difficile*)

Una **estrategia multimodal se constituye por varios elementos o components(3 o más, generalmente 5) que son implementados de una manera integrada con la finalidad de mejorar un resultado** y cambiar comportamiento. Incluye herramientas, como bundles y lista de control (checklists), y son desarrollados por equipos multidisciplinarios que consideran el contexto y condiciones locales



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Enfoque fundamental para implementación de PCI

The Five Components of the WHO multimodal hand hygiene improvement strategy

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

+

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

+

2. Training and education

+

3. Evaluation and feedback

+

4. Reminders in the workplace

+

5. Institutional safety climate

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

2. Teach it

(training & education)



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

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

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

4. Sell it

(reminders & communications)



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

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

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

1. Build it

(system change)



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

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

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

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

3. Check it

(monitoring & feedback)



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

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

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

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

5. Live it

(culture change)



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

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

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

Impacto de estrategia de higiene de manos

manos

Articles

Global implementation of WHO's multimodal strategy for improvement of hand hygiene: a quasi-experimental study

Background: Hand hygiene is a major driver in patient safety worldwide. Transmission is mainly to health-care workers. For compliance with recommendations to result in full effective improvement strategies are needed. We assessed the effect of WHO's strategy for improvement of hand hygiene in six countries.

Methods: We did a quasi-experimental study between December 2006 and December 2008 in six pilot sites (14 departments in hospitals) in Costa Rica, India, Malawi, Mexico, and South Africa, a general approach in four 14-month phases was used to implement WHO's strategy and we assessed the hand hygiene compliance of health-care workers and their knowledge. In sequential interventions and hand hygiene programs, we reported compliance of the program, a practical opportunity and the hand hygiene status in handwashing or hand rubbing. We assessed long-term sustainability of core strategy activities in April 2009.

Results: We used 2384 hand hygiene opportunities during 1423 sessions before the intervention and 2276 opportunities during 1724 sessions after. Overall compliance increased from 71.0% before the intervention (95% CI 67.2-74.8) to 67.2% after (63.7-71.2). Compliance was independently associated with gross annual income per head, with a greater effect of the intervention in low-income and middle-income countries (table 1) (OR 1.4 (95% CI 1.3 to 1.4) $p < 0.001$) than in high-income countries (OR 1.0 (0.9 to 1.0) $p = 0.800$). Implementation had a major effect on compliance of health-care workers across all sites with an increase in the average score from 71.1 (95% CI 69.8-72.4) to 74.5 (95% CI 73.2-75.8) after the intervention. 2 years after the intervention, all sites reported high hand hygiene compliance with minimal or further improvement, including minimal or no improvement in different countries and leads to significant compliance and knowledge improvement in health-care workers, supporting recommendations for use worldwide.

Funding: WHO, University of Geneva Hospital, the Swiss National Science Foundation, Swiss Society of Public Health Administration and Hospital Pharmacy.

Introduction: Hand hygiene is one of the most important measures to reduce the transmission of patient safety worldwide. According to WHO estimates, hundreds of millions of patients are affected each year because of antibiotic resistance, surgical, and financial losses for health systems. On average, health-care-associated infections affect at least 7% of patients admitted to hospital in high-income countries and about 10% of those in low-income and middle-income countries. More than 4 million patients are affected every year in Europe, and 7.0 million in the USA. Hand hygiene is the most effective measure to prevent pathogen transmission during health-care delivery. Compliance of health-care workers with best practice hand hygiene settings and countries, but it usually low and insufficient to ensure patient safety. WHO issued their guidelines in 2005 to provide evidence and recommendations for the improvement of hand hygiene. These guidelines were based on successful experience showing a consistent reduction in health-care-associated infections at institutional and regional levels. For better dissemination of guidelines there was a change practice. WHO developed a multimodal approach to improve hand hygiene and a core strategy for hand hygiene, which were pilot tested in hospital worldwide. We assessed the effect of implementation of WHO's hand hygiene strategy in a range of countries, including strategic feasibility and adaptability in the local context and sustainable outcomes.

Methods:

Study design: We did a quasi-experimental study between December 2006 and December 2008, with pilot studies (14 departments in 41 hospitals) in Costa Rica, India, Malawi, Mexico, and South Africa (table 1). We implemented WHO's strategy

RESEARCH

Effectiveness of interventions to promote hand hygiene: a systematic review and network meta-analysis

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Methods: We did a quasi-experimental study between December 2006 and December 2008 in six pilot sites (14 departments in hospitals) in Costa Rica, India, Malawi, Mexico, and South Africa, a general approach in four 14-month phases was used to implement WHO's strategy and we assessed the hand hygiene compliance of health-care workers and their knowledge. In sequential interventions and hand hygiene programs, we reported compliance of the program, a practical opportunity and the hand hygiene status in handwashing or hand rubbing. We assessed long-term sustainability of core strategy activities in April 2009.

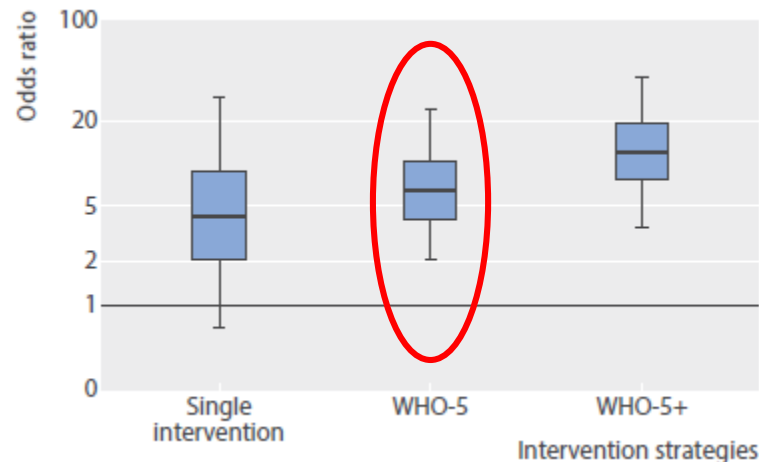
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Study design: We did a quasi-experimental study between December 2006 and December 2008, with pilot studies (14 departments in 41 hospitals) in Costa Rica, India, Malawi, Mexico, and South Africa (table 1). We implemented WHO's strategy



REVIEW METHODS

Included studies were randomised controlled trials, non-randomised trials, controlled before after trials, and interrupted time series studies implementing an intervention to improve compliance with hand hygiene among healthcare workers in hospital settings and measuring compliance or appropriate proxies that met predefined quality inclusion criteria.

When studies had not used appropriate analytical methods, primary data were re-analysed. Random effects and network meta-analyses were performed on studies reporting directly observed compliance

Conclusion: Of 3639 studies retrieved, 41 met the inclusion criteria (six randomised controlled trials, 32 interrupted time series, one non-randomised trial, and two controlled before-after studies). Meta-analysis of two randomised controlled trials showed the addition of goal setting to WHO-5 was associated with improved compliance (pooled odds ratio 1.35, 95% confidence interval 1.04 to 1.76; $I^2=81%$). Of 22 pairwise comparisons from interrupted time series, 18 showed stepwise increases in compliance with hand hygiene, and all but four showed a trend for increasing compliance after the intervention. Network meta-analysis indicated considerable uncertainty in the relative effectiveness of interventions, but nonetheless provided evidence that WHO-5 is effective and that compliance can be further improved by adding interventions including goal setting, reward incentives, and accountability. Nineteen studies reported clinical outcomes; data from these were consistent with clinically important reductions in rates of infection resulting from improved hand hygiene for some but not all important hospital pathogens. Reported costs of interventions ranged from \$225 to \$4669 (£146-£3035; €204-€4229) per 1000 bed days.

CONCLUSION

Promotion of hand hygiene with WHO-5 is effective at increasing compliance in healthcare workers. Addition of goal setting, reward incentives, and accountability

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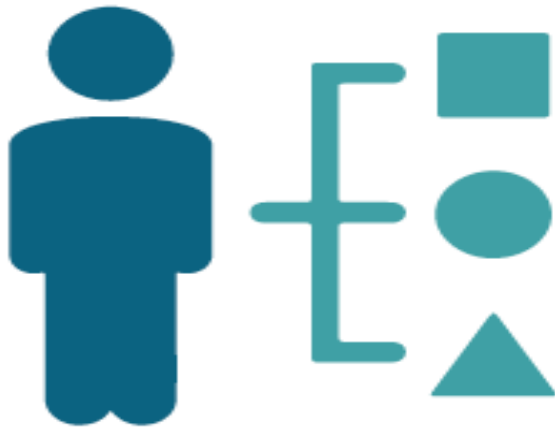
Meta-analisis de 22 estudios confirman que la estrategia de higiene de manos de la OMS es efectiva para aumentar que trabajadores de la salud cumplan con higiene de manos y 19 estudios mostraron la reducción de las IAAS

- Todas las estrategias de intervención indicaron un mejoramiento en cumplimiento con higiene de manos
- WHO-5 & WHO 5+ fueron más efectivos

- Allegranzi B et al, Lancet ID 2013
- Luangsanatip N et al, BMJ 2015



Pensamiento multimodal



Box 4. Multimodal thinking

1. What resources, infrastructures or supplies are required to facilitate practices?

This includes consideration of procurement and accessibility of supplies, water availability and quality and ergonomic factors including workflow. For example, the placement of a central venous catheter set and tray (system change/"build it").

2. Who needs to be trained and/or educated to address the identified gap – how will this happen and who will undertake the training/education?

This involves written information and/or oral instruction and/or e-learning and practical and interactive training sessions, including simulation and/or bedside training. For example, the training of doctors and nurses in charge of the placement and maintenance of central venous catheters on the prevention of bloodstream infection (BSI), including summarizing critical best practices in bundles (education and training/"teach it").

3. How have you become aware that practices need to be improved – how will you know that an improvement has taken place?

This usually involves monitoring compliance with process and practice indicators, as well as monitoring outcome indicators. For example, audits of catheter insertion and maintenance and the provision of timely and direct feedback of

results to doctors and nurses (monitoring and feedback/"check it").

4. How will you publicize action on specific measures and promote improvement and best practice in this area?

This may involve the use of reminders, posters or other advocacy/awareness-raising tools and cues-to-action to promote an intervention and methods/initiatives to improve team communication across units and disciplines. For example, discussion of the strategy for the prevention of BSI during clinical meetings and the use of promotional leaflets and posters to reinforce bundles of best practices (communications and reminders/"sell it").

5. How will you make and maintain this as a health care facility priority and engage senior leaders/managers/champions and opinion leaders over time?

This is concerned with ensuring that senior managers/leaders show tangible support and act as champions and role models, including making relevant decisions and promoting an adaptive approach and strengthening a culture that supports IPC, patient safety and quality. In addition, teams and individuals are empowered so that they perceive ownership of the intervention. For example, discussion of BSI rates at the executive level facility meetings (safety climate and culture of safety/"live it").

Pensamiento multimodal



1. Build it (system change)



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

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

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

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



2. Teach it

(training & education)



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

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

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



3. Check it

(monitoring & feedback)



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

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

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

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



4. Sell it

(reminders & communications)



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

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

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



5. Live it

(culture change)



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

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

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

Manuales nacionales y a nivel de establecimiento para apoyo práctico en implementación

Core Component 5: Multimodal strategies

WHO Guideline national recommendation

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

★ RAPID REMINDER

A two-page document on the multimodal strategies concept is in Annex 4.

A multimodal strategy comprises several elements or components (three or more, usually five) implemented in an integrated way with the aim of improving an outcome and changing behaviour. It includes tools developed by multidisciplinary teams that take into account local conditions, such as bundles and checklists. The five most common components include: (i) **system change** (availability of the appropriate infrastructure and supplies to enable IPC good practices); (ii) **education and training** of health care workers and key players (for example, managers); (iii) **monitoring** of infrastructures, practices, processes, outcomes and **providing data feedback**; (iv) **reminders in the workplace/communications**; and (v) **culture change** within the establishment or the strengthening of a safety climate. It is important to note the distinction between a multimodal strategy and a bundle. A bundle is an implementation tool aiming to improve the care process and patient outcomes in a structured manner.

In other words, the strategy involves **"building"** the right system, **"teaching"** the right things, **"checking"** the right things, **"selling"** the right messages, and ultimately **"living"** IPC throughout the entire health system (see Annex 4). Targeting only ONE area (that is, unimodal) at the expense of the others is highly likely to result in failure. All five areas should be considered and necessary action taken, based on the local context and situation informed by periodic assessments.

★ WHY

- A national approach to support the implementation of multimodal strategies for IPC improvement is recognized as having key benefits compared to local efforts alone.
- The use of multimodal strategies in IPC has been shown to be the best evidence-based approach to achieve sustained behavioural change for the implementation of IPC interventions, with a large body of evidence related to hand hygiene improvement.
- A multimodal approach spans all aspects of IPC and underpins all of the guideline recommendations.
- A focus only on single strategies (for example, training and education) in isolation without paying attention to monitoring and feedback, infrastructures or organizational culture does not support long-term improvement.
- National facilitation and coordination in the context of wider quality improvement supports facility-level improvements, resulting in improved practices that help reduce the spread of HAIs and AMR.

Core component 5. Multimodal strategies

WHAT

- IPC activities using multimodal strategies and a multidisciplinary team approach (see Part I and Annex 2) should be implemented to improve practices and reduce HAI and AMR.

WHY

- The use of multimodal strategies in IPC has been shown to be the best evidence-based approach to achieve sustained behavioural change for the implementation of IPC interventions, with a large body of evidence related to hand hygiene improvement.
- The use of multimodal strategies supports all aspects of IPC implementation and underpins all of the core component guideline recommendations.
- Multimodal thinking means that IPC practitioners do not focus only on single strategies to change practices (for example, training and education), but consider a range of strategies that target different influencers of human behaviour, for example, monitoring and feedback, infrastructures or organizational culture.

WHEN

- The use of multimodal strategies should be considered right from the start to support implementation when establishing your IPC programme.
- Where an established IPC programme already exists, consider the extent to which multimodal strategies are already embedded.

WHO

- The team (lead and members) with support from the IPC committee are responsible for using a multimodal approach for implementation.
- Successful multimodal strategies include the involvement of champions or role models.
- Collaboration with colleagues in quality improvement and patient safety to develop and promote multimodal strategies should be addressed.

HOW

- Refer to the guiding questions listed in Box 4 and Annex 2.
- The use of bundles or checklists should be incorporated into multimodal strategies.
- Remember - use multimodal thinking and consult the multimodal strategy guiding questions (Box 4 and Annex 2) and refer to Part III for more practical information on the 'how' of implementation.



Componente esencial 6: Monitoreo/auditoria de prácticas de PCI y retroalimentación

6

Monitoring,
Audit &
Feedback

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.

Evidencia (6 estudios a nivel establecimiento, 1 nivel nacional) mostraron que monitoreo/auditoría regular de prácticas de PCI junto a retroalimentación rutinaria (individual y/o con equipo/unidad) es efectivo en aumentar adherencia a prácticas de cuidado y reducción general de IAAS

- Para mantener cambios de comportamiento o otros mejoramientos
- Para documentar progreso e impacto
- **Esencial: Retroalimentación oportuna e interpretación de datos para acción**
- **Necesario: Integración/alineamiento con otros sistemas de monitoreo**



World Health
Organization

Componente esencial 7: Carga de trabajo, dotación de personal, ocupación de camas(nivel establecimiento)

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 standard capacity of the facility; (2) health care worker staffing levels should be adequately assigned according to patient workload.

Evidencia de 19 estudios muestra que ocupación de camas excediendo la capacidad standard del establecimiento está asociado con un aumento en el riesgo de IAAS en establecimientos de cuidado agudos, además de dotación inadecuada de personal de la salud

- **Sobrepoblación en hospitales – se reconoce como un problema de salud pública que puede contribuir a transmisión de enfermedades**
- Estándares para ocupación de camas debe ser un paciente por cama con espacio adecuado entre camas(al menos un metro)
- **Niveles de dotación de personal de salud deben ser asignados adecuadamente y acorde a carga de trabajo por paciente**

Componente esencial 8: Construir un ambiente, materiales y equipos para PCI (nivel establecimiento)

8 **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.

Evidencia de 11 estudios muestran que la disponibilidad de equipos y productos en el punto de cuidado lleva a un aumento en cumplimiento con buenas prácticas y reducción de IAAS

En 6/11 estudios, la intervención consistía en disponibilidad y ubicación de materiales para higiene de manos y equipos en áreas designadas para cuidado de pacientes o dónde son realizados otros procedimientos de atención de salud, lo cual contribuyó a un aumento en cumplimiento con higiene de manos

- Un ambiente limpio e higiénico, servicios WASH y materiales y equipos de PCI, en especial para IAAS

Componente esencial 8: Construir ambiente, materiales y equipos para PCI

8a. Observaciones Claves (1)

- **Un ambiente adecuado, servicios de WASH y materiales y equipos de PCI a nivel de establecimiento, son un componente esencial de programas de PCI efectivos.**
- Asegurar un ambiente que es adecuadamente higiénico es la responsabilidad de alta gestión del establecimiento y autoridades locales.
- El gobierno central y programas nacionales de prevención y control de infecciones y WASH tienen un role importante en el desarrollo de estándares y recomendando su implementación en establecimientos de la salud, ambiente higiénico y disponibilidad de materiales de PCI en puntos de cuidado.
- **Estándares OMS de calidad de agua potable, saneamiento y salud ambiental en establecimientos de la salud deben ser implementados.**

Componente esencial 8: Construir ambiente, materiales y equipos para PCI

8b. Observaciones Claves (1)

- Estándares OMS * para número adecuado y posicionamiento adecuado de instalaciones de higiene de manos deben ser implementados en todo los centros de atención de la salud.
- “* Esto requiere que productos para higiene de manos (por ejemplo alcohol-gel para manos) sea accesible con facilidad y lo más cercano- alcance de una mano del lugar de cuidado de paciente o tratamiento. Productos del punto de cuidado deben ser accesibles sin tener que dejar la zona del paciente. La directriz OMS: *Guidelines on hand hygiene in health care* indican: “mínima proporción de lavamanos-a cama- es 1:10 y 1:1 en salas de aislamiento”

Implementación de componentes esenciales de PCI

- Los componentes claves de la OMS son una esquema para indicar como el PCI puede efectivamente prevenir daño asociado a las IAAS y RAM
- **Implementación, incluyendo liderazgo efectivo, es clave para traducir directrices a prácticas**
- ***No siempre es fácil y toma tiempo***
 - Estrategias multimodales/multidisciplinarias
 - Monitoreo de enfoques
 - Centrado en el paciente
 - Integrado con procedimientos clínicos
 - Innovador y adaptado localmente
 - Adaptados a culturas específicas y nivel de recursos

Principales desafíos para implementar PCI en países de bajos y medianos ingresos

- IAAS y PCI no son prioridad de agenda de salud nacional
- Brecha entre políticas y implementación real
- Falta de datos confiables en materia de IAAS(apoyo bajo a laboratorios y sistemas de vigilancia)
- Acceso limitado a profesionales de PCI calificados y capacitados
- Falta de recursos humanos
- Presupuestos inadecuados
- Brechas en infraestructura y WASH
- Desafíos en compras de insumos/materiales
- Necesidad de adaptar a contexto cultural y local acorde a recursos disponibles

- *Allegranzi B et al. The Lancet 2011;377:228-41*
- *National and facility manuals supporting the implementation resources of the WHO IPC Core Components Guidelines (<http://www.who.int/infection-prevention/tools/core-components/en/>)*
- *M. Licker et al. J Hosp Infect 2017; 85e88*



Implementación de PCI: implicaciones para países de bajos y medianos ingresos

Sin embargo:

- Recursos invertidos valen la pena, independiente del contexto y los costos incurridos
- No todas las soluciones requieren de recursos adicionales
- Algunas soluciones pueden ser de bajo costo y producción local(ej: alcohol gel para manos) deben ser incentivados
- Colaboraciones y alianzas pueden apoyar en el logro y financiamiento de los componentes esenciales

Mejoramiento con recursos limitados

- Damani destaca tres enfoques para mejorar PCI en contextos con recursos limitados:
 - Enfoque en mejoramiento de prácticas **sin-costos**
 - Enfoque en mejoramiento de prácticas de bajo-**costo**
 - **Interrumpir prácticas innecesarias y derrochadoras**
 - Estos tres enfoques tiene el potencial para ahorrar dinero, tiempo y mejorar la calidad y seguridad de la atención de salud



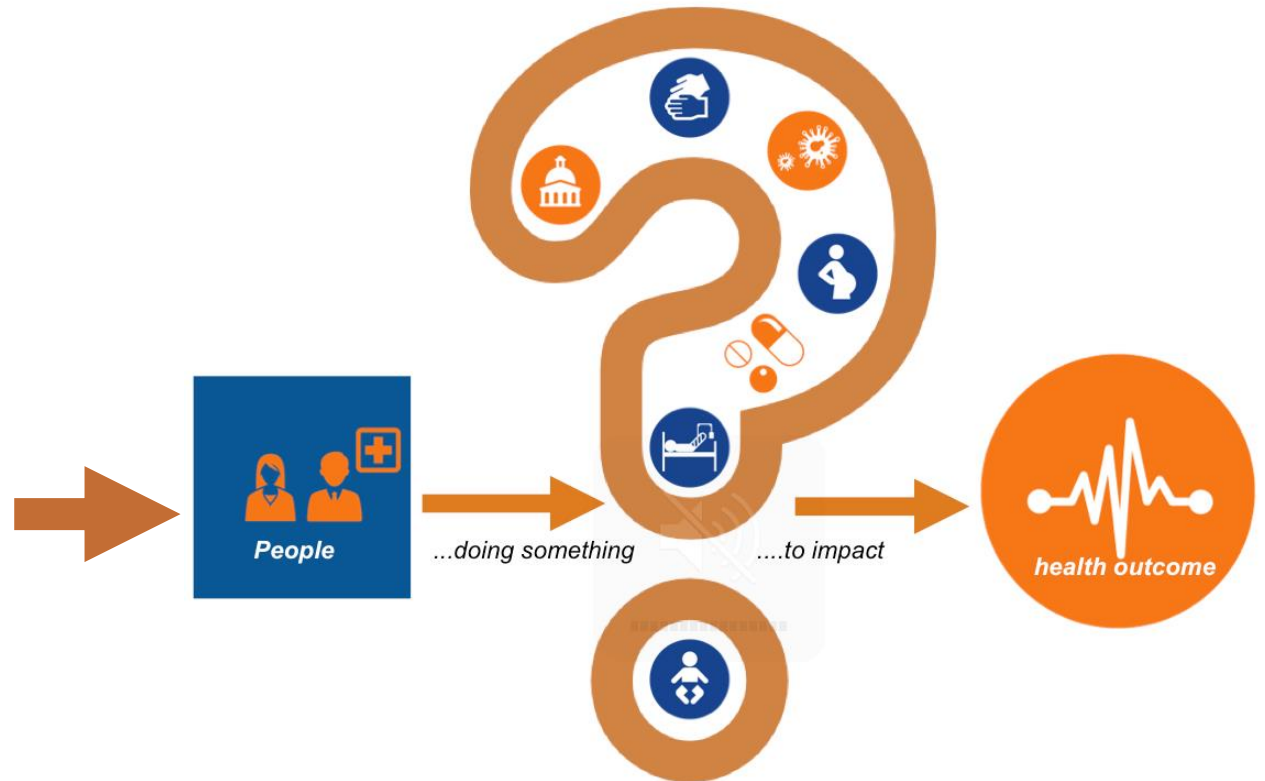
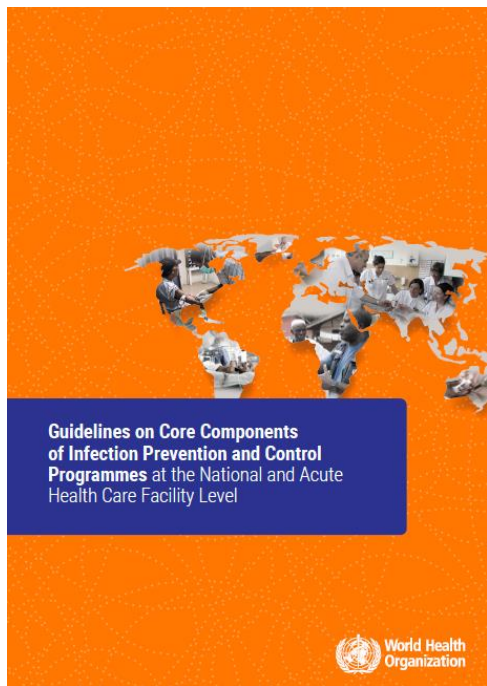
<http://www.who.int/infection-prevention/tools/core-components/cc-implementation-guideline.pdf?ua=1>

Reflexión de componentes claves de PCI – Región de las Américas

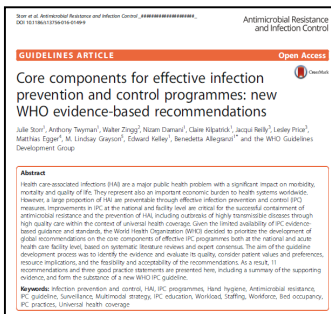
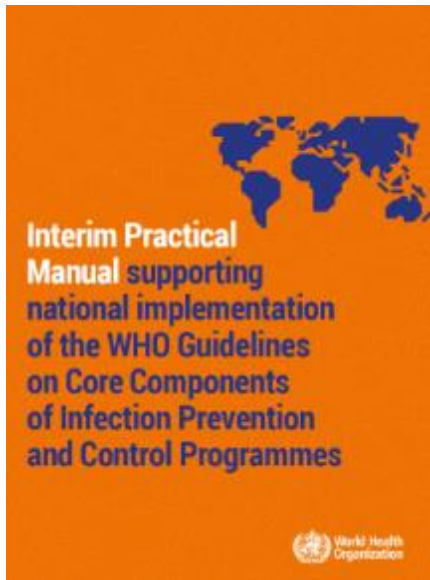
Mayores **desafíos** para brindar apoyo en PCI y avances

Componente Esencial	Comentario
1 – Programas PCI	<ul style="list-style-type: none"> • Compromiso político para PCI en Ministerio de Salud • Programa organizado y funcional a nivel hospitalario • Programa nacional de PCI débil
2 – PCI directrices	<ul style="list-style-type: none"> • Ciencia de implementación y traspaso de conocimientos
3 – Educación y Capacitación PCI	
4 – Vigilancia	<ul style="list-style-type: none"> • Datos de vigilancia – falta de estándares y tendencias • Apoyo de laboratorio <ul style="list-style-type: none"> • Preparación • “Brotos de SCN” (mala interpretación de datos) • Agenda RAM y Pilar 3
5 – Estrategia Multimodal	<ul style="list-style-type: none"> • Falta de comprensión
6 – Monitoreo/ auditoria de prácticas de PCI y retroalimentación	<ul style="list-style-type: none"> • Monitoreo y Evaluación(M&E) de Programa PCI • M&E cultura / ambiente
7 –Carga de trabajo, dotación y ocupación de camas	<ul style="list-style-type: none"> • Recursos humanos capacitados – Nacional y Establecimiento • Alta rotación de personal
8 – Construir ambiente, materiales y equipos de PCI a nivel de establecimiento	<ul style="list-style-type: none"> • Fondos no son destinados a PCI

Traducir guías a la acción



Recursos para implementación de Directrices de Componentes Esenciales de a OMS



Component	Review recommendation	Check to support implementation	Reference
1. IPC programmes	Establish a clear, shared vision of the national IPC programme for the purpose of governing, managing and evaluating the national IPC programme through a clear governance structure.	<ul style="list-style-type: none"> Programme objectives, functions, and activities clearly outlined Tactical team of typical infection prevention in place Guidelines/IPC budget allocated Evidence that IPC programme is linked with other relevant programmes and professional organisations 	Practical Manual (Chapter 1)
2. Infection control guidelines	Develop evidence-based national IPC guidelines and related implementation strategies.	<ul style="list-style-type: none"> Existing IPC guidelines/ICPs developed or adapted from international standards Relevant institutions are involved to ensure guideline representation in planning and implementation Measures to support and monitor health care worker education and training on the guidelines (under 1) development 	Practical Manual (Chapter 2)
3. Education & training	Support education and training of health workforce.	<ul style="list-style-type: none"> Continuous target audience, learning objectives, curriculum, and teaching strategy developed Human and financial resources available for implementation One employee or institution and curricular performance training on IPC under 1) development 	Practical Manual (Chapter 3)
4. Surveillance	Establish a national surveillance system for IPC.	<ul style="list-style-type: none"> Support and engagement by government and authorities for IPC surveillance activities Human and financial resources secured Microbiology and laboratory capacity (under 1) development Surveillance strategy developed <ul style="list-style-type: none"> Clear objectives Standardised case definitions Methods Process for data analysis, reporting, and evaluation of data quality Specific training for data collectors established 	Practical Manual (Chapter 4)

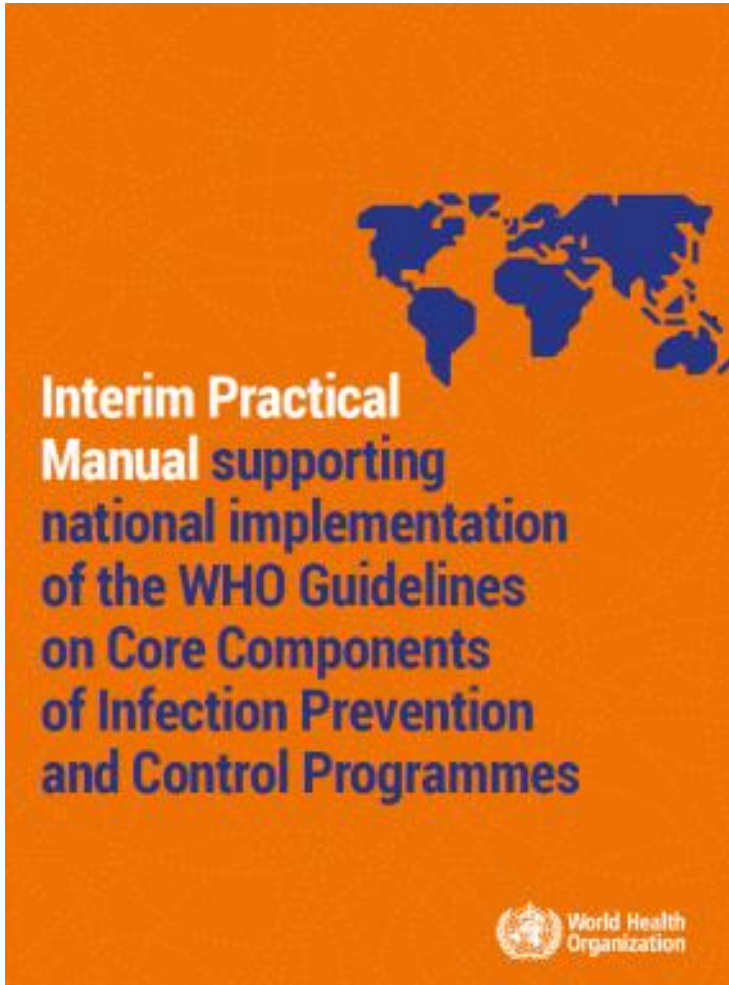


<http://www.who.int/infection-prevention/tools/core-components/en/>

Enfoque de implementación



Manual de implementación y herramienta de evaluación nivel nacional



World Health Organization

Core components for infection prevention and control programmes

National level assessment tool*

For instructions on how to use this assessment tool, refer to the Updated instructions for the national infection prevention and control assessment tool 2 (IPCAT2)

Country: _____
National health authority: _____

Details of person responding to the questionnaire:
Name: _____
Title/position: _____
Institution: _____
E-mail: _____

Details of person completing the questionnaire (leave blank if self-assessment):
Name: _____
Title/position: _____
Institution: _____
E-mail: _____

Date(s) of assessment (DDMMYY): _____
Date(s) of previous assessment (DDMMYY): _____

Assessment mode: _____
(Choose from dropdown list)

Self-assessment: Internal

This tool is based on the 2010 WHO Guidelines on core components for infection prevention and control programmes of the national and local healthcare facility level (<http://www.who.int/infection-prevention/publications/pc-components-guidelines/en/>)

The tool supports steps two and four of the five implementation steps (baseline assessment and evaluation) contained within the interim practical manual supporting national implementation of the WHO guidelines on core components of infection prevention and control programmes (<http://www.who.int/infection-prevention/campaigns/implementation-guidelines/pdf/en/>)



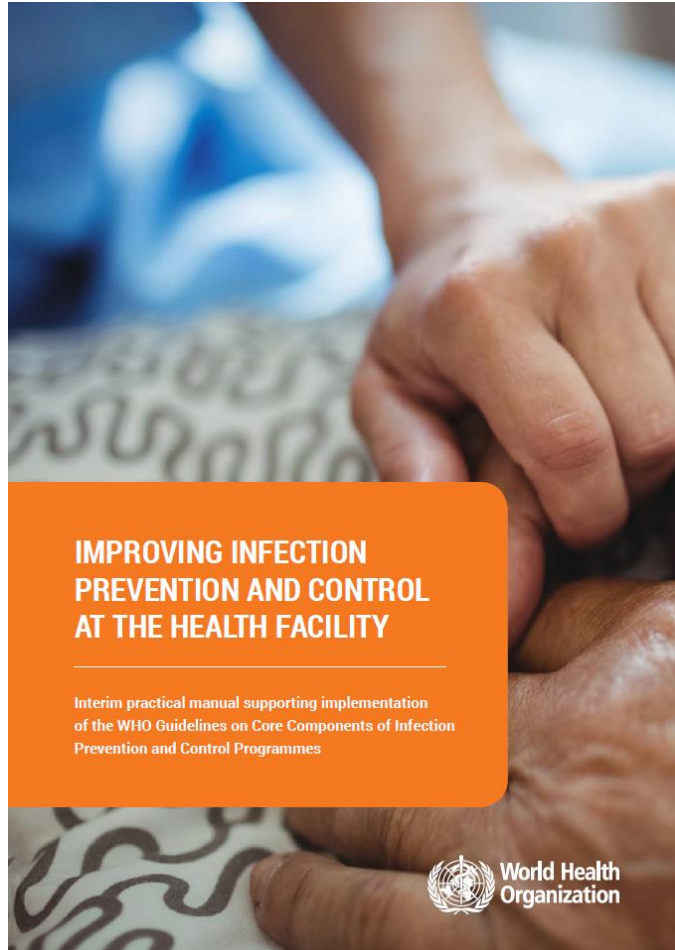
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
2 IPC guidelines* (Interim practical manual, pages 23-39)												100%		
2.1 Components for assessment (Red to stop or "N" response)												Score (Y or N)	Comments	
2.1 Development, dissemination and implementation of national technical guidelines												100%		
2.1.1 The IPC programme has a mandate to develop, disseminate and implement the												Y	Assessment of implementation plan	
2.1.2 The guidelines are based on evidence, including at least one review (peer and/or grey)												Y	Assessment of implementation plan	
2.1.3 The guidelines are reviewed at least every five years and updated to reflect the current evidence base												Y	Assessment of implementation plan	
2.1.4 The development of guidelines covered the use of evidence synthesis, knowledge and non-traditional evidence												Y	Assessment of implementation plan	
2.1.5 The IPC programme has the necessary resources to disseminate technical guidelines												Y	Assessment of implementation plan	
2.1.6 The IPC programme, or other evidence generation structure or combination of both, has processes in place for generating evidence and their implementation												Y	Assessment of implementation plan	
2.1.7 Evidence generation involves early engagement of key stakeholders, including involvement of programme country level in IPC case studies (1-5)												Y	Assessment of implementation plan	
2.1.8 The IPC programme develops multidisciplinary implementation strategies to enable national/international implementation support packages												Y	Assessment of implementation plan	
2.1.9 The IPC programme has the capacity to ensure that the evidence base and support implementation packages to enable to implement evidence-based IPC in practice												Y	Assessment of implementation plan	
2.2 Education and training of relevant healthcare workers on IPC guidelines												100%		
2.2.1 The IPC programme supports and enables a programme of health worker education addressing on public recommendations across all facilities												Y	Assessment of implementation plan	
2.2.2 The IPC programme supports and enables a programme of health worker education addressing on public recommendations at the programme level												Y	Assessment of implementation plan	
2.2.3 The IPC programme supports and enables a programme of health worker education addressing on public recommendations at the programme level												Y	Assessment of implementation plan	
2.3 Monitoring of guideline adherence												100%		
2.3.1 A national system and schedule of monitoring and evaluation is in place to assess adherence to guideline recommendations, for example, at least annually												Y	Assessment of implementation plan	
2.4 Minimum set of national guidelines												100%		
2.4.1 National guidelines are based on evidence, frequency of updates and compliance with the principles listed above of the												Y	Assessment of implementation plan	
2.4.2 Interim guidelines have been developed based on the "essential checklist"												Y	Assessment of implementation plan	
2.4.3 Specific guidelines to promote hand hygiene, contact precautions, standard and barrier nursing, surgical site infection, antibiotic stewardship, respiratory tract infection, central line-associated bloodstream infection, surgical site infection, catheter-associated urinary tract infection, monitoring on the extent and complexity of care required												Y	Assessment of implementation plan	

Navigation: Introduction | 1. IPC Programme | 2. IPC Guidelines | 3. Education & Training | 4. Surveillance | 5. National Strategy | 6. Monitoring and Evaluation | Summary

Manual de implementación y herramienta de evaluación

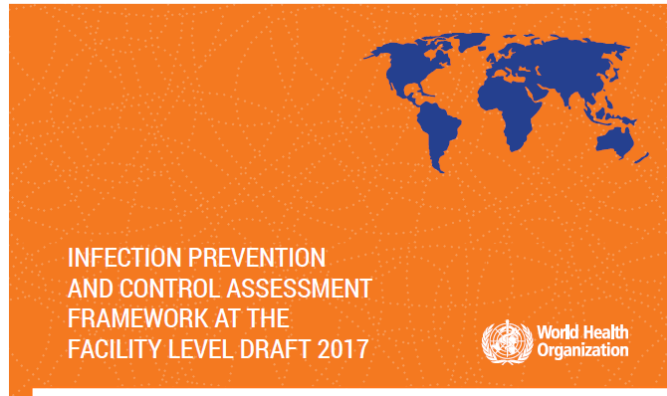


nivel establecimiento



- Basado en análisis cualitativo de ejemplos de implementación de PCI en contextos de bajos recursos
- **29 entrevistas con profesionales de PCI de contextos de bajos recursos analizados usando un enfoque temático cualitativo inductivo**
- Identificación de temas comunes en implementación de PCI (aparecen ≥ 4 veces) a ser considerados por profesionales de PCI (acorde a 8 componentes esenciales de PCI de OMS) y **lecciones aprendidas**

Nueva herramienta de evaluación de PCI a nivel de establecimiento



Core component 8: Built environment, materials and equipment for IPC at the facility level²⁷

Question	Answer	Score
Water		
1. Are water services available at all times and of sufficient quantity for all uses (for example, hand washing, drinking, personal hygiene, medical activities, sterilization, decontamination, cleaning and laundry)? Choose one answer	<input type="checkbox"/> No, available on average < 5 days per week	0
	<input type="checkbox"/> Yes, available on average > 5 days per week or every day but not of sufficient quantity	2.5
	<input type="checkbox"/> Yes, every day and of sufficient quantity	7.5
2. Is a reliable safe drinking water station present and accessible for staff, patients and families at all times and in all locations/wards? Choose one answer	<input type="checkbox"/> No, not available	0
	<input type="checkbox"/> Sometimes, or only in some places or not available for all users	2.5
	<input type="checkbox"/> Yes, accessible at all times and for all wards/groups	7.5
Hand hygiene and sanitation facilities		
3. Are functioning hand hygiene stations (that is, alcohol-based handrub solution or soap and water and clean single-use towels) available at all points of care? Choose one answer	<input type="checkbox"/> No, not present	0
	<input type="checkbox"/> Yes, stations present, but supplies are not reliably available	2.5
	<input type="checkbox"/> Yes, with reliably available supplies	7.5
4. In your facility, are ≥ 4 toilets or improved latrines ²⁸ available for outpatient settings or ≥ 1 per 20 users for inpatient settings? Choose one answer	<input type="checkbox"/> Less than required number of toilets or latrines available and functioning	0
	<input type="checkbox"/> Sufficient number present but not all functioning	2.5
	<input type="checkbox"/> Sufficient number present and functioning	7.5

Box 8. IPCAF scoring interpretation

Score		Interpretation
0-200	Inadequate	IPC core components' implementation is deficient. Significant improvement is required.
201-400	Basic	Some aspects of the IPC core components are in place, but not sufficiently implemented. Further improvement is required.
401-600	Intermediate	Most aspects of IPC core components are appropriately implemented. Continue to improve the scope and quality of implementation and focus on the development of long-term plans to sustain and further promote the existing IPC programme.
601-800	Advanced	The IPC core components are fully implemented according to the WHO recommendations and appropriate to the needs of your facility.

- **Questionario estructurado con preguntas basados en el “HHSAF approach”: 81 indicadores**
- **Auto evaluación o conjunta**
- **Modelo para interpretación de datos, discusión y plan de acción**
- **Testado para usabilidad, confiabilidad y validación en una muestra de 181 servicios de salud en 46 países**

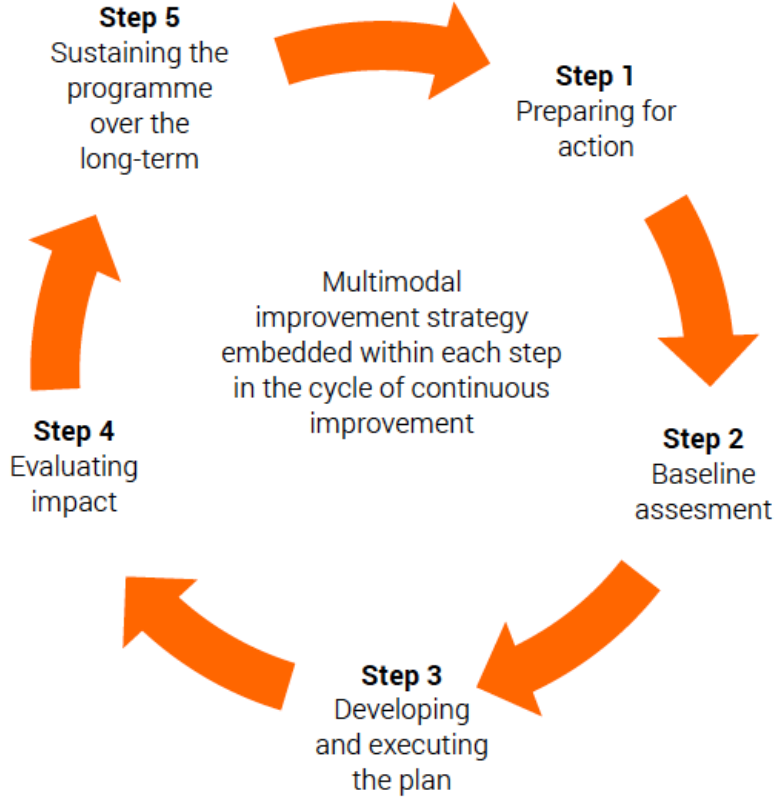


Puntos destacados de parte III





Enfoque basado en pasos



El enfoque de 5 – pasos para mejoramiento de PCI



Step 1. Preparing for action: This step ensures that all of the prerequisites that need to be in place for success are addressed, including the necessary resources (human and financial), infrastructures, planning and coordination of activities and the identification of roles and responsibilities (including key opinion leaders and champions). The facility senior managers/leaders play a critical role in this step.

Step 2. Baseline assessment: Conducting an exploratory baseline assessment of the current situation, including the identification of existing strengths and weaknesses, is critical for developing a tailor-made action plan that addresses the reality of a health care facility. A ready-to-use assessment tool based on the WHO IPC core components is available for step 2 (WHO IPC Assessment Framework [IPCAF]). Ideally, additional IPC assessment tools (for example, the Hand Hygiene Self-assessment Framework [HHSAF] and/or observation-based tools to evaluate IPC practices) could be used.

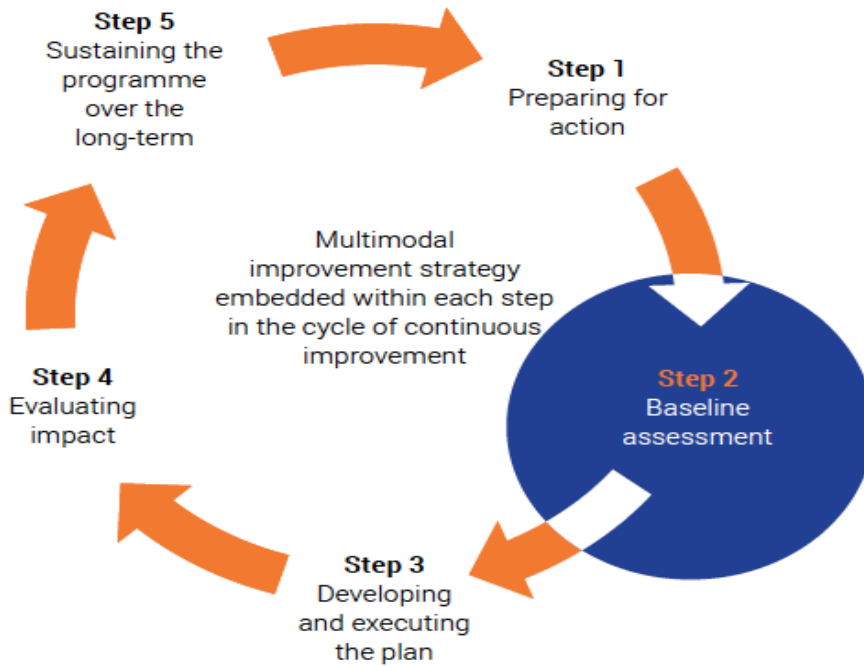
Step 3. Developing and executing an action plan: The results of the baseline assessment support the development and execution of an action plan based around a multimodal improvement strategy.

Step 4. Assessing impact: Conducting a follow-up assessment using the same tools as in step 2 is crucial to determine the effectiveness of the plan. The focus is on impact, acceptability and cost-effectiveness.

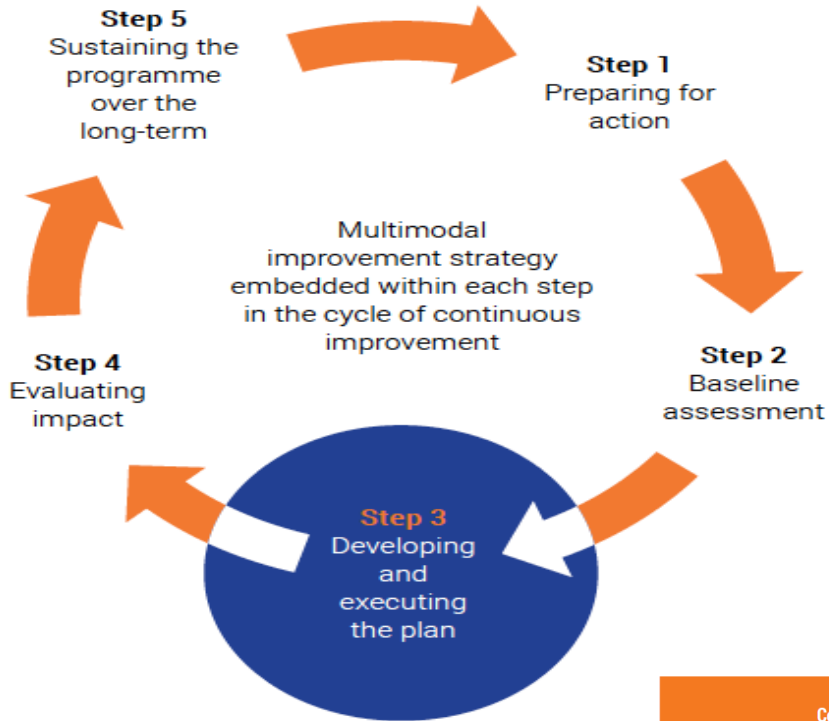
Step 5. Sustaining the programme over the long term: An important step in the cycle of improvement is to develop an ongoing action plan and review schedule to support the long-term impact and benefits of the IPC programme, thus contributing to its overall impact and sustainability.

Enfoque basado en pasos



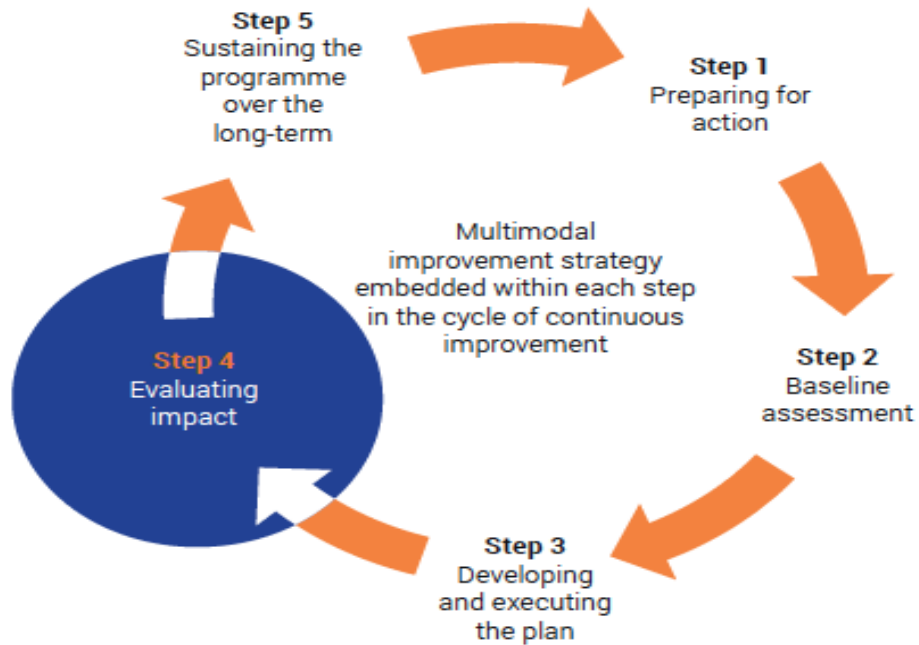


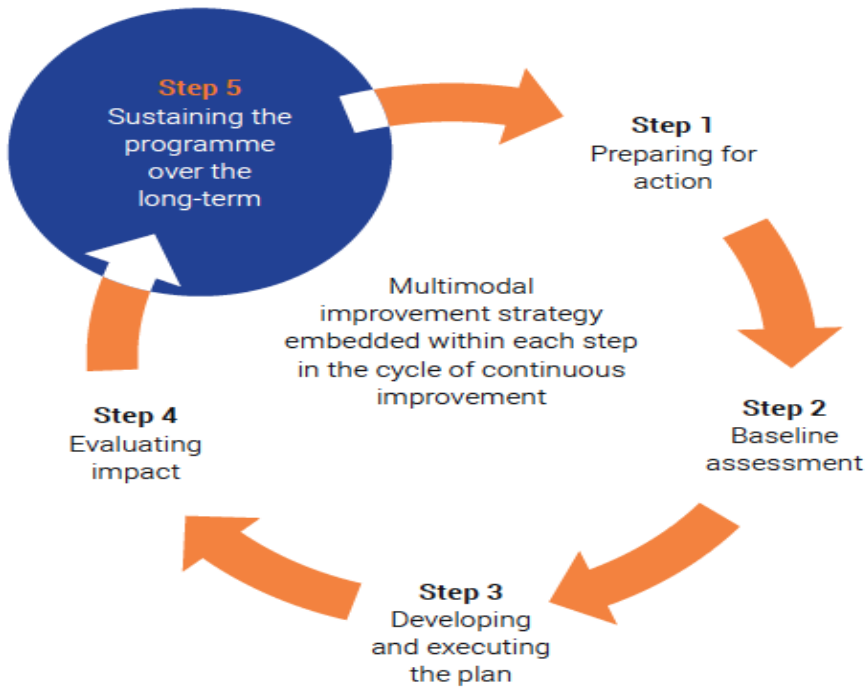
STEP 2 BASELINE ASSESSMENT



STEP 3 DEVELOPING AND EXECUTING THE PLAN

	Rapid recap	Sample action plan	Potential barriers and solutions	Tools and resources
Core component 1: IPC programmes	Page 54	Page 55	Page 56	Page 59
Core component 2: IPC guidelines	Page 62	Page 63	Page 64	Page 67
Core component 3: IPC education and training	Page 68	Page 69	Page 70	Page 72
Core component 4: HAI surveillance	Page 73	Page 74	Page 77	Page 80
Core component 5: Multimodal strategies	Page 81	Page 82	Page 83	Page 85
Core component 6: IPC monitoring/audit of IPC practices and feedback	Page 86	Page 87	Page 89	Page 90
Core component 7: Workload, staffing and bed occupancy	Page 91	Page 92	Page 93	Page 94
Core component 8: Built environment, materials and equipment for IPC	Page 95	Page 96	Page 98	Page 99





STEP 5
SUSTAINING
THE PROGRAMME
OVER THE
LONG TERM

Dónde encontrar ayuda

CONSEJOS
PRACTICOS,
CONSIDERACIONES
CLAVE Y ACCIONES



BARRERAS EN
IMPLEMENTACIÓN
Y SOLUCIONES



HERRAMIENTAS Y
RECURSOS



EJEMPLOS Y ESTUDIOS DE
CASOS

STEP 1 CHECKLIST

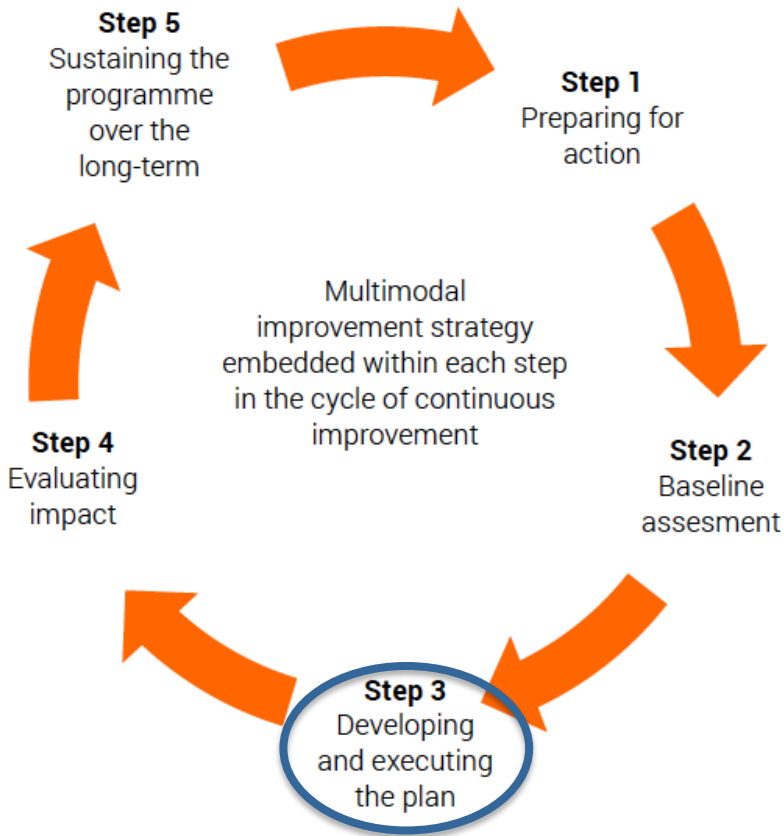
At the end of step 1 you should have:



1. Familiarized yourself with the core component guideline recommendations
2. Prepared a "script" or key points to guide discussions with management and leadership (using Figures 2 and 3)
3. Made a list of the exact key stakeholders that will be engaged, based on the local context
4. Collected any previous assessments/reports and data that address IPC
5. Investigated any IPC integration possibilities with current activities at the health care facility, for example, with AMR, etc.
6. Listed any patient or civil society groups that exist and could support IPC advocacy
7. Held a series of advocacy meetings with leaders, key stakeholders and champions/opinion leaders using the sample script (Figure 3)
8. Secured verbal and written management and leadership support for IPC
9. Identified an IPC lead/focal person and team, supported by health care facility managers
10. Identified possible human and financial resources to support and sustain the work (where necessary)

Liberia: Priorización de componentes esenciales

Prorización de componentes esenciales



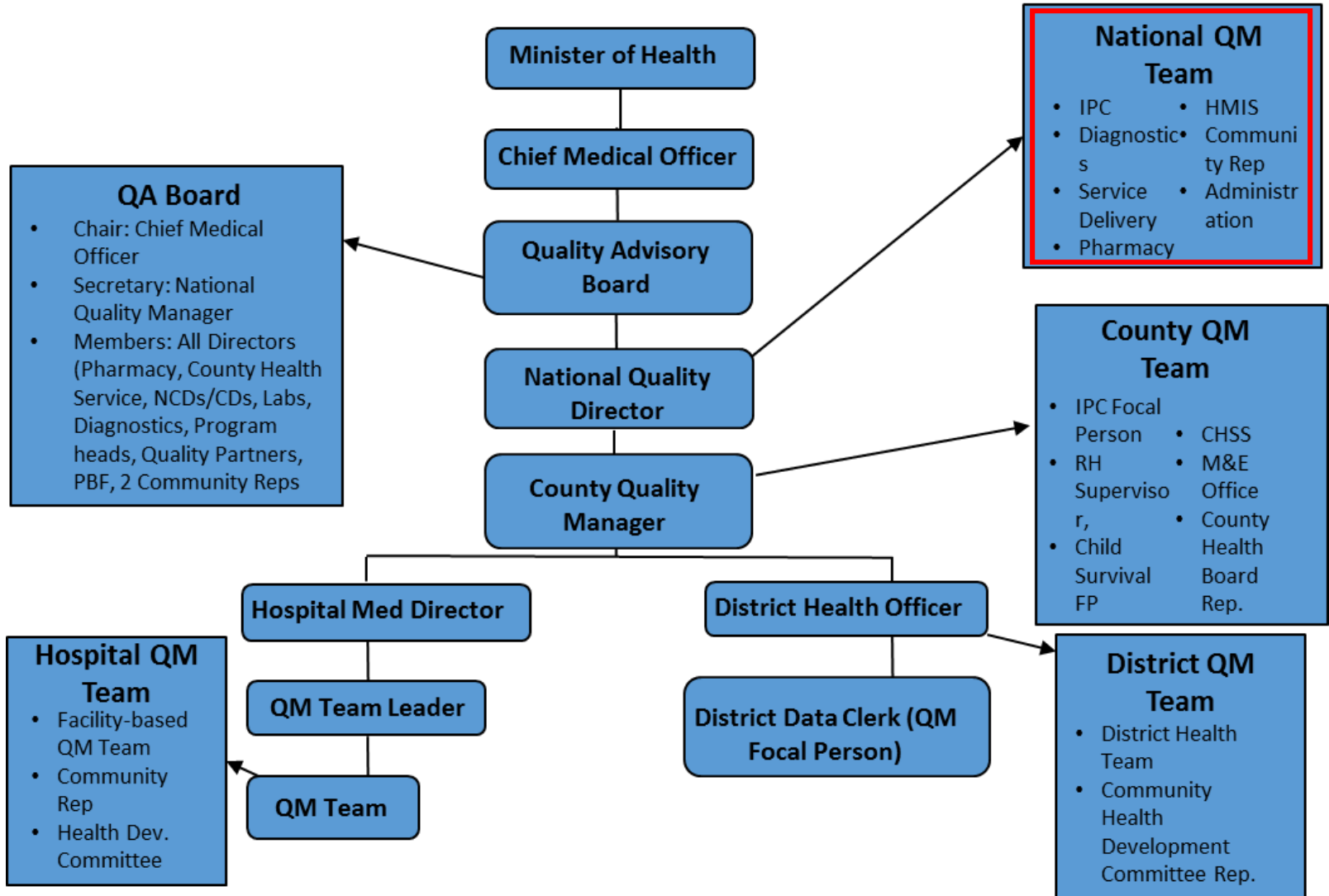
1. Programa nacional de PCI (2016)
2. Directrices (2017-18)
3. Capacitación (2015-)
4. Vigilancia (IISQ) (2018)
6. Monitoreo (2015-)
8. Crear ambiente (2016-)



World Health
Organization



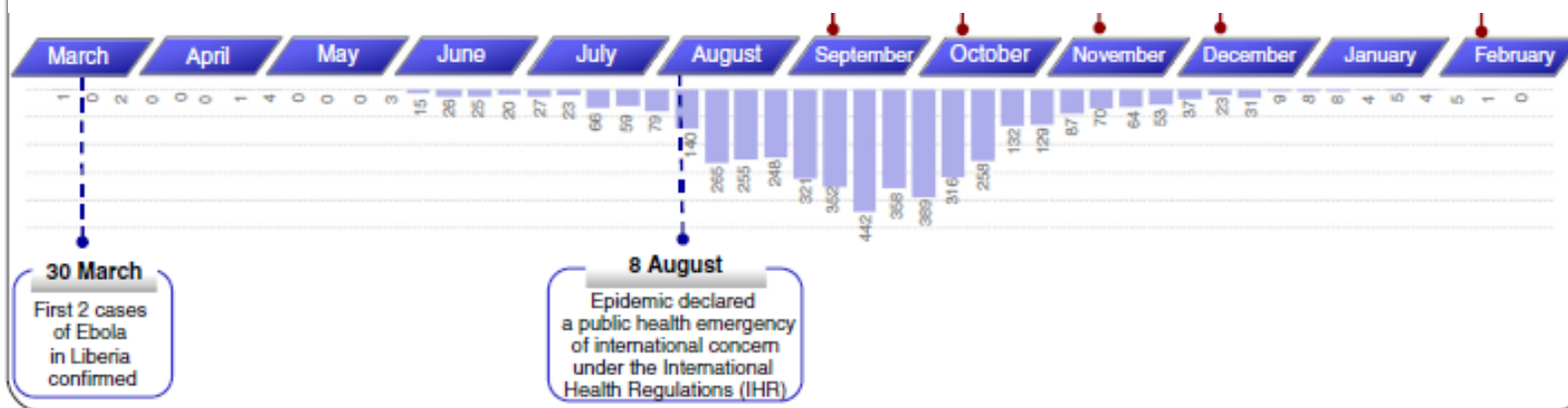
NATIONAL QUALITY MANAGEMENT ORGANIZATION



Liberia – all health care workers' IPC training (2015-16)



- **Keep Safe Keep Serving (KSKS) training:**
40 master trainers, 2258 HCWs
- **Safe & Quality Services (SQS) training:**
13000 HCWs

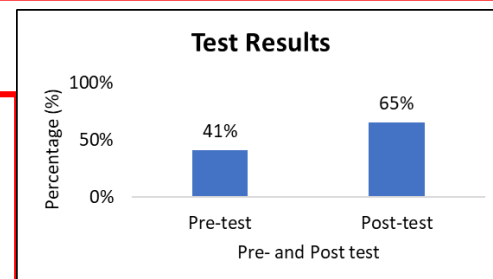


OMS: Capacitación avanzada de PCI (2017-18)

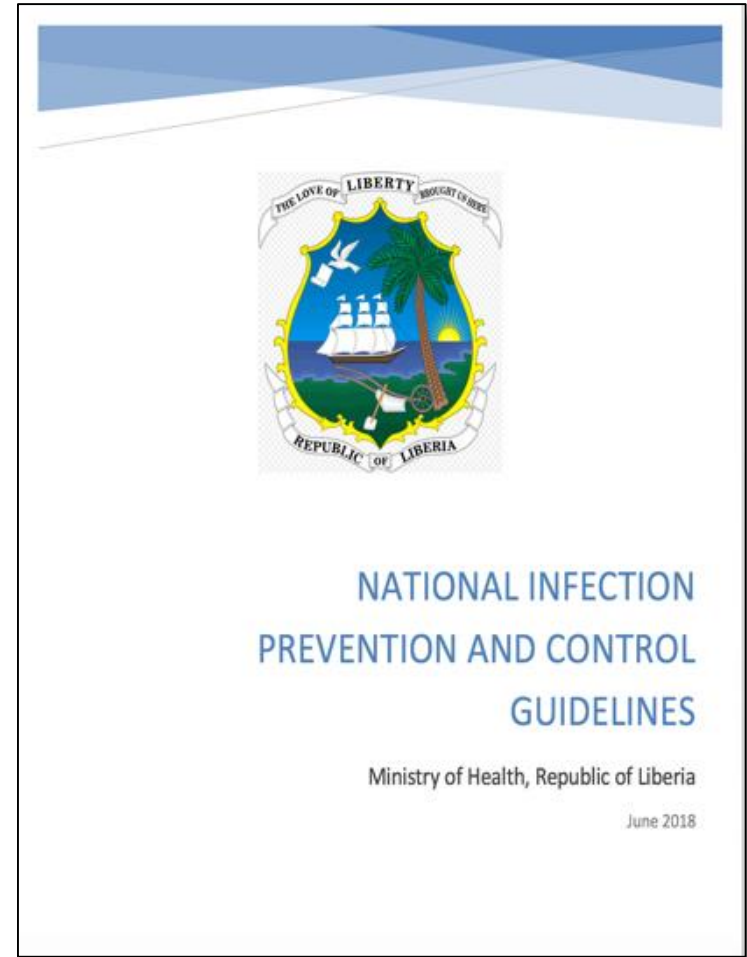
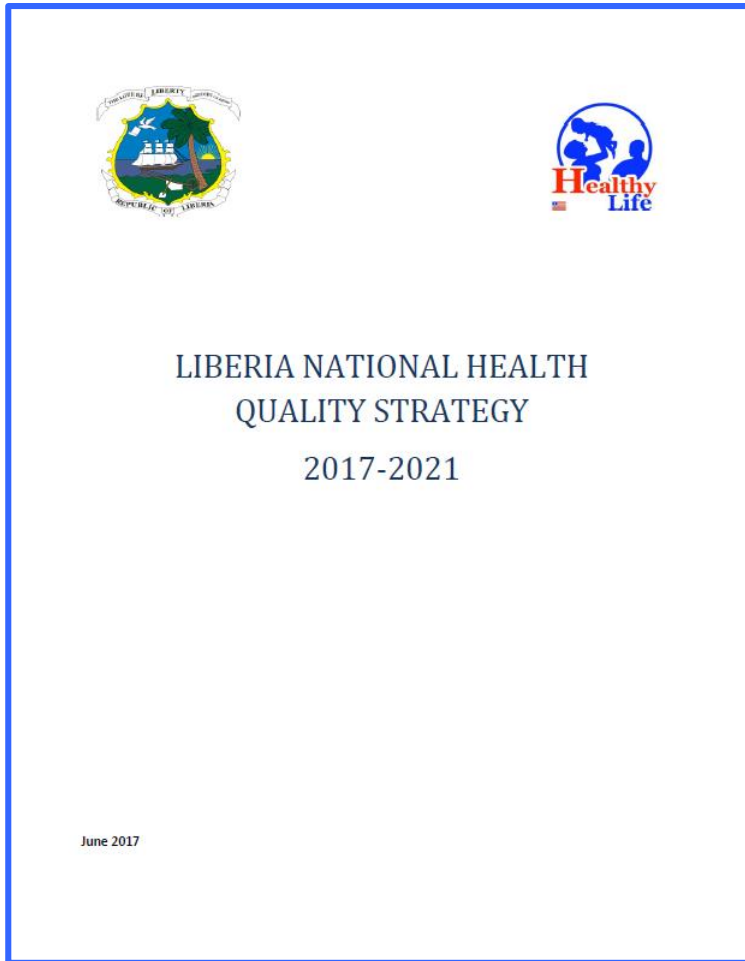
- Leadership and IPC program management
- Prevention of urinary tract infections
- Prevention of catheter-associated bloodstream infections
- Prevention of respiratory tract infections
- Prevention of infections in surgery
- Reprocessing of medical devices
- Outbreak management in healthcare settings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

Liberia: 37 establecimientos; puntos focales de PCI a nivel de provincial y nacional

- **Presentaciones**
- **Manual para docente**
- **Manual para estudiante**
- **Módulo de capacitación virtual**



Política de calidad nacional y directrices PCI (2018)



Directrices nacionales de PCI- “Entrenamiento de entrenadores”



Ejemplo de implementación

A multimodal infection control and patient safety intervention to reduce surgical site infections in Africa: a multicentre, before–after, cohort study



Benedetta Allegranzi, Alexander M Aiken, Nejla Zeynep Kibilay, Peter Nthumbo, Jack Barasa, Gabriel Okumu, Robert Mugarura, Alexander Eloku, Josephat Jambwe, Mayaba Maimbo, Joseph Musowoya, Angèle Gayet-Ageron, Sean M Berenholtz

Summary

Background Surgical site infections (SSIs) are the most frequent health-care-associated infections in developing countries. Specific prevention measures are highly effective, but are often poorly implemented. We aimed to establish the effect of a multimodal intervention on SSIs in Africa.

Methods We did a before–after cohort study, between July 1, 2013, and Dec 31, 2015, at five African hospitals. The multimodal intervention consisted of the implementation or strengthening of multiple SSI prevention measures, combined with an adaptive approach aimed at the improvement of teamwork and the safety climate. The primary outcome was the first occurrence of SSI, and the secondary outcome was death within 30 days post surgery. Data on adherence to SSI prevention measures were prospectively collected. The intervention effect on SSI risk and death within 30 days post surgery was assessed in a mixed-effects logistic regression model, after adjustment for key confounders.

Findings Four hospitals completed the quality data for the sustainability period (891 in the sustainability period). SSI 8.0% (95% CI 6.8–9.5; n=129) to 3.8% period (3.9%, 2.8–5.4; n=35). A substantial observed in the follow-up and sustainable than pre-intervention [odds ratio (OR)] significantly reduced (0.72, 0.42–1.24).

Interpretation Implementation of our across all perioperative prevention practices heterogeneity between sites. Further to improve the sustainability and long-term.

Funding US Agency for Healthcare Research and Services.

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Introduction

Health-care-associated infections are common adverse events during care. Evidence exists on the morbidity, mortality, health-care-associated infections in low and middle-income countries, but WHO estimates that the overall prevalence in these countries is the average reported in high-income countries. According to WHO, surgical site infection is the most surveyed and most frequent health-care-associated infection in low and middle-income countries. Surgical site infection affects up to one-third of surgical procedures. Surgical site infection significantly increased risk of SSI in countries of low and middle income affects all types of procedures. SSI is also the second most health-care-associated infection in Europe. Given the increasing recognition of the

Lancet Infect Dis 2018; 18: 507–15
 Published Online
 March 5, 2018
[http://dx.doi.org/10.1016/S1473-3099\(18\)30107-5](http://dx.doi.org/10.1016/S1473-3099(18)30107-5)
 See Comment page 476
 Infectious Prevention and Control Global Unit, World Health Organization, Geneva, Switzerland (B Allegranzi M D, N Zeynep Kibilay, M D, Mugarura R, Jambwe J, Maimbo M, Musowoya J, Gayet-Ageron A, Berenholtz S M)

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Contents

- Table S1: Detailed description of the surgical site infection preventive measures implemented consistently across all sites, available implementation support documents, and process indicators used.
- Figure S1: Poster/leaflet designed by the surgical teams to remind staff of the surgical site infection prevention measures implemented during the study intervention period.
- Figure S2: Trends of the cumulative incidence of surgical site infection per 100 surgical operations by month in the three study periods for each site.
- Figure S3: Results of an interrupted time series analysis assessing the trends of the cumulative incidence of SSI on a monthly basis between the baseline and follow-up periods by site (four sites).
- Figure S4: Results of an interrupted time series analysis assessing the trends of cumulative incidence of surgical site infection on a monthly basis between the follow-up and sustainability periods by site (three sites).

- Fact sheet S1: Patient preparation: bathing and hair removal. <http://www.who.int/infection-prevention/countries/surgical/en/> (accessed Feb 19, 2018).
- Fact sheet S2: Surgical site skin preparation and surgical hand preparation. <http://www.who.int/infection-prevention/countries/surgical/en/> (accessed Feb 19, 2018).
- Fact sheet S3: Correct and safe surgical antibiotic prophylaxis. <http://www.who.int/infection-prevention/countries/surgical/en/> (accessed Feb 19, 2018).

www.thelancet.com/neurology Vol 17, May 2018



Kenya



Uganda



Zimbabwe



Zambia



5 Hospitals



Allegranzi B, et al. Lancet Infect Dis. 2018 Mar 5



World Health Organization

“Programa de seguridad basada en unidades quirúrgicas” (SUSP)



Mejoramiento en cultura de seguridad del paciente (CUSP):

- Ciencia de educación de seguridad
- Evaluación de seguridad de personal
- Liderazgo
- Aprender de deficiencias
- Trabajo en equipo/comunicación



Buenas prácticas en prevención y control de infecciones

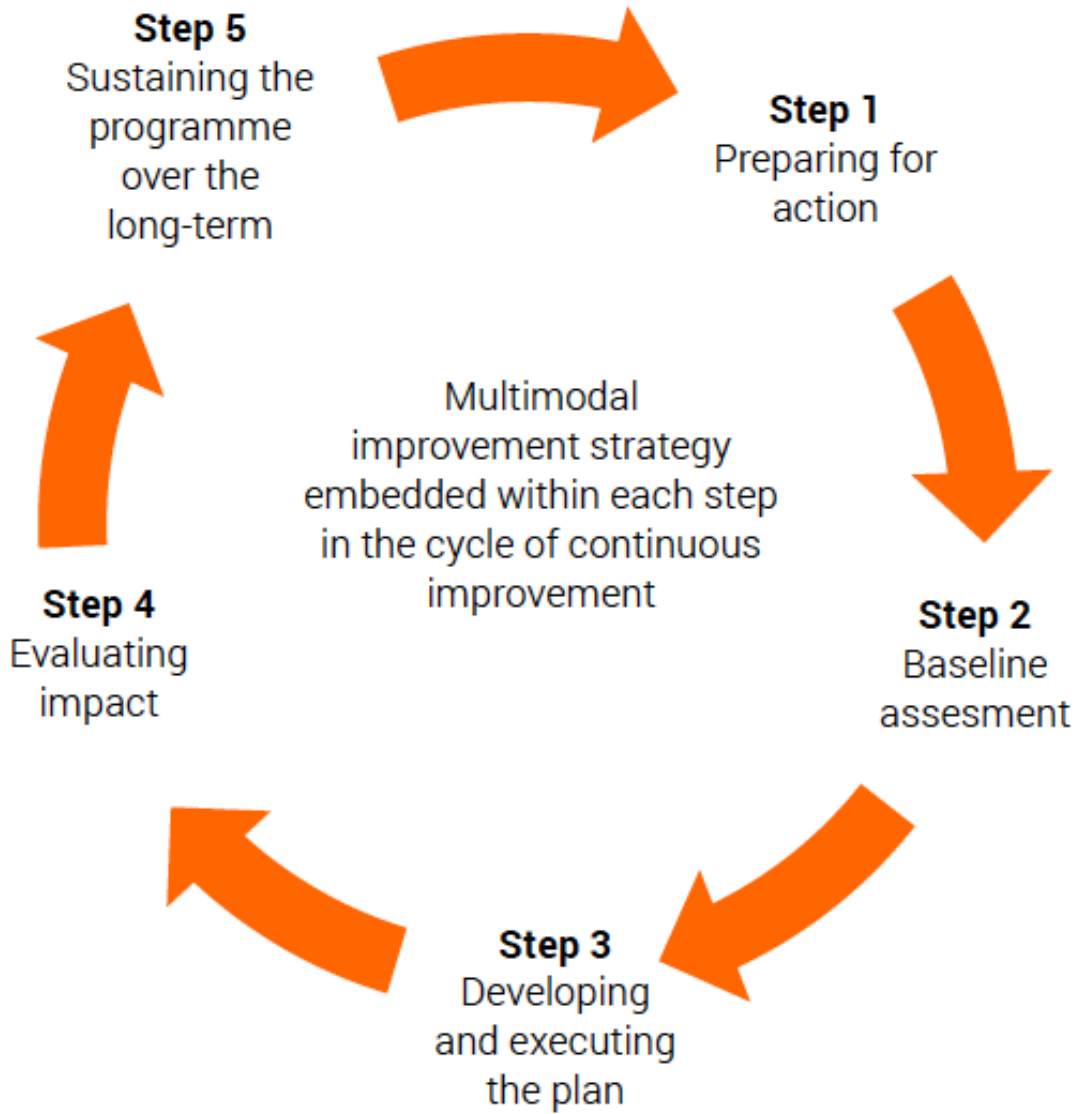
- Basadas en evidencias e identificadas acorde a evaluación de personal a nivel local

Mejoramiento de seguridad del paciente

Reducción de :

- IISQs
- Complicaciones quirúrgicas

Enfoque basado en pasos



Entender su situación actual

¿Qué herramientas usa?

Discutir las siguientes preguntas del *SUSP Perioperative Staff Safety Assessment Tool*:

1. Por favor describir las formas más frecuentes (anotar máximo 3) en las cuales los pacientes pueden adquirir una infección de sitio quirúrgico en sus quirófanos/establecimientos
2. Por favor describir qué cree que se puede hacer para prevenir las **infecciones de sitio quirúrgico**

Source: <https://www.ahrq.gov/professionals/quality-patient-safety/hais/tools/surgery/guide-appcusp.html>



→ Organizational culture change →

Modified
WHO
checklist

Pre-op Bath

No Hair removal

Surgical hand
preparation

Surgical site skin
preparation

OR discipline

Antibiotic prophylaxis

Equipos multidisciplinarios locales

LAUNCHING THE SUSP PROJECT



Kijabe SUSP Team with Benedeta



Benedeta Speech

The SUSP Team with the infection control committee held a launch ceremony of WHO Surgical Unit Safety Program (SUSP) Project on Tuesday April 8TH in the KH chapel. The ceremony was officiated by DR. Benedetta ALLEGRANZI WHO Technical Lead.

She made some presentations on patient safety and importance of the study.



Kijabe SUSP Team with Senior Management Team

Herramientas para abordar la cultura



Core CUSP toolkit

Creado por clínicos para clínicos, el kit de herramientas CUSP es modular y modificable para necesidades de unidades individuales. Cada modulo incluye herramientas de entrenamiento y recursos para apoyar cambio a nivel de unidad, presentado mediante apuntes de facilitadores que paso a paso presentan el modulo, presentaciones, herramientas y videos

CUSP for Safe Surgery Perioperative Staff Safety Assessment

Purpose of this form: The purpose of this form is to tap into your experiences at the frontlines of patient care to find out what risks jeopardize patient safety in your clinical area.

Who should complete this form: All staff members.

How to complete this form: Provide as much detail as possible when answering the 4 questions. Drop off your completed safety assessment form in the location designated by the SUSP team.

When to complete this form: Any staff member can complete this form at any time.

CUSP for Safe Surgery (SUSP)

Safety Issues Worksheet for Senior Executive Partnership

Date of Safety Rounds:

Unit:

Attendees:

- | | |
|----|---|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | (Please use back of form for additional attendees.) |

<https://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/modules/index.html>

<https://www.ahrq.gov/professionals/quality-patient-safety/hais/tools/surgery/guide-appcusp.html>

Entender e influenciar cultura local: herramientas creadas por equipos SUSP en hospitals africanos



Take 3 steps to make your surgical patient safe by preventing wound infections!



<p>1 Pre-operative</p> <p>Patient bathing Make sure the patient takes a shower or bath and washes with soap on the day of the operation or the evening before. This helps remove bacteria from the skin and reduces the risk of wound infection.</p> <p>Avoid hair removal Avoid hair removal or use clippers and change or disinfect blades after each patient. Razors damage the skin, which can lead to infection.</p>	<p>2 Peri-operative</p> <p>Good surgical hand preparation Follow all the steps of a good hand preparation technique before operating. Scrub with soap and water for 3-5 min or rub with an alcohol-based solution for 2-3 min.</p> <p>Appropriate antibiotic prophylaxis needs to be:</p> <ul style="list-style-type: none"> • Right antibiotic for the operation • Right dose • Right time = a single dose within 60 min • Appropriate discontinuation = stop after surgery. 	<p>3 Intra-operative</p> <p>Appropriate skin preparation Clean incision site with soap and water and then use antiseptic preparation (chlorhexidine/alcohol or iodophor/alcohol). Leave to dry before incision.</p> <p>Discipline in the OR*</p> <ol style="list-style-type: none"> 1. Make sure that all the equipment needed is in the OR* before starting. 2. Only essential staff should be in the OR*. 3. Keep doors and windows closed during the operation. <p>*Operating Room</p>
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<p>World Health Organization</p> <p>Take 3 steps to make your surgical patient SAFE by preventing wound infections!</p>	<p>SUSP Surgical Unit-based Safety Program</p>
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Organizational culture change

Antibiotic prophylaxis

OR discipline

Surgical site skin preparation

Surgical hand preparation

No Hair removal

Modified WHO checklist

Cambio de sistemas- modificaciones OMS para preparación de antisepsia manual quirúrgica



Formulación I

Concentración final: etanol 80% wt/wt, glicerol 0.725% vol/vol, peróxido de hidrógeno 0.125% vol/vol.

Ingredientes:

1. etanol (absoluto), **800 g**
2. H₂O₂ (3%), 4.17 ml
3. glicerol (98%), **7.25 ml** (o 7.25 x 1.26 = 9.135 g)
4. llenar con hasta **1000 g** de agua destilada o hervida

Sources:

Suchomel M KM, Kundi M, Pittet D, Rotter ML. Modified World Health Organization hand rub formulations comply with European efficacy requirements for preoperative surgical hand preparations. *Infect Control Hosp Epidemiol.* 2013; 34(3):245–250.

Allegranzi B, Aiken AM, Zeynep Kubilay N, Nthumba P, Barasa J, Okumu G et al. A multimodal infection control and patient safety intervention to reduce surgical site infections in Africa: a multicentre, before–after, cohort study. *Lancet Infect Dis.* 2018; 18(5):507–515.

Formulación II

Concentración final : isopropanol 75% wt/wt, glicerol 0.725% vol/vol, peróxido de hidrógeno 0.125% vol/vol.

Ingredientes:

1. isopropanol (absoluto), **750 g**
2. H₂O₂ (30%), **4.17 ml**
3. glicerol (98%), **7.25 ml** (or 7.25 x 1.26 = 9.135 g)
4. llenar con hasta **1000 g** de agua destilada

Cambio de sistema – preparación de piel para cirugía



Preparación local de solución de 2% clorhexidina isopropanol


1. Isopropanol: 62.7 % g/g
2. clorhexidina 12.1% g/g tomada de 18.8% g/g clorhexidina digluconato solución de agua
3. Llenar con agua destilada hasta 100%

Source: Allegranzi B, Aiken AM, Zeynep Kubilay N, Nthumba P, Barasa J, Okumu G et al. A multimodal infection control and patient safety intervention to reduce surgical site infections in Africa: a multicentre, before–after, cohort study. *Lancet Infect Dis.* 2018; 18(5):507–515.



Herramientas para monitorear impacto

Surgical Unit-based Safety Program
Protocol for SSI Surveillance in African sites



Purpose of this document


Conducting high-quality Surgical Site Infection (SSI) surveillance is challenging in any setting, but it is especially difficult to perform in routine practice in settings where resources are limited and hence, is rarely undertaken. Methods described for SSI surveillance in high-income countries (such as those of the Centers for Disease Control [CDC]) are not entirely appropriate in low-income countries (LICs) due to financial and other constraints, and hence there is a need for a practical, reproducible and low-cost SSI surveillance methodology for health professionals in these settings.

This protocol describes the intended format for SSI surveillance in the SUSP project being undertaken across five African Hospitals in 2013/14 under the coordination of the WHO Patient Safety Programme and in collaboration with Johns Hopkins University. This protocol is strongly based on the CDC method and definitions for SSI surveillance and is accompanied by data collection forms, training materials, information sheets and Epi-Info database that are meant to practically facilitate surveillance in the context of a LIC. These methods may need further adaptation according to local circumstances.

Principles of SSI surveillance


Surveillance can be described as "The systematic collection, analysis and interpretation of health data, closely integrated with the timely dissemination of these data to those who need to know." In surgical care, the collection of SSI surveillance information can serve to motivate and guide surgical teams on how to improve their services to minimize the risk of SSI in their patients. Most surgeons are very interested to know the results of SSI surveillance on their own patients, as long as they have confidence in the methods being used – so it is important that surgeons understand the key principles of the surveillance process.

Formulario Peri-operativo

	Pt name	Age	IP no.
ID	Primary Diagnosis	Sex	Surveillance no.
			
1	Type of surgery : _____	Theatre Room # [] []	
	Surgical Procedure _____	Surgeon _____	
	Date of surgery _____	Grade _____	
PROCESS MEASURES - ENHANCED DATA COLLECTION OPERATIONS ONLY			
2	Patient skin preparation		Surgeon's hand preparation
	Pre-op bath/shower [Y / N]		Alcohol-handrub [] Plain soap+water [] antimicrobial
	Antiseptic soap used [Y / N]		Time spent on handwash: [] mins [] sec
	Hair removal: Razor [] Clippers [] Not done []		Scoring of handwash technique: low [] medium []
3	Where was hair removal done? Ward [] Theatre []		Theatre traffic
	Patient skin scrub		Headcount at start of op _____
	chlorhex-alc [] iodine+alc [] chlorhex-aq [] iodine-aq []		People entering theatre _____
	Allowed to dry fully? [Y / N]		Door openings during op _____
4	Start time (knife to skin) [:] 24hr clock		Urgency of operation
	End time [:] 24hr clock		[] Emergency – must be done immediately to save life (eg. major trauma)
	Duration = ____ hrs ____ mins		[] Urgent – must be done within 24-48hrs (eg. repair)
			[] Semi-elective – must be done within days-weeks (eg. tumour)
		[] Elective – no time constraints (eg. cosmetic)	
5	ASA class = []		
	1. Normal healthy person.		
	2. Mild systemic disease, (eg hypertension, well controlled diabetes)		
	3. Severe systemic disease, not incapacitating (eg. moderate COPD/diabetes/ malignancy)		
4. Incapacitating systemic disease that is a constant threat to life (eg. pre-eclampsia, very advanced HIV, heavy bradycardia)			
5. Moribund patient, not expected to survive 24hrs with or without operation (eg major trauma)			



Formulario post-operativo

	Pt name	Age	IP no.	Address (village/area)
Phone number 1	Whose number	Checked?		
	Phone number 2	Whose number	Checked?	
				
Day	Date	Events (Box 1)	Notes (if wound complication describe in Box 3)	Int%
1		OPERATION	Procedure=	
2				
3				
4-5	Week 1		Review or phone call 1	ID [] Pain Y/N Breakdown Y/N Pus Y/N Bleeding Y/N Other:
6-7				
8-9	OP+7			
10-11	Week 2			
12-14		Review or phone call 2		ID [] Pain Y/N Breakdown Y/N Pus Y/N Bleeding Y/N Other:
15-17	OP+14			
18-21	Week 3			
22-25	OP+21	Review or phone call 3		ID [] Pain Y/N Breakdown Y/N Pus Y/N Bleeding Y/N Other:
26-29	Week 4			
Day 30				End of SSI surveillance

<p>Box 1: Relevant post-op events should include</p> <ul style="list-style-type: none"> All patient reviews (IP / OP / telephone) Discharge from hospital Prescription of antibiotics Readmission to hospital +/- return to theatre Reported attendance/treatment elsewhere Patient death (describe cause) 	<p>Box 2: Important symptoms for SSI</p> <ul style="list-style-type: none"> Drainage of fluid from wound <ul style="list-style-type: none"> Pus v clear (serous) / bloody / other Pain / tenderness beyond normal for operation Swelling / redness / heat of skin Wound breakdown Generally unwell, esp. fever >38°C 												
<p>Box 3: Wound complications</p> <p>Surgical Site Infection? → circle criteria →</p> <p>Date of SSI: _____</p> <p>OR</p> <p>Non-infectious complications</p> <p>Wound dehiscence []</p> <p>Allergic reaction to dressing []</p> <p>Bleeding / Haemorrhage []</p> <p>Other [] specify _____</p> <p>Notes _____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Superficial SSI [] (skin/sub-cut) eg. cellulitis</th> <th>Deep SSI [] (fascia/muscle) eg. deep abscess</th> <th>Organ/Space SSI [] (eg. endometritis (organ), or peritonitis (space))</th> </tr> <tr> <td>(Pus from superficial incision OR bacterial growth from aseptic sample)^{1,2}</td> <td>(Pus from superficial or deep incision OR deep incision dehiscence AND infection symptoms)^{1,2}</td> <td>Pus drainage / bacterial growth* from sterile organ or space manipulated during surgery</td> </tr> <tr> <td>AND infection symptoms^{1,2} but NOT stitch abscess</td> <td>Deep infection/abscess found on imaging/examination</td> <td>Organ or space infection/abscess found on imaging/examination</td> </tr> <tr> <td>Surgeon's opinion</td> <td>Surgeon's opinion</td> <td>Surgeon's opinion</td> </tr> </table>	Superficial SSI [] (skin/sub-cut) eg. cellulitis	Deep SSI [] (fascia/muscle) eg. deep abscess	Organ/Space SSI [] (eg. endometritis (organ), or peritonitis (space))	(Pus from superficial incision OR bacterial growth from aseptic sample) ^{1,2}	(Pus from superficial or deep incision OR deep incision dehiscence AND infection symptoms) ^{1,2}	Pus drainage / bacterial growth* from sterile organ or space manipulated during surgery	AND infection symptoms ^{1,2} but NOT stitch abscess	Deep infection/abscess found on imaging/examination	Organ or space infection/abscess found on imaging/examination	Surgeon's opinion	Surgeon's opinion	Surgeon's opinion
Superficial SSI [] (skin/sub-cut) eg. cellulitis	Deep SSI [] (fascia/muscle) eg. deep abscess	Organ/Space SSI [] (eg. endometritis (organ), or peritonitis (space))											
(Pus from superficial incision OR bacterial growth from aseptic sample) ^{1,2}	(Pus from superficial or deep incision OR deep incision dehiscence AND infection symptoms) ^{1,2}	Pus drainage / bacterial growth* from sterile organ or space manipulated during surgery											
AND infection symptoms ^{1,2} but NOT stitch abscess	Deep infection/abscess found on imaging/examination	Organ or space infection/abscess found on imaging/examination											
Surgeon's opinion	Surgeon's opinion	Surgeon's opinion											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Microbiology results*</th> <th>Specimen taken Date</th> <th>type</th> <th>Organism(s) isolated</th> <th>antibiotic resistance</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		Microbiology results*	Specimen taken Date	type	Organism(s) isolated	antibiotic resistance							
Microbiology results*	Specimen taken Date	type	Organism(s) isolated	antibiotic resistance									

*Note that most surgical wounds and drains will rapidly become colonized with local bacteria. Therefore, bacterial growth from a wound/drain is only significant when sample is collected aseptically from a site that would be expected to be sterile and there is clinical evidence of infection (see box 2).



World Health Organization

Patient Safety

A World Alliance for Safer Health Care

SAVE LIVES

Clean Your Hands

Instructions for data-entry and data-analysis using Epi Info™

After collecting data using the forms in the SUSP AFRICA ToolKit data can be entered and analysed using Epi Info™ database files developed specifically for these forms. These database files can be downloaded from your dropbox folders on the computer you have chosen from the shared link. To use these files, the main Epi Info™ software also needs to be downloaded.

Using Epi Info™ in 5 steps

94% de pacientes tenían ≥2 interacciones de seguimiento (inpatient reviews, outpatient clinic,entrevistas telefónicas); 80% tuvo ≥3 interacciones durante sus periodos de vigilancia de 30-días

Impacto en medidas preventivas

	Baseline (n=1604)	Follow-up (n=1827)	p value	Sustainability period (n=891)
Preoperative patient bathing (n=4321, 0.02%)	1238 (77.2)	1544 (84.5)	<0.0001	799 (89.7)
Appropriate hair removal (n=4310, 0.3%)	1169 (73.1)	1702 (93.5)	<0.0001	880 (98.8)
Appropriate skin preparation (n=4307, 0.3%)	330 (20.7)	1644 (90.2)	<0.0001	845 (94.8)
Quality of surgical hand preparation (n=4223, 2.3%)	1213 (78.7)	1694 (94.4)	<0.0001	865 (97.4)
Appropriate use of antibiotic prophylaxis (n=4322, 0%)	205 (12.8)	714 (39.1)	<0.0001	635 (71.3)
Theatre discipline				
Theatre door openings per hour of operation time (n=4031, 6.7%)	14.8 (17.8)	14.2 (16.1)	0.3771	19.0 (21.6)
Number of individuals present at the start of the operation (n=4313, 0.2%)	8.3 (3.4)	7.7 (2.5)	<0.0001	7.4 (2.5)
Number of entries during the operation (n=4236, 2.0%)	5.0 (4.1)	4.8 (4.9)	0.1758	4.2 (2.7)

Data are mean (SD). Data per variable and percentage missing data are also given. SSI=surgical site infection.

Table 2: Process indicators for SSI prevention intervention measures across study periods in four (baseline and follow-up) and three (sustainability period) hospitals

Impacto en IISQ

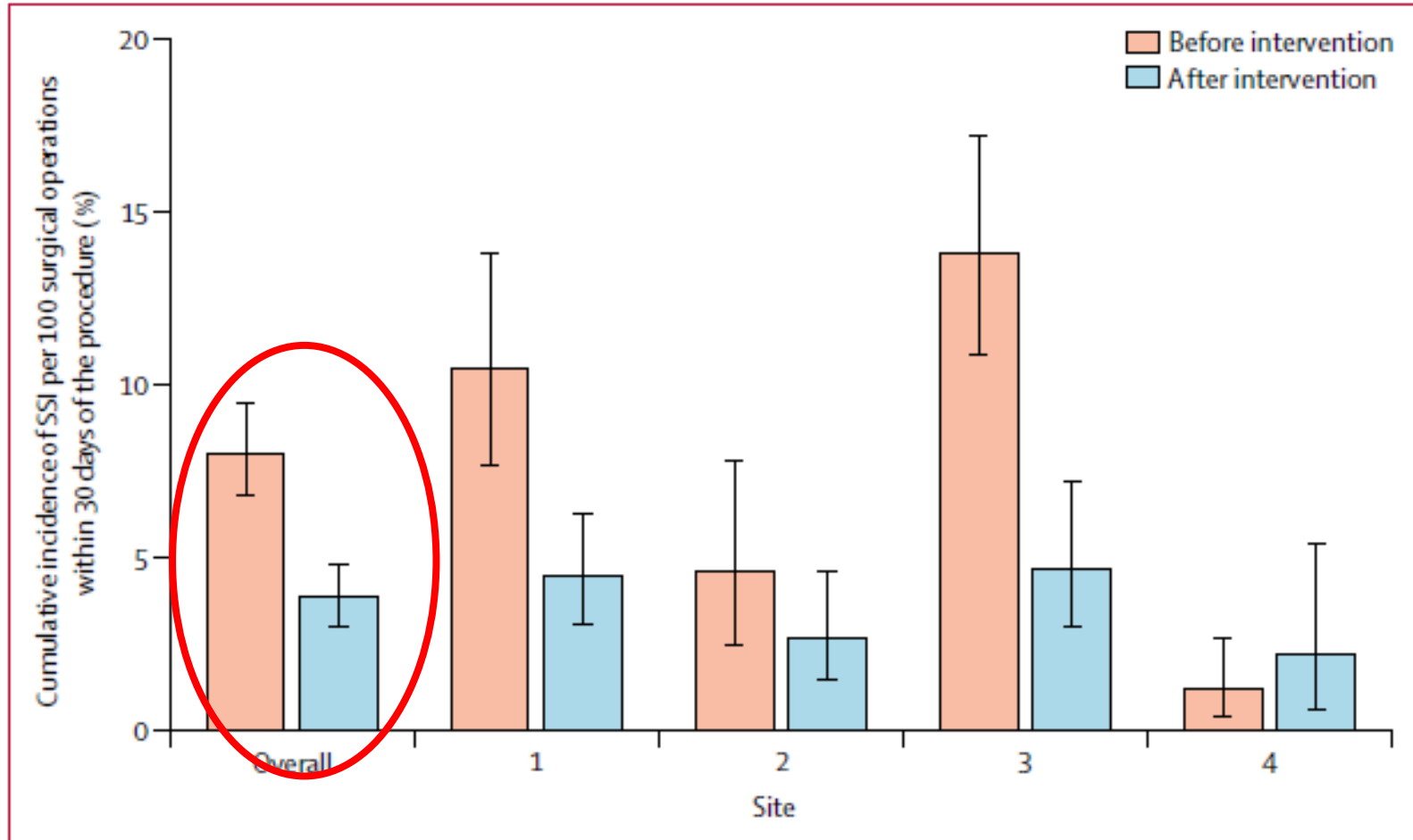


Figure 2: Unadjusted SSI cumulative incidence overall and by site at baseline and follow-up in four sites
Error bars show 95% CIs. SSI=surgical site infection.

Resumen de factores para éxito



- **Uso de estrategias multimodales(esto no significa listas y “bundles”)**
- Tener un plan de acción basado en pasos
- Mapeo de recomendaciones acorde a la experiencia de pacientes de cirugía
- Empoderamiento de equipos involucrando a personal de primera línea
- Involucrar a líderes
- Dejar que equipos tomen la iniciativa de adaptación
- Catalizar participación colectiva e individual
- Utilizar datos para crear conciencia
- Premiar a equipos y trabajo que demuestra cultura y espíritu de cuidado

Nuevas Herramientas de OMS para Implementación de Prevención de Infecciones de Sitio Quirúrgico



PREVENTING SURGICAL SITE INFECTIONS:
IMPLEMENTATION APPROACHES
FOR EVIDENCE-BASED RECOMMENDATIONS



Protocol for surgical site infection surveillance with a focus on settings with limited resources

http://www.who.int/infection-prevention/tools/surgical/evaluation_feedback/en/

Guía OMS para Implementación de Prevención de IISQ a nivel Hospitalario

Herramientas OMS Adaptadas para apoyar implementación de prevención de IISQ

SURGICAL SITE INFECTION PREVENTION
Key facts on decolonization of nasal carriers of *Staphylococcus aureus*

THINGS YOU SHOULD KNOW
What does the World Health Organization (WHO) recommend?

The 2014 WHO Global guidelines for the prevention of surgical site infections recommend that patients with known nasal carriage of *Staphylococcus aureus* undergoing:

- cardiothoracic and orthopaedic surgery should be decolonized** using intranasal applications of mupirocin 2% ointment with or without a combination of chlorhexidine gluconate (CHG) body wash (strong recommendation);
- other types of surgery** – treatment with intranasal applications of mupirocin 2% ointment with or without a combination of CHG body wash **may be considered** (conditional recommendation).

This recommendation applies to facilities where screening for *S. aureus* is feasible and may not apply to settings with a high prevalence of mupirocin resistance.
Based on the lack of evidence, this recommendation is **not** applicable to paediatric patients.

WHAT should be done?



Hoja informativa con recomendaciones de infecciones de sitio quirúrgico

Nueva plataforma para implementación ¡Lanzamiento pronto!

SAVE LIVES: Clean Your Hands - 5 de Mayo 2019

Monitoreo de PCI e Higiene de Manos – Encuesta Global OMS 2019

- **Herramientas:** IPC Assessment Framework (IPCAF)* & Hand Hygiene Self-assessment Framework (HHSAF)**
- **Agenda:**
 - Preparación: September-December 2018
 - Encuesta realizada: January-March 2019
 - Análisis de encuesta: April-June 2019
- **Muestra:**
 - **participacion voluntario del los servicios de salud**
 - **Submuestra aleatorizada**
- **Planificación:**
 - Mes 1: preparación
 - Mes 2: IPCAF
 - Mes 3: HHSAF

Completar herramientas en papel a nivel establecimiento ➡ II. Enviar en línea/email
- **Informe: será publicado por la OMS en 2019**

*<http://www.who.int/infection-prevention/tools/core-components/IPCAF-facility.PDF?ua=1>

**http://www.who.int/gpsc/country_work/hhsa_framework_October_2010.pdf?ua=1



Muchas gracias

OMS Unidad Global de Prevención y Control de Infecciones



Para más información visite:

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



World Health
Organization