



**World Health  
Organization**

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

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

# ¿Por qué es importante PCI para resultados de pacientes ?

**>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 bacteraemia 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/>

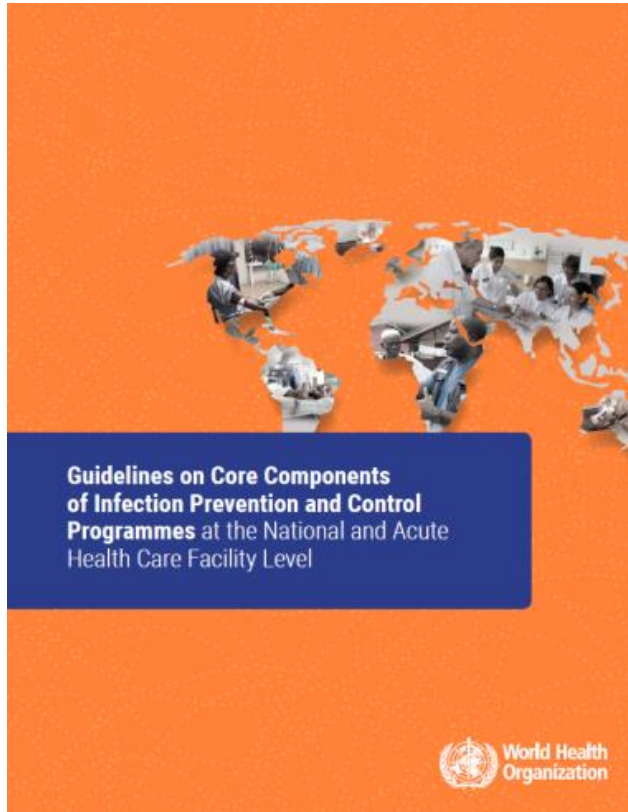


# WHO Guidelines on Core Components of IPC Programmes at the National and Acute Health Care Facility Level



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

Appendix III  
Infection Prevention and Control Programmes at the Health Care Facility Level:  
Available guidance from WHO regional offices



Storr et al. *Antimicrobial Resistance and Infection Control*, 2015, 10(1):166-175/10.1016/j.ari.2015.01.009

Antimicrobial Resistance and Infection Control

**GUIDELINES ARTICLE** Open Access

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

Julie Storr<sup>1</sup>, Anthony Tymman<sup>1</sup>, Walter Zingg<sup>2</sup>, Nizam Damanli<sup>1</sup>, Claire Kipatiriki<sup>1</sup>, Jacqui Reilly<sup>3</sup>, Lesley Price<sup>4</sup>, Matthias Egger<sup>4</sup>, M. Lindsay Grayson<sup>4</sup>, Edward Kelley<sup>1</sup>, Benedetta Allegranzi<sup>5</sup> and the WHO Guidelines Development Group

**Abstract**  
Health care-associated infections (HAI) are a major public health problem with a significant impact on morbidity and quality of life. They represent also an important economic burden to health systems worldwide. However, a large proportion of HAI are preventable through effective infection prevention and control (IPC) measures. Improvements in IPC at the national and facility level are critical for the successful containment of antimicrobial resistance and the prevention of HAI, including outbreaks of highly transmissible diseases through high quality care within the context of universal health coverage. Given the limited availability of IPC evidence-based guidance and standards, the World Health Organization (WHO) decided to prioritize the development of global recommendations on the core components of effective IPC programmes both at the national and acute health care facility level, based on systematic literature reviews and expert consensus. The aim of the guideline development process was to identify the evidence and evaluate its quality, consider patient values and preferences, resource implications, and the feasibility and acceptability of the recommendations. As a result, 11 recommendations and three good practice statements are presented here, including a summary of the supporting evidence, and form the sub-

**Keywords:** infection prevention guideline, surveillance, IPC practices, Universal health care

**Introduction**  
Infection prevention and control is a relevant component of all health and safety of both people and those who provide their services (HAI) are one of the most important events in care delivery and public health. In a major report in 2011, the World Health Organization (WHO) reported that on average 7% of patients in low- and middle-income countries acquire an HAI during their hospital stay. This is a significant public health problem, as HAI are preventable through effective infection prevention and control (IPC) measures. Improvements in IPC at the national and facility level are critical for the successful containment of antimicrobial resistance and the prevention of HAI, including outbreaks of highly transmissible diseases through high quality care within the context of universal health coverage. Given the limited availability of IPC evidence-based guidance and standards, the World Health Organization (WHO) decided to prioritize the development of global recommendations on the core components of effective IPC programmes both at the national and acute health care facility level, based on systematic literature reviews and expert consensus. The aim of the guideline development process was to identify the evidence and evaluate its quality, consider patient values and preferences, resource implications, and the feasibility and acceptability of the recommendations. As a result, 11 recommendations and three good practice statements are presented here, including a summary of the supporting evidence, and form the sub-

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

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

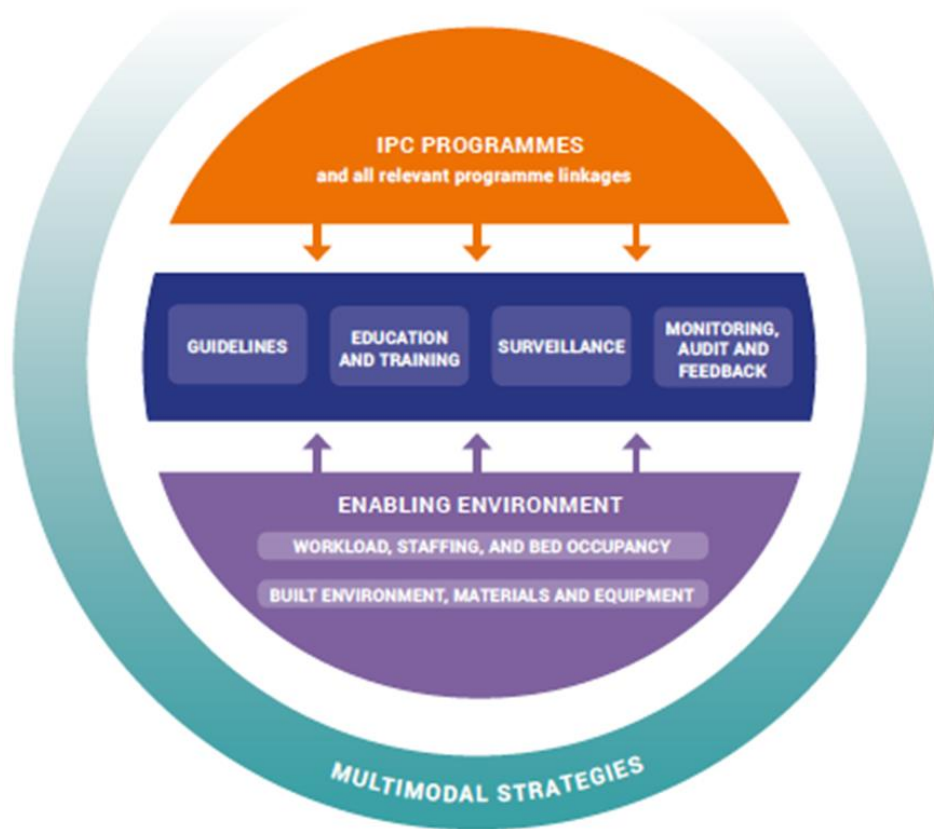
**Review**

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 declaraciones de buenas prácticas

\* Evidencias de países de bajo y medianos ingresos:

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

R= recomendación; GPS: good practice statement



# Implementación de componentes esenciales de PCI

- Los componentes esenciales de la OMS son una **ruta** que indican como el PCI puede, de manera efectiva, evitar y reducir los daños causados por las IAAS y RAM
- **Implementación, incluyendo el liderazgo efectivo**, es clave para traducir las directrices a prácticas
  - ***No siempre es fácil y toma tiempo***
  - Estrategias **multimodales**/multidisciplinarias
  - Monitorear enfoques
  - Centradas en pacientes
  - **Integradas** con procedimientos clínicos
  - Innovadores y **adaptados a contexto local**
  - **Adecuadas** 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 context 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 ganancia neta, independiente del context y los costos incurridos
- No todas las soluciones requieren de recursos adicionales
- Algunas soluciones pueden ser de bajo costo y producci'n 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 practices de bajo-**costo**
  - **Parar 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>

*Damani N. Simple measures save lives: an approach to infection control in countries with limited resources. J Hosp Infect. 2007;65(Suppl. 2):151-154.*



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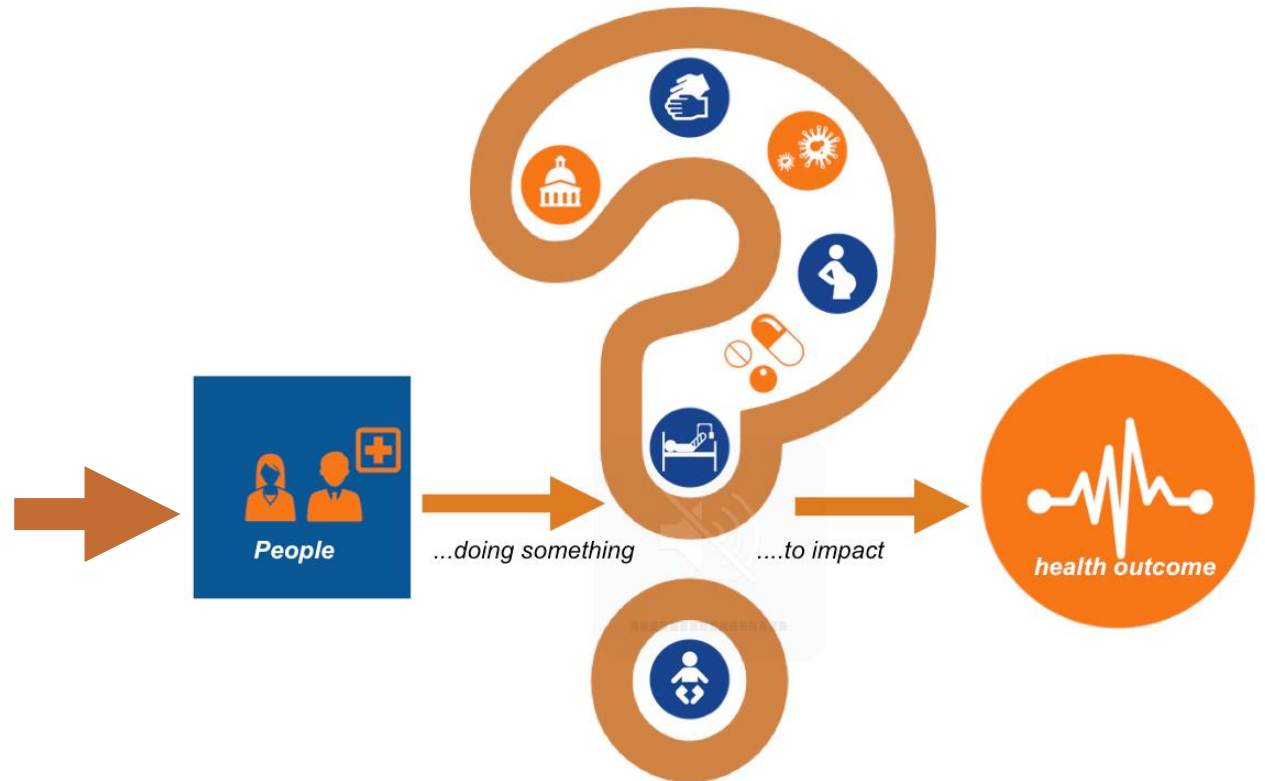
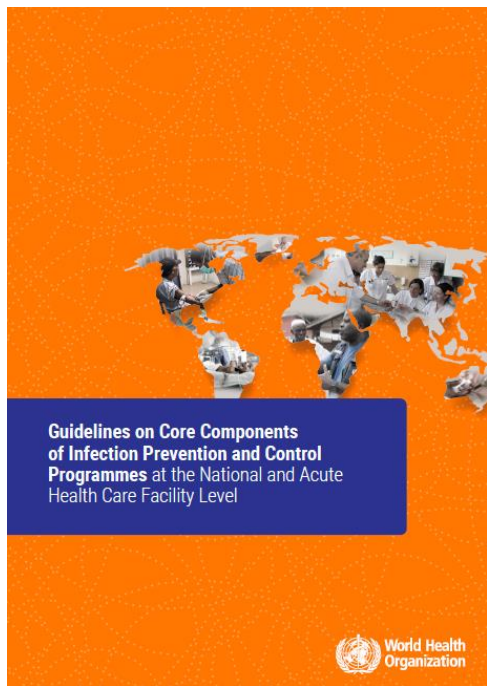
# Reflexión de componentes claves de PCI – Region de las Américas



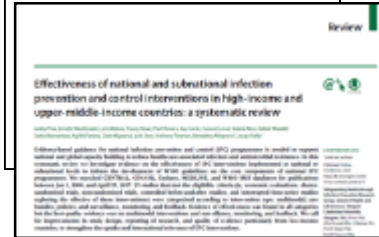
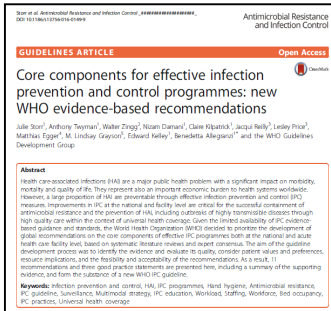
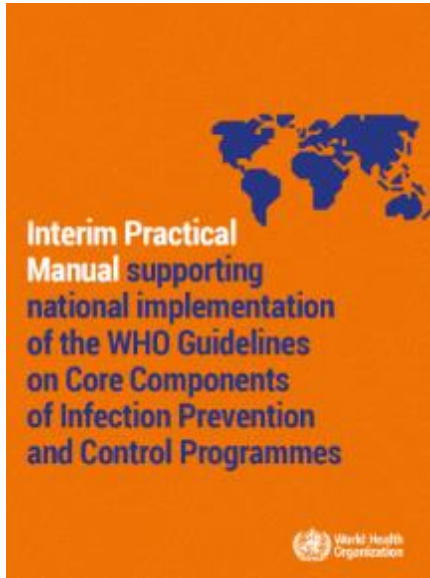
Mayores **desafíos** para brindar apoyo en PCI y tener avances

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

# Traducir guías a acción



# Recursos para implementación de Directrices de Componentes Esenciales de a OMS



Component	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.	Programme objectives, functions, and activities clearly outlined	Practical Manual Chapter 1
		Technical team of national infection prevention in place	
		Evidence that IPC programme is linked with other relevant programmes and professional organisations	
2. Structure & funding	Develop evidence-based national IPC guidelines and related implementation strategies.	Developed IPC guidelines developed or adapted from international standards	Practical Manual Chapter 2
		Key personnel and resources are available to ensure guideline implementation is being implemented	
3. Education & training	Support education and training of health workforce.	Continuous target audience, learning objectives, curriculum, and teaching strategy developed	Practical Manual Chapter 3
		One employee or volunteer and curricular performance training on IPC under development	
4. Surveillance	Establish a national surveillance system for IPC.	Support and engagement by government and authorities for IPC surveillance activities	Practical Manual Chapter 4
		Human and financial resources secured	
		Microbiology and laboratory capacity under development	



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

# Enfoque de implementación

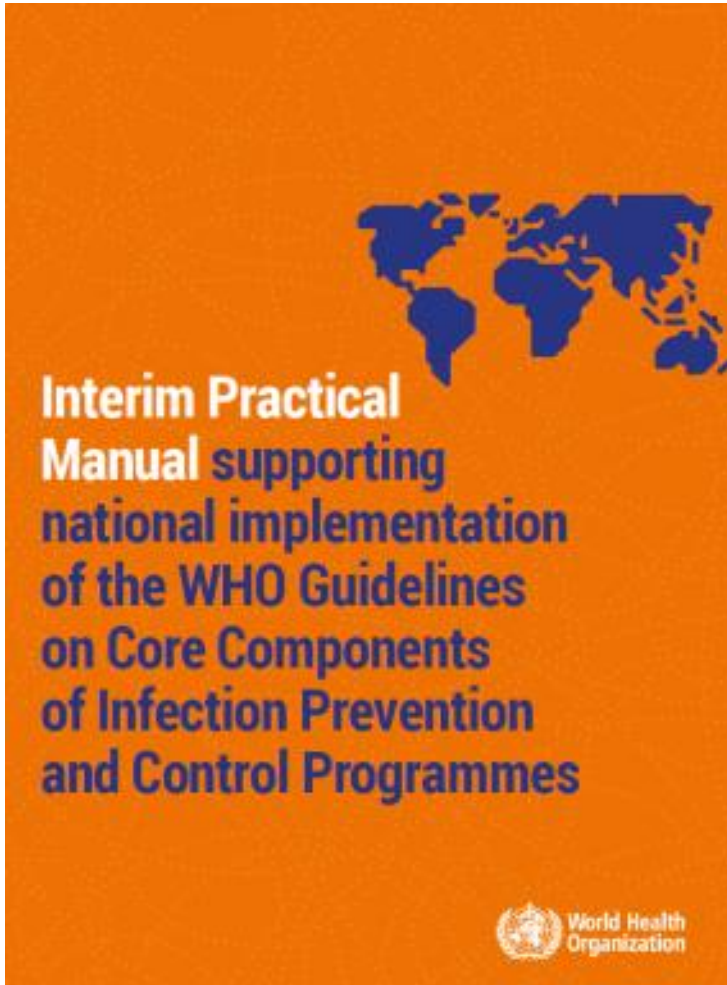


**Box 8. IPCAF scoring interpretation**

Score	Interpretation
0-200	<b>Insufficient</b> IPC core components' implementation is deficient. Significant improvement is required.
201-400	<b>Basic</b> Some aspects of the IPC core components are in place, but not sufficiently implemented. Further improvement is required.
401-600	<b>Intermediate</b> 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	<b>Advanced</b> The IPC core components are fully implemented according to the WHO recommendations and appropriate to the needs of your facility.



# 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 instruction 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:  Interview

**NEALTH CARE WITHOUT AVOIDABLE INFECTIONS**

This tool is based on the 2010 WHO Guidelines on core components for infection prevention and control programmes of the national and health facilities 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-guidance.pdf?ua=1)

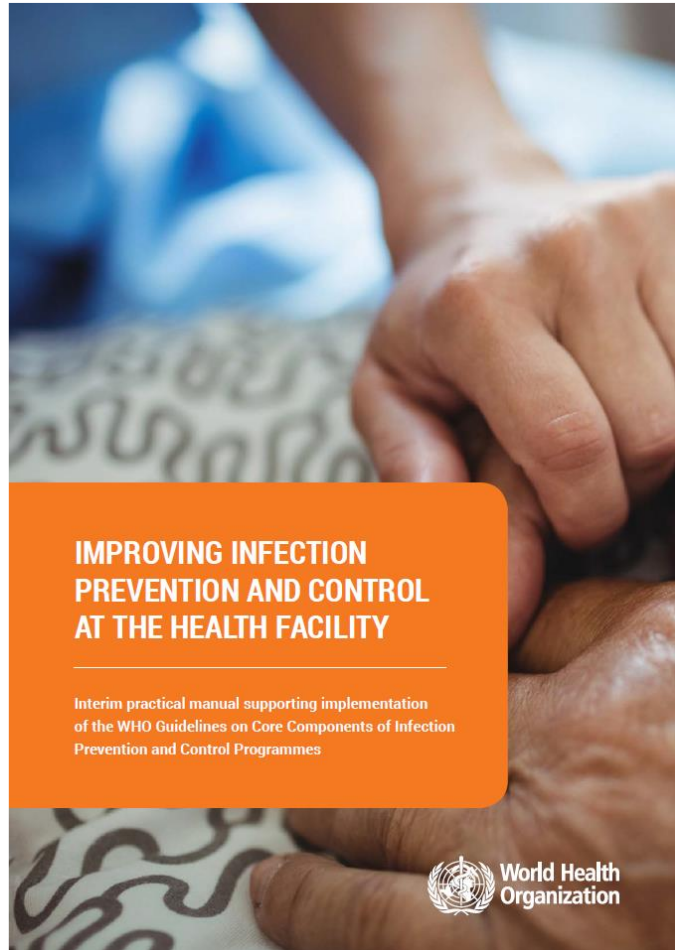
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
<b>2 IPC guidelines* (Interim practical manual, pages 23-39)</b>											<b>100%</b>			
<b>2.1 Development, dissemination and implementation of national technical guidelines</b>											<b>100%</b>			
2.1.1 The IPC programme has a mandate to develop, disseminate, promote and implement the guidelines														
2.1.2 The guidelines are evidence-based, including at least one evidence-based guideline														
2.1.3 The guidelines are reviewed at least every five years and updated to reflect the current evidence base														
2.1.4 The development of guidelines involved the use of evidence-based practice, knowledge and non-organisational standards														
2.1.5 The IPC programme has the necessary resources to develop national guidelines														
2.1.6 The IPC programme, or any evidence generation activities and/or the provision of technical assistance, is a priority for the national health authority														
2.1.7 Evidence generation involves early engagement of key stakeholders, including involvement of programme country level IPC case studies														
2.1.8 The IPC programme develops multidisciplinary implementation strategies to enable national implementation of the guidelines														
2.1.9 The IPC programme has the capacity to ensure that the national level and support national guidelines to ensure they are evidence-based and implementable														
<b>2.2 Education and training of relevant healthcare workers on IPC guidelines</b>											<b>100%</b>			
2.2.1 The IPC programme supports and facilitates a programme of health worker education addressing on public recommendations on IPC guidelines														
2.2.2 The IPC programme supports and facilitates a programme of health worker education addressing on public recommendations of the guidelines tool														
2.2.3 The IPC programme supports and facilitates a programme of health worker education addressing on public recommendations of the guidelines tool														
<b>2.3 Monitoring of guideline adherence</b>											<b>100%</b>			
2.3.1 A national system and/or other monitoring and evaluation system is in place to assess adherence to guideline recommendations, for example, at least annually														
<b>2.4 Minimum set of national guidelines</b>											<b>100%</b>			
2.4.1 National guidelines are based on evidence, preferably if produced using evidence-based methods														
2.4.2 National guidelines have been developed based on evidence-based methods														
2.4.3 Specific guidelines to prevent nosocomial infections, patient-associated surgical site infections, catheter-associated urinary tract infections, and/or other healthcare-associated infections have been developed, including on the content and complexity of hand hygiene														
2.4.4 Specific guidelines to prevent nosocomial infections, patient-associated surgical site infections, catheter-associated urinary tract infections, and/or other healthcare-associated infections have been developed, including on the content and complexity of hand hygiene														



# Manual de implementación y herramienta de evaluación

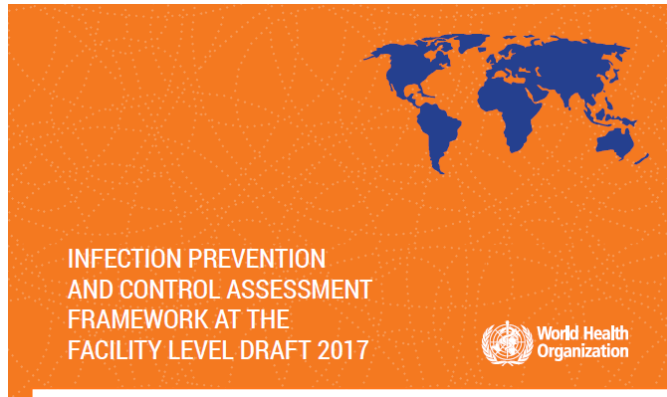


## nivel establecimiento



- 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  $\geq 4$  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 level<sup>27</sup>**

Question	Answer	Score
<b>Water</b>		
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 <b>but not</b> of sufficient quantity	2.5
	<input type="checkbox"/> Yes, every day <b>and</b> 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 <b>and</b> for all wards/groups	7.5
<b>Hand hygiene and sanitation facilities</b>		
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, <b>but</b> supplies are not reliably available	2.5
	<input type="checkbox"/> Yes, with reliably available supplies	7.5
4. In your facility, are ≥ 4 toilets <b>or</b> improved latrines <sup>27</sup> 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 <b>and</b> functioning	0
	<input type="checkbox"/> Sufficient number present <b>but</b> not all functioning	2.5
	<input type="checkbox"/> Sufficient number present <b>and</b> functioning	7.5

## Box 8. IPCAF scoring interpretation

Score	Interpretation
0-200	<b>Inadequate</b> IPC core components' implementation is deficient. Significant improvement is required.
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601-800	<b>Advanced</b> The IPC core components are fully implemented according to the WHO recommendations and appropriate to the needs of your facility.

- **Questionario estructurado con preguntas basadas en el enfoque HHSAF: 81 indicadores**
- **Evaluaciones individuales o conjuntas**
- **Model para interpretación de datos, discusión y plan de acción**
- **Testeado para usabilidad, confiabilidad y validación en una muestra de 181 servicios de salud águdos en 46 países**

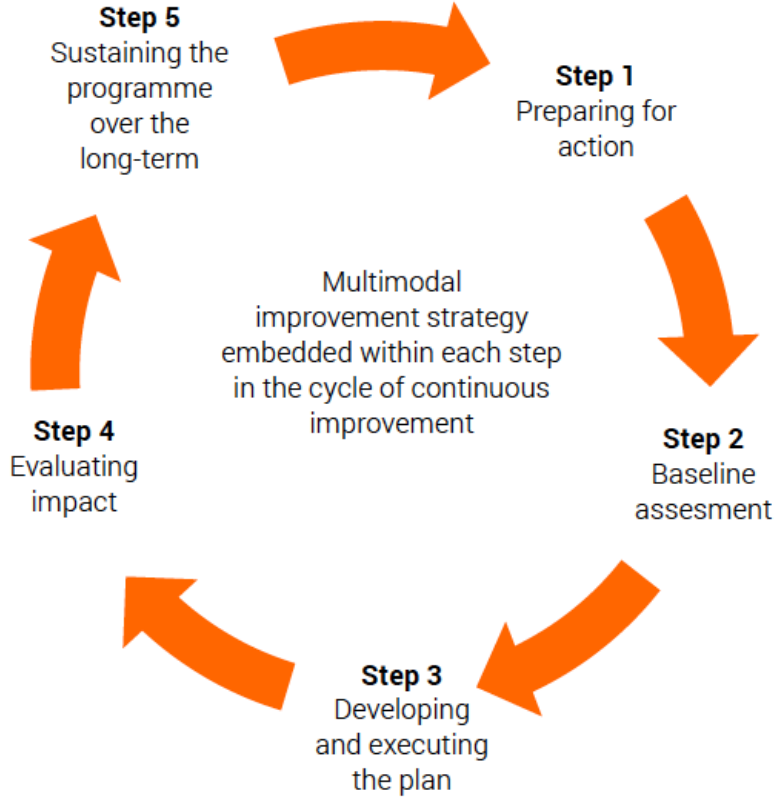


# Puntos destacados de parte III





# 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.

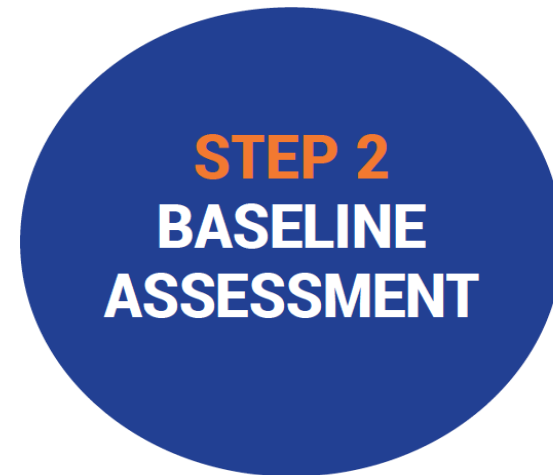
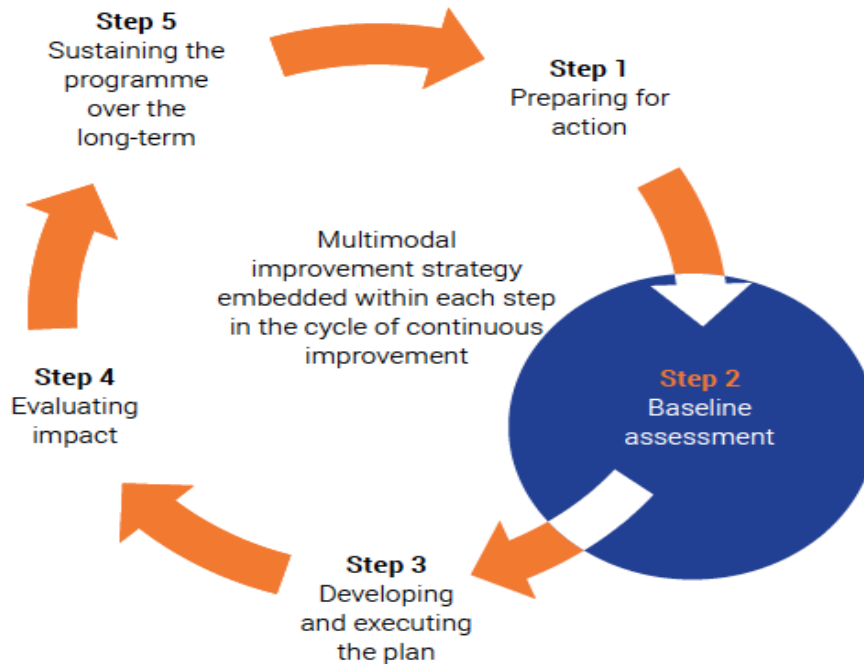


# Enfoque basado en pasos

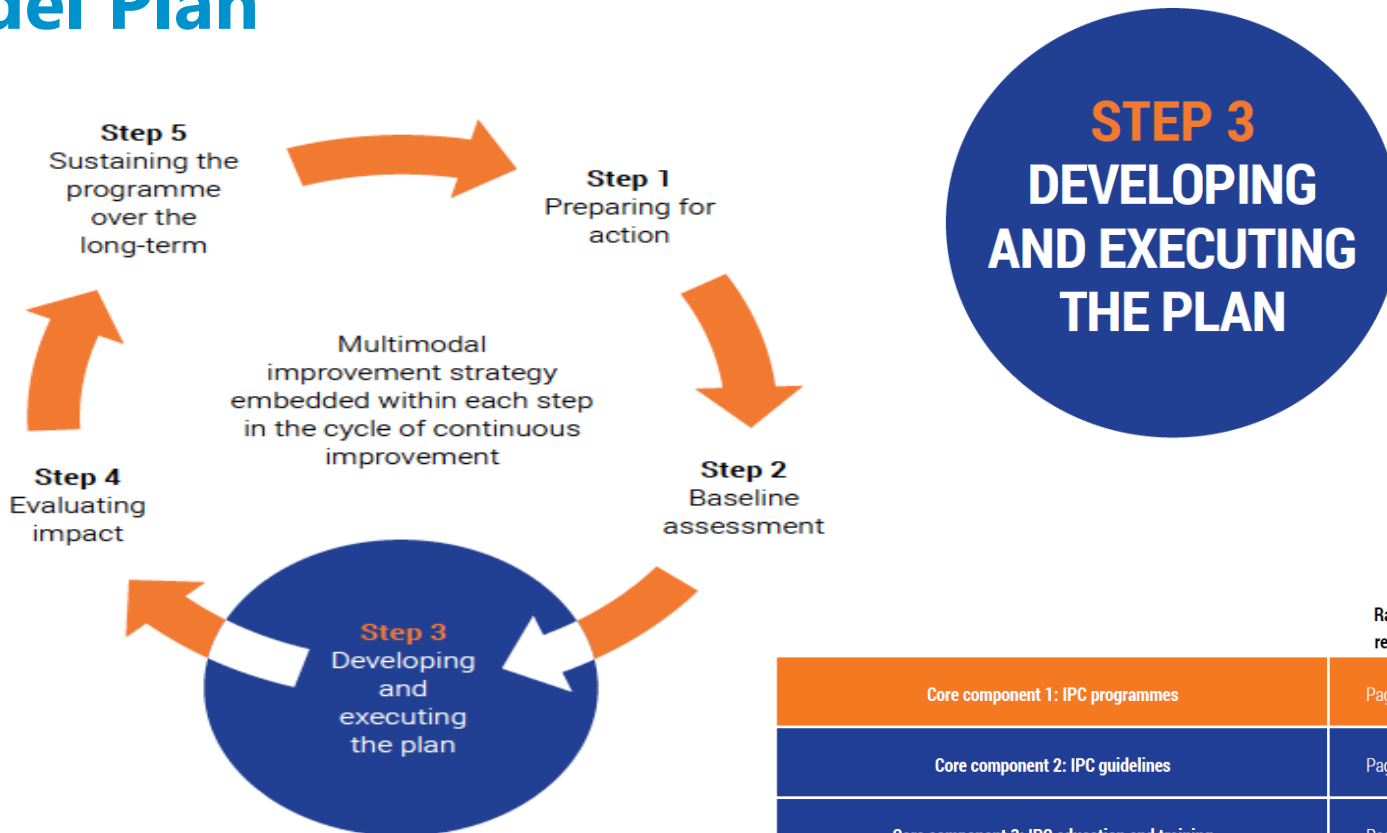
## Paso 1: Prepararse para la acción



# Paso 2: Evaluación de base/referencia

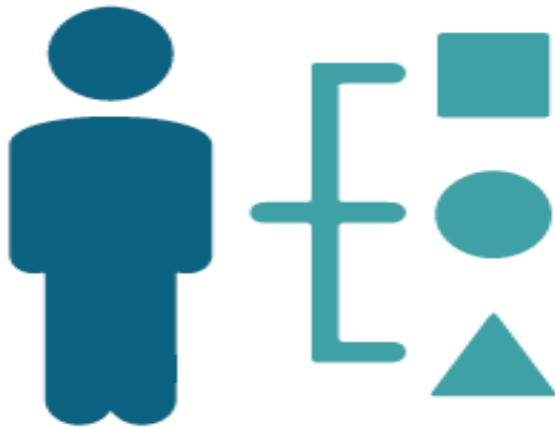


# Paso 3: Desarrollo y Ejecución del Plan



	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

# 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").

# 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 clave para la 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)

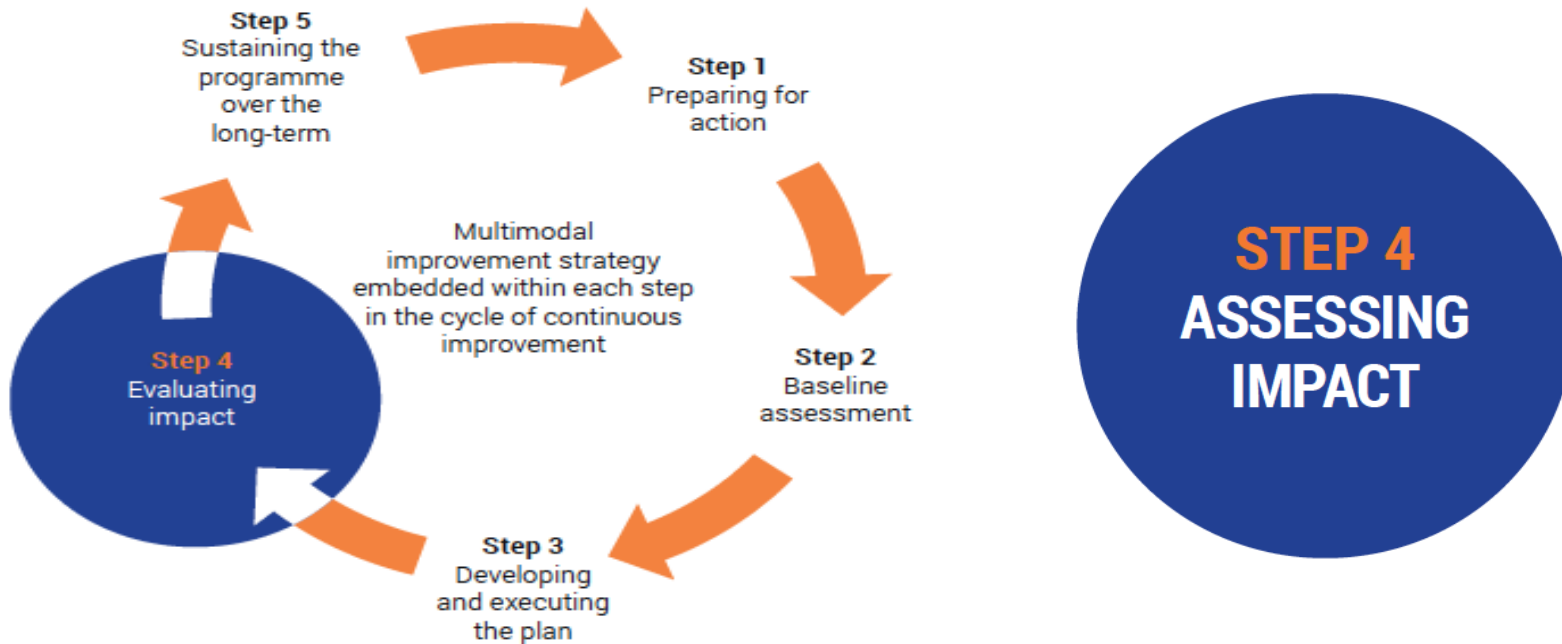


Is there demonstrable support for the intervention at every level of the health system? For example, do senior managers provide funding for equipment and other resources? Are they willing to be champions and role models for IPC improvement?

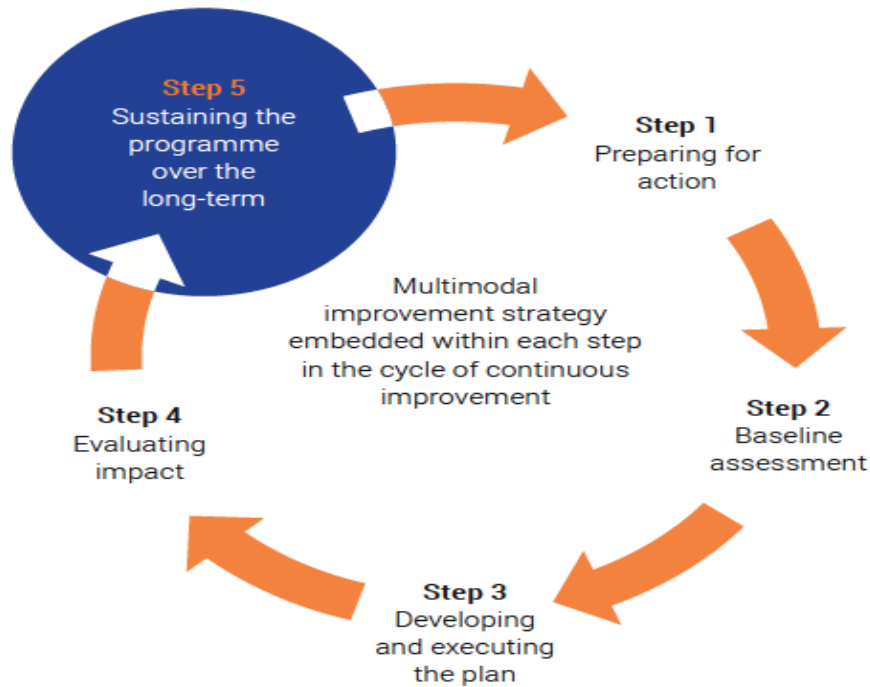
Are teams involved in co-developing or adapting the intervention? Are they empowered and do they feel ownership and the need for accountability?

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.

# Paso 4: Evaluación de impacto



# Paso 5: Sustentabilidad del programa a largo plazo



**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

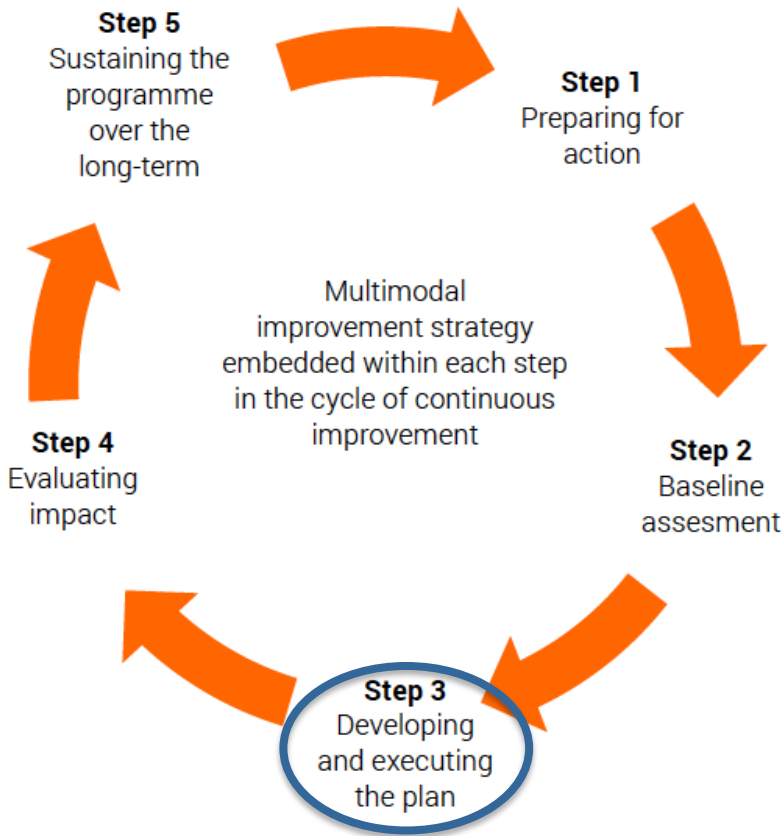
At the end of step 1 you should have:



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



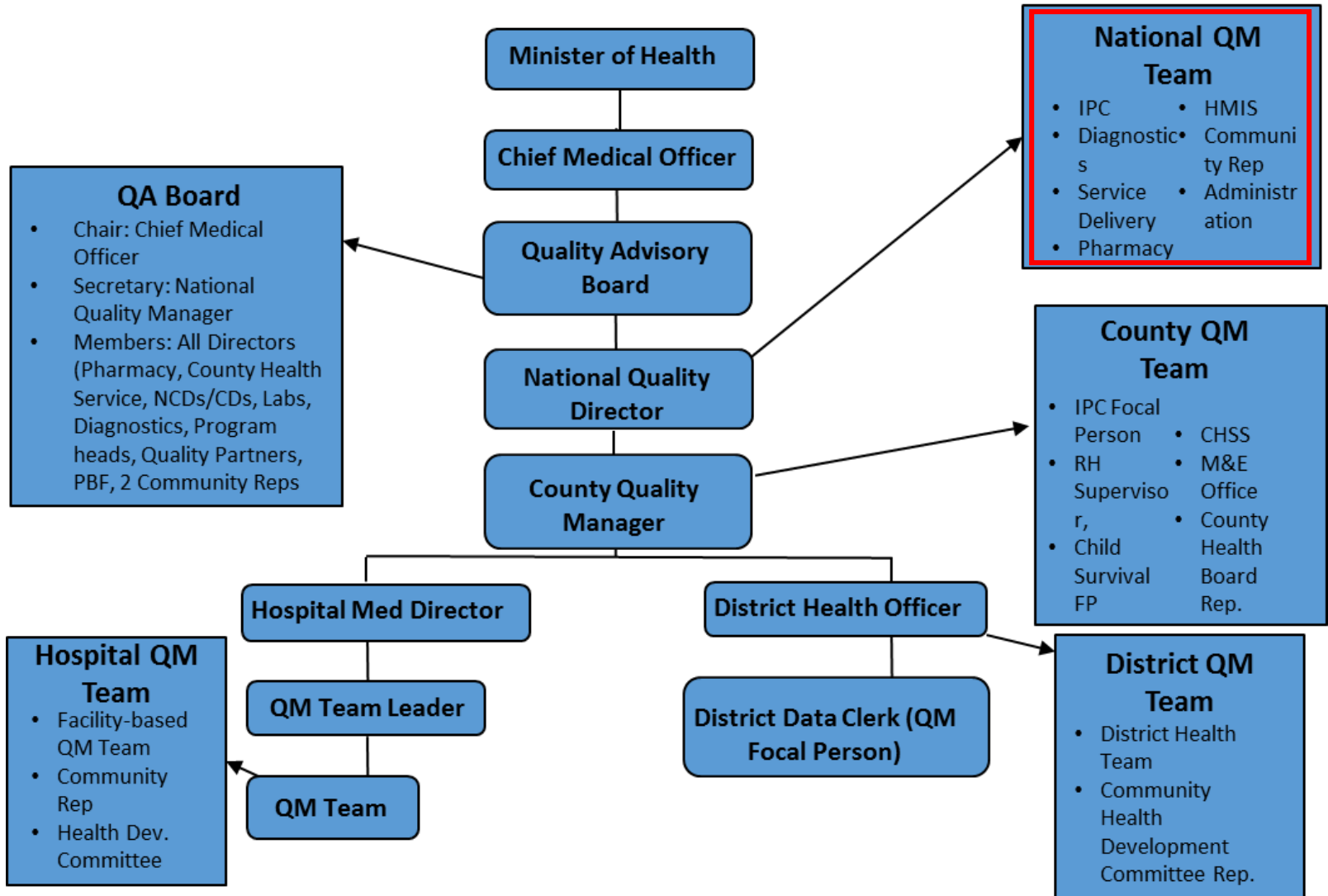
1. Programa nacional de PCI (2016)
2. Directrices (2017-18)
3. Capacitación (2015-)
4. Vigilancia (IISQ) (2018)
6. Monitoreo (2015-)
8. Crear ambiente (2016-)



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# NATIONAL QUALITY MANAGEMENT ORGANIZATION

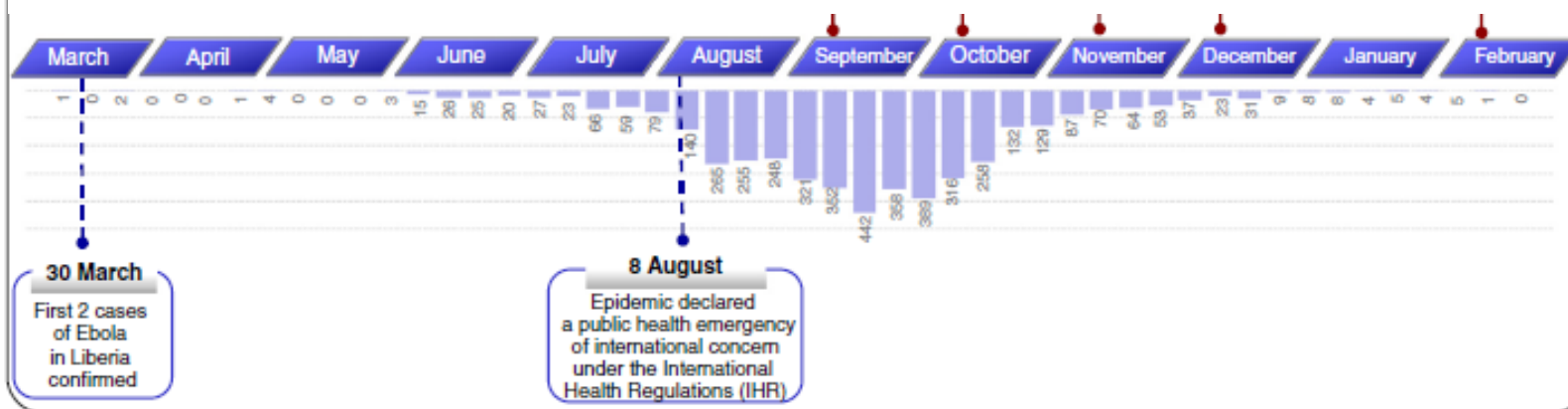




# Liberia – Capacitación de PCI de todo el personal de la salud (2015-16)



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



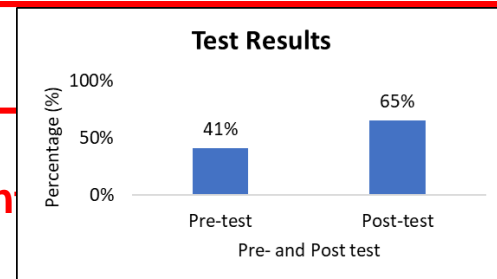
# OMS: Capacitación avanzada de PCI (2017-18)

- Liderazgo y gestión de programas de PCI
- Prevención de infecciones de tracto urinario
- Prevención de ITS asociadas a cateteres
- Prevención de infecciones del tracto respiratorio
- Prevención de infecciones quirúrgicas
- Reprocesamiento de dispositivos médicos
- Manejo de brotes en ambientes de atención de la salud
- PCI para controlar Resistencia antimicrobiana
- Vigilancia IAAS

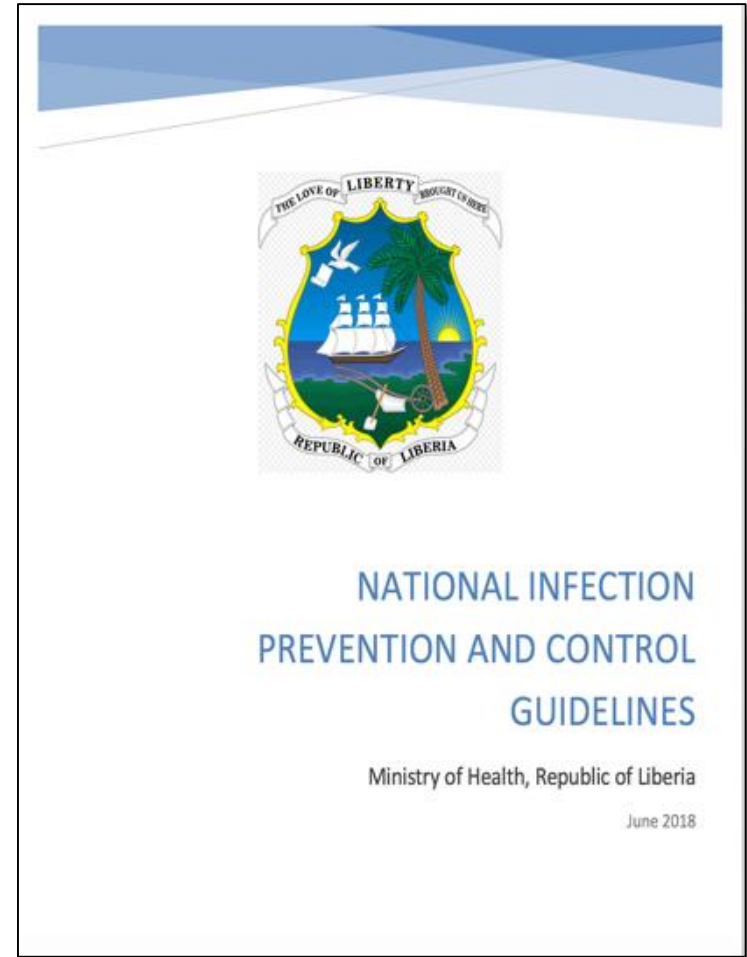
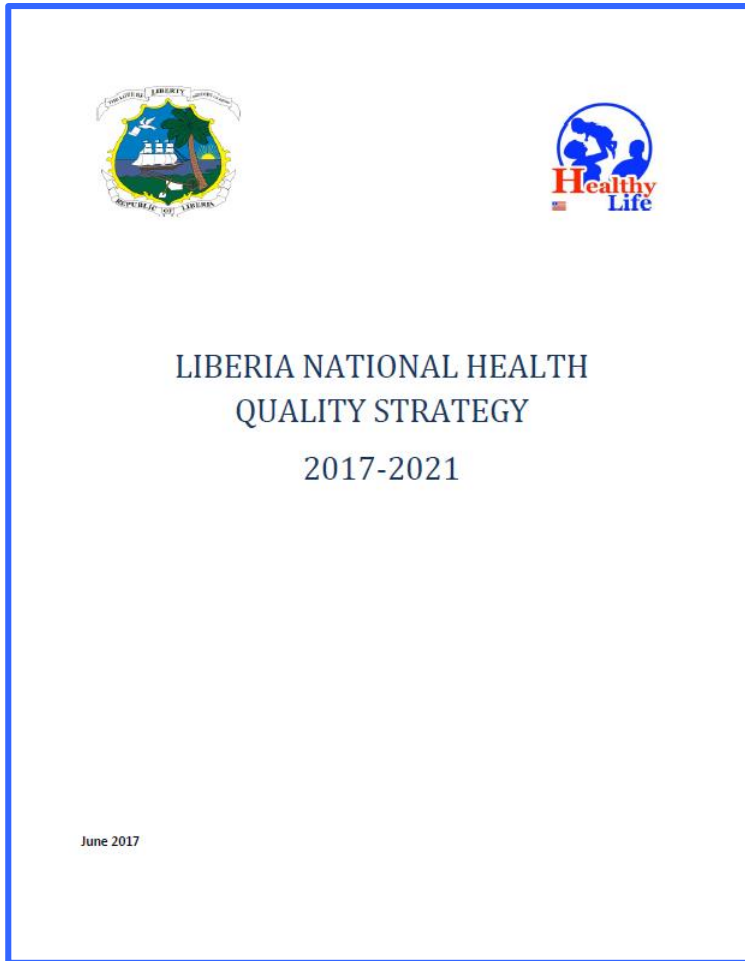
Seguridad con inyecciones

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

- Presentaciones
- Manual para docentes
- Manual para estudiante
- Módulo de capacitación virtual



# Política Nacional de Control de Calidad y Directrices de PCI (2018)



# Directrices nacionales de PCI- Training of Trainers





# 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 Kibiyi, 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

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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 infections affect up to one-third of surgical patients in low and middle-income countries. Surgical site infections significantly increased risk of SSI in countries with low and middle-income countries. Surgical site infections affect all types of procedures. SSI is also the second most frequent 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 474  
 Infection Prevention and Control Global Unit, World Health Organization, Geneva, Switzerland (B Allegranzi M D, N Zeynep Kibiyi, P Nthumbo, J Barasa, G Okumu, R Mugarura, A Eloku, J Jambwe, M Maimbo, J Musowoya, A Gayet-Ageron, S M Berenholtz)

### 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 a nivel de unidad quirúrgica (surgical unit-based safety programme- 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 practicas en prevención y control de infecciones

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

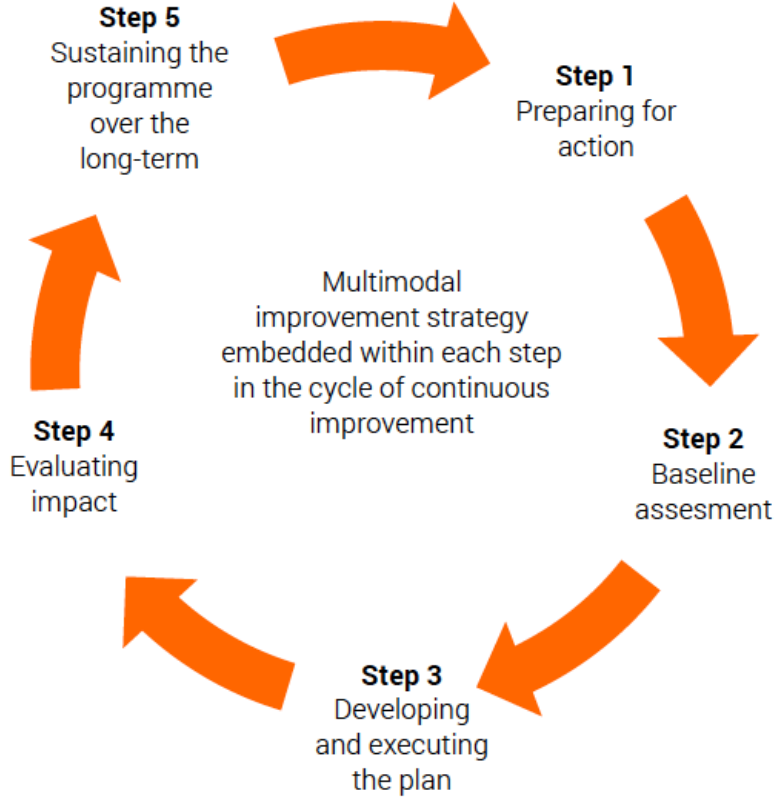
Mejoramiento de seguridad del paciente

Reduccion de :

- IISQs
- Complicaciones quirurgicas



# 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 8<sup>TH</sup> 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 hospitales africanos



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



<p><b>1 Pre-operative</b></p> <p><b>Patient bathing</b> 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><b>Avoid hair removal</b> 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><b>2 Peri-operative</b></p> <p><b>Good surgical hand preparation</b> 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><b>Appropriate antibiotic prophylaxis needs to be:</b></p> <ul style="list-style-type: none"> <li>• Right antibiotic for the operation</li> <li>• Right dose</li> <li>• Right time = a single dose within 60 min</li> <li>• Appropriate discontinuation = stop after surgery.</li> </ul>	<p><b>3 Intra-operative</b></p> <p><b>Appropriate skin preparation</b> Clean incision site with soap and water and then use antiseptic preparation (chlorhexidine/alcohol or iodophor/alcohol). Leave to dry before incision.</p> <p><b>Discipline in the OR*</b></p> <ol style="list-style-type: none"> <li>1. Make sure that all the equipment needed is in the OR* before starting.</li> <li>2. Only essential staff should be in the OR*.</li> <li>3. Keep doors and windows closed during the operation.</li> </ol> <p>*Operating Room</p>
--	--	---



		<p>World Health Organization</p> <p>Take 3 steps to make your surgical patient SAFE by preventing wound infections!</p>
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Antibiotic prophylaxis

OR discipline

Surgical site skin preparation

Surgical hand preparation

No Hair removal

Modified WHO checklist

→ Organizational culture change

# 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. H<sub>2</sub>O<sub>2</sub> (3%), 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 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. H<sub>2</sub>O<sub>2</sub> (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

ID	Pt name	Age	IP no.
	Primary Diagnosis	Sex	Surveillance no.
1	Type of surgery	Theatre Room # [ ]	
	Surgical Procedure	Surgeon	
	Date of surgery	Grade	
<b>PROCESS MEASURES - ENHANCED DATA COLLECTION OPERATIONS ONLY</b>			
2	Patient skin preparation Pre-op bath/shower [ Y/N ] Antiseptic soap used [ Y/N ] Hair removal: Razor [ ] Clippers [ ] Not done [ ] Where was hair removed done? Ward [ ] Theatre [ ] Patient skin scrub chlorhex-alc [ ] iodine+alc [ ] chlorhex-aq [ ] iodine-aq [ ] Allowed to dry fully? [ Y/N ]	Surgeon's hand preparation Alcohol-handrub [ ] Plain soap+water [ ] antimicrobial Time spent on handwash: [ ] mins [ ] sec Scoring of handwash technique: low [ ] medium [ ]	
		Headcount at start of op _____ People entering theatre _____ Door openings during op _____	
3	Start time (knife to skin) [ : ] 24hr clock [ ] End time [ : ] 24hr clock [ ] Duration = ____ hrs ____ mins	Urgency of operation [ ] Emergency – must be done immediately to save life (eg. major trauma) [ ] 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)	
	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	Sex	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		Review or phone call 2	ID [ ] Pain Y/N Breakdown Y/N Pus Y/N Bleeding Y/N Other:
12-14				
15-17	OP+14			
18-21	Week 3		Review or phone call 3	ID [ ] Pain Y/N Breakdown Y/N Pus Y/N Bleeding Y/N Other:
22-25	OP+21			
26-29	Week 4			
Day 30			End of SSI surveillance	

<b>Box 1: Relevant post-op events should include</b> • 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)	<b>Box 2: Important symptoms for SSI</b> > Drainage of fluid from wound > 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		
<b>Box 3: Wound complications</b> Surgical Site Infection? → circle criteria → Date of SSI: _____ OR Non-infectious complications Wound dehiscence [ ] Allergic reaction to dressing [ ] Bleeding / Haemorrhage [ ] Other [ ] specify _____ Notes _____ 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 deep incision) Pus drainage / bacterial growth* from sterile organ or space manipulated during surgery 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 _____		
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).



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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 periodods de vigilancia de 30-días



World Health Organization



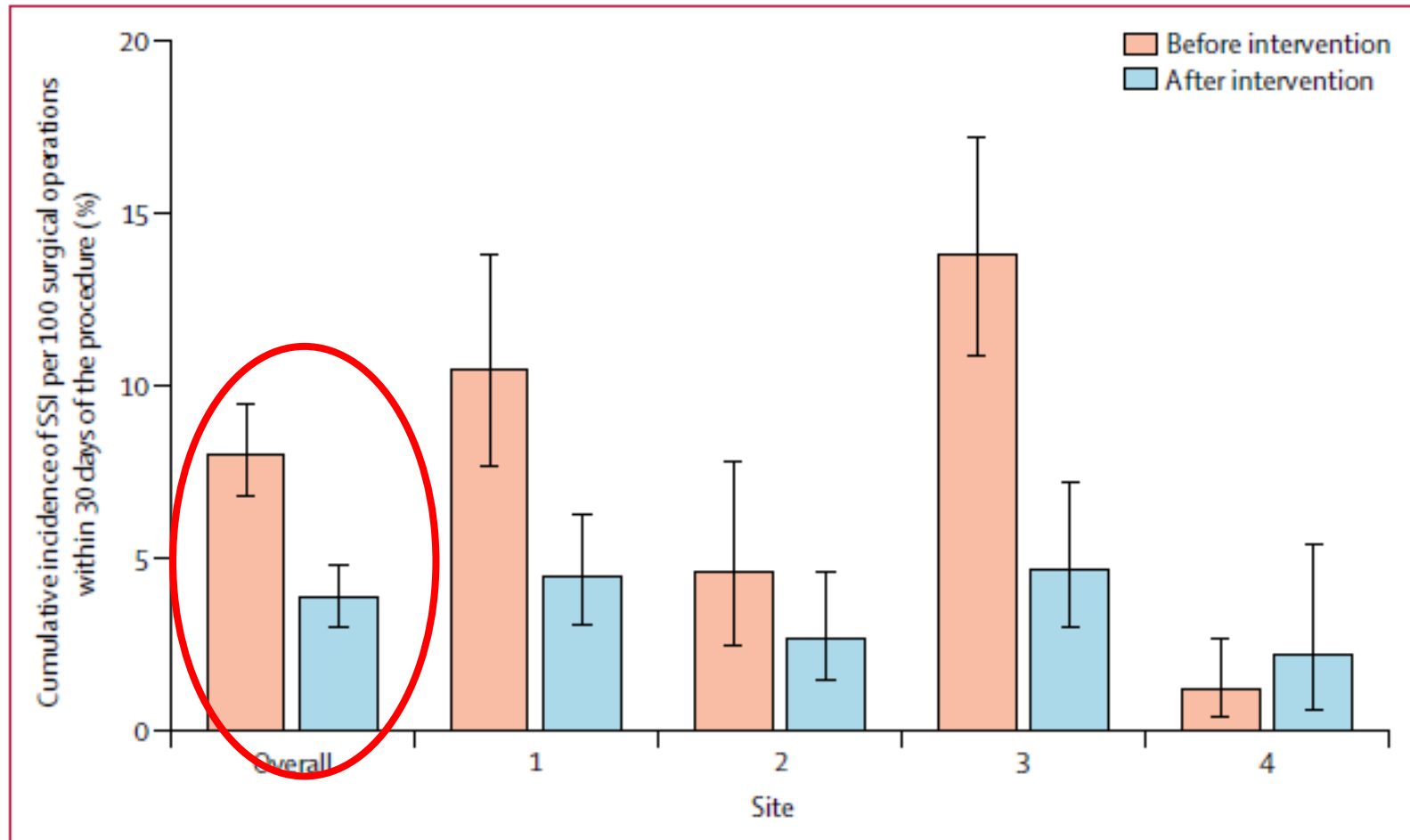
# Impacto en medidas preventivas

	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)
<b>Theatre discipline</b>				
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/](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!

# Encuesta global de la OMS 2019

## Use las dos herramientas\*, calcule sus calificaciones muestre su progreso!

Preparación:  
Lea las herramientas y documentos <sup>1</sup>

Participe en los webinars de la OMS, escuche sobre el uso de las herramientas y cómo participar en la encuesta global<sup>2</sup>

Febrero - complete el IPCAF<sup>3</sup>, actue en base a sus resultados y envíe resultados a la OMS(en linea)

Marzo – complete la HHSFAF<sup>4</sup>, actue en base a sus resultados y envíe resultados a la OMS(en linea)

### Be part of the WHO global survey starting Jan 2019!

(the report will be launched end of 2019)

\*IPC Assessment Framework (at facility level) - IPCAF, Hand Hygiene Self Assessment Framework HHSFAF

1. [http://www.who.int/gpsc/country\\_work/hhsa\\_framework\\_October\\_2010.pdf?ua=1](http://www.who.int/gpsc/country_work/hhsa_framework_October_2010.pdf?ua=1)

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

2. Find more here soon <http://www.who.int/infection-prevention/news-events/current-news/en/>

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

4. [http://www.who.int/gpsc/country\\_work/hhsa\\_framework\\_October\\_2010.pdf?ua=1](http://www.who.int/gpsc/country_work/hhsa_framework_October_2010.pdf?ua=1)

# 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:**
  - Participación voluntaria de los servicios de salud
  - Sub-muestra 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](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 viste:**

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



**World Health  
Organization**