



**World Health  
Organization**

**Patient Safety**

A World Alliance for Safer Health Care

**SAVE LIVES**

Clean Your Hands

# **Health Care-Associated Infection and Hand Hygiene Improvement – Slides for the Hand Hygiene Co-ordinator**

<insert name and position>

# User instructions

- This presentation is provided to assist Hand Hygiene Co-ordinators to communicate with health-care workers to:
  - advocate good hand hygiene
  - explain the “My 5 Moments for Hand Hygiene” approach
  - outline their facility’s action plan to improve hand hygiene
- The slides are a sample template that the Co-ordinator might wish to adapt in line with information specific to their country or facility
- Slides may be deleted to condense the presentation according to the time allocation or the knowledge of the audience
- During any presentation, discussion should be encouraged to achieve an optimal understanding of the messages
- The presenter may decide to use “props” to aid in conveying messages, including bottles of alcohol-based handrub
- If all slides are used in full, a minimum timeframe of one hour will be required to complete the session

# Overview of the Session

This session will:

- Set the scene for the continued need to advocate for good hand hygiene in health care
  - HCAI places a serious disease burden and significant economic impact on patients and health-care systems
  - Appropriate hand hygiene – the simple task of cleaning hands at the right times and in the right way saves lives
- Explain the “My 5 Moments for Hand Hygiene” approach
- There are 5 indications (moments) for hand hygiene in health care
- Global compliance with “My 5 Moments for Hand Hygiene” approach is universally sub-optimal
- Outline the Action Plan
  - <Insert name of facility> is preparing to implement an action plan for improved hand hygiene and reduction of HCAI*

# Definition

## Health Care-associated Infection (HCAI)

- Also referred to as “nosocomial” or “hospital” infection

*“An infection occurring in a patient during the process of care in a hospital or other health-care facility which was not present or incubating at the time of admission. This includes infections acquired in the health-care facility but appearing after discharge, and also occupational infections among health-care workers of the facility”*

# HCAI: The worldwide burden

- Estimates are hampered by limited availability of reliable data
- The burden of disease both outside and inside health-care facilities is unknown in many countries
- No health-care facility, no country, no health-care system in the world can claim to have solved the problem

# Estimated rates of HCAI worldwide

- At any time, hundreds of millions of people worldwide are suffering from infections acquired in health-care facilities
- In modern health-care facilities in the developed world: 5–10% of patients acquire one or more infections
- In developing countries the risk of HCAI is 2–20 times higher than in developed countries and the proportion of patients affected by HCAI can exceed 25%
- In intensive care units, HCAI affects about 30% of patients and the attributable mortality may reach 44%

# The impact of HCAI

HCAI can cause:

- more serious illness
- prolongation of stay in a health-care facility
- long-term disability
- excess deaths
- high additional financial burden
- high personal costs on patients and their families



# Most frequent sites of infection and their risk factors

## URINARY TRACT INFECTIONS

34%

**Urinary catheter**  
**Urinary invasive procedures**

Advanced age  
Severe underlying disease  
Urolithiasis  
Pregnancy  
Diabetes

13%

## LOWER RESPIRATORY TRACT INFECTIONS

**Mechanical ventilation**  
**Aspiration**  
**Nasogastric tube**

Central nervous system depressants  
Antibiotics and anti-acids  
Prolonged health-care facilities stay  
Malnutrition  
Advanced age  
Surgery  
Immunodeficiency

## SURGICAL SITE INFECTIONS

**Inadequate antibiotic prophylaxis**  
**Incorrect surgical skin preparation**  
**Inappropriate wound care**

Surgical intervention duration  
Type of wound  
Poor surgical asepsis  
Diabetes  
Nutritional state  
Immunodeficiency  
Lack of training and supervision

17%

## BLOOD INFECTIONS

**Vascular catheter**  
**Neonatal age**  
**Critical care**

Severe underlying disease  
Neutropenia  
Immunodeficiency  
New invasive technologies  
Lack of training and supervision

14%

Most common sites of health care-associated infection and the risk factors underlying the occurrence of infections

**LACK OF HAND HYGIENE**



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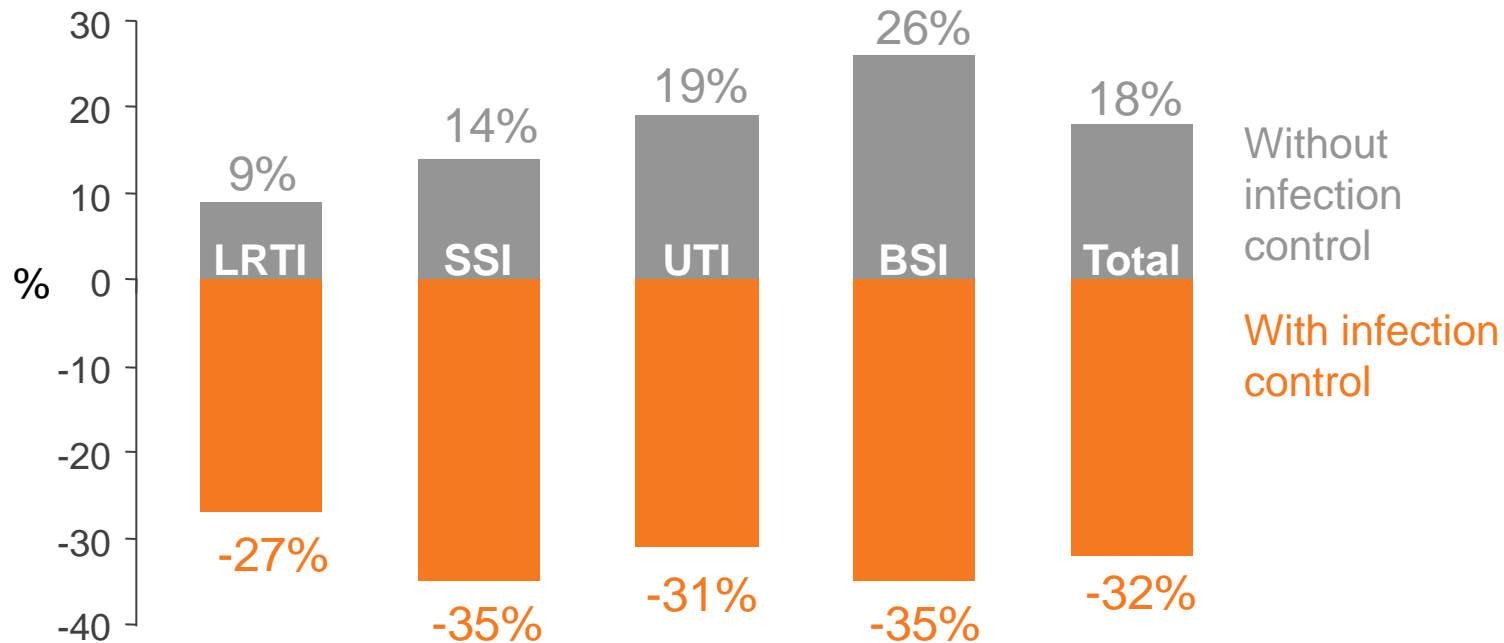
# Prevention of HCAI

- Validated and standardized prevention strategies have been shown to reduce HCAI
- At least 50% of HCAI could be prevented
- Most solutions are simple and not resource-demanding and can be implemented in developed, as well as in transitional and developing countries

# SENIC study: Study on the Efficacy of Nosocomial Infection Control

- >30% of HCAI are preventable

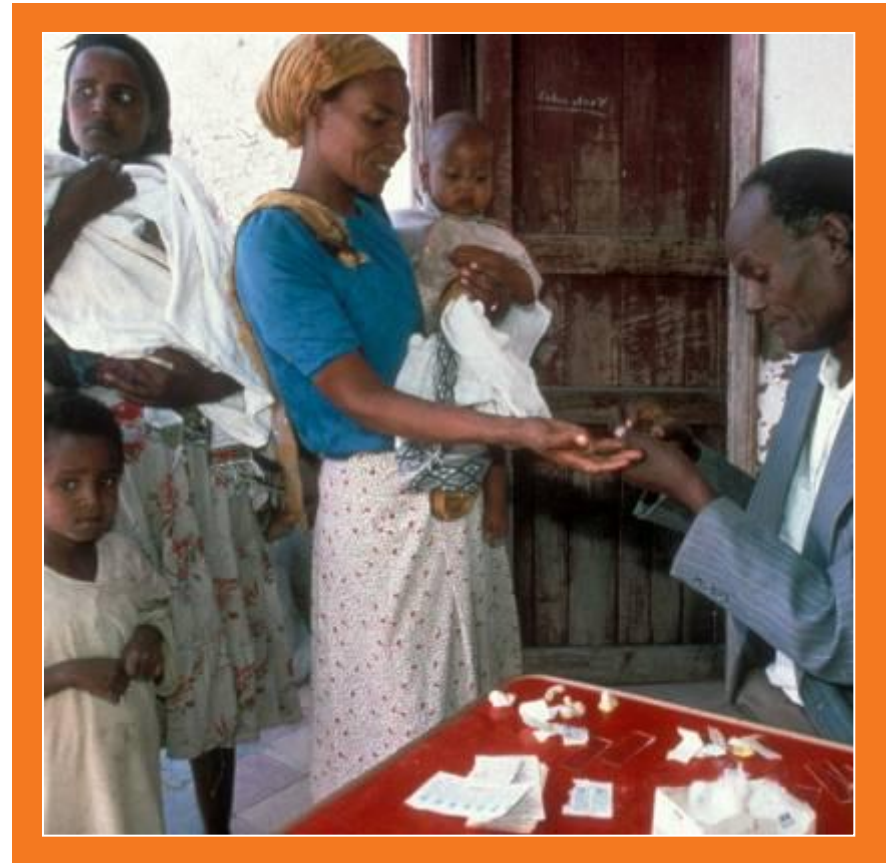
Relative change in NI in a 5 year period (1970–1975)



Haley RW et al. *Am J Epidemiol* 1985

# Hand transmission

- Hands are the most common vehicle to transmit health care-associated pathogens
- Transmission of health care-associated pathogens from one patient to another via health-care workers' hands requires **5 sequential steps**



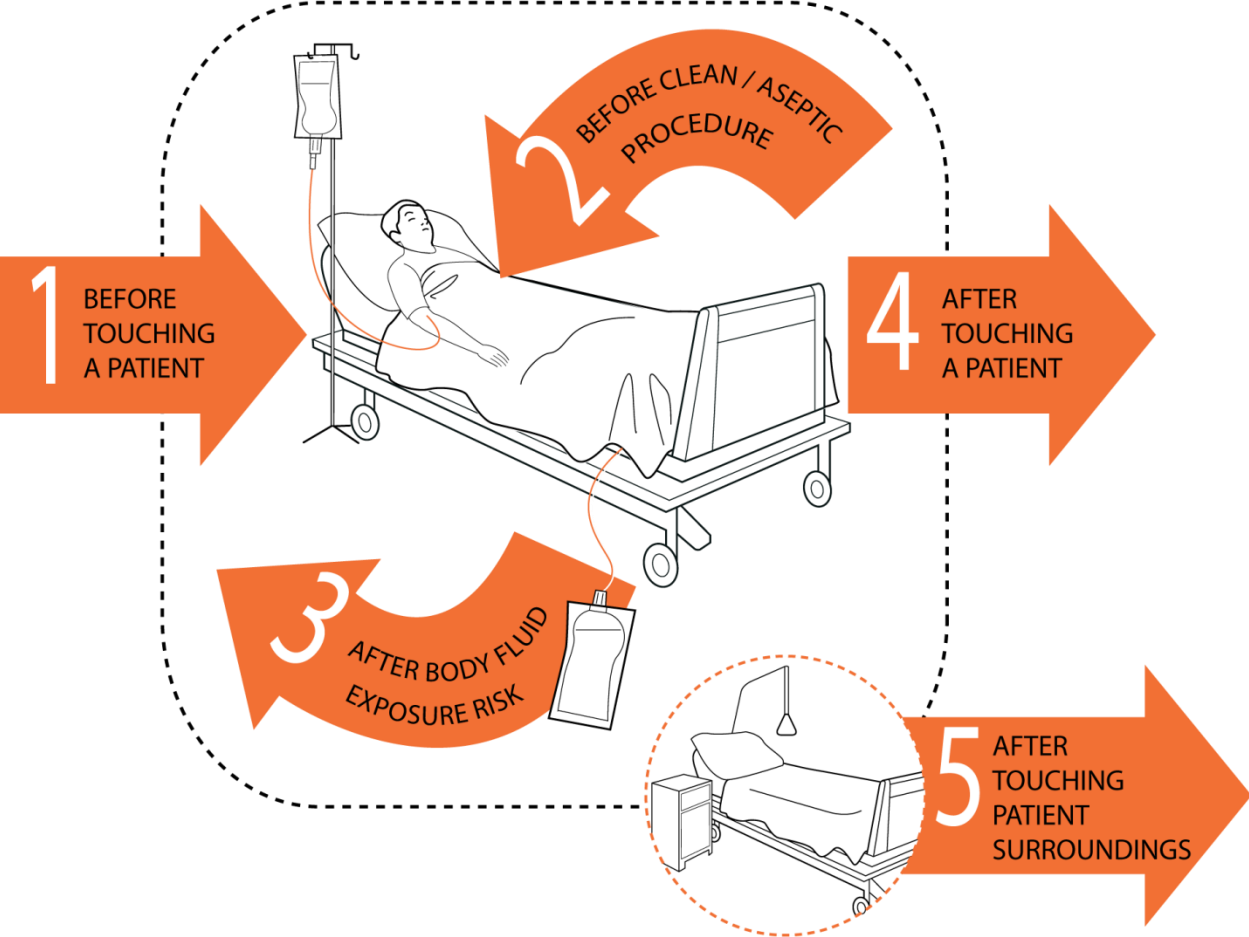
# 5 stages of hand transmission

one	two	three	four	five
Germs <b>present</b> on patient skin and immediate environment surfaces	Germ <b>transfer</b> onto health-care worker's hands	Germs <b>survive</b> on hands for several minutes	Suboptimal or omitted hand cleansing results in hands <b>remaining contaminated</b>	Contaminated hands <b>transmit</b> germs via direct contact with patient or patient's immediate environment

# Why should you clean your hands?

- Any health-care worker, caregiver or person involved in patient care needs to be concerned about hand hygiene
- Therefore hand hygiene concerns **you!**
- **You** must perform hand hygiene to:
  - **protect the patient** against harmful germs carried on **your** hands or present on his/her own skin
  - **protect yourself** and the health-care environment from harmful germs

# The “My 5 Moments for Hand Hygiene” approach



# How to clean your hands

- Handrubbing with alcohol-based handrub is the preferred routine method of hand hygiene if hands are not visibly soiled
- Handwashing with soap and water – essential when hands are visibly dirty or visibly soiled (following visible exposure to body fluids)<sup>1</sup>

<sup>1</sup> If exposure to spore forming organisms e.g. *Clostridium difficile* is strongly suspected or proven, including during outbreaks – clean hands using soap and water

# How to handrub



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



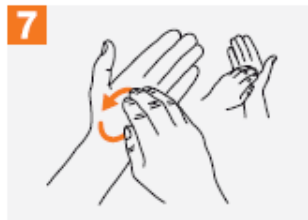
Palm to palm with fingers interlaced;



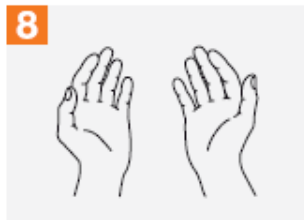
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

To effectively reduce the growth of germs on hands, **handrubbing** must be performed by following all of the illustrated steps.

**This takes only 20–30 seconds!**



# How to handwash



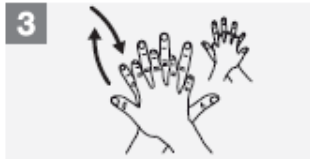
Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



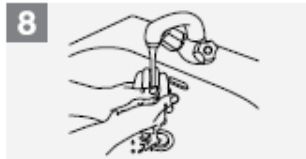
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



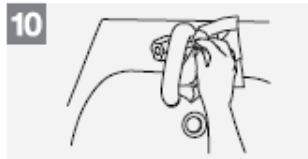
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

To effectively reduce the growth of germs on hands, **handwashing must last 40–60 seconds** and should be performed by following all of the illustrated steps.

# Hand hygiene and glove use

- The use of gloves does not replace the need to clean your hands!
- You should remove gloves to perform hand hygiene, when an indication occurs while wearing gloves
- You should wear gloves only when indicated (see the Pyramid in the Hand Hygiene Why, How and When Brochure and in the Glove Use Information Leaflet) – otherwise they become a major risk for germ transmission

# Compliance with hand hygiene

- Compliance with hand hygiene differs across facilities and countries, but is globally <40%<sup>1</sup>
- Main reasons for non-compliance reported by health-care workers<sup>2</sup>:
  - Too busy
  - Skin irritation
  - Glove use
  - Don't think about it

<sup>1</sup>Pittet and Boyce. *Lancet Infectious Diseases* 2001;

<sup>2</sup>Pittet D, et al. *Ann Intern Med* 1999

# Time constraint = major obstacle for hand hygiene



Adequate handwashing with  
water and soap requires  
**40–60 seconds**

Average time usually adopted  
by health-care workers:  
<10 seconds

Alcohol-based  
handrubbing: **20–30 seconds**

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# A consensus-based, tested improvement strategy now exists

- WHO Multimodal Hand Hygiene Improvement Strategy
- Field tested in eight pilot centres and over 350 additional health-care facilities worldwide
- Based on the recommendations of the WHO Guidelines for Hand Hygiene in Health Care
- 5 core components; 5 indications (moments) for hand hygiene

# What is the WHO Multimodal Hand Hygiene Improvement Strategy?

Based on the evidence and recommendations from the WHO Guidelines on Hand Hygiene in Health Care (2009), a number of components make up an effective multimodal strategy for hand hygiene

## **ONE System change**

Access to a safe, continuous water supply as well as to soap and towels; readily accessible alcohol-based handrub at the point of care



## **TWO Training / Education**

Providing regular training to all health-care workers



## **THREE Evaluation and feedback**

Monitoring hand hygiene practices, infrastructure, perceptions and knowledge, while providing results feedback to health-care workers



## **FOUR Reminders in the workplace**

Prompting and reminding health-care workers



## **FIVE Institutional safety climate**

Creating an environment and the perceptions that facilitate awareness-raising about patient safety issues

# Realistic targets for improvement (1)

*<insert details of the targets for hand hygiene improvement or HCAI reduction set by your facility> e.g.*

- Improve compliance by x% in Year 1
  - Improve compliance by y% during Years 1–5
  - Increase compliance by z% by 2020
  - Reduce infection rates by x% over a z-year period
- 
- Targets will be influenced by baseline data



## Realistic targets for improvement (2)

- Targets should be realistic

*If baseline compliance is 20%, it is unrealistic to set a target of 60% after 1 year of an intervention*

- Targets are dependent upon the necessary hand hygiene infrastructures being in place

*<Note: WHO Patient Safety has a global target of year on year improvements / sustaining the gains up to 2020>*

# Tools available to help you improve hand hygiene at <insert facility name> (1)

<Select the tools from this list that you will use to support your Action Plan and help the health-care workers at your facility to improve hand hygiene>

- WHO Guidelines on Hand Hygiene in Health Care (2009):  
*Present the evidence for hand hygiene improvement*
- Facility/Country-specific Guidelines
- Hand Hygiene Technical Reference Manual
- Hand Hygiene Why, How and When Brochure
- Education Sessions and Training Films
- Hand Hygiene: When and How Leaflet

# Tools available to help you improve hand hygiene at <insert facility name> (2)

- Glove Use Information Leaflet
- Posters displayed throughout the facility
  - Your 5 Moments for Hand Hygiene*
  - How to Handrub*
  - How to Handwash*
- **SAVE LIVES: Clean Your Hands** Screensaver
- A Frequently Asked Questions document
- Key Scientific Publications

# Many countries worldwide are committed to improve hand hygiene



# Summary

- HCAI places a serious disease burden and significant economic impact on patients and health-care systems
- Appropriate hand hygiene – the simple task of cleaning hands at the right times and in the right way – saves lives
- There are 5 indications (moments) for hand hygiene in health care
- Global compliance with the “My 5 Moments for Hand Hygiene” approach is universally sub-optimal
- *<insert name of facility>* has implemented an action plan to improve hand hygiene and reduce infection
- Your support and compliance with the initiatives is essential to save lives in our facility

## Further information...

- Contact *<insert name of key contact at your facility>*
- Visit the **SAVE LIVES: Clean Your Hands** website at:  
[www.who.int/gpsc/5may/en/](http://www.who.int/gpsc/5may/en/)