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 suboptimal

- 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

Dirty hands... the human cost
# Most frequent sites of infection and their risk factors

<table>
<thead>
<tr>
<th>Site of Infection</th>
<th>Major Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower Respiratory Tract</strong></td>
<td>Mechanical ventilation, aspiration, nasogastric tube</td>
</tr>
<tr>
<td><strong>Urinary Tract</strong></td>
<td>Urinary catheter, urinary invasive procedures, advanced age, severe underlying disease, urolithiasis, pregnancy, diabetes</td>
</tr>
<tr>
<td><strong>Surgical Site</strong></td>
<td>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</td>
</tr>
<tr>
<td><strong>Blood</strong></td>
<td>Vascular catheter, neonatal age, critical care, severe underlying disease, neutropenia, immunodeficiency, new invasive technologies, lack of training and supervision</td>
</tr>
</tbody>
</table>

# Lack of Hand Hygiene

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

**World Health Organization**

**Patient Safety**

**SAVE LIVES**

Clean Your Hands
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)

- LRTI: -27%
- SSI: -35%
- UTI: -31%
- BSI: -35%
- Total: -32%

Without infection control

With infection control

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

<table>
<thead>
<tr>
<th>one</th>
<th>two</th>
<th>three</th>
<th>four</th>
<th>five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germs present on patient skin and immediate environment surfaces</td>
<td>Germ <strong>transfer</strong> onto healthcare worker’s hands</td>
<td>Germs <strong>survive</strong> on hands for several minutes</td>
<td>Suboptimal or omitted hand cleansing results in hands remaining contaminated</td>
<td>Contaminated hands <strong>transmit</strong> germs via direct contact with patient or patient’s immediate environment</td>
</tr>
</tbody>
</table>
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

1. Before touching a patient
2. Before clean/aseptic procedure
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings
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)\(^1\)

\(^1\) If exposure to spore forming organisms e.g. *Clostridium difficile* is strongly suspected or proven, including during outbreaks – clean hands using soap and water
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

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.

1. Wet hands with water;
2. Apply enough soap to cover all hand surfaces;
3. Rub hands palm to palm;
4. Right palm over left dorsum with interlaced fingers and vice versa;
5. Palm to palm with fingers interlaced;
6. Backs of fingers to opposing palms with fingers interlocked;
7. Rotational rubbing of left thumb clasped in right palm and vice versa;
8. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
9. Rinse hands with water;
10. Dry hands thoroughly with a single use towel;
11. Use towel to turn off faucet;

Your hands are now safe.
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%\(^1\)

- Main reasons for non-compliance reported by health-care workers\(^2\):
  - Too busy
  - Skin irritation
  - Glove use
  - Don’t think about it

\(^1\)Pittet and Boyce. *Lancet Infectious Diseases* 2001;
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
SAVE LIVES
Clean Your Hands

A WHO Patient Safety Initiative

World Health Organization
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

\[\text{If baseline compliance is 20\%, it is unrealistic to set a target of 60\% after 1 year of an intervention}\]

■ 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 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

You are part of a global movement!

Current status, August 2009

Countries committed from 2005 to 2009
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/