# A multifaceted approach to successful improvements in hand hygiene: Beyond Posters and Reminders

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# **Objectives**

- To provide background on how the Ontario Ministry of Health and Long-Term care developed and tested a multifaceted hand hygiene program for hospitals
- To share lessons learned from the pilot phase
- To discuss the impact of evaluation on design and roll-out of a multi-faceted hand hygiene program

# Did you know?

- Health care associated infections (HAI) are the most common serious complication of hospitalization: one in six patients admitted to Canadian hospitals acquire an infection as a consequence of their hospital stay.
- In Canada, it has been estimated that 220,000 incidents of HAI occur each year, resulting in more than 8,000 deaths.
- Health care associated infections were the 11th leading cause of death two decades ago, but are now the fourth leading cause of death for Canadians (behind cancer, heart disease and stroke).
- An increase in hand hygiene adherence of only 20 per cent results in a 40 per cent reduction in the rate of health care associated infections.

(Ref. McGeer, A (in press). (2008). Hand hygiene by habit. Ontario Medical Review, 75(3).

• In USA it has been estimated 2,000,000 incidents of HAI occur each year, resulting in more than 90,000 deaths at a cost of \$4.5 billion

# **Pilot Approach**

 All Ontario hospitals were invited to apply to pilot the program. A selection committee chose ten hospitals representing a variety of sizes and geography and included;

3 Academic Teaching

- 4 Community (medium and large (100-400 beds)
- 2 Northern Community (<100 beds)
- 1 Chronic and Rehabilitation
- Three phases of evaluation conducted: baseline, interim (2 months after pilot launch), final (5 months after pilot launch)
- Ministry provided funding to pilot hospitals to hire an on-site project coordinator to manage evaluation activities

# **Evaluation Strategy**

- Third party evaluation team conducted on-site and off-site evaluations
- Evaluation tools included:
  - Health care worker surveys (awareness and knowledge)
  - Patient Surveys (awareness)
  - Focus Groups
  - Key Informant interviews
  - Compliance data through direct observation by Ministry trained observers assigned to pilot sites throughout evaluation (tool adapted from WHO)
  - Product volume measurements
  - MRSA/VRE data
- Aggregate and individual site data fed back to pilot hospitals for action planning following baseline and interim data collection

# **Additional Evaluation**

- Facility coded site data and aggregate data provided to Ministry at baseline and interim. Final data analysis pending
- Additional evaluation activities by Ministry staff:
  - 2 visits to each site
  - Weekly teleconference calls with on-site project coordinators
  - Review of daily logs of project coordinators
  - Review of minutes of local hand hygiene committees

# **Pilot Program Components**

### **Environmental modifications**

- alcohol-based hand rub at every patient point of care
- good quality products to promote skin care

### Senior/middle management support

- representation on local hand hygiene committee
- standing item on senior management agendas

### Education

- PIDAC hand hygiene fact sheet
- online hand hygiene module
- educational materials

### Champions and role models

- local faces on champion posters
- visible and vocal advocacy

### Observation and feedback

- trained observers
- observation tool and training package

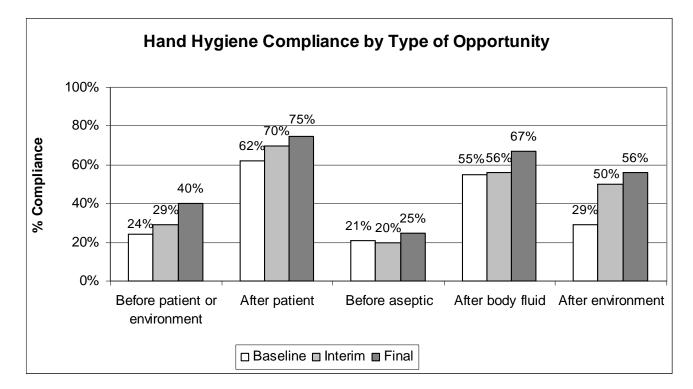
### Implementation toolkit

- support on day-to-day implementation of the program
- reminder and educational posters
- introduction video
- other supporting materials to engage
   health care workers
- patient pamphlet and poster

### Just Clean Your Hands pilot involved:

- Hand Hygiene Observational Audit
  - 4,240 HCPs observed in 11,351 opportunities across all three periods
- Health care provider focus groups
  - 27 groups baseline, 20 groups interim
- Health care provider survey
  - 2,260 respondents, ~53% response rate across all three periods
- Patient survey
  - 5,594 respondents, ~57% response rate across all three periods
  - 66% of the surveys were from one site, but the results were similar across sites for most items.

### Steady increase in hand hygiene compliance

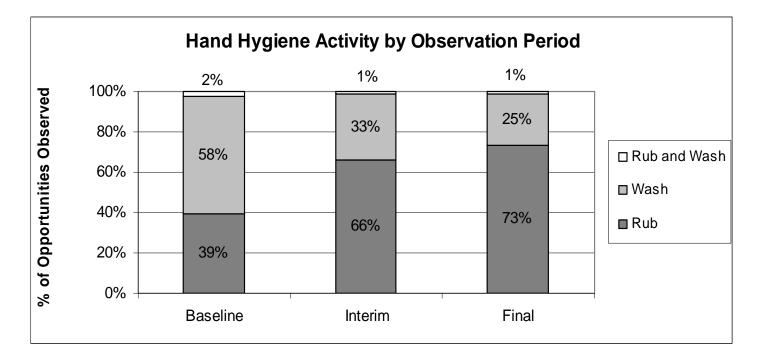


\*Allied HCPs include continuing care/social workers, IV team, physiotherapists, dieticians, respiratory therapists.

**Note**: There were few observations for environmental services, medical students, nursing students, patient transporters, and other HCPs, so the findings for these groups may not be reliable. Some data have been suppressed due to small numbers.

### Movement to alcohol-based hand rub

Type of Hand Hygiene Behaviour (Obs. Audit)



Numbers may not add to 100% due to rounding

10

# Hand hygiene compliance by type of HCP *(Observational Audit)*

HCP Category	Final N	Final Compliance	Change from Baseline
Allied HCPs*	195	41%	-1%
Environmental Services	152	29%	+22%
Medical Students	20	15%	-8%
Nurses, PSWs, PCAs	3,205	60%	+16%
Nursing Students	23	48%	+6%
Patient Transporters	50	22%	+14%
Physicians	339	28%	+10%
Others	28	29%	+8%

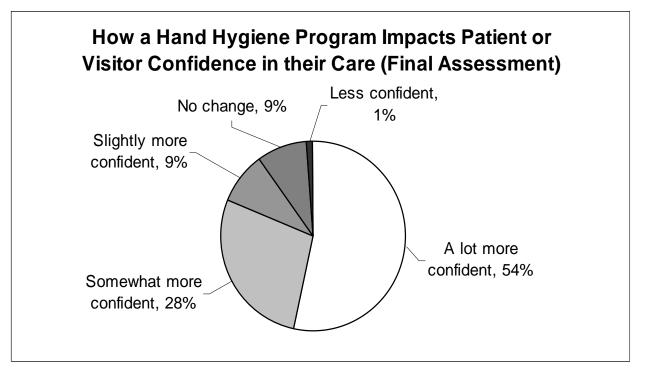
\*Allied HCPs include continuing care/social workers, IV team, physiotherapists, dietitians, respiratory therapists **Note**: The compliance rate for each type of HCP may be affected by the mix of opportunities observed, since different types of opportunities have different compliance rates.

**Note**: There were few observations of medical students, nursing students, and other HCPs, so the findings for these groups may not be reliable.

# Patient confidence increased

### From Patient Survey:

- *91%* of patients indicated they feel more confident about the health care system knowing there is a hand hygiene program in place (final assessment period)
- Interim results were similar



Numbers may not add to 100% due to rounding

### Summary

### (Reference: A Quick Guide to Just Clean Your Hands)

- Good data can close the gap between perception and practice
- Alcohol-based hand rub is convenient, faster and healthier for health care providers' hands
- Putting hand rub containers at point of care improves hand hygiene compliance
- Hand hygiene involved everyone in the hospital
- Leadership and communication are key.

# Summary

### (Reference: A Quick Guide to Just Clean Your Hands)

- Patients are partners in hand hygiene but do not want to be responsible for reminding health care providers to clean their hands.
- Patients are more confident about their care when a hospital has a hand hygiene program.
- Knowing your rates helps motivate staff and sustain the program.
- Success is a steady improvement in compliance rates.
- Education helps health care workers know when to clean their hands

### Why don't health care providers "just do it"?

- Many health care providers do not have a clear understanding of the essential times to clean their hands
- Providers' perceive that they are already practicing good hand hygiene
- Physical barriers, such as the lack of access to hand hygiene products like alcohol-based hand rub at point of care
- Hand hygiene products that are unpleasant to use or hard on their hands and the lack of a hand care program to promote healthy intact hands.

# Why is hand hygiene compliance low?



Behavioural studies indicate there are two types of hand hygiene practice:

- 1. The health care provider's internalized need of when hand hygiene is necessary (inherent hand hygiene practice):
  - health care providers generally clean hands when their hands are visibly soiled, sticky or gritty, or for personal hygiene purposes (e.g. after using the toilet). Usually these indications require handwashing with soap and water.
- 2. Other hand hygiene indications (<u>non-inherent hand hygiene practice</u> are not triggered by an intrinsic need to cleanse the hands.
  - Examples of non-inherent practice include touching a client, taking a pulse or blood pressure, or touching the environment. This type of hand hygiene is frequently missed in health care settings.

### Just Clean Your Hands - Six Program Components

Education for health care providers about when and how to clean their hands.

Senior management support and commitment to make hand hygiene an organizational priority.

> Higher hand hygiene compliance rates, fewer infections.

Patient engagement.

Environmental changes and system supports – like alcohol-based hand rub at the point of care, which makes it easy for health care providers to clean their hands at the right time, and hand care programs.

Ongoing monitoring and observation of hand hygiene practices, with feedback to health care providers.

Opinion leaders and champions modeling the right behaviour.

### Point of Care – the right way, in the right place

- Busy health care providers need access to hand hygiene products where patient/patient environment contact is taking place
- This enables health care providers to quickly and easily fulfill the essential moments for hand hygiene.
- Providing alcohol-based hand rub at the point of care (e.g. within arms reach) is an important system support to improve hand hygiene

Point of care - refers to the place where three elements occur together:

- the patient
- the health care provider
- care involving contact is taking place

### Point of Care – Not an easy task!

- Solution is different for every facility and within each unit
- Requires careful workflow analysis, multiple locations, and involvement of local multi-disciplinary team to assess placement.







### **Placement Tool**

### **Placement Tool for Hand Hygiene Products**

### **Related documents:**

Your 4 Moments for Hand Hygiene - Training Presentation

Your 4 Moments for Hand Hygiene - Pocket Card

Hand Care Program – Product selection matters on page 2.

To see sample photos of hand hygiene products at point of care please check our website at: www.justcleanyourhands.ca



### Overview:

There are two ways to clean your hands, alcohol-based hand rub (ABHR) or soap and water. A key requirement to improve hand hygiene compliance is to provide cleaning products where busy health care providers can clean their hands without leaving the patient.

When hands are visibly solled, soap and water is the only way to clean. Sinks make it easy to determine placement for soap dispensers. The *list Clean Your Hands* Hand Care Program provides guidance on the right type of soap and the importance of good quality paper towels. However, sinks are not always convenient and are often not located close to where patient care is provided.

Cleaning hands using ABHR provides facilities with the ability to place a cleaning product directly at the point of care. Simply put, the point of care (POC) is where three elements are present at the same time:

- the patient
- the health care provider
- care involving contact is taking place

Providing ABHR at the point of care makes it easier for health care providers to clean their hands the right way at the right time. However, determining the "right place" for placement of ABHR rubs will differ by unit, patient population group and facility design. This tool will help you to identify the best locations for placement of ABHR.





### Taking care of health care provider hands

Ontario



Just Clean Your Hands Hand Care Program





### How to handrub

# **Creative Approach**

- Reviewed the communications from other jurisdictions—UK, Switzerland, US
- Researched the attitudes of Ontario health care providers and developed an approach that was designed to
  - engage
  - entertain
  - encourage action
- The Big Idea = presenting the absurd vs. a simple solution
  - No finger pointing
  - Uses humour that respects both the patient and HCP
  - Very different from existing messaging
- Communications evaluated and intrinsically linked with program outcomes. Social marketing approach

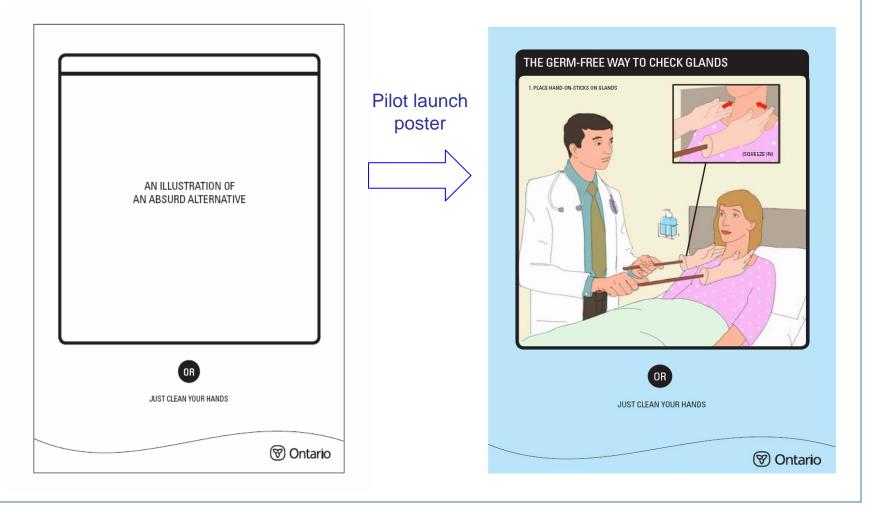
The Creative Approach

# An absurd alternative



A simple solution

# **Reminder Poster Concept**



### **Reminder Poster**



### **Education before reminders**

- Health care providers(HCP) do not know when to clean hands when providing health care so initially prompts/posters need to be educational
- There was a gap between HCP's perception and practice as they did not understand the indications for hand hygiene
- Provide communication on "when and how" to clean hands in a simple clear message

### Your 4 Moments for Hand Hygiene



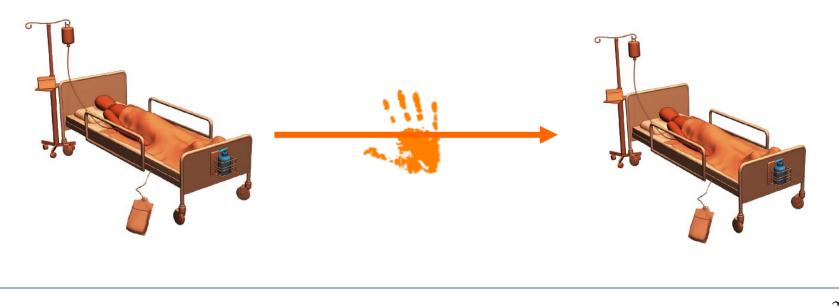
1	BEFORE initial patient / patient environment	WHEN?	Clean your hands when entering: • before touching patient or • before touching any object or furniture in the patient's environment #
ы	contact	WHY?	To protect the patient/patient environment from harmful germs carried on your hands
2	BEFORE aseptic procedure	WHEN? WHY?	Clean your hands immediately before any aseptic procedure To protect the patient against harmful germs, including the patient's own germs, entering his or her body
3	AFTER body fluid exposure risk	WHEN? WHY?	Clean your hands immediately after an exposure risk to body fluids (and after glove removal) To protect yourself and the health care environment from harmful patient germs Clean your hands when leaving:
4	AFTER patient / patient environment	WHEN?	Clean your hands when leaving: • after touching patient or • after touching any object or furniture in the patient's environment
ы	contact	WHY?	To protect yourself and the health care environment from harmful patient germs
	from WHO poster "Your 5 mo information, please visit <b>w</b>		
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### Hand hygiene in health care

- Health care providers move from patient to patient and room to room while providing care and working in the patient care environment.
- This movement while carrying out tasks and procedures provides many opportunities for the transmission of organisms on hands.

### Transmission of organisms

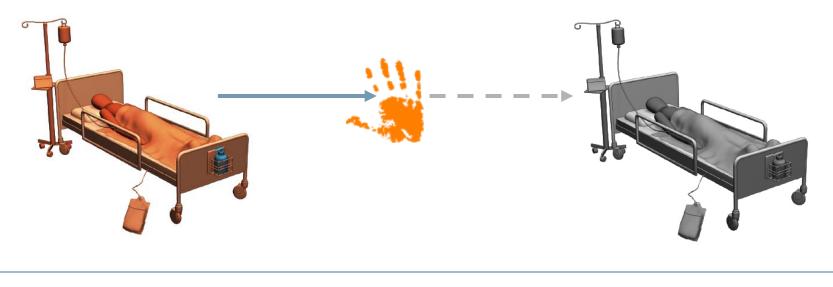
Transmission of organisms by hands of health care providers between two patients can result in health care associated infections (HAIs).



### Why does hand hygiene work?

Hand hygiene with alcohol-based hand rub – **correctly applied** – kills organisms in seconds.

Hand hygiene with soap and water – **done correctly** – removes organisms.



### When should hand hygiene be performed?

- Before preparing, handling, serving or eating food
- After personal body functions
- Before putting on and after taking off gloves
- Whenever a health care provider is in doubt about the necessity for doing so
- While all indications for hand hygiene are important, there are some essential moments in health care settings where the risk of transmission is greatest and hand hygiene must be performed. This concept is what "*Your 4 Moments for Hand Hygiene*" is all about.

### **Two Different Environments**

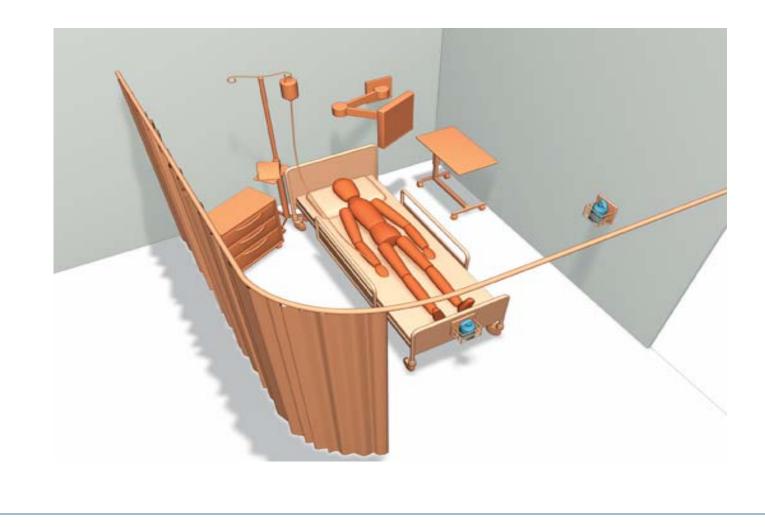


Environment beyond the patient's immediate area. In a single room this is outside the room. In a multiple room this is everything outside of the patient's bed area.

### Patient Environment

This is the patient's area. In a single room this is everything in the patient's room. In a multiple room this is everything in immediate proximity to the patient.

### **Definition of Patient's Environment**



### Your 4 Moments For Hand Hygiene

Clean your hands when entering before touching the patient or any object or furniture in the patient's environment

To protect the patient/ patient environment from harmful organisms carried on your hands Clean your hands immediately before any aseptic procedure

To protect the patient against harmful organisms, including the patient's own organisms, entering his or her body\_\_\_\_\_

Clean your hands immediately after an exposure risk to body fluids (and after glove removal)

To protect yourself and the health care environment from harmful patient organisms

Clean your hands when leaving after touching patient or any object or furniture in the patient's environment

To protect yourself and the health care environment from harmful patient organisms

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Health care provider (HCP)	category:					
1 = Physician	5 = Social Worker		9 = Environmental Ser	vices Worker	13 = Dietician	
2 = Nurse	6 = Pastoral Care		10 = Patient Transporte	r	14 = PSA, PSW, PCA	
3 = Medical Student	7 = IV Team/Blood Co	llection	11 = Radiology Tech		15 = 0ther	
4 = Nursing Student	8 = Physiotherapist		12 = Respiratory Therap	ist		
HCP:	HCP:		НСР:		HCP:	
1         BEF-PAT/ENV         AFT-P;           T:         T:         T:           BEF-ASP         AFT-P;           Wash         Misse           Gloves         Nails           Bracelets         Rings           2         BEF-ASP           AFT-P;         T;           T:         T;           BEF-ASP         AFT-P;           Gloves         Masse	FL         BEF-ASP           d         Rub           Wash         Gloves           Bracelets         Bracelets	T: AFT-BFL Missed Nails Rings	T: BEF-ASP Rub Wash Gloves Bracelets	AFT-PAT/ENV T:     AFT-BFL     Missed     Nails     Rings     AFT-PAT/ENV T:     AFT-PAT/ENV T:     AFT-BFL     Missed	1 BEF-PAT/ENV T: BEF-ASP Rub Gloves Bracelets 2 BEF-PAT/ENV T: BEF-ASP Rub Wash Gloves	T: AFT-BFL Missed Nails Rings
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Note: If patient is on additional precautions/isolated indicate "HCP category number" and "Opportunity number" in the "Comments."

Adapted from the World Health Organization

### **Opinion Leaders and Champions**

### How to create your hospital's "Champion" posters

Comment créer les affiches sur les « champions » de votre hôpital



### Reminders





JUST CLEAN YOUR HANDS

### How to handrub



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### What about patients/visitors hand hygiene?

- Educating patient/visitors on personal hand hygiene is a good public health practice which will help reduce the spread of infectious diseases like influenza and respiratory infections
- Patients and visitors can become partners in reducing health care associated infections if they are educated on when health care providers should clean their hands before, during and after care is provided

### Patient Brochure



### Keeping you safe and healthy

Ontario

Our hospital is participating in Ontario's *Just Clean Your Hands* program - part of a world-wide effort to encourage health care providers to clean their hands the right way at the right time.

Clean hands are one of the best ways to stop the spread of germs that can cause infection and illness.

### What causes infections?

Infections are caused by germs, including viruses and bacteria. Many bacteria occur naturally. We have bacteria on our skin and even in our hands and mouth, and they do not harm us. But some germs cause infections, and they pass from person to person on people's hands. Some bacteria that cause infections are resistant to antibiotics and are very hand to treat.

### Why are clean hands so important in a hospital?

Clean hands are important everywhere, but they are particularly important in a hospital. When you are ill or have an operation, your body is weaker and it's harder for you to fight infections. If you get an infection in a hospital, you can become very ill and may have to stay in longer. When health care providers clean their hands the right way at the right times, they can help prevent the spread of some germs that cause infection.

### What is Just Clean Your Hands?

Just Gean Your Hands is a program developed by the Ministry of Health and Long-Term Care that helps hospitals put the tools in place to make it easier for health care providers to clean their hands the right way at the right times.

Hospitals are encouraged to put alcohol-based hand rub close to where health care providers care for patients. Signs and posters around the hospital remind health care providers about when to clean their hands. It's all part of our effort to make sure you're in safe hands.



### 1. Cleaning hands using alcohol-based hand rubs

Alcohol-based hand rub kills about 59 per cent of germs on hands in about 15 seconds and dries naturally on the skin. Placing hand rub close to where care is provided makes it easier for health care providers to clean their hu



care providers to clean their hands as they move between patients.

### 2. Cleaning hands using soap and water

Washing with scap and water removes germs and is the best way to clean hands that look or feel dirty.

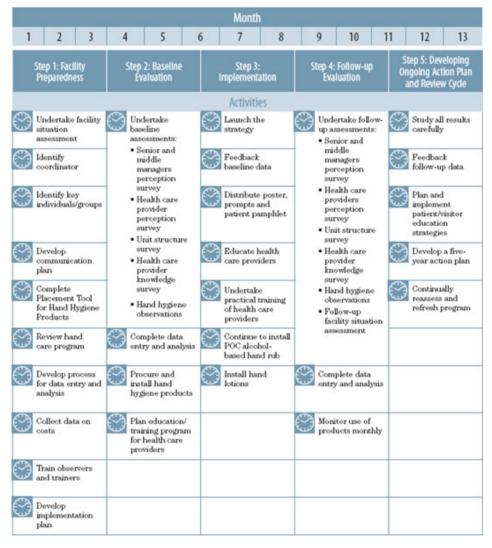
### You're in safe hands

Everyone in our hospital is committed to providing clean, safe care. Our goal is to keep you from getting an infection in a hospital and send you home as healthy as possible.

When you see the Just Gean Your Hands signs and posters, the alcohol-based hand rub containers, and health care providers cleaning their hands, you can be confident you're in safe hands.



### **Five Steps to Implementation**



### Just Clean Your Hands Program Web Site

### Visit www.justcleanyourhands.ca



# **Building on the Foundations of Others**

- The Ontario Ministry of Health and Long-Term Care would like to acknowledge and thank:
  - the WHO World Alliance for Patient Safety for sharing its *Clean Care is Safer Care* materials. *Just Clean Your Hands* Program materials include local adaptations of tools developed for *Clean Care is Safer Care*, WHO multimodal hand hygiene improvement strategy developed by the World Alliance for Patient Safety.





• the UK National Patient Safety Agency for sharing its multimodal hand hygiene improvement materials from the *cleanyourhands* campaign



### This is only the beginning.....

.....of learning how to improve the processes for increasing hand hygiene compliance

- Sharing with others to improve safety and outcomes "We're all in this together"
- Just Clean Your Hands has provided an implementation process and tools that are adaptable for local settings "It is not one size fits all"
- Share your adaptations and learnings through the *Just Clean Your Hands* website Hand hygiene forum