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Clean hands Do Save Lives

Simplifying the Message: Achieving Behaviour Change

Julie Storr
Claire Kilpatrick

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The burden of harm

Healthcare associated infection –
an adverse event

Burden(1): The 1 in 10 argument

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1 in 10!

- Clinical problem
- Human problem
- Economic problem
- System problem
- Community problem

Burden(2): WHO EMRO/AFRO Study

"Extrapolating these figures to the activity of the study hospitals yields a calculation that suggests that nearly 2% of their annual about 550,000 admissions, or more than 10,000 patients, would die from adverse events in those 26 hospitals each year."

Burden(3): Recent Global Estimates

The global burden of unsafe medical care: analytic modelling of observational studies

Ashish K Jha,[1] Itziar Larizgoitia,[2] Carmen Audera-Lopez,[2]
Nittita Prasopa-Plaizier,[2] Hugh Waters,[3] David W Bates[4]

"Using a conservative approach, we estimated that there are at least 43 million injuries each year due to medical care, and that nearly 23 million DALYs are lost as a consequence."

Source: Jha AK, Larizgoitia I, Audera-Lopez C, et al. BMJ Qual Saf 2013; 22:809-815

World Health Organization | Patient Safety

Report on the Burden of Endemic Health Care-Associated Infection Worldwide

Clean Care is Safer Care

FACTS:

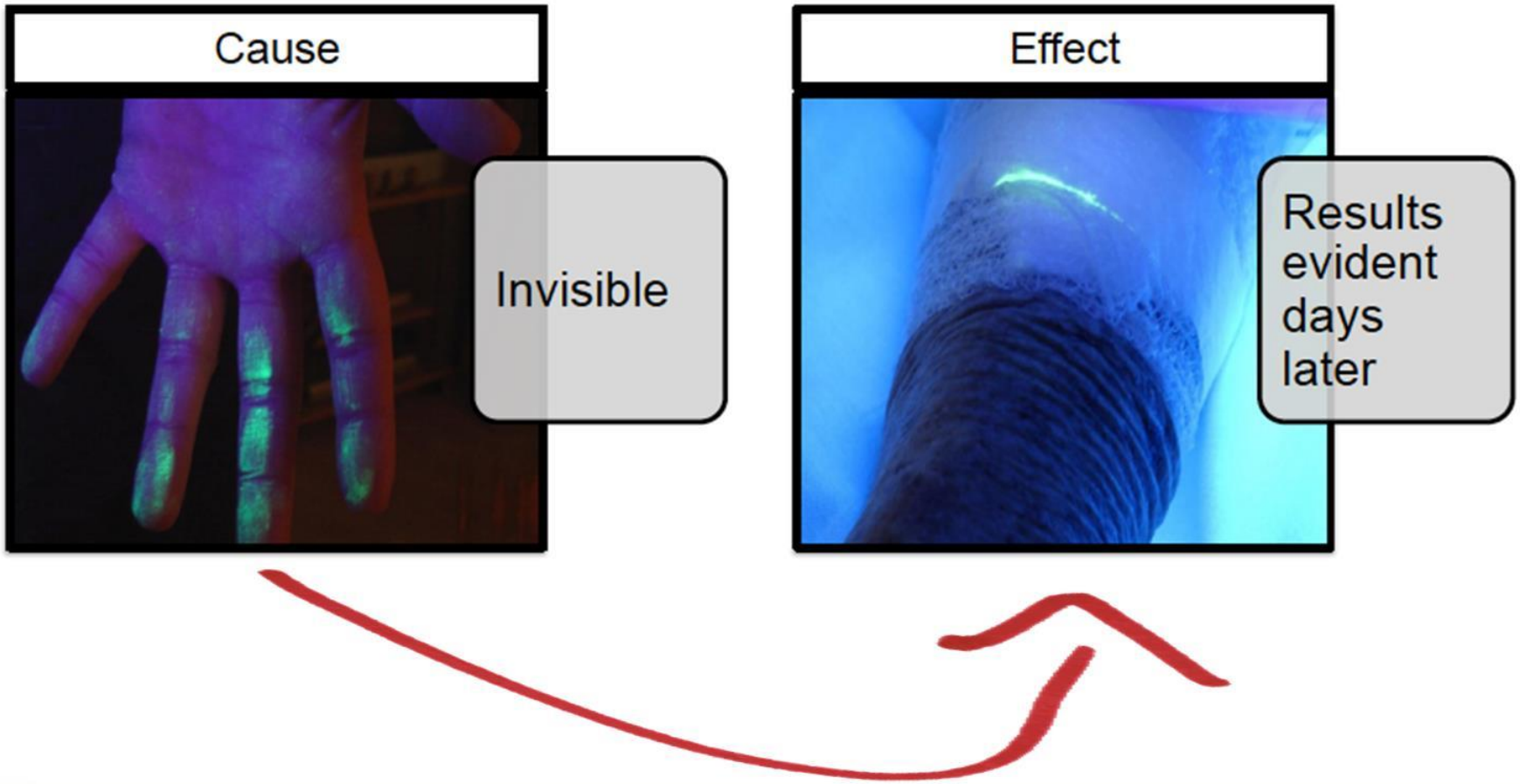
- It's not about hand hygiene
- It's about outcome
- The right times for hand hygiene stop healthcare associated infection.

‘What sense does it make if we stop someone dying from {malaria} and then they die of HAI – this could be stopped if we practised hand hygiene’

WHO APPS Workshop
May 2014

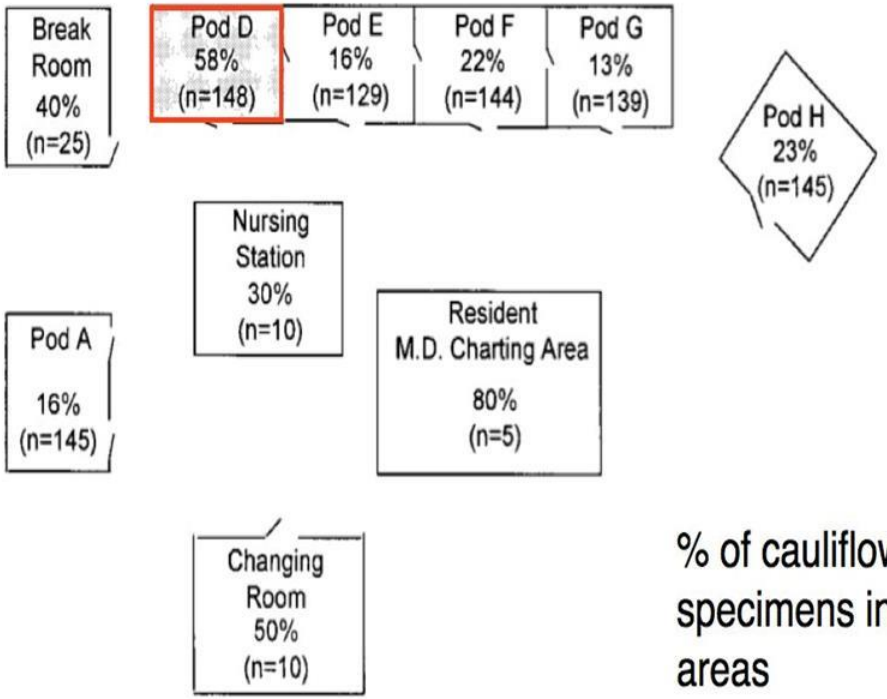
Making the invisible visible

Hand hygiene compliance & successful implementation of guidelines has all the odds stacked against it



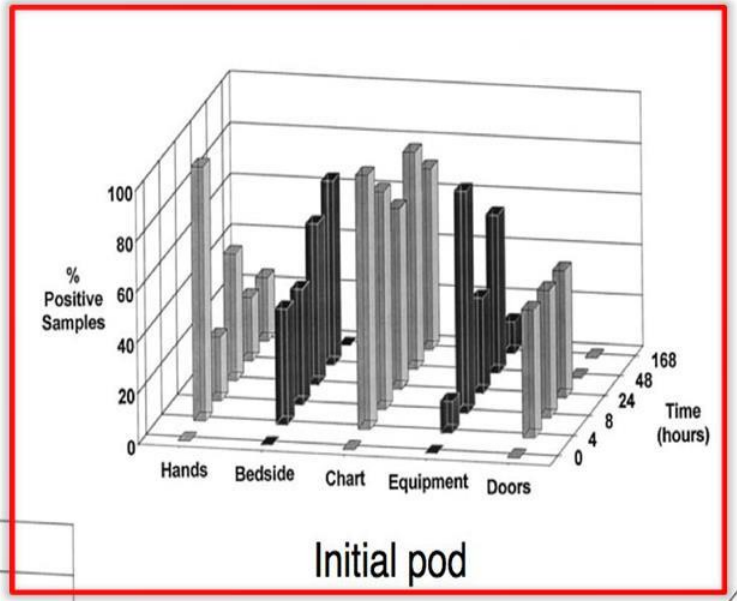
Source: Dr L Ftika and Chesterfield Royal Hospital, UK

Transmission experiment



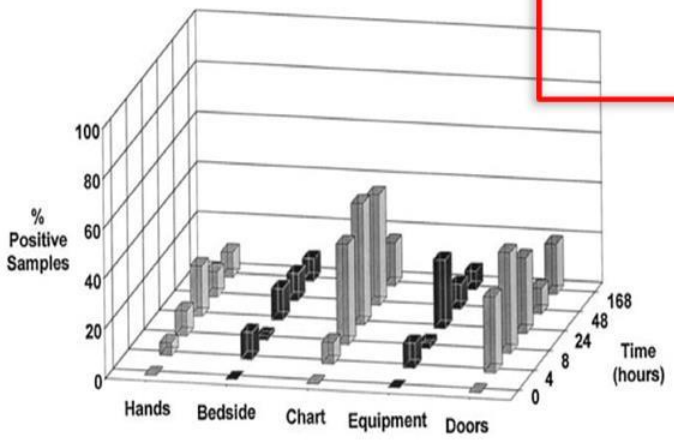
% of cauliflower DNA positive of 1300 specimens in each pod and in non-care areas

Oelberg DG, Joyner SE, Jiang X, Laborde D, Islam MP, Pickering LK. Detection of pathogen transmission in neonatal nurseries using DNA markers as surrogate indicators. Pediatrics 2000;105:311-5.

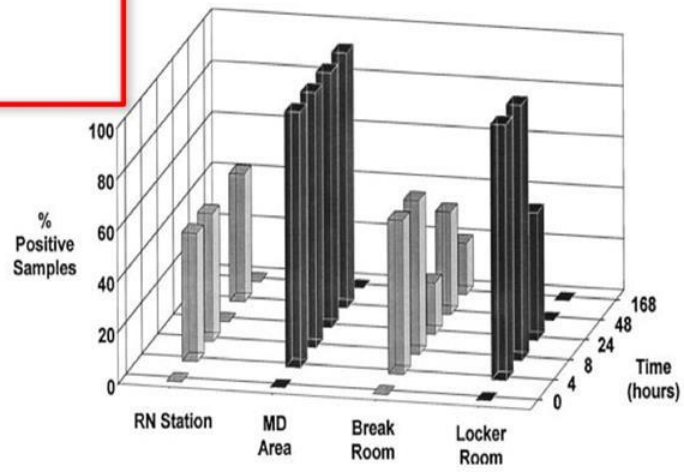


Initial pod

Other pods



Non-care areas



Oelberg DG, Joyner SE, Jiang X, Laborde D, Islam MP, Pickering LK. Detection of pathogen transmission in neonatal nurseries using DNA markers as surrogate indicators. Pediatrics 2000;105:311-5.

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The evidence

For clean hands in healthcare

Impact of hand hygiene promotion on HAI

- 1977- April 2013, 45 studies investigated the impact of hand hygiene to reduce HAI
- Over the last year, as many as 14 original articles + 1 review have been published on this topic

- 41 showed that behavioural change, illustrated by improvement of hand hygiene or other indicators, leads to the reduction of HAI
- Only 4/44 studies showed no significant impact on HAI but in 2 hand hygiene compliance did not increase significantly

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Impact of hand hygiene to reduce transmission and infections by MDROs in health-care settings a systematic literature review

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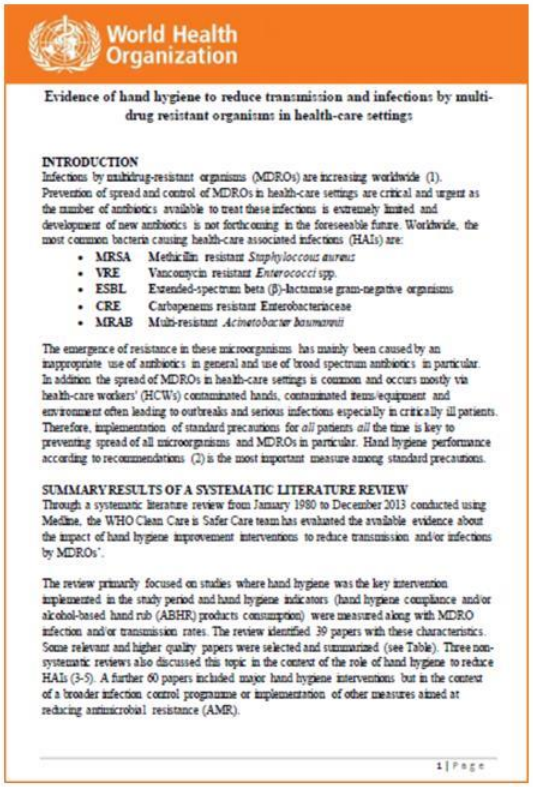

World Health Organization

Evidence of hand hygiene to reduce transmission and infections by multi-drug resistant organisms in health-care settings

INTRODUCTION

Infections by multidrug-resistant organisms (MDROs) are increasing worldwide (1). Prevention of spread and control of MDROs in health-care settings are critical and urgent as the number of antibiotics available to treat these infections is extremely limited and development of new antibiotics is not forthcoming in the foreseeable future. Worldwide, the most common bacteria causing health-care associated infections (HAIs) are:

- MRSA Methicillin resistant *Staphylococcus aureus*
- VRE Vancomycin resistant *Enterococci* spp.
- ESBL Extended-spectrum beta (β)-lactamase gram-negative organisms
- CRE Carbapenems resistant Enterobacteriaceae
- MRAB Multi-resistant *Acinetobacter baumannii*

The emergence of resistance in these microorganisms has mainly been caused by an inappropriate use of antibiotics in general and use of broad spectrum antibiotics in particular. In addition the spread of MDROs in health-care settings is common and occurs mostly via health-care workers' (HCWs) contaminated hands, contaminated item/equipment and environment often leading to outbreaks and serious infections especially in critically ill patients. Therefore, implementation of standard precautions for *all* patients *all* the time is key to preventing spread of all microorganisms and MDROs in particular. Hand hygiene performance according to recommendations (2) is the most important measure among standard precautions.

SUMMARY RESULTS OF A SYSTEMATIC LITERATURE REVIEW

Through a systematic literature review from January 1980 to December 2013 conducted using Medline, the WHO Clean Care is Safer Care team has evaluated the available evidence about the impact of hand hygiene improvement interventions to reduce transmission and/or infections by MDROs*.

The review primarily focused on studies where hand hygiene was the key intervention implemented in the study period and hand hygiene indicators (hand hygiene compliance and/or alcohol-based hand rub (ABHR) products consumption) were measured along with MDRO infection and/or transmission rates. The review identified 39 papers with these characteristics. Some relevant and higher quality papers were selected and summarized (see Table). Three non-systematic reviews also discussed this topic in the context of the role of hand hygiene to reduce HAIs (3-5). A further 60 papers included major hand hygiene interventions but in the context of a broader infection control programme or implementation of other measures aimed at reducing antimicrobial resistance (AMR).

World Health Organization

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Media centre

Good hand hygiene by health workers protects patients from drug resistant infections

News release

Share Print

2 MAY 2014 | GENEVA - On Hand Hygiene Day (5 May), WHO urges health workers to practice good hand hygiene when caring for patients, to protect them from contracting infections in health facilities. Initial results from a new WHO global survey confirm that these infections are often resistant to the antibiotics used to treat them.

Healthcare-associated infections usually occur when germs are transferred by health-care providers' hands touching the patient. Of every 100 hospitalized patients, at least 7 in high-income and 10 in low-/middle-income countries will acquire a healthcare-associated infection. Among critically ill and vulnerable patients in intensive care units, that figure rises to around 30 per 100 . Every year, hundreds of millions of patients around the world are affected by healthcare-associated infections, a high proportion of which is caused by germs that are resistant to antimicrobial drugs.

Related links

SAVE LIVES: Clean Your Hands - WHO's global annual campaign 5 May 2014

5 May 2014 - Global Surveys

The evidence for clean hands

Five Moments for Hand Hygiene

About SAVE LIVES: Clean Your Hands

Audio and video files on hand hygiene

Antimicrobial resistance: global report on surveillance 2014

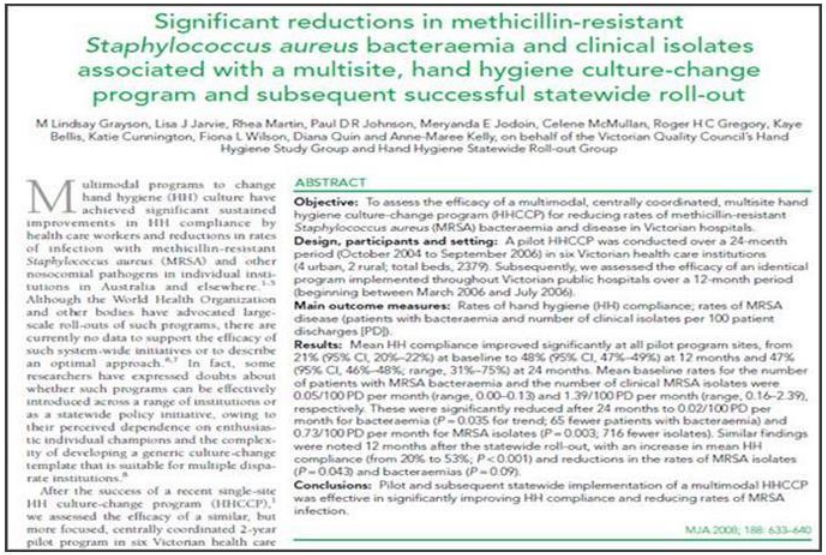
http://www.who.int/gpsc/5may/EN_PSP_GPSC1_5May_2014/en/

Summary results

- From Jan. 1980 to Dec. 2013
- **39 studies** on hand hygiene as the key intervention implemented in the study period and including data about impact on MDROs' infection and/or transmission rates, as well as on hand hygiene indicators, were identified
- **Only 4/39** studies failed to demonstrate an impact of hand hygiene interventions or improvement in the MDRO's infection and/or colonization

  One of these studies *did not show any significant improvement of hand hygiene compliance* thus explaining the failure to reduce infections, while *another study* was a ***low/quality*** *retrospective study*
- **Additional 60 studies** investigated the impact of hand hygiene (HH) to reduce MDRO's infections as part of interventions including other infection control measures

Australian National Hand Hygiene Initiative



Significant reductions in methicillin-resistant *Staphylococcus aureus* bacteraemia and clinical isolates associated with a multisite, hand hygiene culture-change program and subsequent successful statewide roll-out

M Lindsay Grayson, Lisa J Jarvie, Rhea Martin, Paul D R Johnson, Meryanda E Jodoin, Celene McMullan, Roger H C Gregory, Kaye Bellis, Katie Cunnington, Fiona L Wilson, Diana Quin and Anne-Maree Kelly, on behalf of the Victorian Quality Council's Hand Hygiene Study Group and Hand Hygiene Statewide Roll-out Group

ABSTRACT

Objective: To assess the efficacy of a multimodal, centrally coordinated, multisite hand hygiene culture-change program (HHCCP) for reducing rates of methicillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia and disease in Victorian hospitals.

Design, participants and setting: A pilot HHCCP was conducted over a 24-month period (October 2004 to September 2006) in six Victorian health care institutions (4 urban, 2 rural; total beds, 2379). Subsequently, we assessed the efficacy of an identical program implemented throughout Victorian public hospitals over a 12-month period (beginning between March 2006 and July 2006).

Main outcome measures: Rates of hand hygiene (HH) compliance; rates of MRSA disease (patients with bacteraemia and number of clinical isolates per 100 patient discharges [PD]).

Results: Mean HH compliance improved significantly at all pilot program sites, from 21% (95% CI, 20%–22%) at baseline to 48% (95% CI, 47%–49%) at 12 months and 47% (95% CI, 46%–48%; range, 31%–75%) at 24 months. Mean baseline rates for the number of patients with MRSA bacteraemia and the number of clinical MRSA isolates were 0.05/100 PD per month (range, 0.00–0.13) and 1.39/100 PD per month (range, 0.16–2.39), respectively. These were significantly reduced after 24 months to 0.02/100 PD per month for bacteraemia ($P = 0.035$ for trend; 65 fewer patients with bacteraemia) and 0.73/100 PD per month for MRSA isolates ($P = 0.003$; 716 fewer isolates). Similar findings were noted 12 months after the statewide roll-out, with an increase in mean HH compliance (from 20% to 53%; $P < 0.001$) and reductions in the rates of MRSA isolates ($P = 0.043$) and bacteraemias ($P = 0.09$).

Conclusions: Pilot and subsequent statewide implementation of a multimodal HHCCP was effective in significantly improving HH compliance and reducing rates of MRSA infection.

MJA 2008; 188: 633–640

Outcomes from the first 2 years of the Australian National Hand Hygiene Initiative

M Lindsay Grayson MD, FRACP, FAFPHM, Director of Hand Hygiene Australia, Professor and Director[1]

Philip L Russo MClinEpid, BN, Manager of Hand Hygiene Australia[1]

Marilyn Cruickshank RN, PhD, FRCNA, Clinical Policy Manager[2]

Jacqui L Bear BEc, MLitt, GradCertMgmt, Director of Policy and Projects, Quality and Safety Unit[3]

Christine A Gee MBA, Chief Executive Officer[4]

Clifford F Hughes AO, FRACS, FACS, Chief Executive Officer[5]

Paul D R Johnson MB BS, PhD, FRACP, Deputy Director[1]

Rebecca McCann BSc(Nursing), Program Manager, Healthcare Associated Infections Unit, Communicable Disease Control Directorate[6]

The Australian National Hand Hygiene Initiative (NHHI) and Hand Hygiene Australia (HHA) were established by the Australian Commission on Safety and Quality in Health Care after studies demonstrated that multimodal culture-change programs and increased use of alcohol-based hand rub reduced rates of health care-associated infections, especially those caused by methicillin-resistant *Staphylococcus aureus* (MRSA).[1-4]

The aim of the NHHI was to implement a standardised hand hygiene (HH) culture-change program throughout all Australian hospitals to improve HH compliance among Australian health care workers (HCWs); establish a validated system of HH compliance auditing to allow local, national and international benchmarking; and establish a reliable system of health care-associated disease reporting, initially focusing on *S. aureus* bacteraemia (SAB) as a practi-

Abstract

Objective: To report outcomes from the first 2 years of the National Hand Hygiene Initiative (NHHI), a hand hygiene (HH) culture-change program implemented in all Australian hospitals to improve health care workers' HH compliance, increase use of alcohol-based hand rub and reduce the risk of health care-associated infections.

Design and setting: The HH program was based on the World Health Organization 5 Moments for Hand Hygiene program, and included standardised educational materials and a regular audit system of HH compliance. The NHHI was implemented in January 2009.

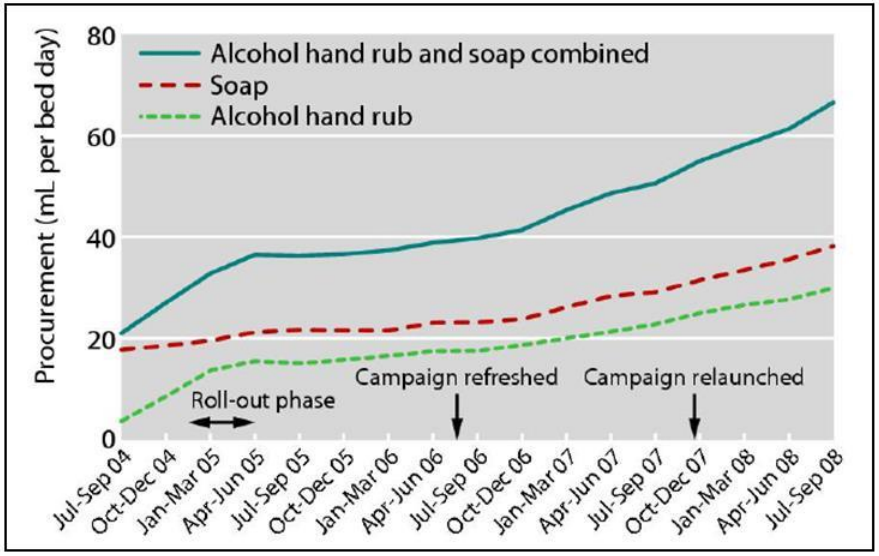
Main outcome measures: HH compliance and *Staphylococcus aureus* bacteraemia (SAB) incidence rates 2 years after NHHI implementation.

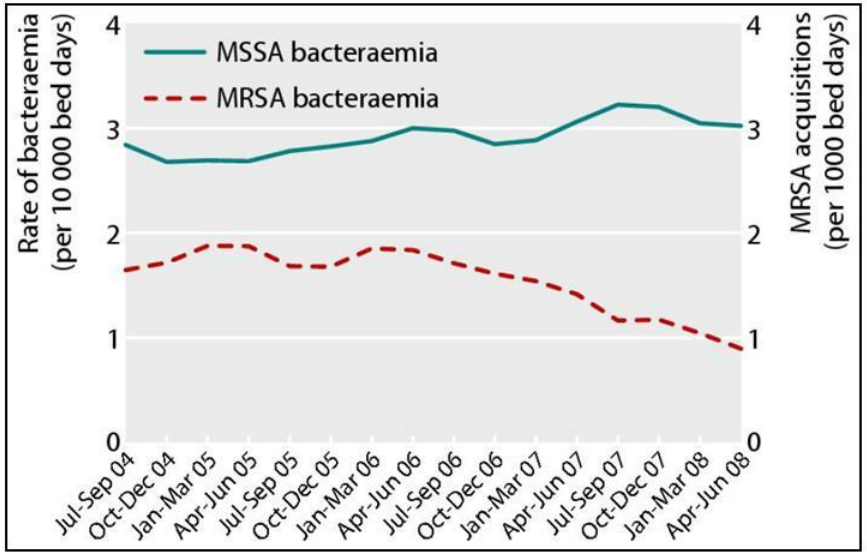
Results: In late 2010, the overall national HH compliance rate in 521 hospitals was 68.3% (168 641/246 931 moments), but HH compliance before patient contact was 10%–15% lower than after patient contact. Among sites new to the 5 Moments audit tool, HH compliance improved from 43.6% (6431/14 740) at baseline to 67.8% (106 851/157 708) ($P < 0.001$). HH compliance was highest among nursing staff (73.6%; 116 851/158 732) and worst among medical staff (52.3%; 17 897/34 224) after 2 years. National incidence rates of methicillin-resistant SAB were stable for the 18 months before the NHHI (July 2007–2008; $P = 0.366$), but declined after implementation (2009–2010; $P = 0.008$). Annual national rates of hospital-onset SAB per 10 000 patient-days were 1.004 and 0.995 in 2009 and 2010, respectively, of which about 75% were due to methicillin-susceptible *S. aureus*.

Conclusions: The NHHI was associated with widespread sustained improvements in HH compliance among Australian health care workers. Although specific linking of SAB rate changes to the NHHI was not possible, further declines in national SAB rates are expected.

AUSTRALIA National Hand hygiene Multimodal culture-change campaign Significant reductions in MRSA bacteraemia and MRSA clinical isolates

England & Wales
National Hand Hygiene Initiative





Stone SP et al. BMJ 2012;344:e3005

Hand hygiene – widely supported as a patient safety intervention that works

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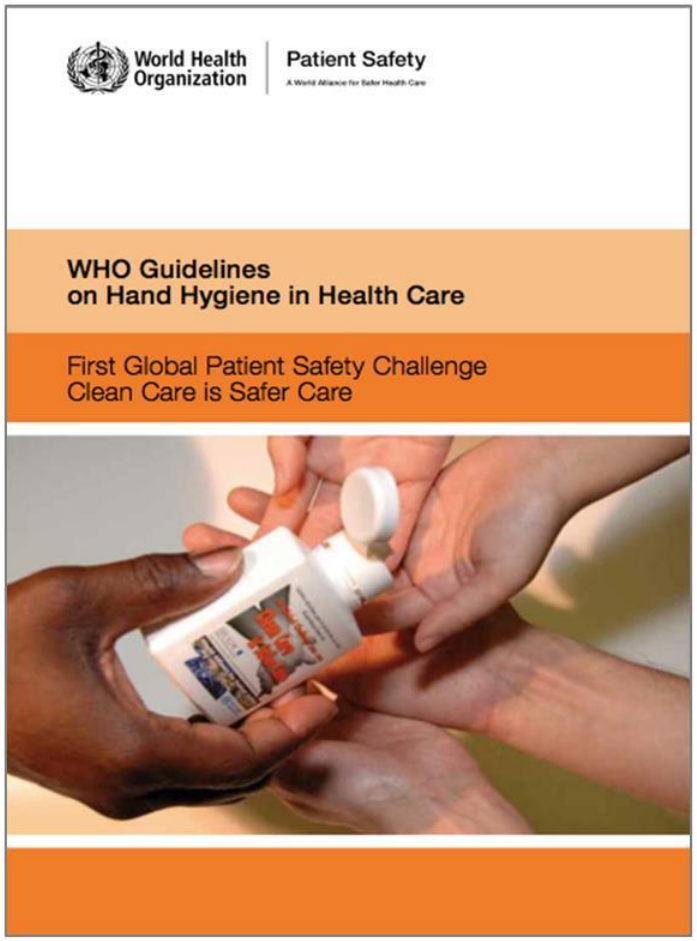

Annals of Internal Medicine | SUPPLEMENT

The Top Patient Safety Strategies That Can Be Encouraged for Adoption Now

Paul G. Shekelle, MD, PhD; Peter J. Pronovost, MD, PhD; Robert M. Wachter, MD; Kathryn M. McDonald, MM; Karen Schoelles, MD, SM; Sydney M. Dy, MD, MSc; Kaveh Shojania, MD; James T. Reston, PhD, MPH; Alyca S. Adams, PhD; Peter B. Angood, MD; David W. Bates, MD, MSc; Leonard Bickman, PhD; Pascale Carayon, PhD; Sir Liam Donaldson, MBChB, MSc, MD; Naihua Duan, PhD; Donna O. Farley, PhD, MPH; Trisha Greenhalgh, BM BCH; John L. Haughom, MD; Eileen Lake, PhD, RN; Richard Lilford, PhD; Kathleen N. Lohr, PhD, MA, MPhil; Gregg S. Meyer, MD, MSc; Marlene R. Miller, MD, MSc; Duncan V. Neuhauser, PhD, MBA, MHA; Gary Ryan, PhD; Sanjay Saint, MD, MPH; Stephen M. Shortell, PhD, MPH, MBA; David P. Stevens, MD; and Kieran Walshe, PhD

Over the past 12 years, since the publication of the Institute of Medicine's report, "To Err is Human: Building a Safer Health System," improving patient safety has been the focus of considerable public and professional interest. Although such efforts required changes in policies; education; workforce; and health care financing, organization, and delivery, the most important gap has arguably been in research. Specifically, to improve patient safety we needed to identify hazards, determine how to measure them accurately, and identify solutions that work to reduce patient harm. A 2001 report commissioned by the Agency for Healthcare Research and Quality, "Making Health Care Safer: A Critical Analysis of Patient Safety Practices" (1), helped identify some early evidence-based safety practices, but it also highlighted an enormous gap between what was known and what needed to be known.

We chose 18 topics for in-depth reviews. As a first step for the reviews, we searched for existing relevant systematic reviews. To assess the potential utility of such reviews, we followed procedures proposed by Whitlock and colleagues (3) and asked the following questions: Is the existing review sufficiently "on topic" to be of use? Is the review of sufficient quality to foster confidence in the results? If we determined that the existing systematic review was sufficiently on topic and of acceptable quality, we took 1 of 2 further steps. In some cases, we did an "update" search (that is, we searched databases for all new relevant evidence published since the search end date in the existing systematic review); in others, we conducted searches for "signals for updating." Such searches generally followed the criteria proposed by Shojania and colleagues (4), which involved a search of high-yield databases and journals for pivotal stud-

Hand hygiene – an entrance door to public health improvement

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The Improvement Continuum & Health Care-Associated Infection

World Health Organization | Patient Safety
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Understanding what works

Lancet Infectious Diseases 2013

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

Benedetta Allegranzi, Angèle Gayet-Ageron, Nizam Damani, Loséni Bengaly, Mary-Louise McLaws, Maria-Luisa Moro, Ziad Memish, Orlando Urroz, Hervé Richet, Julie Storr, Liam Donaldson, Didier Pittet

Summary

Background Health-care-associated infections are a major threat to patient safety worldwide. Transmission is mainly via the hands of health-care workers, but compliance with recommendations is usually low and effective improvement strategies are needed. We assessed the effect of WHO's strategy for improvement of hand hygiene in five countries.

Methods We did a quasi-experimental study between December, 2006, and December, 2008, at six pilot sites (55 departments in 43 hospitals) in Costa Rica, Italy, Mali, Pakistan, and Saudi Arabia. A step-wise approach in four 3–6 month phases was used to implement WHO's strategy and we assessed the hand-hygiene compliance of health-care workers and their knowledge, by questionnaire, of microbial transmission and hand-hygiene principles. We expressed compliance as the proportion of predefined opportunities met by hand-hygiene actions (ie, handwashing or hand rubbing). We assessed long-term sustainability of core strategy activities in April, 2010.

Findings We noted 21884 hand-hygiene opportunities during 1423 sessions before the intervention and 23746 opportunities during 1784 sessions after. Overall compliance increased from 51·0% before the intervention

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August 23, 2013
http://dx.doi.org/10.1016/S1473-3099(13)70163-4

See Online/Comment
http://dx.doi.org/10.1016/S1473-3099(13)70223-8

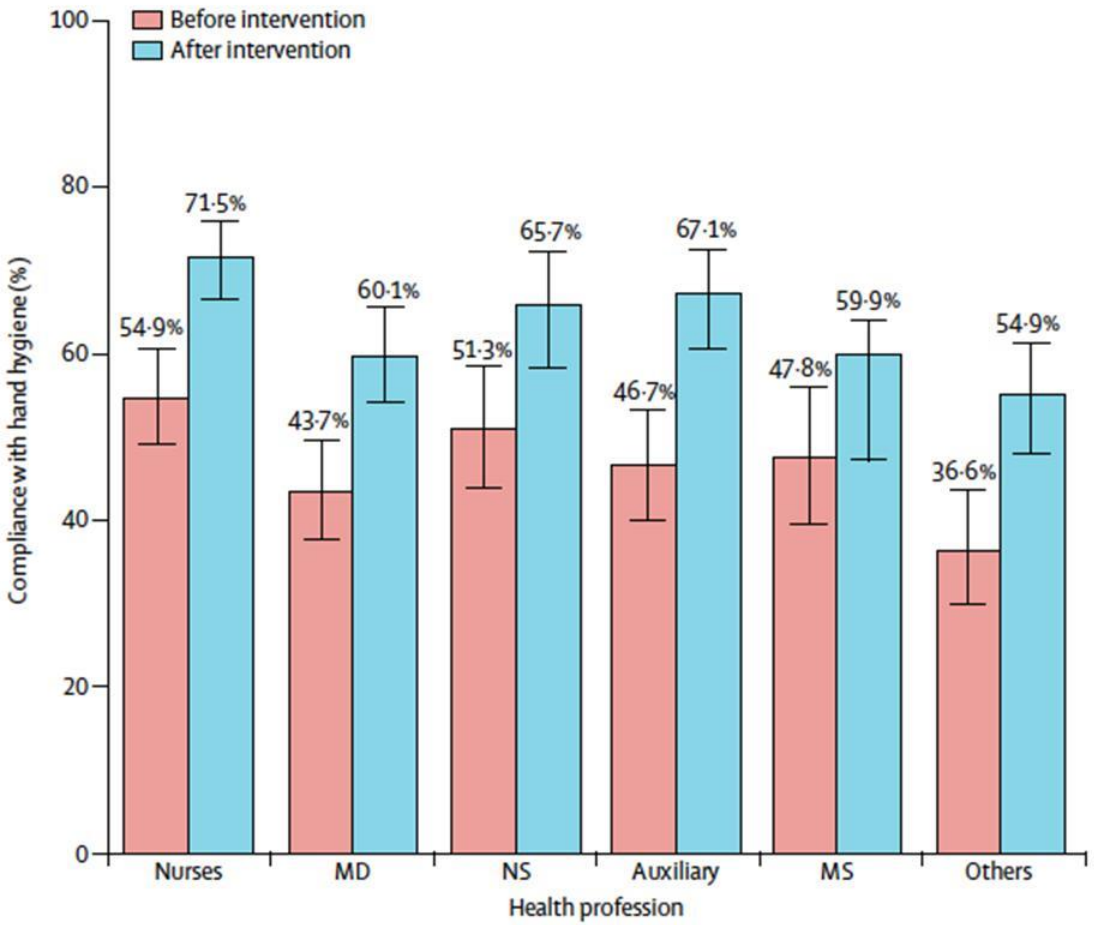
First Global Patient Safety Challenge, WHO Patient Safety Programme, WHO, Geneva, Switzerland (B Allegranzi MD);

August 23rd 2013

The study

- 21 884 opportunities, 1423 sessions pre intervention
- 23 746 opportunities, 1784 sessions after intervention
- Overall compliance increased **from 51.0% before** the intervention (95% CI 45.1–56.9) to **67.2% after** (61.8–72.2)
- **Implementation had major effect on compliance across all sites after adjustment for main confounders**
- Knowledge improved at all sites with an increase in the average score from 18.7 (95% CI 17.8–19.7) to 24.7 (23.7–25.6) after educational sessions
- Two years after the intervention, all sites reported ongoing hand-hygiene activities with sustained or further improvement, including national scale-up

Compliance before and after (HCW category)



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The WHO multimodal improvement strategy

WHO Multimodal Hand Hygiene Improvement Strategy

- Based on the evidence and recommendations from the WHO Guidelines on Hand Hygiene in Health Care (2009),
- made up of
- **5 core components**, to improve hand hygiene in health-care settings

ONE System change
Alcohol-based handrubs at point of care and access to safe continuous water supply, soap and towels

+

TWO Training and education
Providing regular training to all health-care workers

+

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

+

FOUR Reminders in the workplace
Prompting and reminding health-care workers

+

FIVE Institutional safety climate
Individual active participation, institutional support, patient participation

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LANGUAGE EXERCISE

The power of words in health care communication and behaviour change

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COFFEE

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COMPLIANCE

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ALCOHOL HAND RUB

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MOMENT

Report-out

- Compliance –
- ABHR –
- Moment –

In summary

- this is what people hear when we say these hand hygiene related words to them - think about this, think about how you can use warmer words to engage them or how you can use these words to work in the way you intend them

Simplifying the multimodal improvement strategy

1. SYSTEM CHANGE

build
verb

1. Build the right environment to make it easier to do the right thing i.e. practice hand hygiene reliably at the right time and in the right way.

The right resources at the point of care

- Alcohol-based handrubs;
- Access to safe continuous water supply, soap and towels.

Human factors

"A science at the intersection of psychology and engineering…dedicated to designing all aspects of a work system to support human performance and safety….. improve system performance and prevent accidental harm."

Russ et al (2013)

Implementation tools

- Soap / Handrub Consumption Survey
- Ward Infrastructure Survey
- Alcohol-based Handrub Planning and Costing Tool
- Guide to Local Production: WHO-recommended Handrub Formulations
- Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1
- Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2
- Template Action Plans

2. TRAINING AND EDUCATION

teach

verb

1. Teach hand hygiene in a way that influences behaviour change.

Clear, effective training

- Providing regular, fit for purpose training to all health-care workers;
- Focusing on hand hygiene in "non-hand hygiene" sessions i.e. integration not segregation of hand hygiene.

Implementation tools

- Slides for the Hand Hygiene Co-ordinator
- Slides for Education Sessions for Trainers, Observers and Health-Care Workers
- Hand Hygiene Training Films
- Slides Accompanying the Training Films
- Key Scientific Publications
- Hand Hygiene Technical Reference Manual
- Frequently Asked Questions
- Hand Hygiene Why, How and When Brochure
- Glove Use Information Leaflet
- Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities

3. MONITORING AND EVALUATION

Check
verb

1. Check that the strategy is working (or not) through measurement and feedback.

Implementation tools (1)

- Hand Hygiene Self-Assessment Framework
- Observation Form and Compliance Calculation Form
- Soap / Handrub Consumption Survey
- Hand Hygiene Knowledge Questionnaire for Health-Care Workers

Observation of Hand Hygiene Practices

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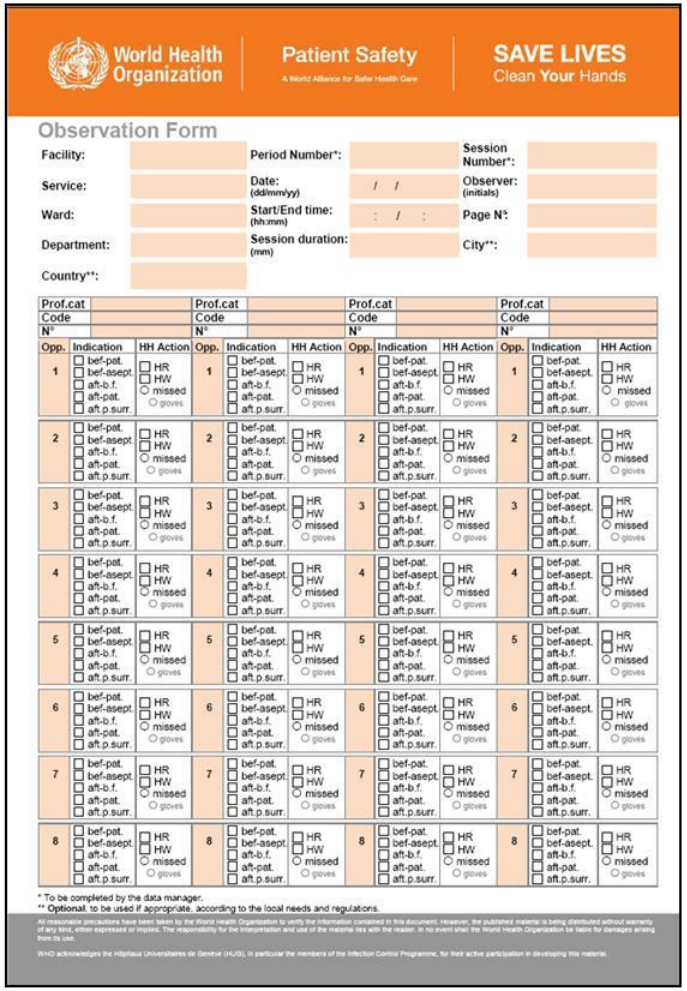
COMPLIANCE

performed
hand hygiene actions (x 100)

---

required hand hygiene actions
(opportunities)



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Observation Form

Facility:		Period Number*:		Session Number*:	
Service:		Date: (dd/mm/yy)	/ /	Observer: (initials)	
Ward:		Start/End time: (hh:mm)	: / :	Page N°:	
Department:		Session duration: (mm)		City**:	
Country**:					

Prof.cat			Prof.cat			Prof.cat			Prof.cat		
Code			Code			Code			Code		
N°			N°			N°			N°		
Opp.	Indication	HH Action	Opp.	Indication	HH Action	Opp.	Indication	HH Action	Opp.	Indication	HH Action
1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
2	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	2	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	2	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	2	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
3	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	3	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	3	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	3	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
4	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	4	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	4	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	4	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
5	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	5	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	5	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	5	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
6	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	6	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	6	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	6	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
7	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	7	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	7	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	7	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves
8	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	8	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	8	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves	8	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ○ missed ○ gloves

* To be completed by the data manager.
** **Optional**, to be used if appropriate, according to the local needs and regulations.

Implementation tools (2)

- Hand Hygiene Technical Reference Manual
- Perception Survey for Health-Care Workers
- Perception Survey for Senior Managers
- Ward Infrastructure Survey
- Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1
- Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2
- Data Entry Analysis Tool
- Instructions for Data Entry and Analysis
- Data Summary Report Framework

4. REMINDERS IN THE WORKPLACE

Sell

verb

1. Sell hand hygiene effectively.

Implementation tools for Reminders in the workplace

- Your 5 Moments for Hand Hygiene Poster
- How to Handrub Poster
- How to Handwash Poster
- Hand Hygiene: When and How Leaflet
- **SAVE LIVES: Clean Your Hands** Screensaver
- Videos

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