



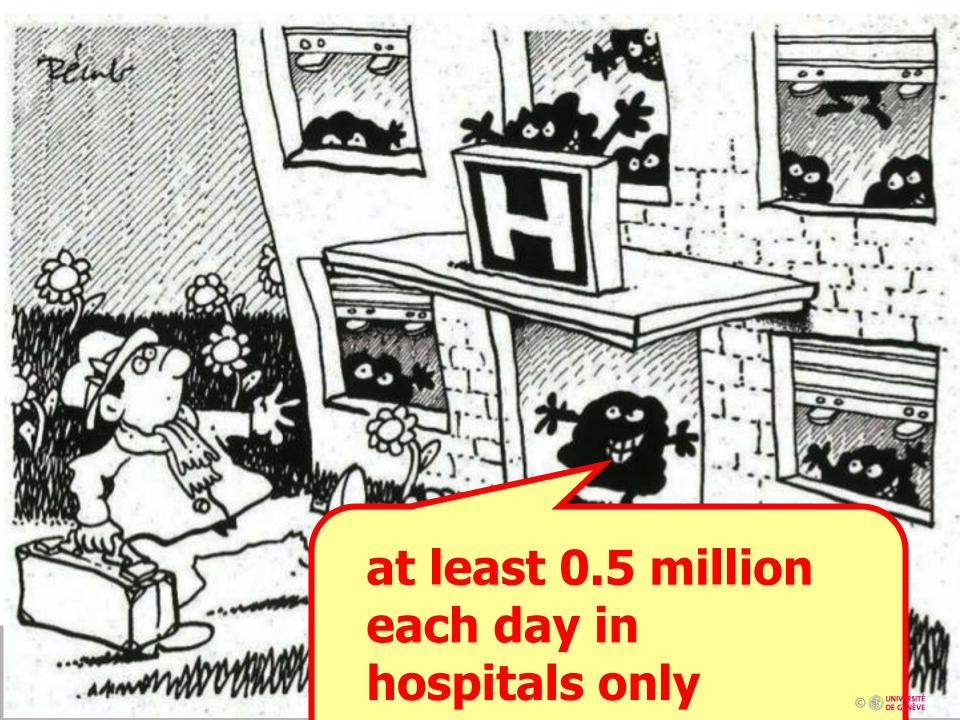


Clean Care is Safer Care: "The role of hand hygiene and hospital environmental hygiene"

Professor Didier Pittet, MD, MS,

Infection Control Programme
WHO Collaborating Centre on Patient Safety
University of Geneva Hospitals and Faculty of Medicine, Switzerland

Lead Adviser, SAVE LIVES: Clean Your Hands
World Health Organization (WHO) Service Delivery & Safety.
WHO Headquarter, Geneva, Switzerland



Hospital infections

500,000 patients each day

16 million deaths every year

Daily impact of hospital infections in the USA....



Healthcare-associated infections

A silent pandemic

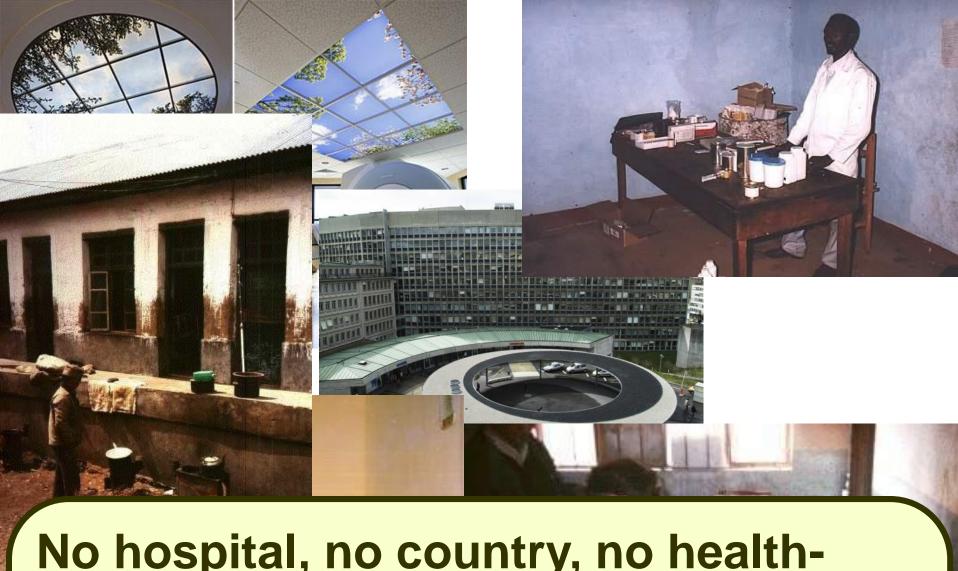












No hospital, no country, no healthcare system in the world can claim to have solved the problem

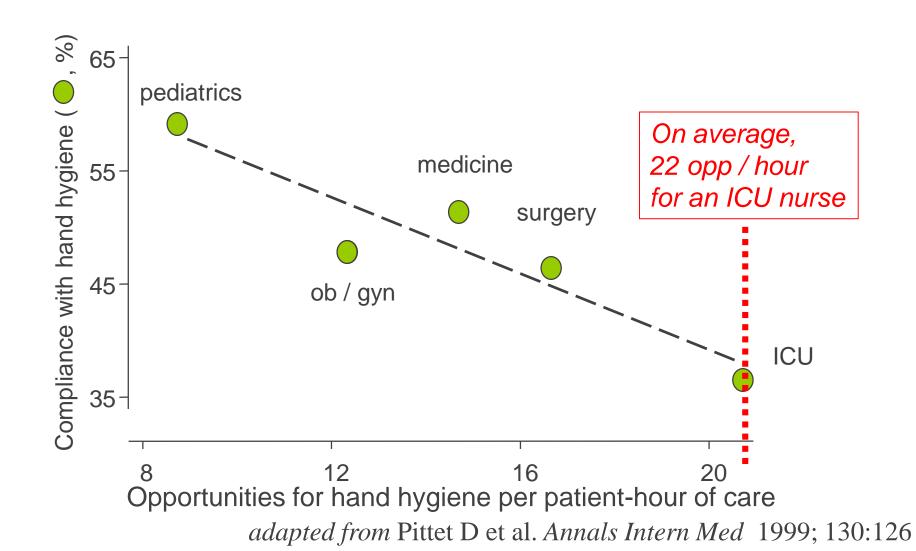


Compliance < 40%



Why?

Relation between opportunities for hand hygiene for nurses and compliance across hospital wards



Time constraint = major obstacle for hand hygiene

handwashing soap + water

1 to 1.5 min

alcohol-based hand rub

15 to 20 sec

Handwashing ...
an action of the past
(except when hands are visibly soiled)



Alcohol-based hand rub at the point of care



The University of Geneva Hospitals, 1995



Would it work?

Would it make a difference?

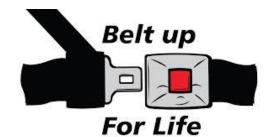


Changing behavior a universal challenge





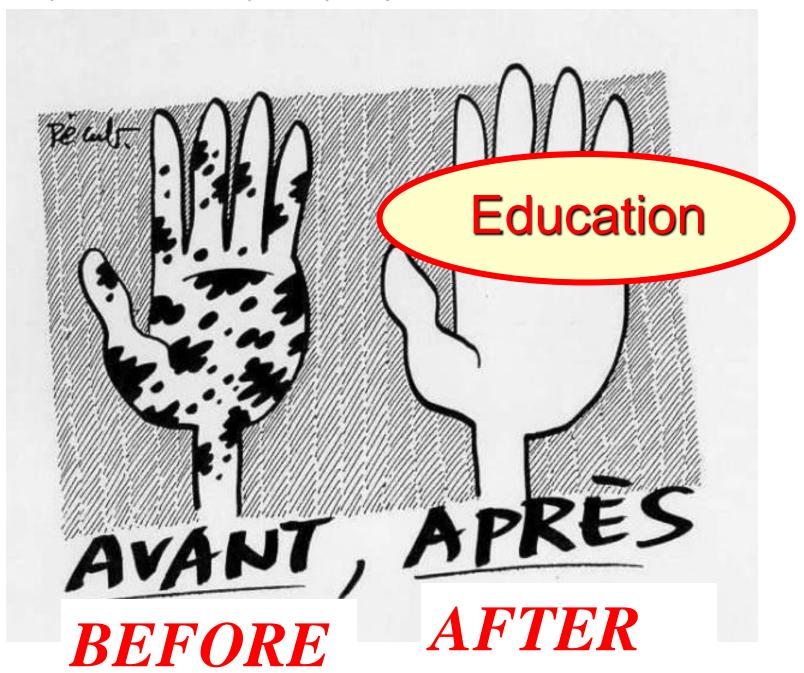






multimodal behavior change strategy

The University of Geneva Hospitals (HUG), 1995



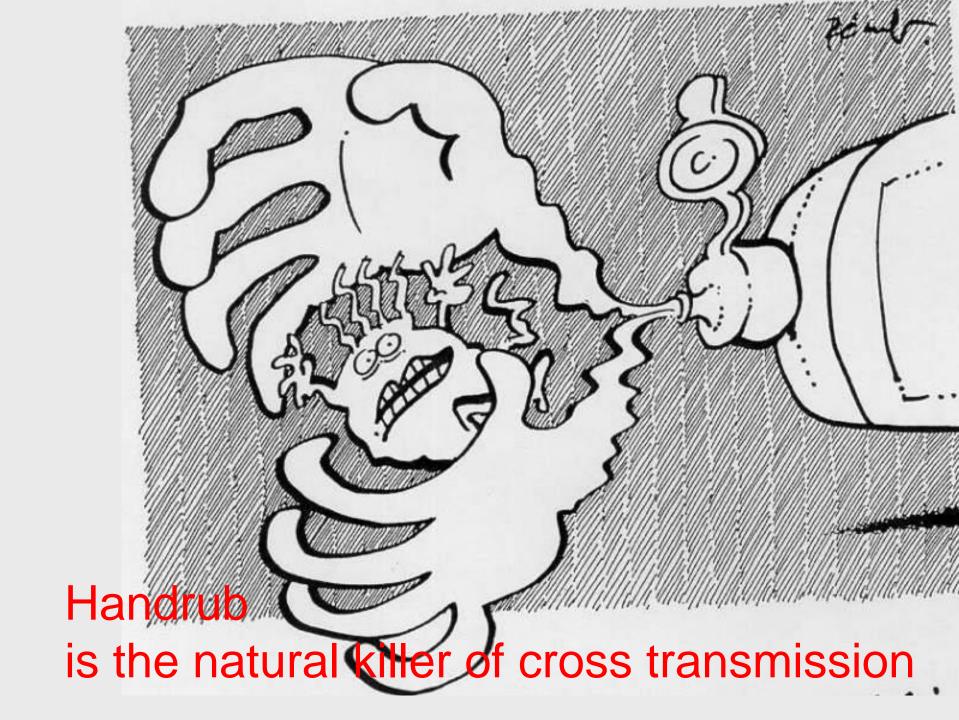
The University of Geneva Hospitals (HUG), 1995 - 1998

« Talking walls »



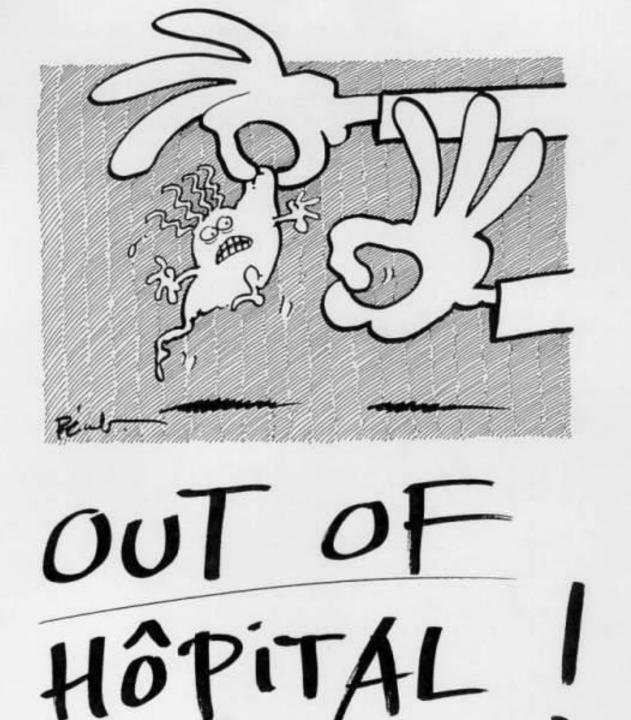






Dirty Staph

...out of hospital







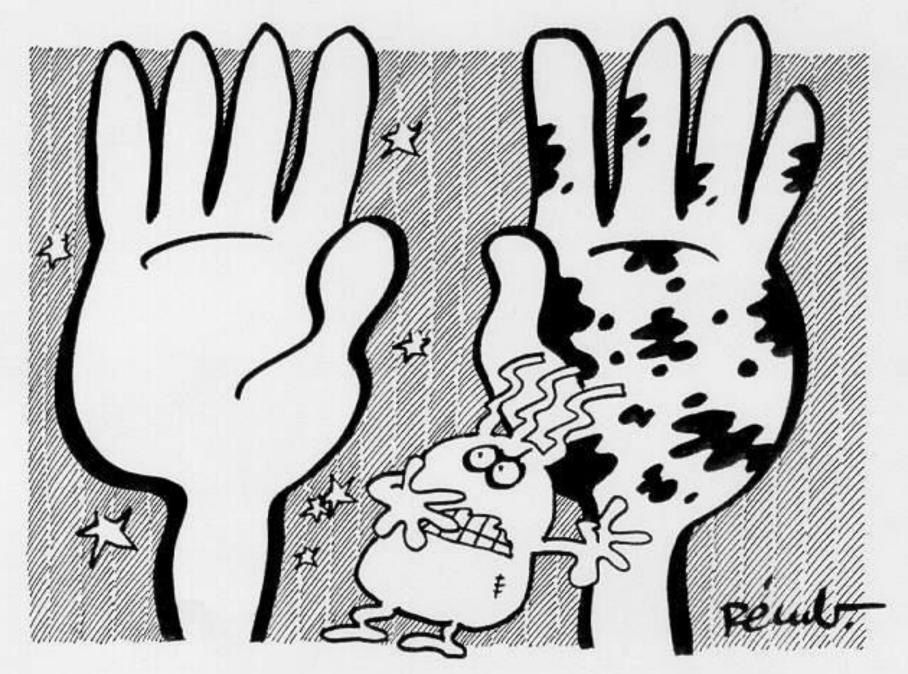
HUG 1995 - 1998



HUG 1995 - 1998



HUG 1995 - 1998



The University of Geneva Hospitals (HUG), 1995 - 1998



Doctor Freud,
in this hospital,
it's become impossible
to cause infections
any more!

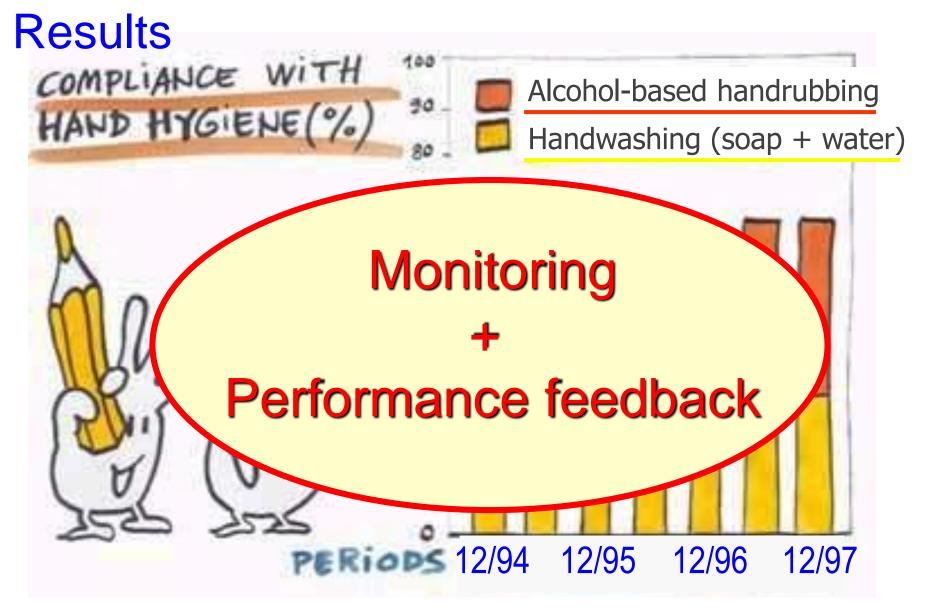
Safety culture

HOPITAL CANTONAL DE GENEVE CONTRE STAPH LE SÂLE, LES HOSTILITES VONT COMMENCER! Hospitals against

Dirty Staph:

war has been

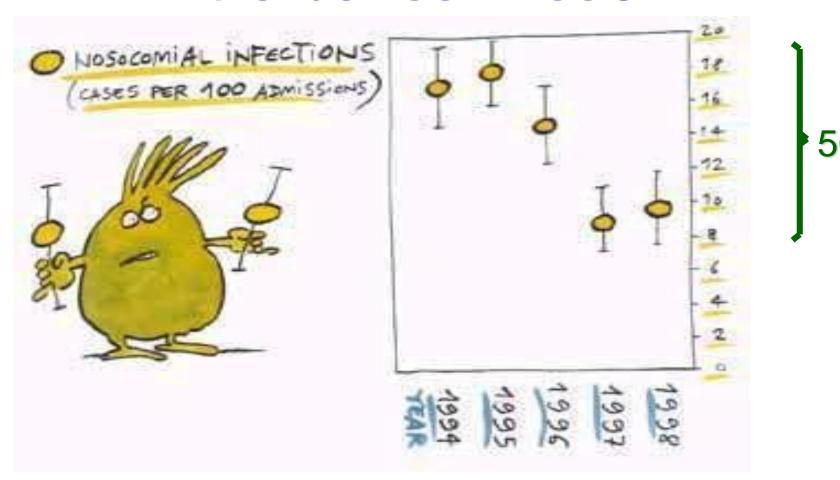
declared



www.hopisafe.ch

Pittet D et al, Lancet 2000; 356: 1307-1312

Hospital-wide nosocomial infections; trends 1994-1998



www.hopisafe.ch

Pittet D et al, *Lancet* 2000; 356: 1307-1312

The University of Geneva Hospitals (HUG), 8 years follow-up



Pittet D et al, Inf Control Hosp Epidemiol 2004; 25:264

Effectiveness of a hospital-wide programme to improve compliance with hand hygiene

Didier Pittet, Stéphane Hugonnet, Stephan Harbarth, Philippe Mourouga, Valérie Sauvan, Sylvie Touveneau, Thomas V Perneger, and members of the Infection Control Programme

THE LANCET Vol 256 – October 14, 2000

« Geneva model » of hand hygiene promotion, Reproduced with success (2002-2005)

- ♦ in single hospitals in France, Belgium, USA, Australia ...
- ♦ in multiple hospitals in Hong Kong, Australia, Belgium, ...
- in national promotion campaigns: Belgium, the UK, Switzerland



World Health Organization (WHO), Geneva, Switzerland, 2005



Through the promotion of best practices in hand hygiene and infection control, the 1st Global Patient Safety Challenge aims to reduce health care-associated infection worldwide









Political commitment is essential to achieve improvement in infection control

Ministerial pledges to the 1st Global Patient Safety Challenge

I resolve to work to reduce health care-associated infection (HCAI) through actions such as:

- acknowledging the importance of HCAI;
- hand hygiene campaigns at national or sub-national levels;
- sharing experiences and available surveillance data, if appropriate;
- using WHO strategies and guidelines…









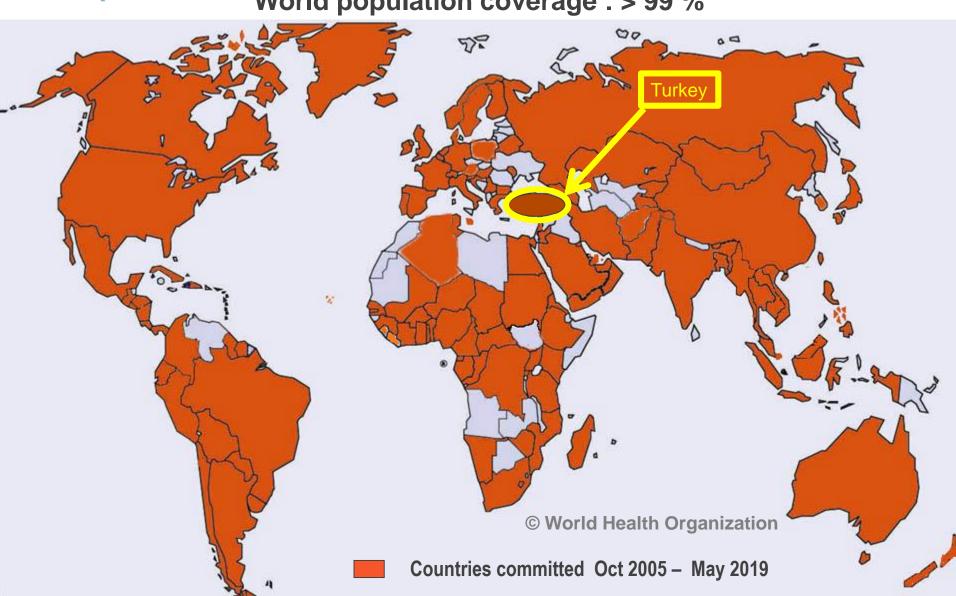






142 countries committed to address health care-associated infection

World population coverage : > 99 %

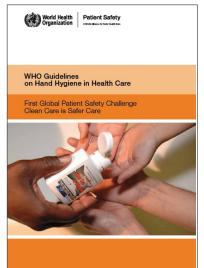


Implementation strategy and toolkit for the WHO Guidelines on Hand Hygiene in Health Care

Knowledge & evidence



Action









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), made up of 5 core components, to improve hand hygiene in healthcare 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

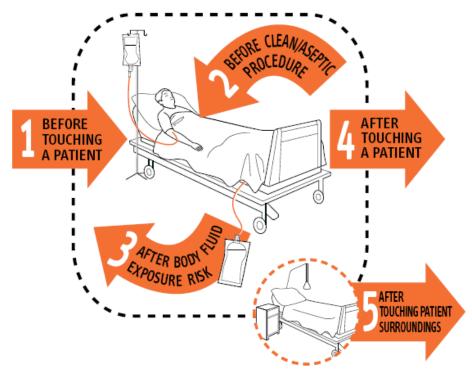


The My Five Moments approach

Making it easier to

- understand
- remember
- practice
 the hand hygiene indications at the point of care

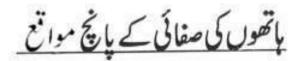
My 5 moments for HAND HYGIENE

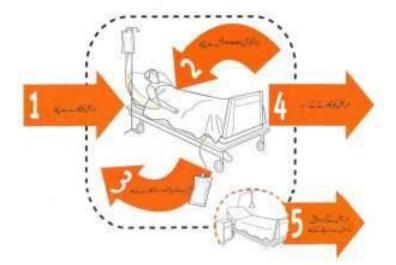


Sax H, Allegranzi B, Uçkay I, Larson E, Boyce J, Pittet D. J Hosp Infect 2007;67:9-21













حملة غسل الأيدي ٢٠٠٨

Your 5 moments for HAND HYGIENE







AFTER
TOUCHING PATIENT
SURROUNDINGS

1	BEFORE TOUCHING	WHEN?	Clean your hands before touching a patient when approaching him/her.
- /	A PATIENT	WHY?	To protect the patient against harmful germs carried on your hands.
	BEFORE CLEAN/	WHEN?	Clean your hands immediately before performing a clean/aseptic procedure.
	ASEPTIC PROCEDURE	WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
7	AFTER BODY FLUID	WHEN?	Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
>	EXPOSURE RISK	WHY?	To protect yourself and the health-care environment from harmful patient germs.
4	AFTER TOUCHING	WHEN?	Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's sid-
	A PATIENT	WHY?	To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT	WHEN?	Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.

To protect yourself and the health-care environment from harmful patient germs.

SURROUNDINGS

WHY?



Los 4 momentos de la higiene de manos







00:04 / 00:04

Es el momento previo a cualquier contacto con el paciente o con su entorno.





Adapt to Adopt

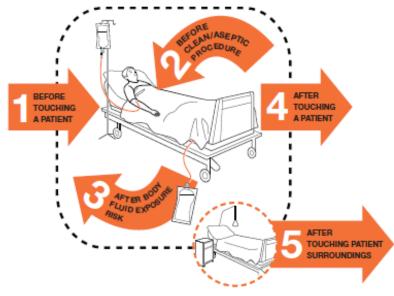
If you want people to AdOpt ... Let them AdApt

Adapt to Adopt



www.tinyurl.com/AdaptToAdopt

Your 5 Moments for Hand Hygiene



1	REFORE TOUCHING A PATIENT	WHENT	Clean your hands before touching a patient when approaching him-her. To protect the patient against harmful germs carried on your hands.
2	REFORE CLEAN/ ASEPTIC PROCEDURE	WHENT	Clean your hands immediately before performing a clean/lawptic procedure. To protect the patient ageinst hamful germs, including the patient's csen, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHENE	Clean your hands immediately after an exposure talk to body fluids (and after glove removal). To protect yourself and the health-case environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHENT	Clean your hands after touching a patient and heritis immediate surroundings, when leaving the patient's side. To protect yourself and the health-case environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN?	Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched. To protect yourself and the health-care environment from harmful patient germs.



Patient Safety A World Allianus for Safer Health ConSAVE LIVES Clean Your Hands

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds



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;

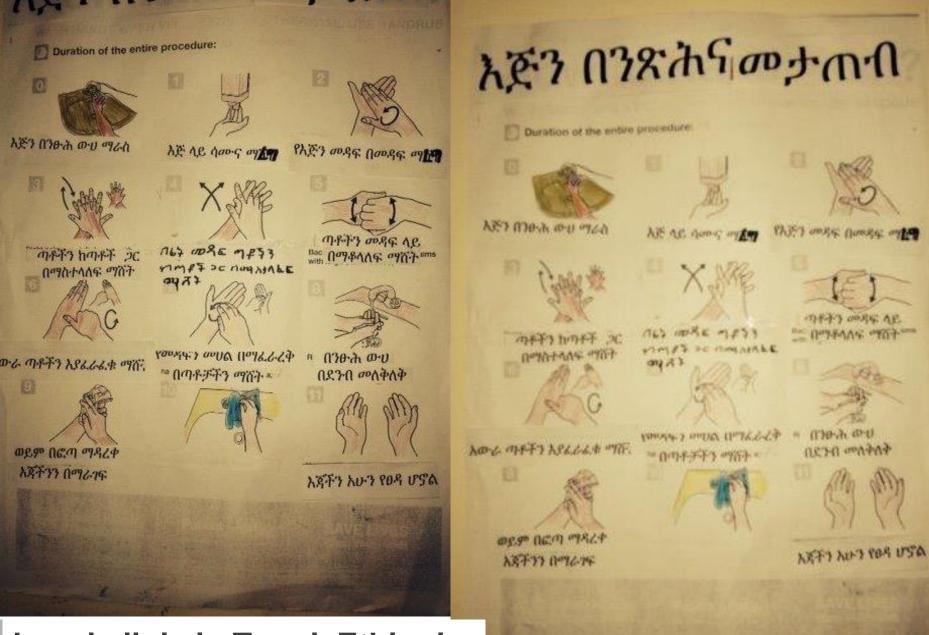


Once dry, your hands are safe.



Patient Safety A World Allianous for Safer Health ConSAVE LIVES Clean Your Hands





Local clinic in Turmi, Ethiopia The Hamlin Fistula Hospital

(Courtesy Russell Nassof)



Local clinic in Turmi, Ethiopia The Hamlin Fistula Hospital









forwards with clasped fingers of right hand in left palm and vice versa;





Patient Safety

SAVE LIVES

Evidence of successful implementation of the strategy worldwide...









لاعلية النظافة رعاية أكثر مأمع

Overcoming religious barriers







Kingdom of Saudi Arabia June, 2006

THE LANCET

23. Viewpoint

Muslim health-care workers and alcoholbased handrubs

Mar 25, 2006 Preview | Full Text | PDF

The Lancet, Vol. 367 No. 9515 pp 1025Hand hygiene is the cornerstone of prevention of health-care-associated infection. 1,2 Evidence suggests that topical alcohol-based solutions are better than detergent-based cleansers for improving compliance and effectiveness of hand hygiene in health-care settings. 2-6 However, the UK National Patient Safety Agency (NPSA; Glenister H, personal communication) and others? 9 have recently reported that some Muslim health-care workers consider that they are unable to comply with these new recommendations, citing religious objections.

Lancet 2006; 367:1025





Patient Safety

SAVE LIVES Clean Your Hands

Respecting religious background &

accounting for cultural diversity is key to success



Equity - Solidarity Solution alcoolique pour la désinfection des mains Alcohol-based hand rub © UNIVERSITÉ DE GENÈVE

Guide to the local production of the license-free WHO alcohol-based handrub formulation

From sugar can byproducts, at low costs - Mali, Africa, 2007





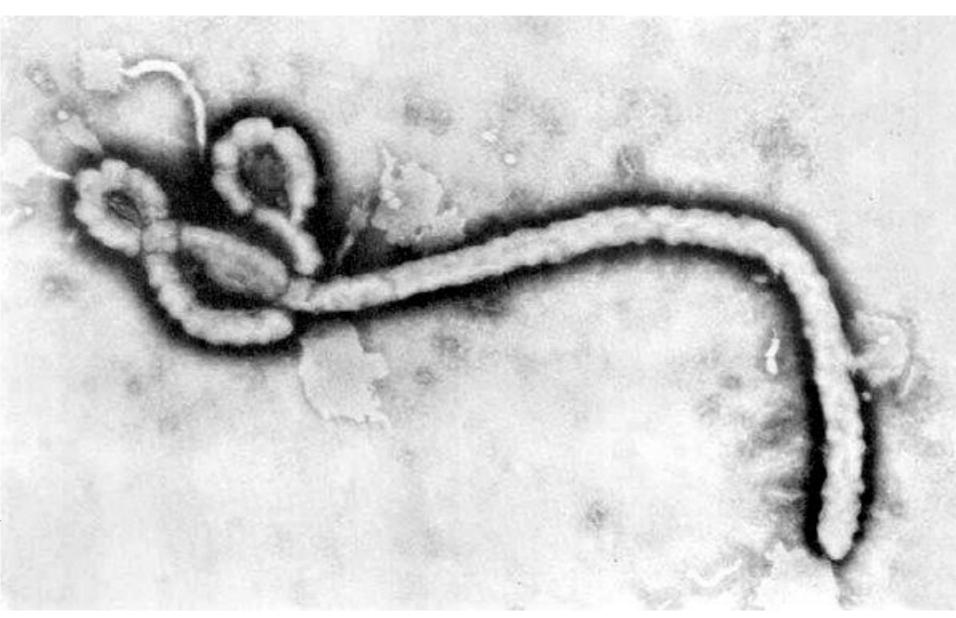
World Health

Kenya, Africa (from 2011)

Local production started in 1 hospital

Currently produced at National Research Center for some 1000 hospitals





Ebola virus



Support: CleanHandsSaveLives.org and Swiss National Aid age 74

IPC in Liberia and Guinea during Ebola (short)





From sugar cane to alcohol-based handrub (video)



University of Geneva Hospitals and Faculty of Medicine, Geneva, Switzerland

WHO Collaborating Centre
on Patient Safety
Infection Control & Improving Practices



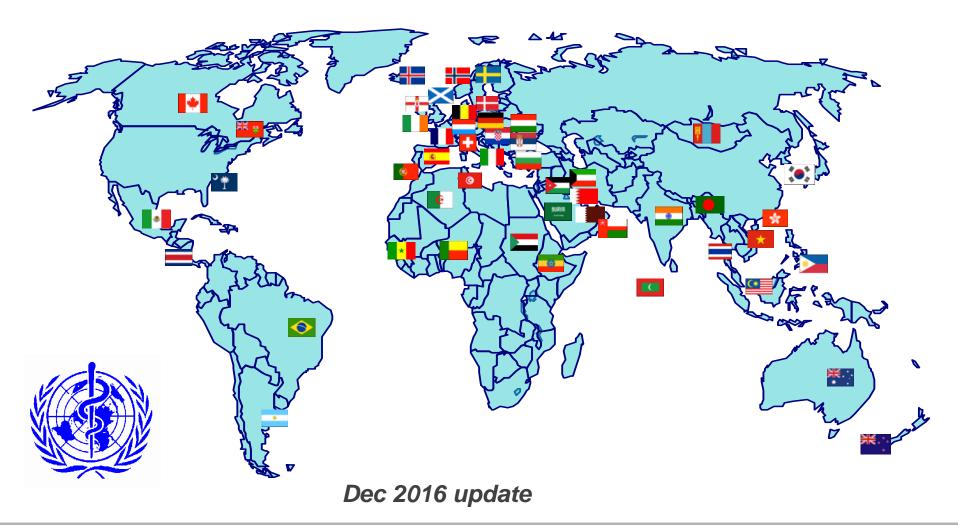
Since 2014: WHO Essential Medicines List



Universal – Adaptable – Sustained



Countries running national hand hygiene campaigns (at least 60 campaigns)





CleanHandsNet
Hand hygiene national campaigns



World Hand Hygiene Day in healthcare

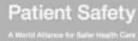
WHO SAVE LIVES: Clean Your Hands

- To maintain a global profile on the importance of hand hygiene in health care to reduce health careassociated infections and enhance patient safety worldwide
- Every 5 May WHO, bringing people together to improve and sustain hand hygiene









Registration update - countries or areas Countries with health-care facilities registered for SAVE LIVES: Clean Your Hands global campaign

4.800 Kilométers



The number of health-care facilities repirtured for SALE LIVES is adjusted by

wellth care facilities per country are not available and the estimates here may

population per country. Fully adjusted estimates based on total number of

of fully represent the actual health-care facility coverage in each country.

The boundains and names shown and the designations used on this map do not imply the expression of any opinion whatsoever

Number of registered health-care facilities per 10,000,000 population *

No registration

Not applicable

http://www.who.int/gpsc/5may/register/en/http://www.who.int/entity/gpsc/5may/en/

Data Source World Health Organization

Example organisation websites



Volume 6 Spring 5

World Health Organization

Mark the dissect of 24 May in your plantes. Any you of these days will be shad by focusing local action on supporting the WHO WAS CHIEF Clear Your Hands (N. CVII) compage.

The Wy Improve I fortist 19

LIVES: Clean Your Hands

For 5 May 2014, WHO asks you to join in highlighting the role of hand hygiene in combatting antimicrobial resistance

- To highlight the cole of hand beginns in conducting antitracorbial revisions (AMM) by making ours the MHO 5 Moreouts. are yore to protecting patients from recotant pathogens.
- To emphasize the problem of MMI that can arise from patient care intersections.

Contact Sitemap Links

European Centre for Disease Prevention and Control

WHO gears up for its annual hand hygiene campaign 'SAVE LIFES: Clean Your Hands'

'SAVE LIVES: Clean Your Hands' is WHO's global annual campaign on hand hygiene that takes place each year on 5 May. It is part of a major global effort to support healthcare. workers to improve hand hygiene practices in hospitals and other healthcare facilities, and thus support the prevention of healthcare-associated infections.





CLEAN YOUR HANDS GLOBAL CAMPAIGN 5 MAY 2014

Ministery by White

No action today; no cure formirow - make the WHO S Mamenta for Hand Hygiene part of protecting your patients from resistant germs.

Hand hygiene resources to disertical



Save Lives Clean your Hands 5 May 2014





ESCMID OF CLANCIAL MICROBIOLS AND INFECTIOUS SIGNAL

SAVE LIVES Clean Your Hands

Example organisation websites



CDC Features

Current Features Autism Training

Authoria Awareness Food Safety Report

Get Vaccinated

Mandwashing

Healthy Gardening New CDC Gov Homepage

Prevent Rotavirus Date & Statistics Diseases & Conditions CDC Features - Current Features Electronic 933 W Street Street

May 5: Hand Hygiene Day



Hand hygiene is a simple thing and it's the best way to preve

MRSA Survivors Network

World Health Organization (WHO) SAVE LIVES: Clean Your Hands campaign. World MRSA Day - Official Site.

The International Alliance of Patients' Organizations



to change the world

Chest your francis, still

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



It takes just

That acressed of drug revisions

For Healthcare Work

WHO Clean hands saves lives campaign

Dear collegation

We would like to inform you that the final deadline the WHO 'SAYELIVES Clean Your Hands' 5 May. extended to 3 May 2014.

11)ac

April/May 2014 | Memb

BAVE LIVES: Clean Your Hands Campaign - 9th May 2014 IN MICH

WHO SAVE LIVES: Deen Your Hands service introlive is part of a major global effort. led by the World Fealth Characterion (WHC) to support health-care workers to improve hand hypane in health care and thus ecopor-Hospital Anguinel Infections (HAS)

Name OF ORD OF STREET OF STREET

Proprietry Sing.

IOS Infection Prevention Society

800

September World

2014 Day

13 Sepsis

More information....en français....

World Hand Hygione Day - May 5, 2014. More information...en français.... Canadian initiatives....

CAMPAÑA NACIONAL

and Control Canada

International Calls for Action Persion Summeric

PT response to Making resources were act oft to action Surrent Consultations Fred States/Safrane

World Health Organisation SAVE LIVES: Clean your behalfor Steen to the Shalls hands, every 5th May

Every Chigo, 1993 male for a revision force on here'l hypitra transcerous and automobility in health con Senderated agent of procedure healthcare associated relictions. Healthcare certifies are aster to age or

leni Hygiana Alabuda

"Hand Hygiene Australia

World Hand Hygiene Day - 5th May 2014

For the latest news about the WHO SIR May 2014 activities please click harm

Share your 5 Way photos. Please show the rest of Australia and the world what you're up to on 5 May. Toest photos of activities at your organisation to @HandHughus, share them. on our Florebook page or email them to us at the florest page. We'd love to see what's going on all across Australia.

No action today: no cure tomorre

#5moments twitterchat, 5 May / Fri, 02 May 2014

5 DE MAYO DE 2014

Si no actuamos hoy. no habrá cura mañana

Protejamos a nuestros pacientes incorporando los "5 momentos de la higiene de manos" de la OMS a nuestra práctica cotidiana

La OMS promociona una vez más su campaña global anual de higiene de manos

"Un cuidado limpio es un cuidado seguro"



Join WHO's global annual hand hygiene campaign

Register your health-care facility NOW if you have not already done so:

SAVE LIVES: Clean Your Hands



MONLO ALLIANCE AGAINST ANTINOTIC RESISTANCE The PARIS declaration of WAAAR (World Alliance Against Antibiotic Resistance).



SAVE LIVES Clean Your Hands

Example country activities





News

World Hand Hygiene Day 5th May 2014



The York Heath Organisation (WKO) is highlighting the importance of good hand-hyganie through a global campaign.

Resping your hands dean helps to prevent the spread of diseases and infections, expecially after going to the tollet and before and after eating.

DE SANEAD SERVICIOS SOCIALES E VOLALDAD

Support for translations

First National Conference Save lives - Clean your hands **Bucharest Remania**

Romania

5 Mai 2014, Bucharret, NSID Prof Dr. Mani Bale

\$30 - 9.00 Registration of the participants

Minister of Health Dr. Nicolae Basicioia, Prof. Dr. Advise Strains-Carool, Prof. Dr Catalin Cintolia, Assoc Prof. Dr. Alexandra Ballia, dr Vorsor Channalcy, Prof.



Ministerio de Sanidad, Servicios Sociales e Igualdad

Patient Safety. fratingle

pour la sécurité des publients

















Example country activities





SAVE LIVES Clean Your Hands

Global Hand

Example hospital activity images

Hong Kong



MOST PARTICIPANTS IN A HAND SANITISING RELAY

DEFINITION OF RECORD

This record is for the greatest number of people in a band smilling relay in an event at a single venue. This record is to be attempted by a tone of enfantired size.

SPECIFIC GUIDELINES FOR MOST PARTICIPANTS IN A HAND SANTISING RELAY.









Clean

Your

Hands!











Hand Hygiene/Infection Prevention & Control Awareness Days

Wales

GGH: 1" May, Board Room, 10.30 am - 2.30pm PPH: 8th May, Board Room, 10.00 am - 2.30pm





SAVE LIVES Clean Your Hands

Hong Kong



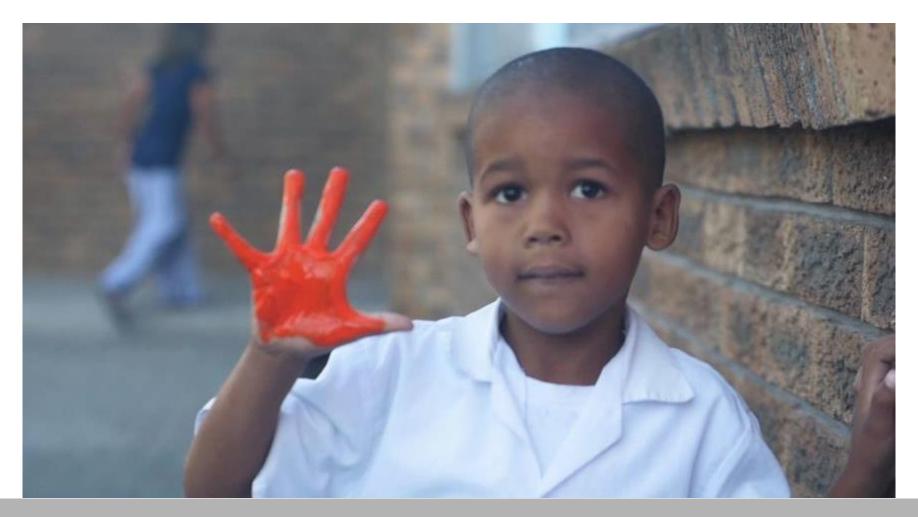


Private Organizations for Patient Safety





Let's... Turn Africa Orange



Let's... Turn Africa Orange





Clean Care is Safer Care

15 years!

Background to Clean Care is Safer Care

In previous years, WHO Global Patient Safety Challenges were born from calls from around the world on specific patient safety issues, and were also reflected in global

campaigns, which have brought toge and to catalyze political and professi They have also generated knowledge safety of patients receiving care glob



The focus and objectives of Clean,

The first of these Challenges, Clean sentre 2005, targeted the important aspect (HCAIs). HCAI is the most frequent I worldwide in both developed and dev patients are affected each year by H losses for health systems too.

Publications

Countries

Programmes

Governance

About WHO

Clean Care is Safer Care

The burden of health care-associated infection worldwide

Health care-associated infection (HCAI), also referred to as "nosocomial" or "hospital" infection, is 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. HCAI can affect patients in any type of setting where they receive care and can also appear after discharge. Furthermore, they







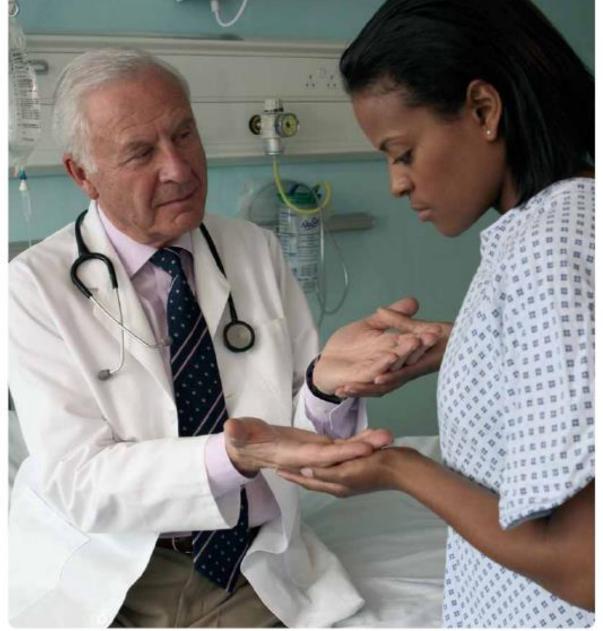












Longtin Y, Sax H, Leape L, Sheridan S, Donaldson L, Pittet D. Patient participation: current knowledge and applicability to patient safety. *Mayo Clin Proc* 2010, 85:53-62





CLEAN HANDS SAVE LIVES

FOREWORD Dr. Margaret Chan WHO Director-General Sir Liam Donaldson WHO Patient Safety Envoy

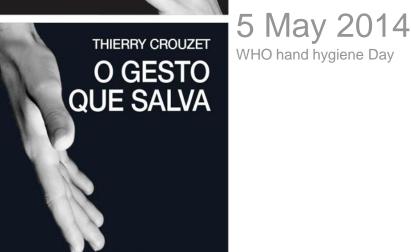












Published





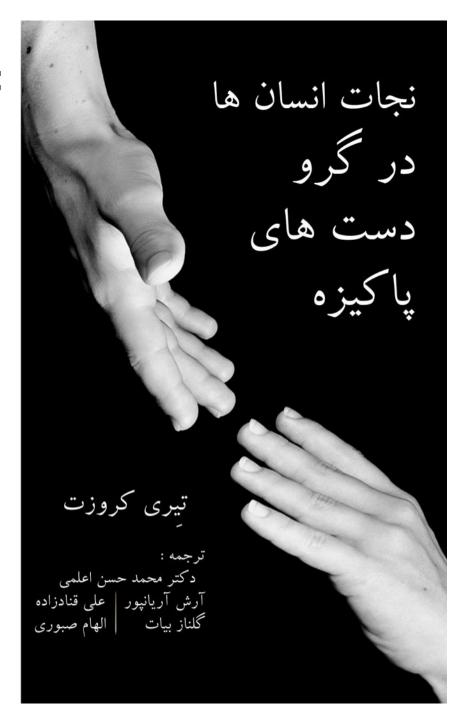


More translations available / in preparation:

- Persian
- Arabic
- Chinese
- Polish
- Russian
- Hungarian
- Turkish
- Shewali
- Romanian
- Urdu
- Kmer

. . . .

The Economy of Peace





Very sorry (or not !!!!)

But NO IMAGE WITH Donald









Patient Safety

SAVE LIVES Clean Your Hands













CARING HANDS KILLING HANDS

"...16 MILLION DEATHS EACH YEAR, A GLOBAL CHALLENGE..."

PROF DIDIER PITTET



CLEAN HANDS

A FILM DIRECTED BY GÉRALDINE ANDRÉ AND STÉPHANE SANTINI

YANN AUDOUIN • LAURENT DETHES • DIDIER FREDEVEAUX • LAURÈNE HARATYK Alexandra Pillet • Philippe Santini • Laury Thevenet • Quentin Robert • Anthony Zanta Co-Production: Aftermedia - 2222 Productions - Stéphane Santini PCM



OFFICIAL SELECTION
INTERNATIONAL FILM FESTIVAL AND FORUM ON HUMAN RIGHTS - GENEVA 2016
5™ DEAUVILLE GREEN AWARDS

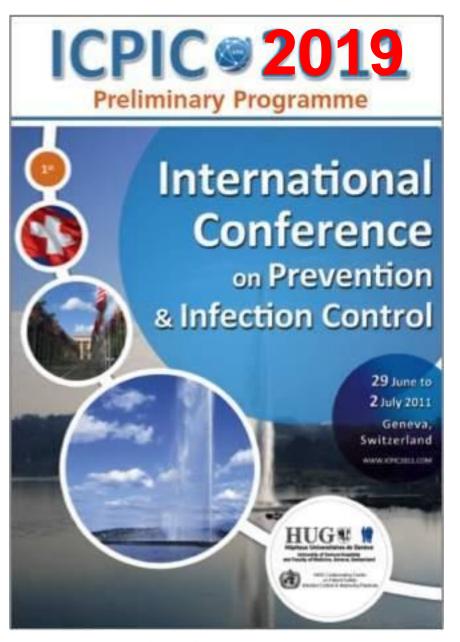
WITH THE SUPPORT OF THE FONDATION PHILANTHROPIA

SAVE LIVES Clean Your Hands

How to continue ...

what's next?





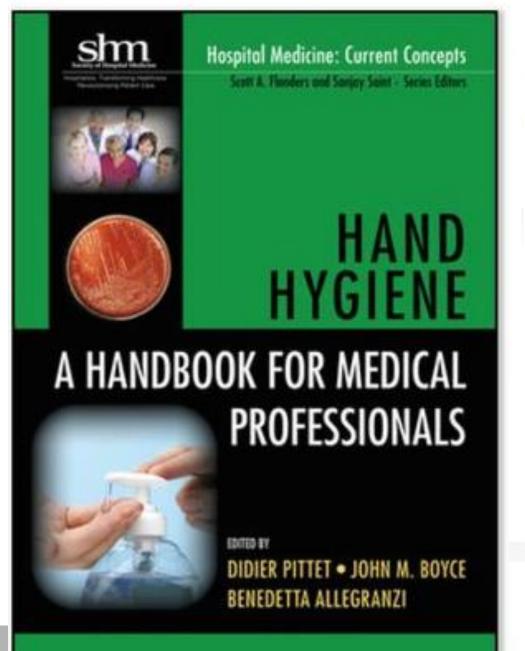
www.icpic.com

Save the Date:

5th ICPIC, 10-13 Sept 2019, Geneva, Switzerland



Semmelweis at ICPIC



Hand Hygiene: A Handbook for Medical Professionals

Didier Pittet
John Boyce
Benedetta Allegranzi
(editors)

ISBN: 978-1-118-84686-5

456 pages June 2017, Wiley-Blackwell

Lessons learned

Why did it work?

Changing behavior

does not happen

without resistance

- system change
- multimodal / evidence-based
- experience-based
- implementation strategy
- top to bottom bottom up
 - tools for implementation
- linked to positive outcomes
- reward success / excellence
- involve patients & relatives

- system change
- multimodal / evidence-based
- experience-based
- implementation strategy
- top to bottom bottom up
- tools for implementation
- linked to positive outcomes
- reward success / excellence
- involve patients & relatives

What else?

- simplification (make it usable)
- co-creation
- creativity
- community experience
- adaptation
- silo busting
- sharing economy principles
- use of SoMe

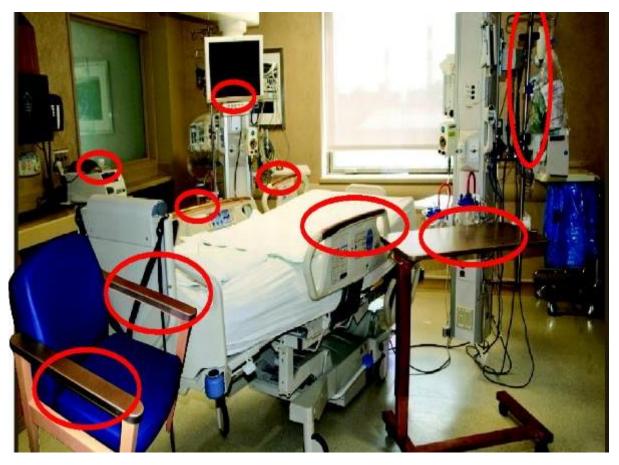
What can we learn for environmental hygiene?

No one wants to stay in a contaminated room





High touch areas in a hospital room







How long do nosocomial pathogens persist on inanimate surfaces?

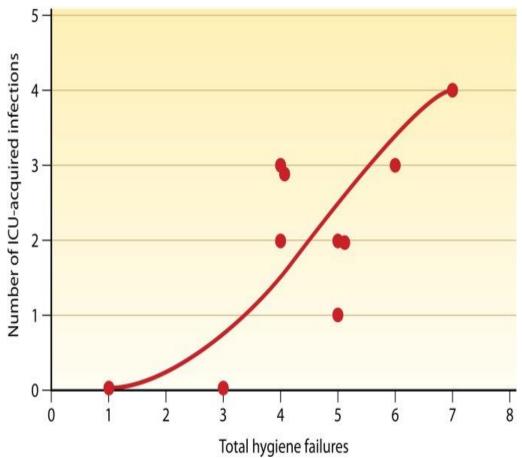
Kramer A, Schwebke I, Kampf G. BMC Infect Dis. 2006;6:130 doi: 10.1186/1471-2334-6-130.

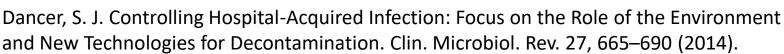
Table 1

Persistence of clinically relevant bacteria on dry inanimate surfaces.

Type of bacterium	Duration of persistence (range)	Reference(s)		
Acinetobacter spp.	3 days to 5 months	[18, 25, 28, 29, 87, 88]		
Bordetella pertussis	3 – 5 days	[89, 90]		
Campylobacter jejuni	up to 6 days	[91]		
Clostridium difficile (spores)	5 months	[92–94]		
Chlamydia pneumoniae, C. trachomatis	≤ 30 hours	[14, 95]		
Chlamydia psittaci	15 days	[90]		
Corynebacterium diphtheriae	7 days – 6 months	[90, 96]		
Corynebacterium pseudotuberculosis	1-8 days	[21]		
Escherichia coli	1.5 hours – 16 months	[12, 16, 17, 22, 28, 52, 90, 97 99]		
Enterococcus spp. including VRE and VSE	5 days – 4 months	[9, 26, 28, 100, 101]		
Haemophilus influenzae	12 days	[90]		
Helicobacter pylori	≤ 90 minutes	[23]		
Klebsiella spp.	2 hours to > 30 months	[12, 16, 28, 52, 90]		
Listeria spp.	1 day – months	[15, 90, 102]		
Mycobacterium bovis	> 2 months	[13, 90]		
Mycobacterium tuberculosis	1 day – 4 months	[30, 90]		
Neisseria gonorrhoeae	1-3 days	[24, 27, 90]		
Proteus vulgaris	1 – 2 days	[90]		
Pseudomonas aeruginosa	6 hours – 16 months; on dry floor: 5 weeks	[12, 16, 28, 52, 99, 103, 104]		
Salmonella typhi	6 hours – 4 weeks	[90]		
Salmonella typhimurium	10 days – 4.2 years	[15, 90, 105]		

Relationship between environmental bioburden and hospital-acquired infections







Risk of acquisition from prior room occupants by organism

	Decreased	acquisition	Cont	rol		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight M	-H, Random, 95% CI	M-H, Random, 95% CI
Huang (MRSA)	57	1454	248	8697	16.2%	1.39 [1.04, 1.86]	
Nseir (ESBL producing Gram neg)	8	50	50	461	0.0%	1.57 [0.70, 3.52]	
Huang (VRE)	58	1291	256	9058	16.2%	1.62 [1.21, 2.16]	
Ajao (Klebsiella sp. or Escherichia coli)	32	648	235	8723	14.2%	1.88 [1.29, 2.74]	-
Nseir (Pseudomonas)	21	85	61	426	10.4%	1.96 [1.12, 3.45]	
Drees (VRE)	19	138	31	500	9.7%	2.42 [1.32, 4.43]	—
Shaughnessy (Clostridium difficile)	10	91	77	1679	8.3%	2.57 [1.28, 5.15]	
Mitchell (MRSA)	74	884	163	5344	16.4%	2.90 [2.18, 3.86]	-
Nseir (Acinetobacter)	16	52	41	459	8.6%	4.53 [2.32, 8.86]	
Total (95% CI)		4643		34886	100.0%	2.14 [1.65, 2.77]	•
Total events	287		1112				
Heterogeneity: Tau ² = 0.09; Chi ² = 21.32, df	= 7 (P = 0.003)	$1^2 = 67\%$				-	
Test for overall effect: $Z = 5.74$ (P < 0.0000	THE RESIDENCE OF THE PARTY OF T	WORL SHOOT					0.1 0.2 0.5 1 2 5 10
	W.						Decreased acquisition Increased acquisition



Mitchell, B. G., Dancer, S. J., Anderson, M. & Dehn, E. Risk of organism acquisition from prior room occupants: a systematic review and meta-analysis. *J. Hosp. Infect.* 91, 211–217 (2015).

We Need:

- Clear definitions
- International guidelines based on evidence best practices
- E COMPLIANCE
- Tools for education and implementation
- Quality trainings
- A shift in how hospitals view environmental hygiene





Return on Investment

For Hand Hygiene return on investment is up to 23x...

How much is ROI for hospital environmental hygiene?

Increased costs associated with AMR in HAI (some estimates over €85 trillion by 2050)

 A small outbreak with 40 individuals cost over €1 million





What is Clean Hospitals?

- Connecting stakeholders & leading experts from around the world
- Making hospitals safer through improved environmental hygiene
- Benefiting public health by lowering rates of healthcare-associated infections, reducing antimicrobial resistance, and protecting hospital staff as well as the larger environment





Key objectives

To develop a comprehensive network connecting all the relevant stakeholders in the cause for a safer and cleaner patient environment

Through this extended collaboration, the group will initiate and support on-going initiatives for increasing awareness and focus on clean hospitals in health care settings around the world







Current projects:



- Development a core curriculum for training hospital environmental hygiene personnel
- Developing training modules for teaching a number of key subjects in environmental hygiene to hospitals
- Systematic review on the role of the hospital environment in healthcare-associated infections
- Subgroup on fake news in environmental hygiene
- Subgroup on mapping current guidelines
- Subgroup on sterilization and endoscope reprocessing
- Subgroup on a transposable model for hospital environmental hygiene

Four key ideas to keep in mind

Healthcare environmental maintenance is a science



- We need more research to make our case stronger
- Hospitals must get out of the vicious circle of cutting costs and instead assess value
- We need to work together to protect patients





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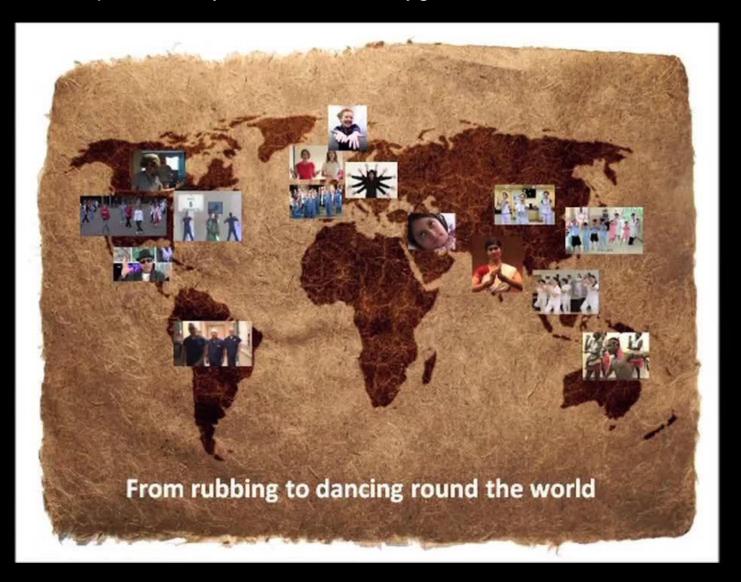
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