

Hand Hygiene Awareness Day 5 May 2010

拯救生命

從清潔雙手做起

SAVE LIVES

Clean Your Hands



醫院管理局
HOSPITAL
AUTHORITY



衛生署
Department of Health

Hand Hygiene :

Leading the world into safer care

Dr. Stephan Harbarth
Infection Control Program
Geneva, Switzerland



Outline

- **Recent success stories on hand hygiene promotion and infection control**
- **WHO patient safety initiative**

Thanks to Didier Pittet and Benedetta Allegranzi (WHO)



Health care-associated infection *is a major patient safety problem*

- Affects hundreds of millions of individuals worldwide each year
- Multifaceted causation related to
 - human behaviour
 - systems and processes of care provision
 - economic constraints on countries



Health care-associated infection: *solutions to the problem*

- Prevention strategies are effective in reducing infections everywhere
- Most solutions are simple and not resource-demanding
- Several health-care settings have succeeded in reducing the risk to patients, but others have not



Core principles of infection prevention

- *at least 50% of all healthcare-associated infections are associated with only 5 patient care practices:*
- Use and care of urinary catheters
- Use and care of vascular access lines
- Therapy and support of pulmonary functions
- Surgical procedures
- Hand hygiene and standard precautions

Hand Hygiene Campaigns in European Countries, 2000-2009



WHO First Patient Safety Challenge
& Hand Hygiene Day on May 5

Survey of hand hygiene campaigns
in 30 countries (EU & candidate
countries)

- 13 countries: national campaigns
- 10 countries: regional campaigns
- 3 countries: organizing campaigns

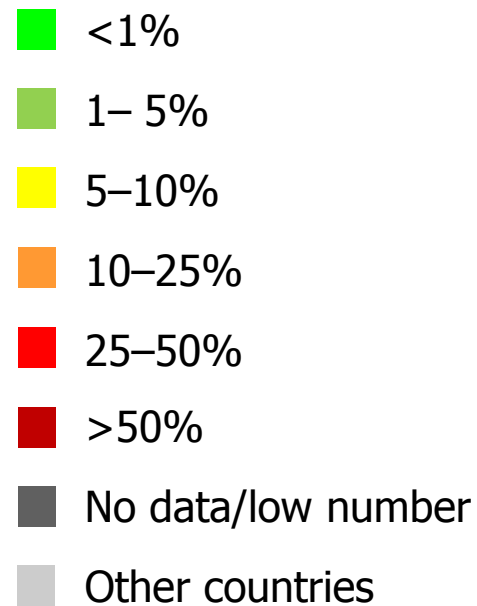




Alcohol-Handrub Policy Predicts Low Hospital MRSA Rate

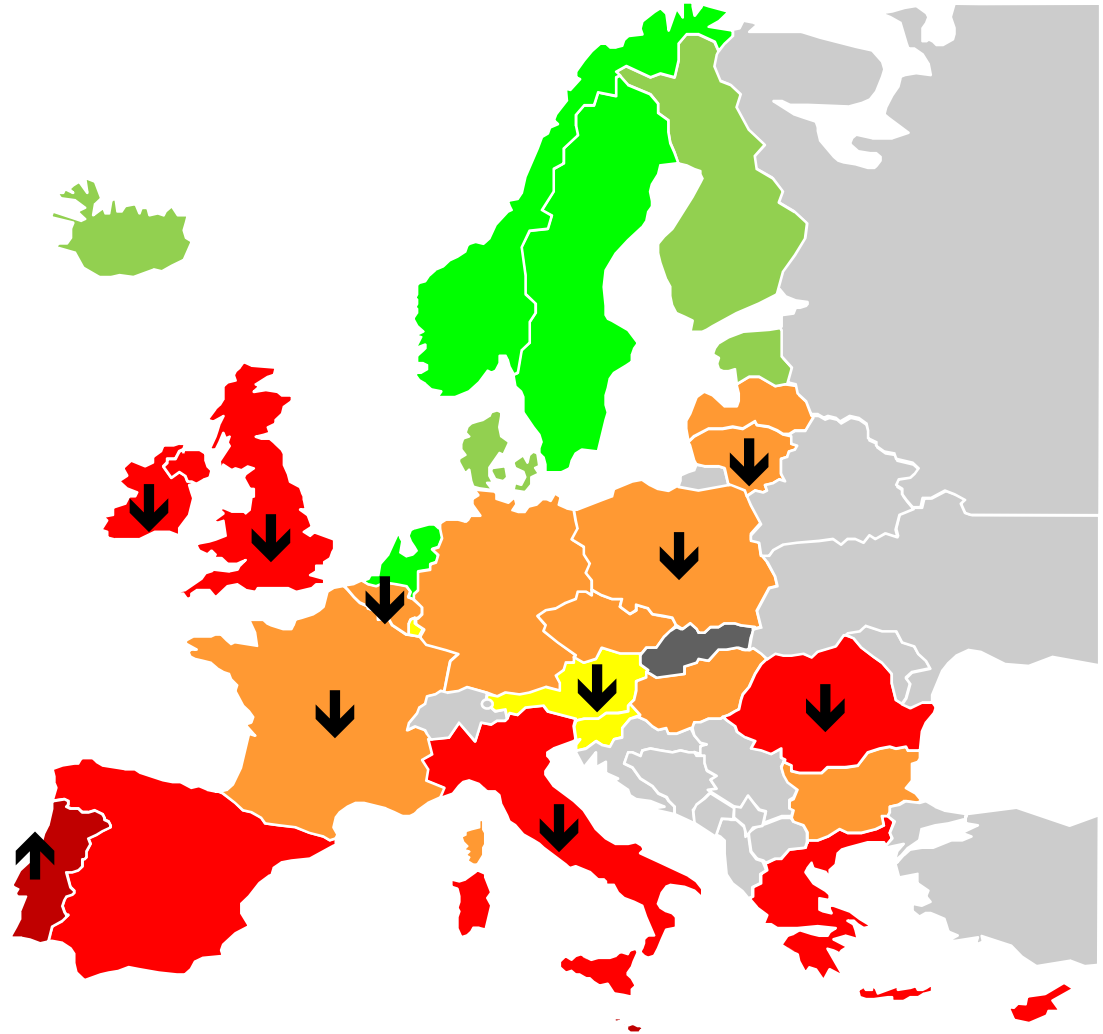
- Linear regression modelling of general infection control policies to predict local MRSA rate
- adjusted for antibiotic consumption, case-mix, hospital size and teaching status:
- Alcohol-based hand disinfection (mean difference -10.3 % MRSA rate; $p=0.005$)

Methicillin-resistant *Staphylococcus aureus* (MRSA), blood and CSF, 2008



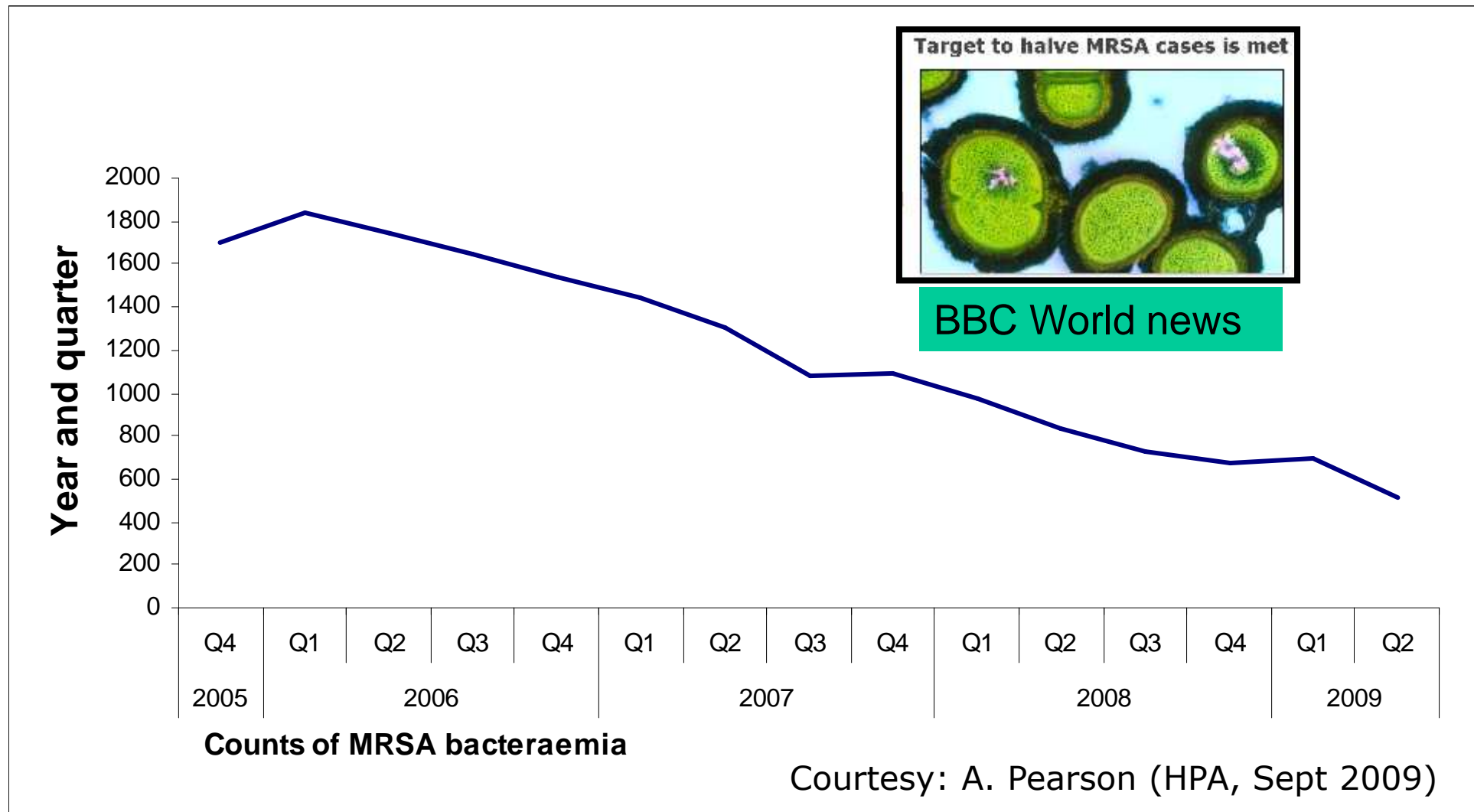
Country with:

- ↑ Significant increase (2005-2008)
- ↓ Significant decrease (2005-2008)

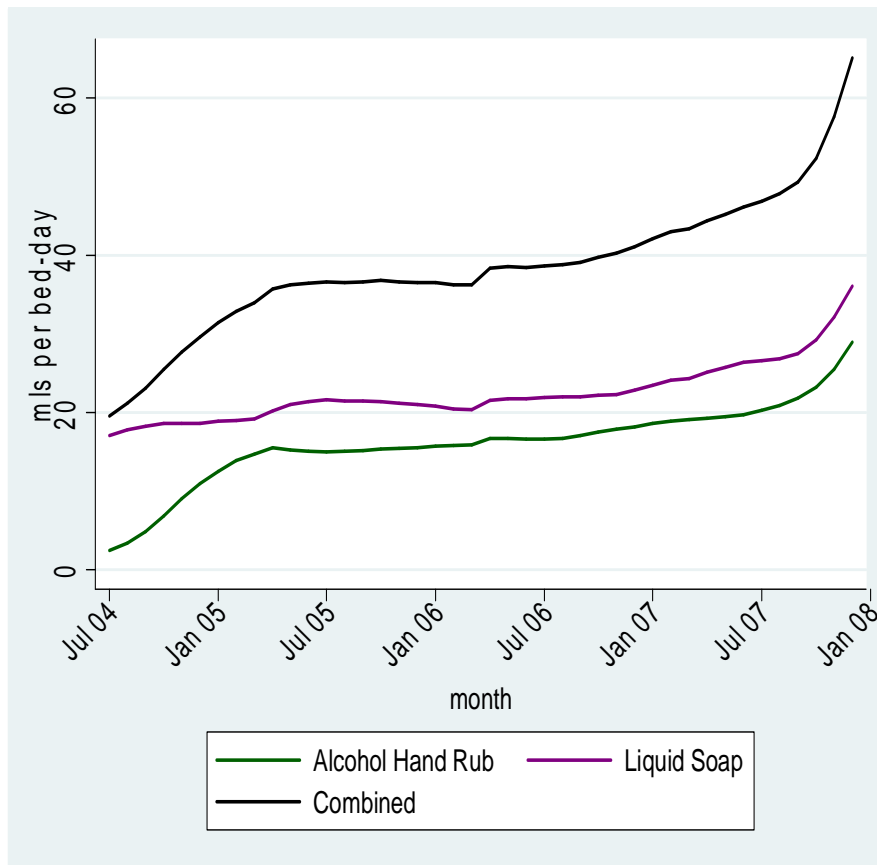


Source: European Antimicrobial Resistance Surveillance System (EARSS), 2009

Counts of MRSA bacteraemia Oct 2005 to June 2009

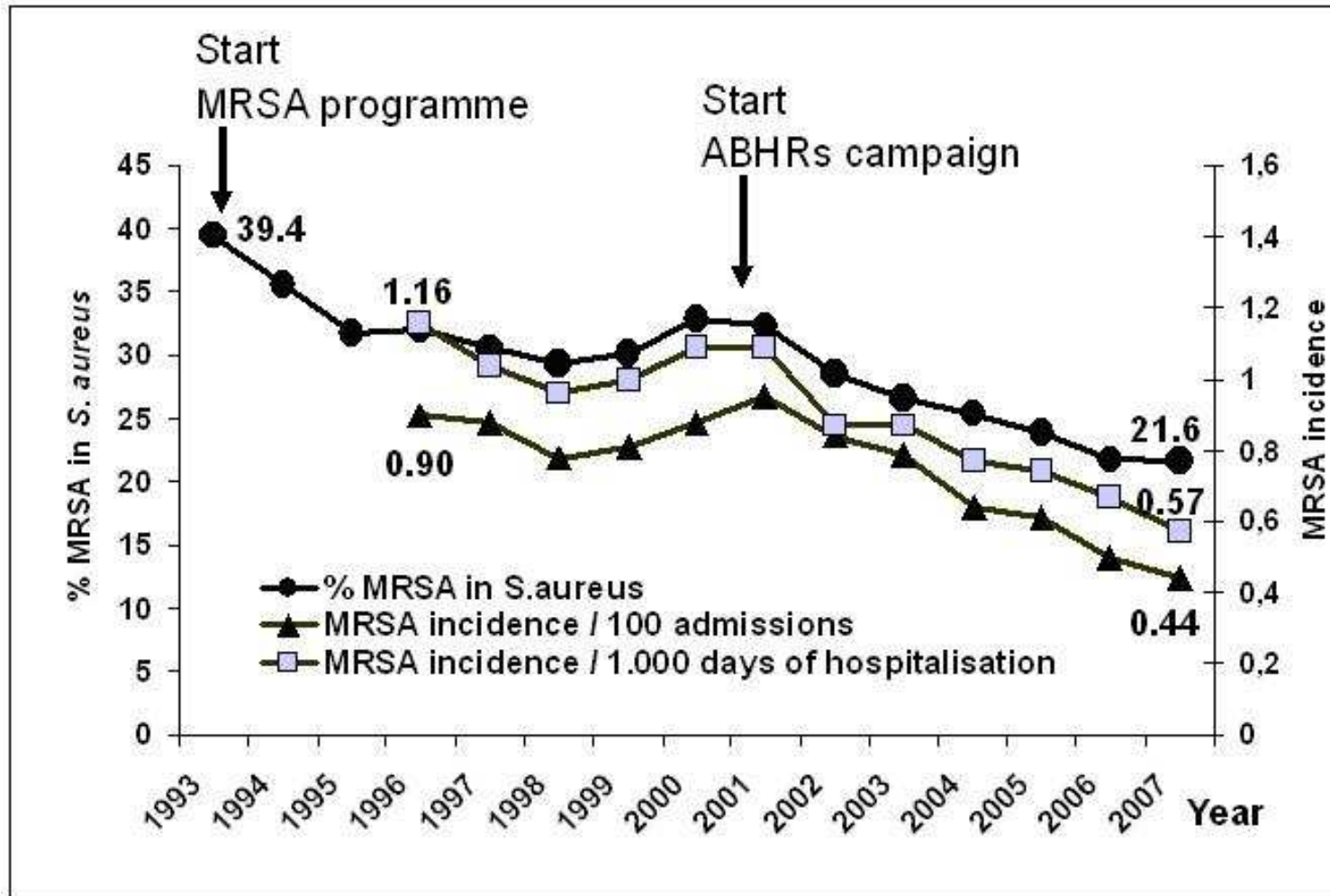
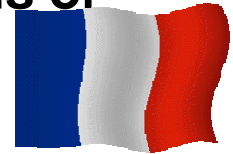


Estimated average procurement of Alcohol Hand Rub and Liquid Soap in mls per bed-day July 2004-December 2007 in 148 acute NHS Trusts



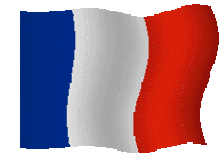
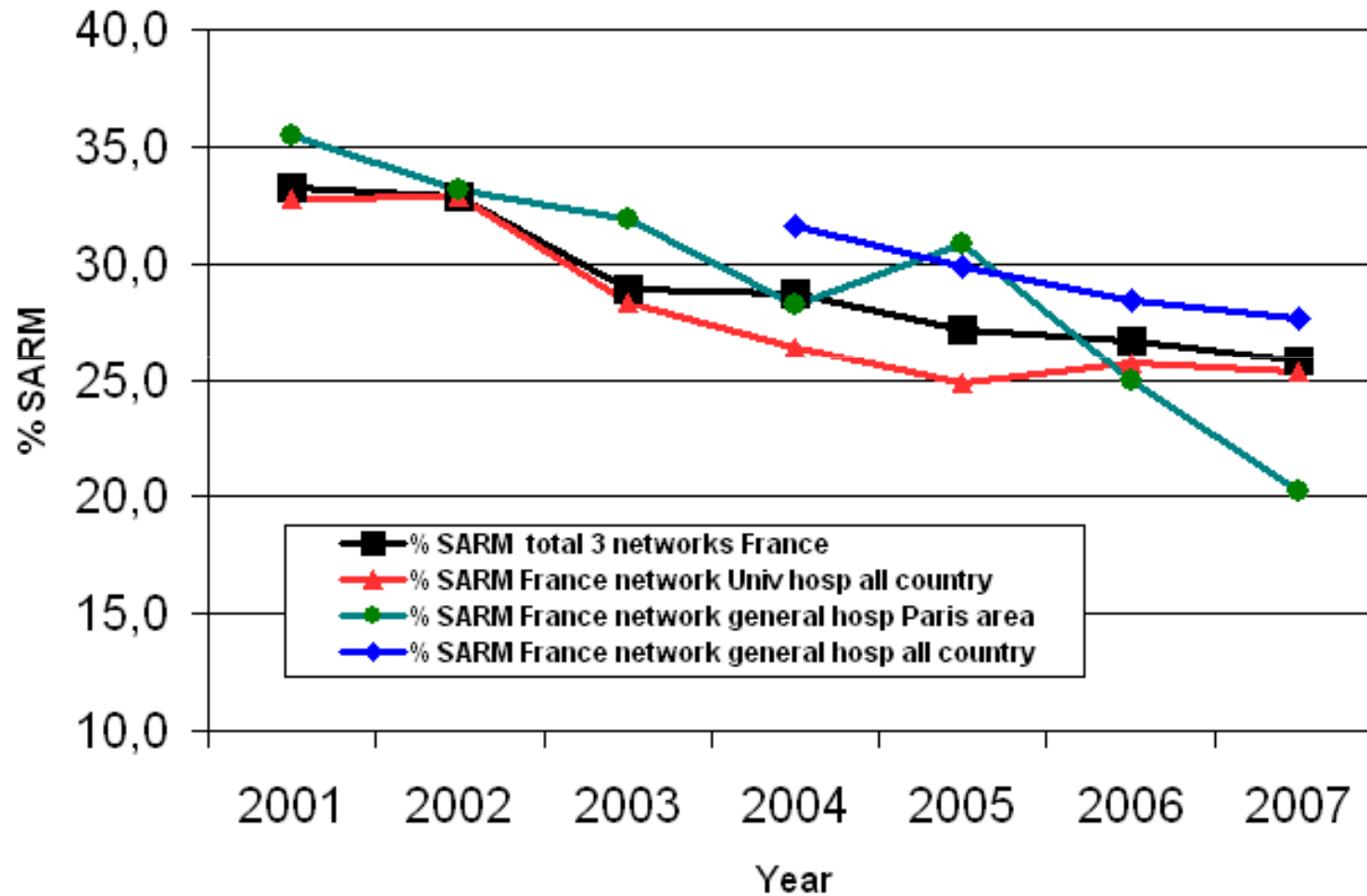
- 3-fold increase in combined use to 60 mls per pt-day
- Analysis shows highly significant association between each ml of AHR used and 1% drop fall in MRSA BSI

**% MRSA in *S.aureus* and MRSA incidence per 100 admissions or 1000 days of hospitalisation
Univ. hospitals of Paris area (n=39) 1993-2007**



% MRSA in *S. aureus* from bacteremias in the 3 French networks participating in EARSS, 2001-2007

(19 Univ hosp all country , 9 general hosp Paris area, 25 general hosp all country)



Courtesy: D. Trystram, Y. Péan, H. Chardon, B. Coignard, V. Jarlier (Oct 2008)

NATIONAL ACTIONS in Belgium

Courtesy:
J. Beatrice
M. Struelens

National legislation:

Hospital hygiene

- nurse
- doctor
- committee

National MRSA- surveillance in hospitals
(Nat. ref. Lab.MRSA, ULB /IPH)

- microbiology
- epidemiology
- infection prevention

National campaign rationalization
AB-consumption (ambulatory care) + Guidelines

National AB-therapy guide

National hand hygiene campaigns (hospitals)

Antibiotic prophylaxis in surgery

AB policy committee (hospitals)

Revision MRSA-GUIDELINES (hospitals)

MRSA- survey (Pigs)

MRSA-GUIDELINES (hospitals)

Acute care hospitals

1974-1988 1993 1994 1997 2000 2002 2003 2005 2006-2007

Nursing Homes

1st MRSA-survey in NH (ACHG-KUL/IPH) (17 NH - Flanders)

2nd MRSA-survey in NH (ACHG-KUL/IPH) (24 NH - Flanders)

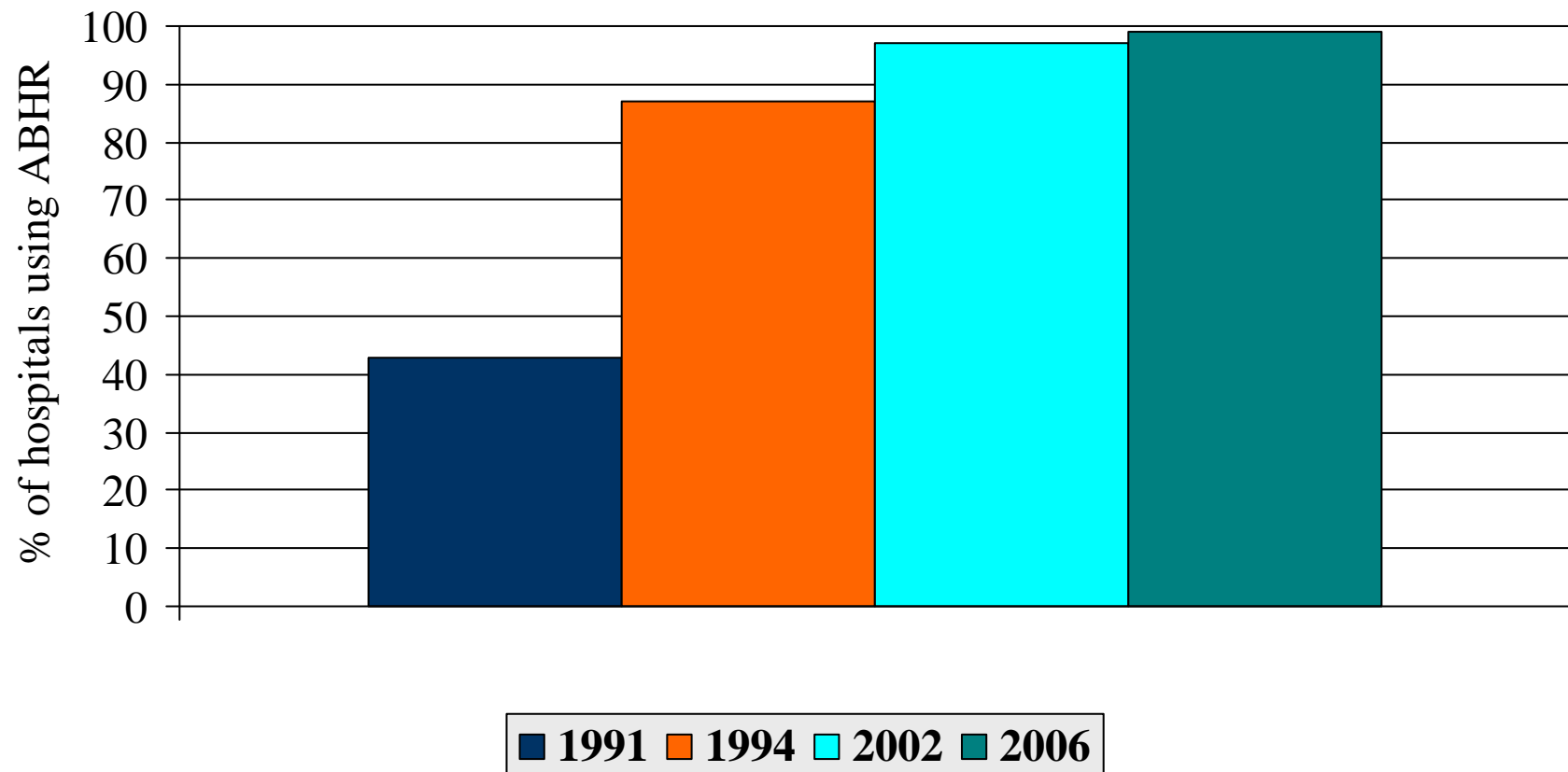
1st National MRSA-prevalence study NH BAPCOC/FED.PI.HH/IPH (60 Belgian NH)

MRSA- GUIDELINES (NH) - draft version

National working group: INFECTION PREVENTION STRUCTURE in NH

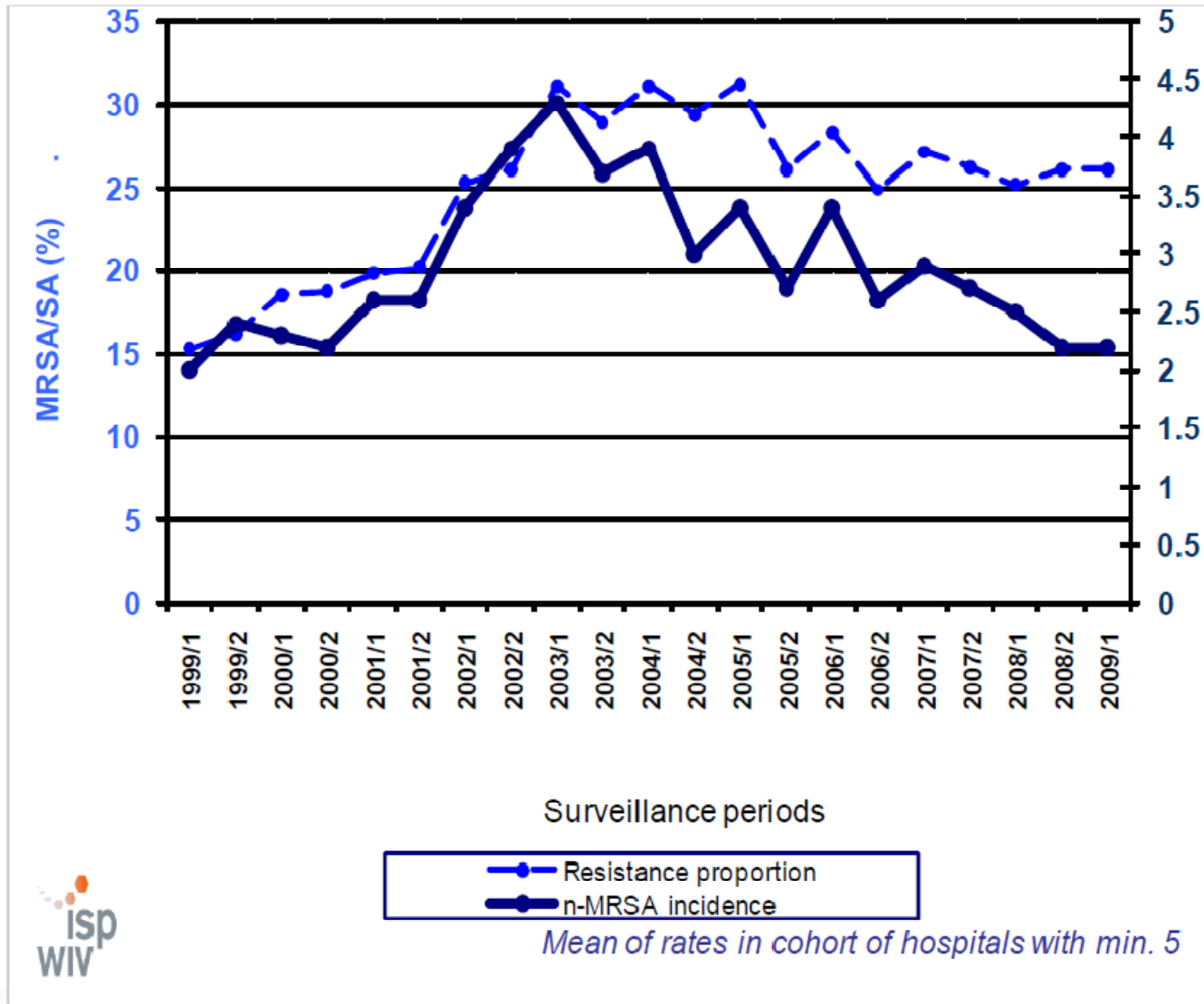
Source: IPH, Jans Béatrice

Adoption of Alcohol-Based Hand Rubs by Belgian Hospitals, 1991-2006



Struelens *EJCMID*, 1994, Struelens *ICHE* 1996; 17: 503. Jans *Noso-Info* in press

MRSA trends, Acute Care, Belgium



Source: Jans et al IPH surveillance report



Efficacy of an alcohol/chlorhexidine hand hygiene program in a hospital with high rates of nosocomial methicillin-resistant *Staphylococcus aureus* (MRSA) infection

Paul D R Johnson, Rhea Martin, Laurelle J Burrell, Elizabeth A Grabsch, Susan W Kirsa, Jason O'Keeffe, Barrie C Mayall, Deidre Edmonds, Wendy Barr, Christopher Bolger, Humsha Naidoo and M Lindsay Grayson

MJA 2005

Hand Hygiene Culture Change Program (HHCCP)

Pilot Program

Oct 2002 – Sep 2004 (2 years)
6 sites (2379 beds)

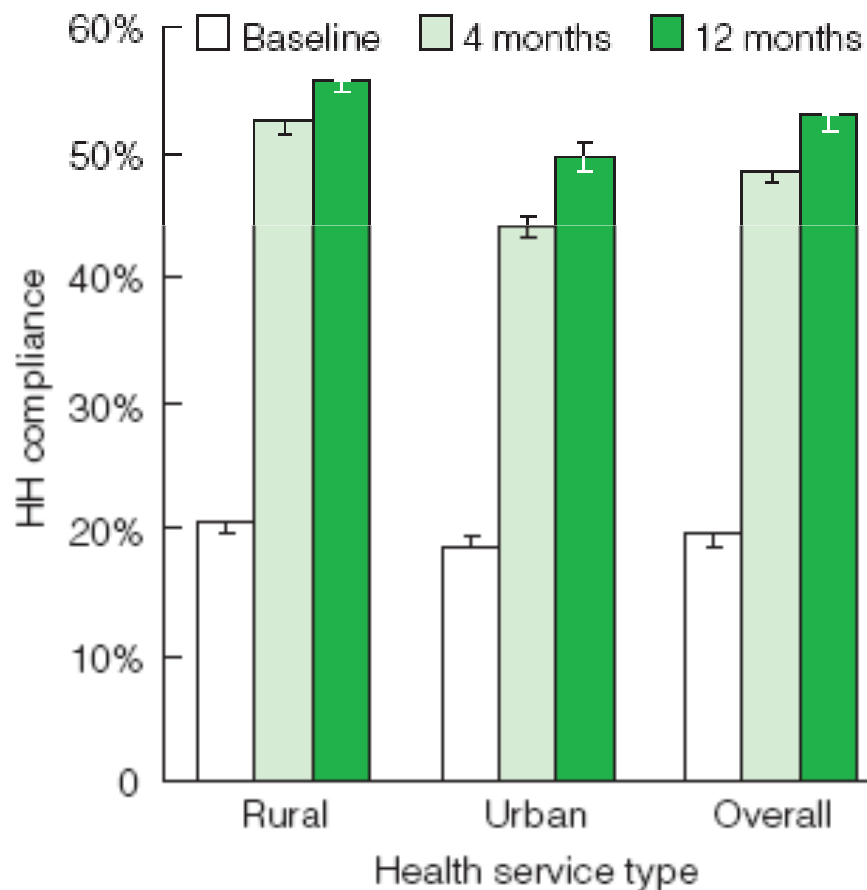


Statewide roll-out

From Mar to July 2006 (1 year)
75 sites (6154 beds)

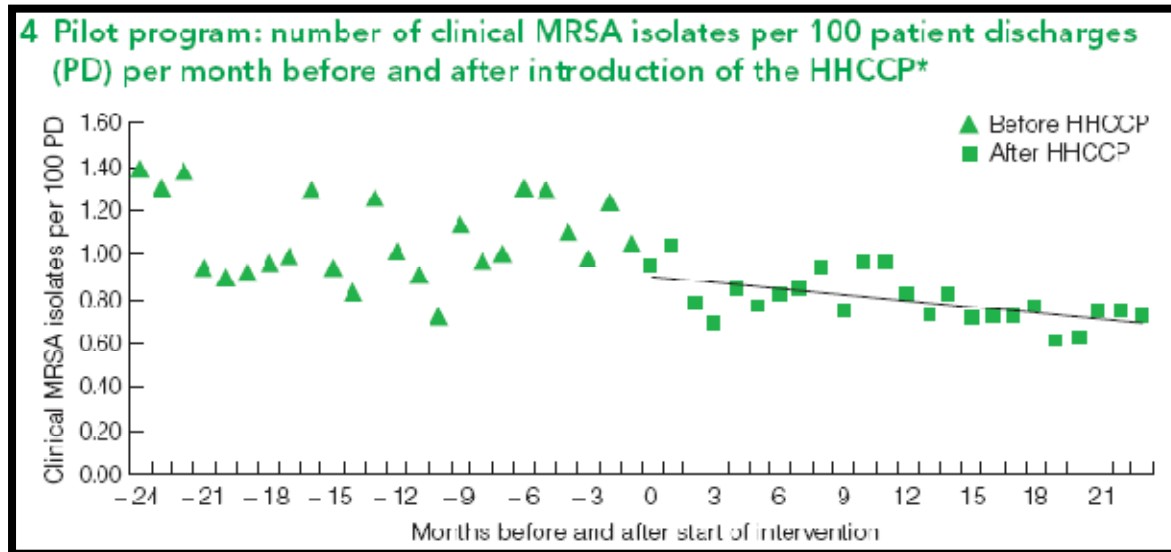
Effect on HH compliance

6 Statewide roll-out: hand hygiene (HH) compliance before and after introduction of the HHCCP, by health service type*

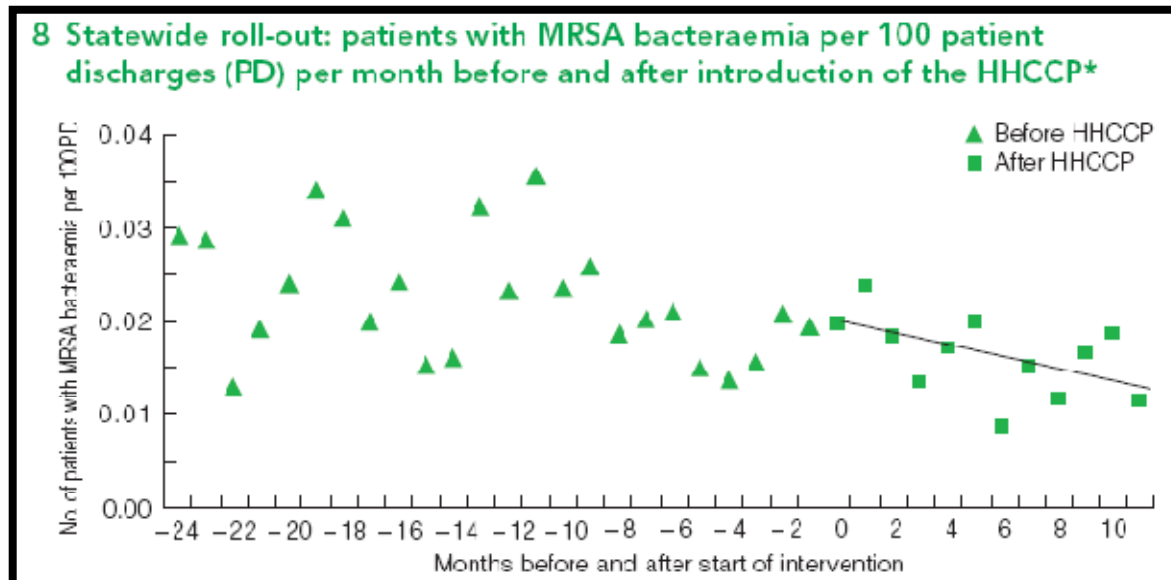


MJA 2008; 188: 633–640

Effect of Hand Hygiene Promotion on MRSA



P = 0.003



P = 0.09

An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU

Peter Pronovost, M.D., Ph.D., Dale Needham, M.D., Ph.D., Sean Berenholtz, M.D., David Sinopoli, M.P.H., M.B.A., Haitao Chu, M.D., Ph.D., Sara Cosgrove, M.D., Bryan Sexton, Ph.D., Robert Hyzy, M.D., Robert Welsh, M.D., Gary Roth, M.D., Joseph Bander, M.D., John Kepros, M.D., and Christine Goeschel, R.N., M.P.A.

Interventions:

- Hand hygiene
- Full barrier precautions
- Chlorhexidine
- Avoid femoral access
- Remove of needless CVC
- CVC insertion chariots
- Checklist
- Safety culture

- . multicenter, 103 ICUs
- . 18 months follow-up
- . 1'981 months cumulated
- . 375,757 CVC days

Table 3. Rates of Catheter-Related Bloodstream Infection at Baseline (before Implementation of the Study Intervention) to 18 Months of Follow-up.*

Study Period	No. of ICUs		No. of Bloodstream Infections per 1000 Catheter-Days				
			Overall	Teaching Hospital	Nonteaching Hospital	<200 Beds	≥200 Beds
Baseline	55		2.7 (0.6–4.8)	2.7 (1.3–4.7)	2.6 (0–4.9)	2.1 (0–3.0)	2.7 (1.3–4.8)
During implementation	96		1.6 (0–4.4)†	1.7 (0–4.5)	0 (0–3.5)	0 (0–5.8)	1.7 (0–4.3)†
After implementation							
0–3 mo	96	→	0 (0–3.0)‡	1.3 (0–3.1)†	0 (0–1.6)†	0 (0–2.7)	1.1 (0–3.1)‡
4–6 mo	96	→	0 (0–2.7)‡	1.1 (0–3.6)†	0 (0–0)‡	0 (0–0)†	0 (0–3.2)‡
7–9 mo	95	→	0 (0–2.1)‡	0.8 (0–2.4)‡	0 (0–0)‡	0 (0–0)†	0 (0–2.2)‡
10–12 mo	90	→	0 (0–1.9)‡	0 (0–2.3)‡	0 (0–1.5)‡	0 (0–0)†	0.2 (0–2.3)‡
13–15 mo	85	→	0 (0–1.6)‡	0 (0–2.2)‡	0 (0–0)‡	0 (0–0)†	0 (0–2.0)‡
16–18 mo	70	→	0 (0–2.4)‡	0 (0–2.7)‡	0 (0–1.2)†	0 (0–0)†	0 (0–2.6)‡

median/1'000
CVC days

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median/1'000 CVC days

mean/1'000 CVC days: 7.7

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median/1'000 CVC days

mean/1'000 CVC days: 7.7

mean/1'000 CVC days: 1.3

Sustainability?

Data from 90 out of 103 participating ICUs

	Baseline	Implementation	0-3	16-18	34-36
CLABSI ¹	7.7	2.8	2.3	1.3	1.1

¹Central line-associated bloodstream infections; mean incidence densities (events per 1000 device-days)



World Alliance for Patient Safety



1st GLOBAL PATIENT SAFETY CHALLENGE



To reduce
health care-associated infections
Hand hygiene as the cornerstone



Core group of international experts



**Didier Pittet:
Commander of the
British Empire**



WHO Multimodal Hand Hygiene Improvement Strategy

Evidence from the WHO Guidelines on Hand Hygiene in Health Care (2009), **5 core components**, to improve hand hygiene in health-care settings

1 System change



2 Training and education



3 Evaluation and feedback



4 Reminders in the workplace



5 Institutional safety climate



Strong visible message of commitment –
e.g. University Hospitals, Geneva

21st January 2008
Hand Hygiene
HA – wide Launch



Symbol of conscientious patient care

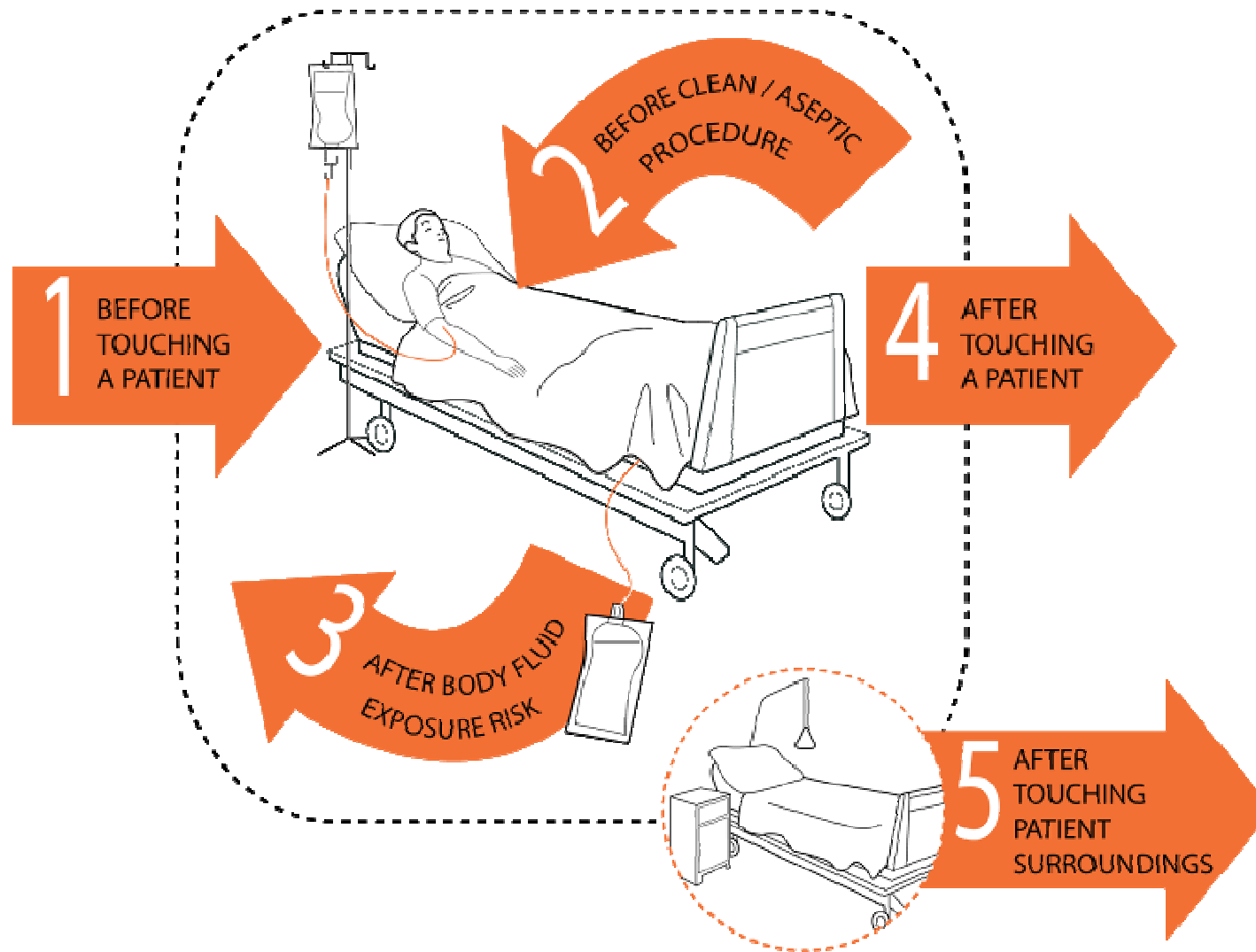
Hand Hygiene banner posted at HA building 2009



2010



“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

Guide to Local Production: WHO-recommended Handrub Formulations



 World Health Organization
A World of Health for All

Patient Safety
A World of Health for All

SAVE LIVES
Clean Your Hands

Guide to Local Production: WHO-recommended Handrub Formulations

Introduction: This Guide to Local Production of WHO-recommended Handrub Formulations is separated into two discrete but interrelated sections:

Part A provides a practical guide for use at the pharmacy bench during the actual preparation of the formulation. Users may want to display the material on the wall of the production unit.

Part B summarizes some essential background technical information and is taken from WHO Guidelines on Hand Hygiene in Health Care (2009). Within Part B the user has access to important safety and cost information and supplementary material relating to dispensers and distribution.



FIGURE 1 OF 9

All illustrative photographs have been taken by the World Health Organization to verify the information contained in this document. However, the publisher retains all rights reserved without the consent of all third parties mentioned or implied. The responsibility for the interpretation and use of the content lies with the reader. In no event shall the World Health Organization be liable for damages arising herefrom.

Reminders Worldwide

Guideline For Handwashing

Another Educational Project By
Ministry of Health Malaysia
S&M

- 1 Rub hands palm to palm.
- 2 Rub palm to palm with fingers interlaced.
- 3 Rub right palm over left dorsum and left palm over right dorsum with fingers interlaced.
- 4 Rub backs of fingers with opposing thumb.
- 5 Clasp fingers of right hand and rub left palm and vice versa.
- 6 Clasp fingers of left hand and rub right palm and vice versa.
- 7 Rotational rub right wrist with left hand and vice versa. Rinse and dry hands thoroughly.

Attention all BCH staff

Be creative. Help design a poster to be used in the hand hygiene campaign and win a great prize!

Send us your ideas for eye catching images, pictures and slogans on a hand hygiene theme and let the Medical Illustration team bring your poster to life, eg.

Design a poster competition

STOP!

Do you know that every cm^2 of your hands might contains 1,500 bacteria?

START!!!

Patient & Visitor, please ensure your health care providers practice:

- 1 Wash hands to remove dirt!
- 2 Rub hands to kill microorganism!
- 3 It's OK to ask your health care providers if they have clean their hands!

Another Educational Project By
Ministry of Health Malaysia
S&M

Guideline for Hand Rub

Another Educational Project By
Ministry of Health Malaysia
S&M

- 1 Dip all fingers of right hand into left palm filled with hand rub solution, pour hand rub solution onto right palm and dip all fingers of left hand into hand rub solution.
- 2 Rub hands palm to palm.
- 3 Rub palm to palm with fingers interlaced.
- 4 Rub right palm over left dorsum and left palm over right dorsum with fingers interlaced.
- 5 Rub backs of fingers with opposing thumb.
- 6 Rotational rubbing of right wrist clasped in left palm and vice versa.
- 7 Rotational rubbing of left thumb clasped in right palm and vice versa.



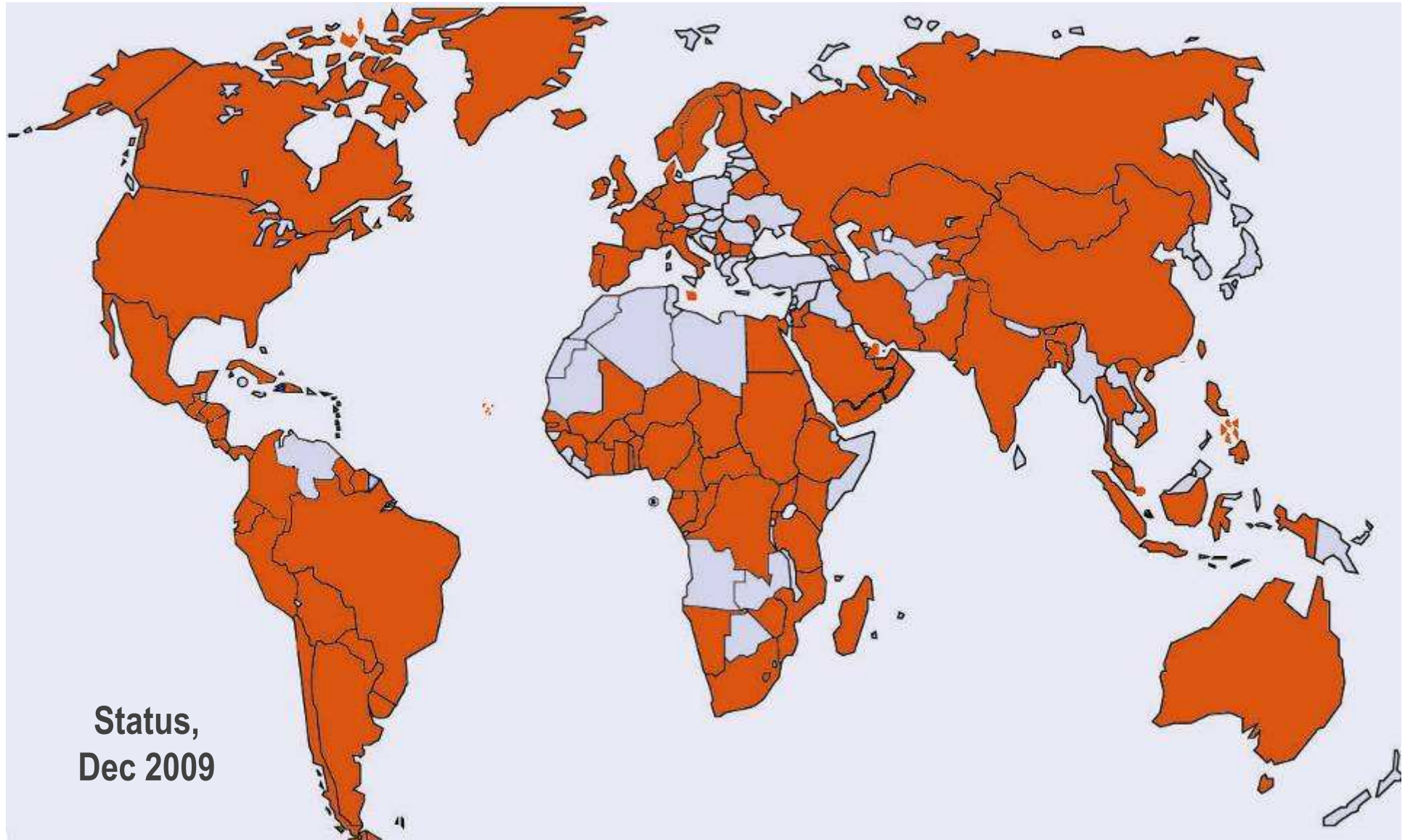
Adapted country-specific toolkits





Hong Kong

121 countries committed to address HCAI 87% world population coverage



Hand Hygiene National/Sub-national Campaigns (April 2009, 38 campaigns)

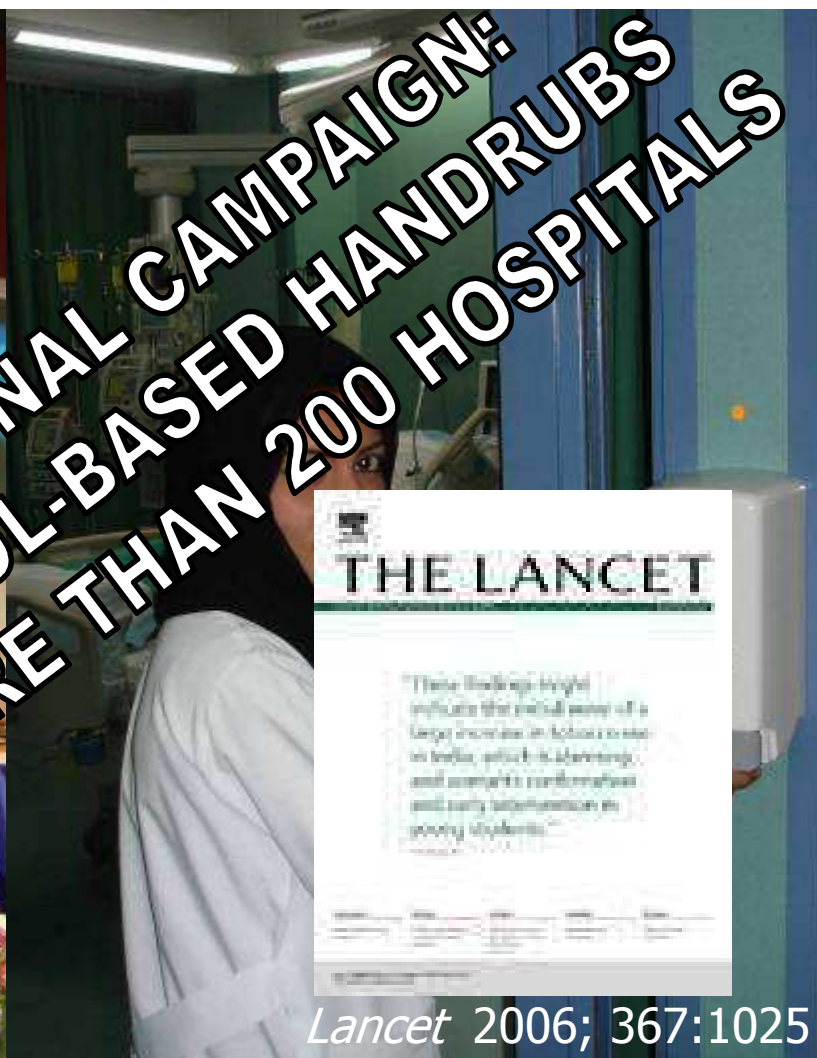
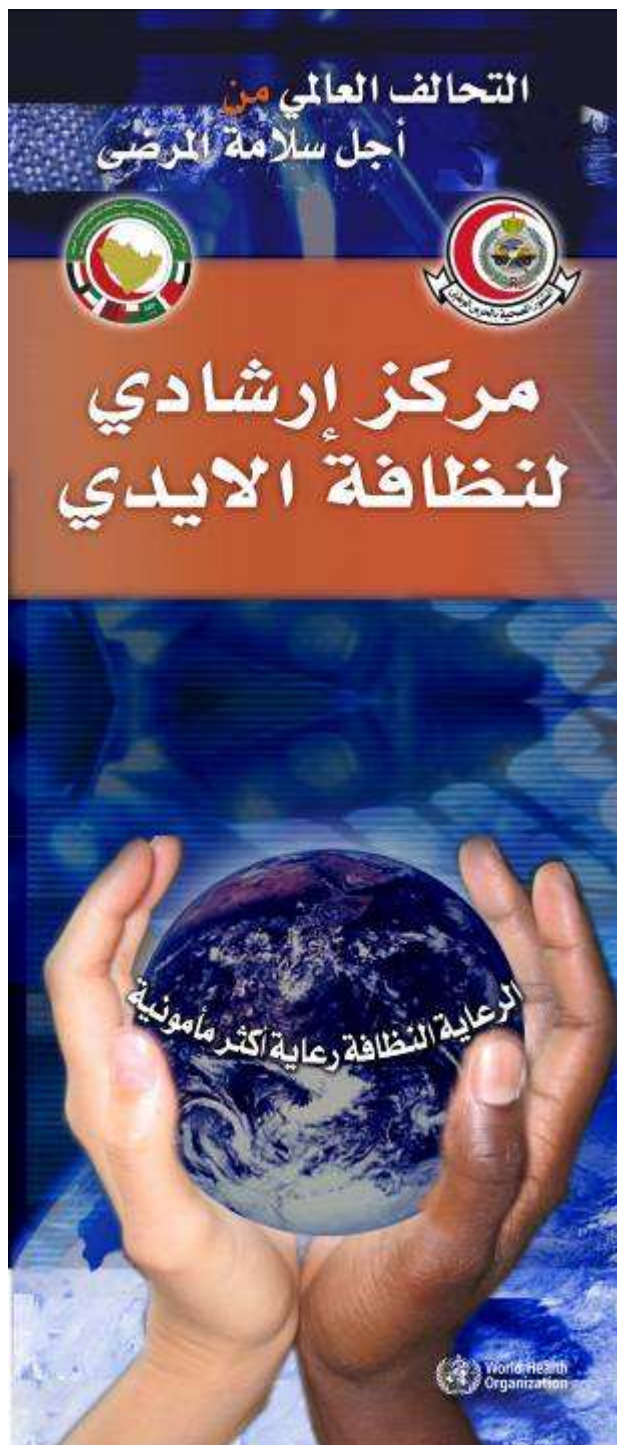


CleanHandsNet

Hand hygiene national campaigns



Saudi Arabia: overcoming religious barriers



Lancet 2006; 367:1025



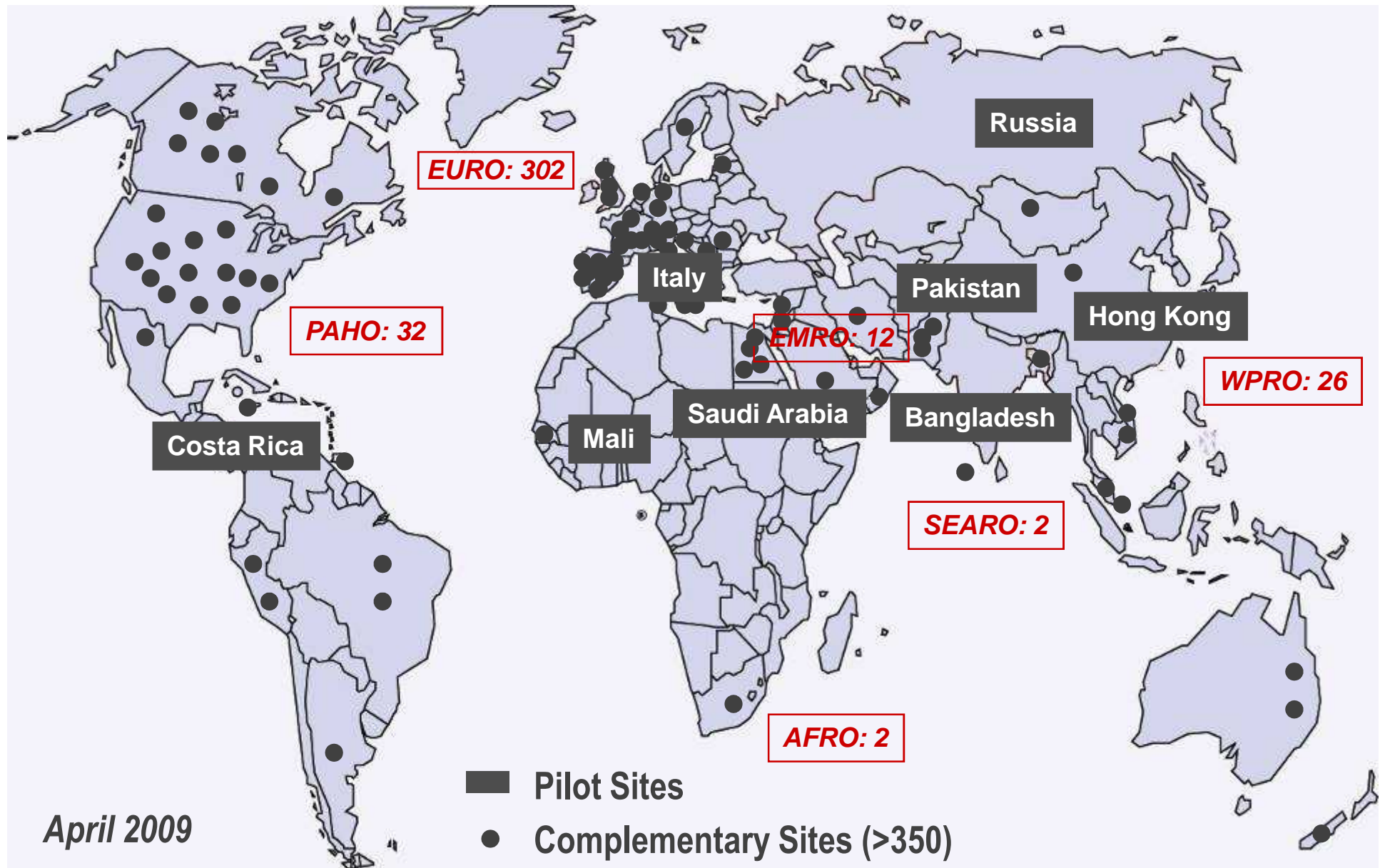
>6800 hospitals in 132 countries registered as of 7 April 2010

WHO Save Lives: Clean Your Hands

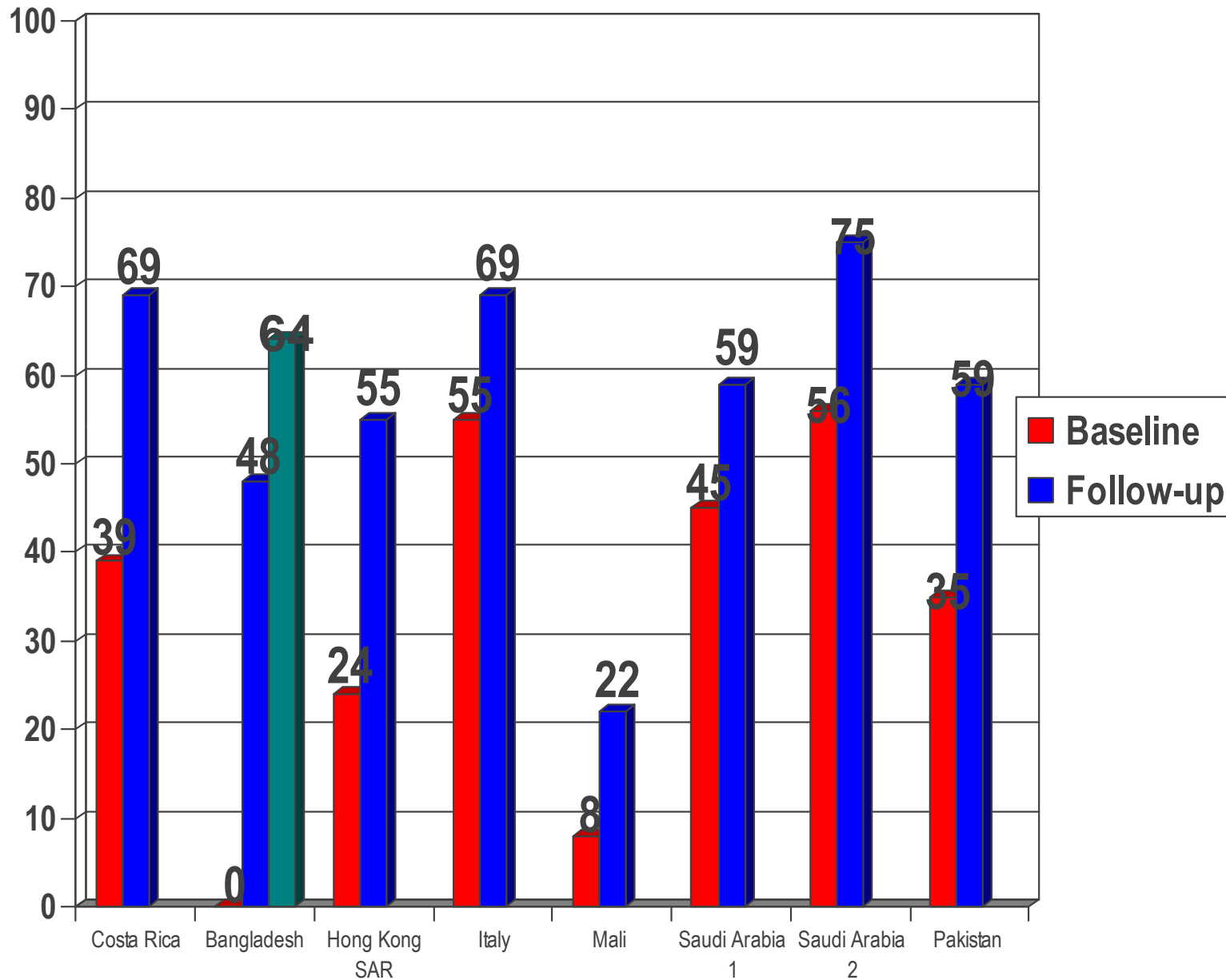


<http://www.who.int/gpsc/5may>

Guidelines Field Testing (2006-2008)

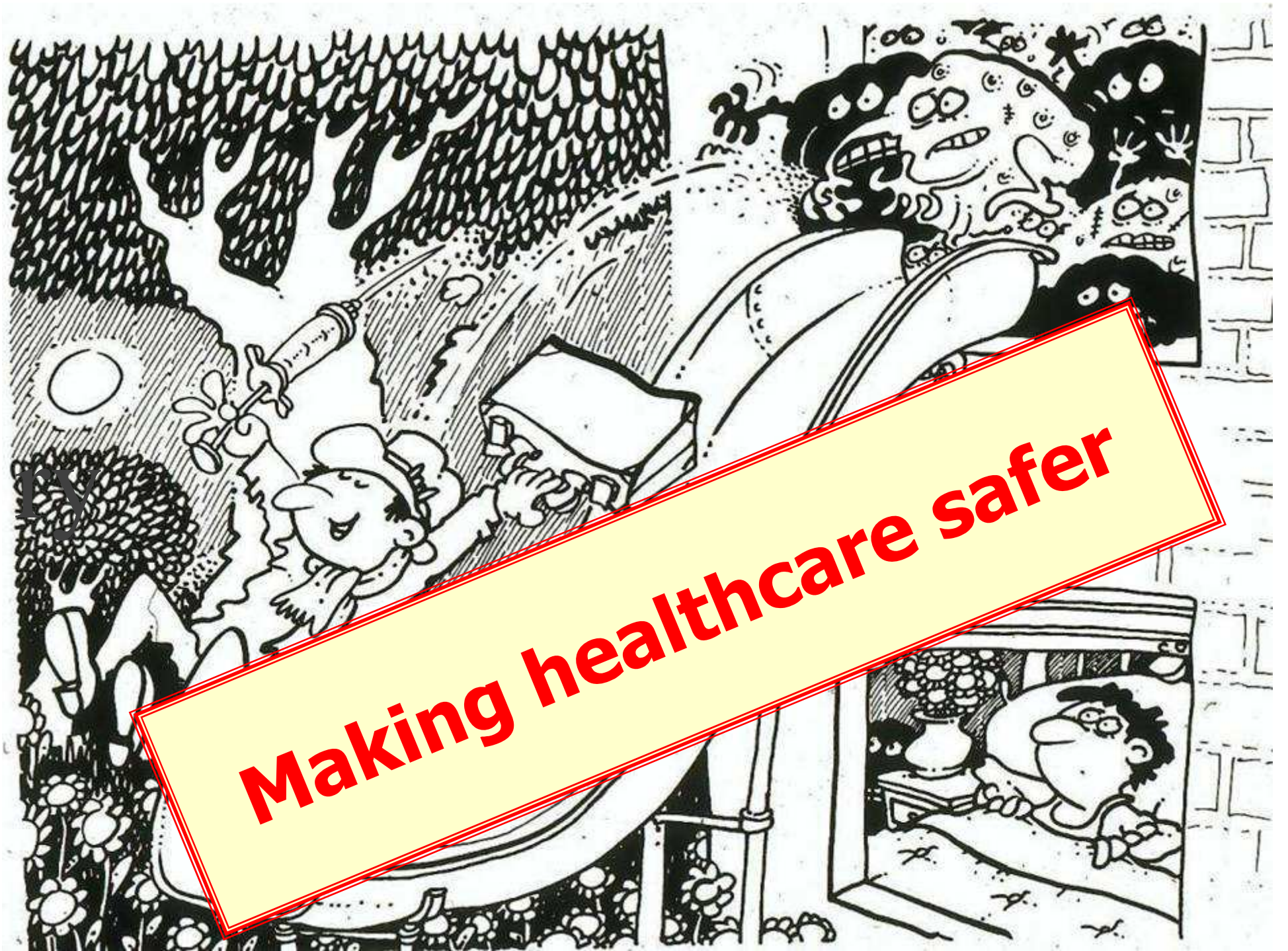


Hand hygiene compliance improvement in pilot sites



Conclusions

- Great progress is possible in hand hygiene promotion for infection prevention
- Key elements of success:
 - Education of healthcare workers
 - Monitoring and feedback of performance
 - Administrative support
 - Leadership and culture change



Making healthcare safer



Thank you for your attention

For further information please visit the website:

<http://www.who.int/gpsc/en/>

and/or contact WHO at:

patientsafety@who.int

Hand Hygiene Awareness Day 5 May 2010

拯救生命

從清潔雙手做起

SAVE LIVES

Clean Your Hands



醫院管理局
HOSPITAL
AUTHORITY



衛生署
Department of Health