

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report



World Health Organization

WHO Guidelines for Hand Hygiene in Health Care Settings

Geneva

3 December 2004

FINAL REPORT

TABLE OF CONTENTS

1.0	<i>Background and objectives of meeting</i>	3
1.2	Objective of the international consultation on hand hygiene in health care settings	3
2.0	<i>Structure of meeting</i>	4
2.1	Welcome from WHO	4
2.2	Chair, rapporteurs and participants	4
2.3	Plenary sessions	4
2.4	Presentations	5
2.5	Working Sessions	5
3.0	<i>Issues raised at the meeting/to be addressed</i>	6
3.1	Definition of health care settings	6
3.2	Intercountry differences in hand hygiene guidelines	6
3.3	Ranking system for evidence	6
3.4	Safety issues	6
3.5	Glove use	6
3.6	Methods to evaluate the efficacy of hand hygiene products	6
3.7	Surgical hand preparation	7
3.8	Water alone, soap or alcohol	7
3.9	A WHO alcohol-based formulation	7
3.10	Other products - cheap medicated soap	8
3.11	Public information	8
3.12	Education of health care workers	8
3.13	Monitoring compliance with hand hygiene	8
4.0	<i>Plan of work</i>	9
	<i>Appendix A. Participant list</i>	10
	<i>Appendix B. Agenda</i>	17
	<i>Appendix C. WHO Draft Guidelines for Hand Hygiene</i>	Error! Bookmark not defined.
	<i>Appendix D. Major Issues to be addressed by Consultative Task Force working groups</i>	20
	<i>Appendix E. Presentation notes</i>	22

1.0 Background and objectives of meeting

Health care-associated infection is a major, global issue of patient safety as it affects millions of people worldwide and complicates a significant proportion of patient-care deliveries. Infections add to the burden of resource use, promote resistance to antibiotics, and contribute to unexpected patient deaths. Hand hygiene remains the primary measure to reduce infection and the spread of antimicrobial resistance, but health care workers' adherence to good practice is extremely low. Risk factors for the lack of adherence to hand hygiene have been identified. Adherence must be multimodal and include staff education and motivation, the use of performance indicators, and a strong commitment by stakeholders (e.g., hospital management, community leaders). A system change must be addressed in most health care settings where alcohol-based hand disinfection has not become standard of care. Hand hygiene, a very simple action, results in reduced infection rates and enhanced patient safety across all settings, from advanced health care systems to local dispensaries in developing countries.

WHO launched a World Alliance for Patient Safety on 27th October 2004. The fundamental purpose of the Alliance is to facilitate the development of patient safety policy and practice in all WHO member states. Each year the Alliance will deliver a number of work programmes covering systemic and technical aspects of patient safety. A key programme for the Alliance is the delivery of a "Global Patient Safety Challenge". The topic chosen for the first challenge is health care-associated infections and the title of the challenge is "*Clean Care is Safer Care*". The intention will be to embrace a number of existing WHO strategies and guidelines in the areas of infection prevention, blood safety, procedure-related safety, etc., and to develop WHO guidelines for hand hygiene in health care settings. Together, these strategies will be supported internationally to encourage their use by all countries. In addition, the implementation of the strategies will be closely monitored in six districts, one in each WHO region, to assess their impact.

1.1 Objectives of the World Patient Safety Alliance for 2005

- Designate hand hygiene and prevention of health care-associated infection as a patient safety priority worldwide.
- Initiate clinical governance for hand hygiene and infection prevention promotion at all levels of health care settings.
- Develop comprehensive hand hygiene promotion guidelines that include staff education and motivation to promote behavioural modification, facilitate system changes, highlight the use of performance indicators, and stimulate stakeholder support.
- Issue recommendations and develop instruments for continuous, long-term monitoring and feedback mechanisms, as well as outcome measures, to monitor progress.

1.2 Objective of the international consultation on hand hygiene in health care settings

The objective of the consultation is to review available evidence on hand hygiene and to reach consensus on the outline of the WHO *Guidelines on Hand Hygiene*.

2.0 Structure of meeting

2.1 Welcome from WHO

Ms Pauline Philip, leading the patient safety team, WHO, welcomed participants to the meeting and explained that the purpose of the meeting was to initiate the process of developing WHO *Guidelines on hand hygiene in health care settings*.

2.2 Chair, rapporteurs and participants

Professor Didier Pittet, University of Geneva Hospitals, Switzerland prepared draft guidelines for the international consultation. Participants included representatives from seven WHO departments and two regional offices. Representatives from the Centres for Disease Control and Prevention, USA, Health Protection Agency, UK, International Confederation of Midwives, International Council of Nurses and the National Patient Safety Agency, UK attended this meeting along with international technical experts from universities in Australia, Austria, Brazil, Hong Kong, India, the Netherlands, Saudi Arabia, UK, and USA. Professor Didier Pittet, University of Geneva, chaired the meeting and Ms Roisin Rooney, WHO, Dr Agnes Leotsakos, WHO and Professor Carmem Lucia Pessoa da Silva, Brazil, agreed to act as rapporteurs. Meeting participants are listed in Appendix A and the agenda, as adopted, in Appendix B.

2.3 Plenary sessions

The meeting began with plenary sessions on the Global Patient Safety Challenge and the WHO *Guidelines on Hand Hygiene in health care settings*. Professor Pittet described the World Alliance for Patient Safety, the WHA resolution on patient safety and highlighted the great interest that member states have shown over a period of two years after the resolution was passed. WHO is examining specific issues in patient safety and working with the appropriate departments at headquarters and regional offices to address technical work in this area. As there was no programme to encompass all patient safety issues, the WHA, in 2002, considered a proposal to establish a World Alliance. The idea was that the Alliance would be a vehicle to push the international health agenda on patient safety and ensure that duplication of work, across countries, would be minimized. It is intended that the Alliance establishes an international communications network to disseminate best practices, studies and research from around the world.

Ms Pauline Philip gave an overview of the Global Patient Safety Alliance. Each year a number of programmes will be organized. Each will have an international lead as well as a person responsible in WHO. The first one is the "global patient safety challenge". For the next biennium the challenge is *clean care is safer care*. The challenge will change every 2 years. The second programme is "patients for patient safety". Through this programme we will get experts on board and involve patient groups in the work of the Alliance. The third programme is "Taxonomy" for patient safety. This will focus on creating a common understanding on what is meant by "adverse effects" or "medical errors". WHO will harness all relevant work that has been done internationally. The fourth programme is "research for patient safety". During 2005, studies will be carried out in a number of countries, including developing countries and transition countries. About 10 studies will take place, supported by the Alliance. At the same time, key researchers in patient safety will be mobilized to participate in this programme. The fifth programme is "solutions for patients' safety"; to find solutions and ensure that these solutions are publicized around the world. The intention is to set up a WHO collaborating centre that can bring together people internationally to research solutions, bring solutions from existing

programmes and adapt them to developing countries. The sixth programme is "reporting and learning". Guidelines for reporting will be produced for countries to report adverse effects in health. Each year an Alliance Day will be organized to report on the work achieved throughout the year.

Ms Roisin Rooney introduced WHO Practice Guidelines: Recommended Processes and explained that WHO guidelines are systematically developed evidenced-based statements also labelled as protocols, best practice, algorithms, consensus statements, expert committee recommendations. Key steps include synthesis of evidence, formulation of recommendations, consultation and peer review. The strength of a recommendation is linked to the strength of evidence. If there is not enough evidence consensus statements could be issued acknowledging that they are based on expert opinion. When developing guidelines there is a need to spell out implications of adopting recommendations on costs and population health. Decision makers can "localize" guidelines to their settings and this may involve producing user-friendly operational manuals. Guiding values are population perspective, scientific integrity, sensitivity to local contexts and transparency

2.4 Presentations

Talks were presented by Professor Didier Pittet on infection control and quality in health care (Appendix E), Professor Manfred Rotter on methods to evaluate the efficacy of hand hygiene products, Ms Julie Storr on hand hygiene promotion at country-wide level, and by Professor Ziad Memish on religious and cultural aspects of hand hygiene.

2.5 Working Sessions

In the afternoon, working sessions were organized to debate various aspects of hand hygiene such as definitions of health care settings, population-specific issues, reality in the field for the education of health care workers, the introduction, distribution and maintenance of products, and public information. At the end of the meeting, consultative task force working groups were set up to research specific topics in hand hygiene.

3.0 Issues raised at the meeting/to be addressed

3.1 Definition of health care settings

Meeting participants agreed that the guidelines should apply wherever health care is being provided. Definitions of health care settings, including primary care, secondary care, hospitals, clinics without walls, neonatal intensive care units, home health care, alternative delivery systems, hospices and ambulatory care. Definitions are found at <http://www.pohly.com/terms.html>

3.2 Intercountry differences in hand hygiene guidelines

The participants agreed that all available national and international or society-based guidelines should be reviewed. It was suggested that relevant international bodies such as infection control societies, e.g., International Federation of Infection Control (IFIC), International Council of Nurses (ICN), etc. be contacted.

3.3 Ranking system for evidence

It was agreed that the CDC/HICPAC system for categorizing recommendations be adapted as follows: Category 1A. Strongly recommended for implementation and strongly supported by well designed experimental, clinical, or epidemiological studies.

Category 1B. Strongly recommended for implementation and supported by some experimental, clinical, or epidemiological studies and a strong theoretical rationale.

Category 1C. Required for implementation, as mandated by federal and/ or state regulation or standard.

Category IIC. Suggested for implementation and supported by suggestive clinical or epidemiological studies or a theoretical rationale or a consensus by a panel of experts.

No recommendations/ unresolved issues. Practices for which insufficient evidence or no consensus regarding efficacy exist.

* Underline = adaptation.

3.4 Safety issues

It was recommended that the safety of alcohol be addressed in the guidelines, e.g., safety for use in prisons or psychiatric hospitals, neonatal units, etc. Allergic reactions to alcohol, dermatitis and dryness should be included. Data on absorption should be reviewed. It was suggested that the effectiveness of hand rubs without alcohol be examined. It was noted that surveillance for adverse events could be beneficial.

3.5 Glove use

Problems in resource limited settings include cost, limited supply, reuse and disposal. It was suggested that the guidelines address inappropriate glove use, beliefs that unremoved gloves could spread infection, and the impact alcohol could have on the integrity of glove material.

3.6 Methods to evaluate the efficacy of hand hygiene products

In general, hand hygiene includes the use of soap, disinfectant and skin care products. To achieve maximum effect and compliance of health care workers (HCW) with this measure, hand disinfection has to be as close as possible to the point of use (= the patient's bedside or point of care), or should be

dispensed from small bottles carried in HCWs' pockets (IA). Health care settings that are presently able to use commercial alcoholic handrubs, liquid soaps and skin care products, sold in disposable bottles should continue this practice.

Meeting participants recommended that every new product should be:

- ❖ tested for efficacy according to an official standard such as FDA, ASTM, EU standard or other national/regional standards
- ❖ tested against published standards
- ❖ tested *in vitro* and *in vivo*
- ❖ field trialled
- ❖ potential environmental hazards should be addressed

WHO should give an overview of available guidelines and mention the basic principles national or regional guidelines should take in this regard.

3.7 Surgical hand preparation

Meeting participants pointed out that sustained effect is needed with regard to "wearing-out" of gloves. Since scrubbing with a brush costs extra money, harms the skin and adds no supplementary effect, it should be discouraged (except to clean fingernails). Artificial fingernails and jewellery should be prohibited from the OR.

3.8 Water alone, soap or alcohol

Participants recommended that, when using water and soap, water should be running water or coming from storage tanks with a tap. Water and soap should be used to clean hands. Exceptionally, when water is highly contaminated, an alcohol-based handrub should be used after drying.

3.9 A WHO alcohol-based formulation

A WHO alcohol-based formulation (60 to 85%, to be further defined) should be cheap, locally produced, and preferably not taxed. Storage conditions, especially in tropical regions, should be considered. Gels are usually too expensive. It should be named in such a way as not to offend religious groups and manufactured to make sure it is not drinkable. Ideally, it should be dispensed from reusable squeezable bottles that are leakage-free and designed to ensure that the solution does not evaporate. Bottles could be placed on wall dispensers or alternatively designed for pocket carriage. A protocol for cleaning the bottles should be included in the guidelines.

Designing a product to be used for WHO purposes has to take into account economic and cultural (including religious) limits.

It was pointed out that the guidelines could include an annex addressing what is needed (facilities, resources) to set up local production in a resource limited setting. The production of the WHO disinfecting handrub should be made possible in production units such as local pharmacies. To keep production costs low, governments should allow the production of ethanol for disinfecting purposes from local products (e.g., potatoes) and should not tax the product. Since undiluted ethanol is highly flammable and may ignite at temperatures as low as 10°C, production facilities should directly dilute it to the above-mentioned concentration. In tropical climates, special attention should be given to proper storage.

3.10 Other products - cheap medicated soap

Despite the fact that in most situations handrubs should be applied, soap remains a product still needed in health care settings. Not only in situations where hands are visibly contaminated, but also when dealing with antiseptic-resistant organisms such as *Clostridium difficile* and parasites. Therefore, next to the WHO disinfecting handrub, a WHO soap might be needed. For such soap, addition of an antiseptic may be favourable for multiple reasons, such as a preservative effect during storage, higher decontaminating effect or prevention of contamination by washing, or when using contaminated water. Future research might actually look at the added value of medicated soap with regard to the last indication – use with contaminated water.

3.11 Public information

It was recommended that the guidelines include a section on education of the public. Information to the public in developing countries is important because the public quite often also delivers care both in hospitals and community settings. It is important to identify purposes for disseminating information (advocacy, educate the public, link up with consumer unions, etc.). An important aspect is that target populations for implementing hand hygiene (nurses, doctors, health workers and others) are also members of the public. Another important target group is patients and their families that should know about the importance of hand hygiene during illness.

Methods for disseminating information to the public and raising awareness include using the media and monitoring media messages, using NGOs and civil society groups to reach communities with public information through grass-roots activities and products such as leaflets, radio messages, visiting health workers, community plays, community meetings; using the professional environment; industries and businesses to disseminate information directly to their workforce through various communication products and methods (leaflets, training, company websites) and using technology, web portals, existing networks, etc.

3.12 Education of health care workers

Participants pointed out the need to outline evidence-based educational approaches on hand hygiene including strategies to implement education (making resources available before starting education, link to current epidemiological problems, link nurses). Educational methods for different groups will need to be addressed.

3.13 Monitoring compliance with hand hygiene

It was pointed out that there is no gold standard to monitoring compliance. Monitoring to date uses structured observation (very labour intensive and expensive) and one way of monitoring would be through consumption (how many bottles/solutions/soaps are being used). Participants emphasized that structure indicators should be outlined and included.

4.0 Plan of work

An agreed work programme for the participants involved in developing the guidelines was elaborated.

- December 10 2004. Draft meeting report prepared in response to meeting recommendations.
- December 22 2004. Topic leaders to send their extended outline for comparison.
- January 31 2005. All sections and chapters to be updated from the master document (Appendix C) and emailed to Professor Didier Pittet and Dr Carmem Lucia Pessoa-Silva. (All document headers with name of authors and date, changes tracked.)
- January 31 – mid-February 2005. Wider consultation with WHO regional offices, experts and external reference group.
- April 1 2005. Circulation to all contributors for final approval.
- April 1 - April 15. Second consultation meeting
- It is intended that the final *guidelines* be available by May 2005.

The meeting was adjourned at 18h00.

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

Appendix A. Participant list

1. Dr Benedetta Allegranzi
Clinical Department of Infectious Diseases
University of Verona
Verona
Italy
Email: bennadetta.allegranzi@univr.it

2. Marianne Amelink-Verburg
International Confederation of Midwives
Eisenhowerlaan 138
2517 KN The Hague
The Netherlands
tel: +31 70 3060520
fax: +31 70 3555651
Email: mp.amelink@pg.tno.nl

3. Professor Barry Cookson
Director of the Laboratory of Health care Associated Infection
Health Protection Agency
61 Colindale Avenue
London NW9 5EQ
United Kingdom
Email: Barry.Cookson@hpa.org.uk

4. Dr John Boyce
Infectious Diseases Section
Saint Raphael Hospital
1450 Chapel Street
New Haven, CT
USA
Email: Jboyce@srhs.org

5. Dr Raphaële Girard
Hygiene and Epidemiology Unit
Pavillon 1M, Centre Hospitalier Lyon Sud
69495 Pierre Benite
France
Email: raphaelle.girard@chu-lyon.fr

6. Professor Elaine Larson
Associate Dean for Research
Columbia University School of Nursing
(Professor of Epidemiology
Joseph Mailman School of Public Health)
Columbia University
630 W. 168th St.
New York, NY 10032
USA
Email: ELL23@columbia.edu

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

7. Professor Geeta Mehta
Head: Department of Microbiology
Lady Hardinge Medical College
C-132 Defence Colony
New Delhi 110024
India
Email: gmehta51@hotmail.com

8. Professor Ziad A Memish
Chief, Adult Infectious Diseases
Department of Medicine and
Executive Director, Infection Prevention and Control Program
King Abdulaziz Medical City
King Fahad National Guard Hospital
National Guard Health Affairs
PO Box 22490
Riyadh 11426
Kingdom of Saudi Arabia
Email: zmemish@yahoo.com

9. Dr Michele Pearson
Centres of Disease Control and Prevention
1600 Clifton Rd Mail Stop A07
Atlanta, GA 30333
USA
Email: mxp8@cdc.gov

10. Professor Carmem Lucia Pessoa da Silva
Associate Professor of Infectious Diseases
Department of Preventive Medicine,
Faculty of Medicine
Federal University of Rio de Janeiro
Praia do Flamengo 82/505
Flamengo - Rio de Janeiro - RJ 22210-030
Brazil
Email (Brazil): pessoa-silva.cl@hucff.ufrj.br
Email (Geneva): c.l.pessoa-silva@hcuge.ch

11. Professor Didier Pittet (Chairman)
Director, Infection Control Programme
University of Geneva Hospitals
24 Rue Micheli-du-Crest
1211 Geneva 14
Switzerland
Email: didier.pittet@hcuge.ch

12. Univ. Prof. Dr. Manfred Rotter
Klinisches Institut für Hygiene und
Medizinische Mikrobiologie
der Medizinischen Universität
Kinderspitalgasse 15
A-1095 Wien
Email: manfred.rotter@meduniwien.ac.at or
hygiene@meduniwien.ac.at

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

13. Professor Wing Hong Seto
Chief: Department of Microbiology
Queen Mary Hospital
University of Hong Kong
Pokfulam Road
Hong Kong
Email: whseto@ha.org.hk

14. Ms Beth Scott
Disease and Vector Biology Unit
London School of Hygiene and Tropical Medicine
Keppel Street
London WC1E 7HT
United Kingdom
Email: beth.scott@lshtm.ac.uk

15. Ms Julie Storr
Assistant Director, Infection Control,
National Patient Safety Agency
Directorate of Safety Solutions
4-8 Maple Street
London W1T 5HD
United Kingdom
Email: julie.storr@npsa.nhs.uk

16. Professor Andreas Voss
Department of Medical Microbiology
Katholieke Universiteit Nijmegen
PO Box 9101
6500 HB Nijmegen
The Netherlands
Email: a.voss@mmb.umcn.nl

17. Professor AF Widmer
Facharzt für Innere Medizin und Infektiologie
Kantonsspital Basel
Universitätskliniken
4031 Basle
Switzerland
Email: awidmer@uhbs.ch

18. Susan Wilburn
International Council of Nurses
3, Place Jean Marteau
1201 Geneva
Switzerland
Email: wilburn@icn.ch

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

WHO staff

19. Yves Chartier,
Technical Officer
Water Sanitation and Health
Sustainable Development and Healthy Environments Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: Chartiery@who.int

20. Dr Meena Cherian
Medical Officer
Clinical procedures
Essential Health Technologies
Health Technology and Pharmaceuticals Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: Cherianm@who.int

21. Dr Neelam Dhingran
Coordinator, Blood Transfusion Safety
Essential Health Technologies
Health Technology and Pharmaceuticals Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: Dhingann@who.int

22. Gerald Dziekan MD, MSc
Infection Control
ADB/WHO Regional Outbreak Response Team
Communicable Disease Surveillance and Response
World Health Organization Western Pacific Regional Office
P.O.Box 2932 (United Nations Avenue)
1000 Manila,
Philippines
Email: dziekang@wpro.who.int

23. Dr Martin Fletcher
Technical Officer
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: FletcherM@who.int

24. Dr Philip Jenkins
Medical Officer

WHO Guidelines for Hand Hygiene in Health Care Settings
Meeting 3 December 2004 final report

Policy, Access and Rational Use
Essential Drugs and Medicines Policy
Health Technology and Pharmaceuticals
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: jenkinsp@who.int

25. Dr Itziar Larizgoitia
Scientist
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland.
Email: larizgoitai@who.int

26. Dr Simon Mardel
Alert and Response Operations
CSR/CDS
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email mardels@who.int

27. Dr Peet J Tüll
Medical Officer
Communicable Disease Surveillance and Response
World Health Organization,
Regional Office for Europe
8, Scherfigsvej
2100 Copenhagen
Denmark
Email: ptu@who.dk

28. Dr Stefano Lazzari
Director: Communicable Diseases
Communicable Disease Surveillance and Response
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland.
CSR office in Lyon
Email: lazzaris@who.int

29. Dr Agnes Leotsakos
Partnerships and Advocacy
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

Switzerland.

Email: leotsakosa@who.int

30. Virginia Odell
Technical Officer
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: odellv@who.int

31. Pauline Philip
Head, Patient Safety
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: Philipp@who.int

32. Roisin Rooney
Technical Officer
Health Systems, Policies and Operations
Evidence and Information for Policy Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: rooneyr@who.int

33. Dr Cathy Roth
Acting Team Coordinator, Emerging and Dangerous Pathogens
Alert and Response Operations
CSR/CDS
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: rothc@who.int

Invited but unable to attend

34. Dr Sandra Black
HIV Department
HTM Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: balkcs@who.int

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

35. Dr Val Curtis
Disease and Vector Biology Unit
London School of Hygiene and Tropical Medicine
Keppel Street
London WC1E 7HT
United Kingdom
Email: Val.curtis@lshtm.ac.uk

36. Professor Don Goldmann
Division of Infectious Diseases
Children's Hospital
300 Longwood Avenue
Boston, MA 02115
USA
Email: don.goldmann@tch.harvard.edu

37. Dr Rita Kabra
Medical Officer
Making Pregnancy Safer
Reproductive Health and Research
Family and Community Health Cluster
World Health Organization
20 Av. Appia
1211 Geneva 27
Switzerland
Email: Kabrar@who.int

38. Professor Mary-Louise McLaws
Hospital Infection Epidemiology & Surveillance Unit, School of Public Health & Community
Medicine,
The University of New South Wales,
Sydney 2052
Australia.
Email: m.mclaws@unsw.edu.au

39. Dr Michael Whitby
Director: Infection Management Services
Centre for Health care Related Infection Surveillance
and Prevention (CHRISP),
Princess Alexandra Hospital,
Brisbane
Australia
Email: WhitbyM@health.qld.gov.au

Appendix B. Agenda



WORLD HEALTH ORGANIZATION
Evidence and Information for Policy Cluster
International Consultation on Hand Hygiene in Health Care Settings
"Clean care is safer care"
3 December 2004

Objectives of Meeting

The objective of the consultation is to review available evidence on hand hygiene, to reach consensus on the outline of the WHO *Guidelines* and to designate working groups to research specific topics in hand hygiene. The outcome of the meeting is to prepare an outline of the issues to be addressed in the evidence-based WHO *Guidelines on Hand Hygiene in Health care Settings*

The Patient Safety website can be accessed at: <http://www.who.int/patientsafety/en/>

Friday December 3 2004

Venue: Salle B, 9h00 - 18h00

Meeting Chair: Professor Didier Pittet

8:30 - 9:00	<i>Registration</i>
9:00 - 9:10	Welcome Remarks Ms Pauline Philip, leading the Patient Safety team
9:10 - 9:20	Introduction of participants, adoption of agenda, chair and rapporteur Professor Didier Pittet
9:20 - 9:40	World Alliance for Patient Safety Ms Pauline Philip
9:40 - 10:00	Global Patient Safety Challenge 2005- 2006 Professor Didier Pittet
10:00 - 10:20	WHO Guidelines for Hand Hygiene Professor Didier Pittet
10:20 - 10:25	Comment on WHO Practice Guidelines: Recommended Processes. Experiences and Examples Ms Roisin Rooney
10:25- 10:30	Questions and Answers

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

10:30 - 11:00	Coffee break
11:00 - 12:00	Discussion on documents distributed - Executive summary - Known facts/ controversial issues - Draft WHO Guidelines on Hand Hygiene document - Major issues to be addressed by the Consultative Task Force Working Groups Professor Didier Pittet
12:00 - 12:20	Illustrative examples of major issues Methods to evaluate the efficacy of hand hygiene products Professor Manfred Rotter (15 mins + 5 mins discussion)
12.20 - 12:40	Illustrative examples of major issues Hand hygiene promotion at country-wide level: UK “cleanyourhands” campaign Ms Julie Storr (15 mins + 5 mins discussion)
12:40 - 13:00	Illustrative examples of major issues Religious and cultural aspects of hand hygiene Professor Ziad Memish (15 mins + 5 mins discussion)
13:00 - 13:15	Introduction to topic clusters Professor Didier Pittet
13:15 - 15:15	Working Lunch Break up into topic clusters Group A - Salle B Group B - 3370, Group C - 5370 Group D - 5013
15.15 - 16.35	Report of cluster sessions
16:35 - 17:00	Coffee
17:00 – 17:45	Build up of final Consultative Task Force Working Groups and task distribution
17:45 - 18:00	Future agenda and closing remarks

Appendix D. Major Issues to be addressed by Consultative Task Force working groups

1. Definition of health care settings
2. Country-wide/society-wide differences in recommendations (includes mandate of listing all official societies for preparation of phase 3)
3. Hand hygiene in specific populations:
 - geriatric medicine
 - pediatrics and among neonates
 - psychiatric settings
 - alcohol-abusers
 - other patient populations
4. Glove use for patient care in developed/developing countries
5. Protecting hands in developed/developing countries
 - A WHO formulation to protect hands
6. Allergy and safety
7. Handling of sporulating organisms
8. Surgical hand preparation
9. Methods to evaluate the efficacy of hand hygiene products: worldwide differences and new methodologies to come
10. Water alone, soap, or alcohol
11. A WHO alcohol-based formulation
12. Fire hazard issues
13. Behavioural aspects of hand hygiene
14. Critical issues for hand hygiene promotion at country-wide level
15. Information to the public
16. Religious and cultural aspects of hand hygiene
17. Hand hygiene as a quality indicator for patient safety
18. Cost-effectiveness of promotion strategies in different health care settings
19. Education of health care workers
20. Monitoring compliance with hand hygiene

...

Prepared by Professor Didier Pittet, MD, MS, Infection Control Programme, University of Geneva Hospitals, Geneva, Switzerland, and Division of Investigative Science, Imperial College of Medicine, Science and Technology, London, UK

Author address: Professor Didier Pittet, MD, MS; Director, Infection Control Programme. University of Geneva Hospitals, 24 Rue Micheli-du-Crest - 1211 Geneva 14 / Switzerland Tel.: (+41 22) 37 29828 - Fax: (+41 22) 37 23987 - Email: didier.pittet@hcuge.ch

Group A : B Cookson (rapporteur), J Boyce, Y Chartier, V Odell, D Goldmann, S Lazzari, Itziar Larizgoitia

- Definition of health care settings (S Lazzari)
- Country-wide/society-wide differences in recommendations (B Cookson)
- Hand hygiene as a quality indicator for patient safety (D Goldmann)
- Cost-effectiveness of promotion strategies in different health care settings (J Boyce)

Group B : E Larson (rapporteur), M Amelink-Verburg, N Dhringan, G Dziekan, R Girard, S Mardel, C Pessoa, S Wilburn

- Hand hygiene in specific populations (E. Larson and C Pessoa):
 - geriatric medicine
 - pediatrics and among neonates (C Pessoa)
 - psychiatric settings
 - alcohol-abusers
 - other patient populations (M. Amelink-Verburg)
- Glove use for patient care in developed/developing countries (G. Dziekan and S. Mardel,)
- Protecting hands in developed/developing countries (E Larson)
- Allergy and safety of alcohol-based products in specific populations (M Pearson and S Wilburn)
- Handling of sporulating organisms (M Pearson)
- Selecting a hand hygiene agent (R Girard)

Group C : A Voss (rapporteur), B Allegranzi, M Cherian, G Mehta, C Roth, M Rotter, A Widmer

- Methods to evaluate the efficacy of hand hygiene products: worldwide differences and new methodologies to come (M Rotter)
- Water alone, soap, or alcohol (G Mehta)
- A WHO alcohol-based formulation (B Allegranzi and A Voss)
 - composition (type of alcohol, range of concentrations, ...)
 - issues in developed countries (companies, recovery, research sponsoring)
 - issues in developing countries (costs)
 - minimum standards for quality control in developing countries
- Fire hazard issues (J Boyce, J Storr, and a WHO expert)
- Surgical hand preparation (A Widmer)

Group D: A Leotsakos (rapporteur), V Curtis, ML McLaws, Z Memish, WH Seto, B Scott, J Storr, P Tull, MJ Whitby

- Behavioural aspects of hand hygiene (ML McLaws and M Whitby)
- Critical issues for hand hygiene promotion at country-wide level (J Storr)
- Information to the public (A Leotsakos)
- Religious and cultural aspects of hand hygiene (Z Memish)
- Education of health care workers (WH Seto)
- Monitoring compliance with hand hygiene (V Curtis)

P Philip, R Rooney, and D Pittet circulated from one group to another.

Appendix E. Presentation notes

Presentation A. Professor Didier Pittet

Infection control and quality health care in the new millenium: what did we learn from the early days?

Slide 1

Study on the Efficacy of Nosocomial Infection Control

1st principle of infection prevention

35-50% of all nosocomial 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

Experience with surgical procedures

Hand hygiene and standard precautions

Slide 2

Use and care of urinary catheters

Use and care of vascular access lines

Therapy and support of pulmonary functions

Experience with surgical procedures

Hand hygiene and standard precautions

1st principle of infection prevention

35-50% of all nosocomial infections are associated with patient care practices:

Slide 3

Use and care of urinary catheters

Use and care of vascular access lines

Therapy and support of pulmonary functions

Experience with surgical procedures

Hand hygiene and standard precautions

Alcohol-based

hand rub at the point of care

Slide 4

Key parameters for success

System change

Administrative support

Education of health care workers

Monitoring and feedback of performance

Change in behavior

Associated with compliance improvement and reduction in cross-transmission and infection rates

Slide 5

Infection control in developing countries

Infection control in developing countries: main issues

Unfavorable social background

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

Facilities badly structured and equipped

Slide 6

Technological gap

Lack of adequate conditions in hospitals

Inadequately/insufficiently equipped

Inadequate hygiene conditions

Lack of microbiological data

Understaffing

Pessoa-Silva et al *J Pediatrics* 2002;141:381-7.

Overcrowding

Merchant et al *J Hosp Infect* 1999;38:143-148.

Bed occupancy exceeding capacity: 140%!

Low staff preparedness

Issack MI *J Hosp Infect* 1999;42:339-344.

Unnecessary measures / lack of adequate measures

Slide 7

Consequences

Unsafe invasive procedures

Simonsen et al. *Bull WHO* 1999;77:789-800.

50% injections = unsafe in 14 out of 19 countries

↑ sepsis, hepatitis B and C, HIV, Ebola, Lassa and malaria

Nosocomial outbreaks of introduced community pathogens

Paton et al. *Infect Control Hosp Epidemiol* 1991;12:710-7

Shigella spp. / *Salmonella* spp.

Spread of multiresistant microorganisms

Hart & Kariuki *BMJ* 1998;317:647-50.

Higher health care-associated infection rates

Slide 8

Consequences

Higher device-associated nosocomial rates

Consequences

Inadequate use of technology

Review of cases of nosocomial Lassa fever in Nigeria: the high price of poor medical practice

Fisher-Hoch et al. *BMJ* 1995;311:857-859.

34 cases (9 HCWs)

55% attack rate

65% fatality rate

Outbreak linked to:

Hospitals inadequately equipped and staffed

Poor medical practice

Sharing of syringes

Staff contamination during emergency surgery

Slide 9

Perspectives

Improvement in hygiene conditions

Staff training

Brazil: Calcante et al *Infect Control Hosp Epidemiol* 1991;12:649-53.

↓ HAI rates

Savings: ~ US\$ 2 million

Thailand: Thamlikitkul et al. *J Clin Epidemiol* 1998;51:773-8.

↓ 20% antibiotic use

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

Surveillance strategy

Selective surveillance

Brazil: Lima et al *Infect Control Hosp Epidemiol* 1993;14:197-202.

Feasible epidemiologic markers

Argentina: Kurlat et al. *J Hosp Infect* 1998;40:149-154.

Hygiene & reduction of infectious diseases

Impact of hand hygiene education in the community in a developing country

Luby et al. *JAMA* 2004; 291: 2547-2554

Slide 10

Cluster-randomized study (villages)

Rural community in Pakistan

Intervention: education with focus on hand hygiene and distribution of soap

Results

↓ diarrhoea

↓ skin infections

↓ respiratory infections

↓ mortality among children

Slide 11

World Alliance for Patient Safety

Global Patient Safety Challenge 2005-2006

Health care-associated infections

affect millions of patients worldwide every year

more serious illness

prolong hospital stay

long-term disability

high costs on humans and their families

excess deaths

massive additional financial burden

World Alliance for Patient Safety

Slide 12.

Global Patient Safety Challenge 2005-2006

Affects a large number of individuals worldwide

Multifaceted causation related to

systems and processes of care provision

human behavior

political and economical constraints on systems/countries

Patient safety gap

(some health care institutions/systems control the risk to patients much better than others)

Data to assess the size and nature of the problem and to create the basis for monitoring the

effectiveness of actions

Slide 13

World Alliance for Patient Safety

Global Patient Safety Challenge 2005-2006

Slide 14

SUGGESTED PRACTICE

Table: Indications for hand hygiene actions

A. Wash hands with a non-antimicrobial soap and water or an antimicrobial soap and water when hands are visibly soiled or contaminated with proteinaceous material (IA)

WHO *Guidelines for Hand Hygiene in Health Care Settings*
Meeting 3 December 2004 final report

B. If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands in all other clinical situations described in items 1 through 8 listed below (IA)

Slide 15

SUGGESTED PRACTICE

Table: Indications for hand hygiene actions

Guideline for hand hygiene also includes
Implications of hand hygiene guidelines
CONCLUSIONS

Slide 16

Future agenda

3 Dec 2004 Consultation

10 Dec 2004 – Consultation Report mailed

22 Dec 2004 – Draft outlines from leaders

31 Jan 2005 – Chapters from leaders

Review process

1 April 2005 – Circulation to all co-authors for final approval (15 days)

End of April, early May 2005: Consultation

May 2005 - WHO Guideline for Hand Hygiene in Health care Settings available to WHO General Assembly

Slide 17

Future agenda (2)

From January 2005: Gathering of WHO infection prevention material

From January 2005: Development of concepts for strategies for implementation of infection prevention programs

(Tentative next consultation; ~June 2005)

Selection of targets for before / after evaluation in 6 WHO districts

Second part of 2005: Worldwide launch of promotion campaign

Slide 18

Implications of hand hygiene guidelines

A system change is required

Provide easy access to hand hygiene materials

Handrub solution at the patient's bedside/point of care eventually at the entrance to the patient's room in convenient locations

in individual containers for pocket carriage

Dispenser conveniently located

Working appropriately

Slide 19

Implications of hand hygiene guidelines

Handrubbing efficacious

Handrubbing is more efficacious than handwashing with soap and water

Some agents are more efficacious than others

Time spent handrubbing is critical

Agent must be applied on dry hands and allowed to dry

Education is critical

The clinical effectiveness (i.e., impact on nosocomial transmission) of the use of different agents remains to be tested prospectively

Implications of hand hygiene guidelines

Slide 20

WHO Guidelines for Hand Hygiene in Health Care Settings
Meeting 3 December 2004 final report

Recommendations for glove use

Wear gloves when contact with blood, body fluids, or other potentially infectious materials, mucous membranes and non intact skin is anticipated

Remove gloves after patient care

Do not wear the same pair of gloves for the care of more than one patient

Do not wash or reuse gloves

Change gloves during patient care if moving from a contaminated body site to a clean site

Implications of hand hygiene guidelines

Slide 21

Education is cornerstone for improvement

Necessary at all levels of experience

Issues for education sessions:

availability and awareness of guidelines

potential risk for cross-transmission to patient and acquisition from patient

knowledge about hand hygiene indications awareness of very low average compliance recognition of opportunities at high risk

Slide 22

Implications of hand hygiene guidelines

Education (continued)

Implications of hand hygiene guidelines

Promotion

Implications of hand hygiene guidelines

Performance monitoring

Implications of hand hygiene guidelines