



Clean Care is Safer Care

Evidence for Hand Hygiene Guidelines

Q: How significant is the problem of infections in health care across the world?

A: The problem is huge: it is estimated that there are over 1.4 million cases of HAI at any given time, although this is likely to be a gross underestimation, due to the lack of proper surveillance.

Across all settings, patients can acquire bloodstream infections, surgical site infections, urinary tract infections, chest/respiratory infections or gastrointestinal infections.

Health-care workers are often the conduit for the spread of such infections to other patients in their care. It should also be noted here that many patients may carry microbes without any obvious signs or symptoms of an infection (colonized or sub clinically-infected). This clearly reinforces the need for hand hygiene, irrespective of the type of patient being cared for.

Q: How important are clean hands in the overall patient safety agenda?

A: Hand hygiene contributes significantly to keeping patients safe. It is a simple, low-cost action to prevent the spread of many of the microbes that cause health care-associated infections (HAI). While hand hygiene is not the only measure to counter HAI, compliance with it alone can dramatically enhance patient safety, because there is much scientific evidence showing that microbes causing HAI are most frequently spread between patients on the hands of health-care workers.

In addition, health-care facilities which readily embrace strategies for improving hand hygiene also prove more open to a closer scrutiny of their infection control practices in general. Therefore, the knock-on impact of focusing on hand hygiene can lead to an overall improvement in patient safety across an entire organization.

Finally, the selection of hand hygiene as the first pillar to promote the Global Patient Safety Challenge of the WHO World Alliance for Patient Safety signifies its importance in the patient safety agenda.

Q: Is there a difference between developed and developing countries?

Although no health-care setting across the globe can claim to be free of HAI, there is a difference between developed and developing countries in terms of the incidence and type of infections. Details are presented below for clarity:

Developed countries

In developed countries, with sophisticated treatments and technologies, HAI continues to account for complications in 5-10% of admissions to

acute-care hospitals. For example, in the U.S. alone there are at least 80,000 fatalities each year (about 200 deaths/day) from HAI.

Developing countries

In developing countries, the impact of HAI is far greater, with the risk being two- to twenty-fold higher than those in the developed world, and prevalence studies report hospital-wide infection rates usually higher than 15%. In those countries, over 4000 children die of HAI every day, equating to a plane crashing every hour. Approximately half of all patients admitted to neonatal intensive care units acquire an infection, and over half of these die.

Q: Why is hand hygiene compliance still low after all the efforts in recent decades?

A: In recent years many parts of the world have seen major improvements in hand hygiene. However, there is still not enough access to clean water, not enough sinks or towels, not enough awareness of the central role played by hand hygiene, and not enough investment in a multifaceted approach to tackle the abysmally low levels of compliance.

There are many factors which contribute to low compliance and these are listed on page 170 of the WHO Guidelines on Hand Hygiene in Health Care (Advanced Draft).

Whatever the reasons, even in resource-rich settings, compliance can be as low as zero percent, with compliance levels most frequently well below 40%.

Q: What sort of microbes can spread during lapses in hand hygiene?

The following are examples of the types of microbes that can be spread on the **hands** of health-care staff:

- Staphylococcus aureus (including MRSA)
- Streptococcus pyogenes (Group A Strep)
- Vancomycin-resistant Enterococcus (VRE)
- Klebsiella
- Enterobacter
- Pseudomonas
- Clostridium difficile
- Candida
- Rotavirus
- Adenovirus
- Hepatitis A virus
- Norovirus

Wounds will contain large numbers of microbes. Areas around the perineum can be heavily loaded with microbes, but even the armpit, trunk and hands can be frequently covered in huge numbers. Microbes such as Staphylococcus aureus and Klebsiella can be present on intact skin in numbers ranging from 100 to 1000,000 per square cm.

It is easy to understand that the hands of staff can become contaminated even after seemingly 'clean' procedures such as;

- Taking a pulse

- Taking blood pressure readings
- Taking a temperature
- Touching a patient's hand, shoulder or groin.

Furthermore, several studies have presented dramatic evidence that microbes have an impressive ability to survive on the hands, sometimes for hours, if hands are not cleaned.. All of the studies clearly demonstrate that contaminated hands can be vehicles for the spread of microbes.

Q: Why has it been necessary for WHO to issue Hand Hygiene Guidelines?

A: Many countries already have some form of guide on hand hygiene, however, the WHO Guidelines on Hand Hygiene in Health Care (Advanced Draft) have been subject to a unique process of development and testing. This makes them useful to many national safety and infection control bodies for the added value they bring to previous efforts to improve hand hygiene. The guidelines build on the rigour of the 2002 CDC Guidelines, but update them with many extras and give a more global perspective ideally applicable to any country regardless of the resources available..

The WHO Guidelines have also been used as a template for the production of a large number of tools included in a comprehensive implementation strategy, a unique feature designed to facilitate local adaptation and implementation.

Q: How different are the WHO guidelines from the CDC guidelines?

A: The WHO guidelines start where the CDC guidelines end. The CDC Guidelines focused on Hand Hygiene in health-care settings, particularly directed to developed countries. With this starting point, the WHO Guidelines have attempted to focus on health care in all countries of the world. Extensive work, including around 180 pages and over 700 references, make these WHO Guidelines a must-have resource for any region, country or facility that is serious about tackling hand hygiene. Finally, a large group of international infection control experts continue to contribute to the development of these guidelines.

One unique component of the WHO Guidelines is the suite of tools to assist regions, countries and facilities in their implementation. The WHO Toolkit for implementation is undergoing rigorous field-testing at the present time, and the guidelines will be finalized on the basis of the results and lessons learned from implementation.

Q: Why are the WHO guidelines still in an advanced draft format?

A: All WHO Guidelines are initially issued as "draft" versions, until the completion of field testing. Therefore, while the recommendations are solid and robust in terms of the evidence base underpinning them, it is the implementation of these recommendations which is being subject to field testing. The Guidelines will therefore remain in an advanced draft format until the conclusion of field testing. Testing is essential to explore how the implementation strategies work across diverse health-care settings.

On completion of field testing, the revised and updated Guidelines will be issued, which will include a brand new section devoted entirely to regional, country and facility-level implementation, together with all of the implementation tools. The final version of the Guidelines will be published towards the end of 2008 and will be reviewed and updated at least bi-annually.

Q: Q. How are the WHO Patient Safety Solutions (specifically solution 9: Improved Hand Hygiene to Prevent Health Care-Associated Infection) and the Standard Operating Protocol for Improved Hand Hygiene to Prevent Health Care-Associated Infection (currently under development) connected to the WHO Guidelines on Hand Hygiene?

A: Both of these resources are "sister" documents, accompanying the Guidelines and the implementation strategies. They are intended to work synergistically with the Guidelines and the implementation tools.