



# SQUIRE

Every Clinician · Every Patient · Every Time

# SQUIRE Guide

## Hand Hygiene

as at January 2009

## Hand Hygiene

**GOAL: TO REDUCE HEALTHCARE ASSOCIATED INFECTIONS BY IMPROVING HAND HYGIENE PRACTICES**

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### *Resources*

Some of these resources may be protected by copyright, please ensure all copyright requirements are met prior to their use.

- The 'How-to' Guides developed by IHI, Safer Healthcare Now and websites of the programs listed below provide excellent information, contain invaluable tips, lessons from success, measurement and data collection tools and visual aids that can be adapted if desired.
- Institute for Healthcare Improvement (IHI) 5 Million Lives campaign:  
<http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>

- The National Hand Hygiene Initiative will lead hand hygiene improvement in Australia. Sites contributing data to HHA will not be required to submit data to OSQH in addition to reporting to HHA, but complete the front page of the OSQH report.
- Hand Hygiene Australia: [www.hha.org.au](http://www.hha.org.au)

**MEASURE 1: HAND HYGIENE KNOWLEDGE ASSESSMENT SURVEY**

- The definitions, examples and ideas for this measure can be found in Component 1 of IHI 5 Million Lives Campaign. How-to Guide: Improving Hand Hygiene <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>

*Definition*

- The percentage of health care workers (regardless of position) who answer all five questions correctly on a standardised hand hygiene knowledge assessment survey.

*Assessment*

- The survey should consist of at least five questions examining knowledge of hand hygiene. CPI team members can produce their own questions or use examples from the IHI How-to Guide (page 27-28): <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>
- Individual hospitals may also decide how to administer the assessment:
  - electronically, with a system that can document any questions answered incorrectly and that refuses multiple attempts at assessment; or
  - by interview.

*Measurement Methods and Tools*

- Monthly measurement should use a sample of a minimum of 10 health care workers from a range of occupations.
- Analysis of the results involves a simple calculation of the percentage of health care workers tested who answered all survey questions correctly:

**Measure 1 calculation:**

$\frac{\text{Health care workers who answer all five questions correctly}}{\text{Number of health care workers assessed during monitoring period}} \times 100 = \text{Percentage of health care workers answering all five questions correctly on a hand hygiene knowledge assessment survey}$
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## MEASURE 2: CORRECT USE OF HAND RUB, GLOVES AND HANDWASHING PRACTICES

- The definitions and examples for this measure can be found in Component 2 of IHI 5 Million Lives Campaign. How-to Guide: Improving Hand Hygiene  
<http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>

### *The crucial three procedures in hand hygiene*

- Particular aspects of recommended hand hygiene practices that can easily and objectively measured are listed below. Further aspects of correct practice from the WHO guidelines can be incorporated if appropriate.
- *Handwashing:*
  - Wash hands with soap and water, including contact with soap for at least 15 seconds, covering all surfaces (palm, back of hand, fingers, fingertips and fingernails); rub with friction.
  - If the tap is hand-operated, use paper towel to turn off the faucet.
  - Dry hands with fresh paper towel.
- *Alcohol-based hand hygiene product (rub, gel, or foam):*
  - Use enough to cover all surfaces (palm, back of hand, fingers, fingertips, and fingernails); rub until dry (at least 15 seconds).
- *Remove gloves using correct technique:*
  - Carefully so as not to contaminate the hands with a contaminated glove surface.

### *Measurement Methods and Tools*

- Monthly measurement should directly observe behaviour, using a sample of at least 10 health care workers from a range of occupations. Competence in the three procedures of hand hygiene can be assessed:
  - at a specific time set aside for evaluation (likely to be in tandem with the Hand Hygiene Knowledge Survey in Measure 1), or
  - during routine work.
- For advantages and disadvantages of each strategy see the IHI How-to Guide (pg 21-22): <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>

**Measure 2 calculation:**

$\frac{\text{Number of health care workers who correctly performed all hygiene procedures}}{\text{Number of health care workers reviewed during monitoring period}} \times 100 = \text{Percentage of health care workers who perform all three hand hygiene procedures correctly}$
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**MEASURE 3: BED SPACES WITH APPROPRIATE HAND HYGIENE PRODUCTS**

- The definitions used for this measure are the same as in Measure 3 of The Institute for Healthcare Improvement (IHI). How-to Guide: Improving Hand Hygiene <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>
- This should apply to every bed space in the hospital but teams may choose to select targeted wards or clinical areas for each monthly measure.

*Specifications*

- Includes all bed spaces from the selected area.
- Gloves in at least two sizes should be available and readily accessible.
- Alcohol-based product dispensers must be present, accessible at the point of care, not empty, functional and deliver the correct volume of product (Note: the type of alcohol-based product is not specified).

*Measurement Methods and Tools*

- Monthly measurement involves direct observation of bed spaces for both elements - i.e. hand rub and gloves (and preferably on the same wards/units where Measures 1 and 2 are monitored).
- Checklist worksheets which may be used or adapted are available from the IHI How-to Guide (pg 29-30): <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>
- Analysis of the results involves a simple calculation of the percentage of bed spaces in compliance with hygiene product standards and the total number of bed spaces examined:

**Measure 3 calculation:**

$\frac{\text{Number of bed spaces with correct access to hand hygiene products}}{\text{Total number of bed spaces audited during monitoring period}} \times 100 = \text{Percentage of bed spaces at which there are clean gloves in appropriate sizes and dispensers for alcohol-based hand rub/foam/gel}$
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**MEASURE 4: COMPLIANCE WITH RECOMMENDED HAND HYGIENE PRACTICES**

- WA hospitals that have existing hand hygiene programs using validated tools that measure compliance (eg Debug, HISWA) can choose to continue to use these tools to measure and report percent compliance according to the validated methodology. In this case, the name of the specific tool used should be indicated on the quarterly report to the OSQH. The numerator and denominator can still be filled in on the worksheet disregarding the differing definition.
- Hospitals without existing validated tools that measure compliance with the below standard, should use the methods and tools described in the IHI How To Guide Measure 4. The two tools are based on the same standard, and both aim to improve hand hygiene practice but calculations differ, and results are **not** comparable.
- OSQH encourages all WA hospitals to move towards using the Hand Hygiene Australia compliance audit tool. If hospitals are submitting data to HHA, they do not have to submit data to OSQH, but should still complete the front sheet of the report indicating that this is the case.

*Standard*

- Health care workers should clean their hands according to policies based on recommendations of Hand Hygiene Australia.

*Measurement Methods and Tools (only if hospitals are not using HHA tool and methodology)*

- Compliance is measured via direct observation by a trained observer (preferably independent), using a standardised procedure and form, for periods of 20-30 minutes at least once a month (may be more frequent if the resources are available), aiming to include as many opportunities as practical in the chosen audit period.
- For definitions, methods and hints see Measure 4 of IHI 5 Million Lives Campaign. How-to Guide: Improving Hand Hygiene  
<http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92F-4BCB844133C2/3266/HandHygieneHowtoGuide.pdf>
- A sample worksheet which may be used or adapted is available from the IHI How-to Guide (pg 31-32): <http://www.ihl.org/NR/rdonlyres/E12206F9-6A81-4520-B92FCB844133C2/3266/HandHygieneHowtoGuide.pdf>
- Analysis of the observations involves a simple calculation of the percentage of patient encounters in which all components were performed correctly:

**Measure 4 calculation:**

$\frac{\text{Number of encounters in which hand hygiene components were performed correctly by observational audit}}{\text{Number of patient encounters in the observation monitoring period}}$	X 100 =	Percentage of patient encounters in which there is compliance by health care workers with all components of appropriate hand hygiene and glove practices
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**MEASURE 5: HEALTH CARE ASSOCIATED MRSA INFECTION RATE**

- The definition and methodology for this measure are the same as those specified by HISWA in the monthly KPI report. Clarification and additional information is available from HISWA staff: [hiswa@health.wa.gov.au](mailto:hiswa@health.wa.gov.au)

*Definition*

- The rate of new health care associated MRSA infections per 10,000 occupied bed days.

*Measurement Methods and Tools*

- A trained infection control professional should collect this information to provide to the CPI team, as interpretation is required. For interpretation of this measure as an indicator of success, it is important to remember that while other hand hygiene improvement campaigns have successfully reduced this outcome, this has not yet been proven in WA which has a unique MRSA epidemiology.
- This data is already collected by Infection Control staff for most WA public hospitals on a monthly basis for aggregation across Area Health Services, and the same data will be used as a proxy indicator for this CPI initiative. On a monthly basis, data is expected to fluctuate markedly, and may not truly reflect improvement processes.
- CPI teams should collaborate with Infection Control staff at their hospital in order to aggregate hospital-level data on a quarterly basis for this outcome measure.

**Measure 5 calculation:**

$\frac{\text{Number of new MRSA infections in the reporting period}}{\text{Number of multi-day occupied bed days}}$	X 10000 =	Rate of new health care associated MRSA infections per 10,000 bed days
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