

Improving the Knowledge and Receptiveness of Medical Students Towards Hand Hygiene
Rajneesh Kaur, University of New South Wales
A Webber Training Teleclass



**Improving the knowledge and
receptiveness of medical students
towards hand hygiene:
Exploring new approaches**

Rajneesh Kaur
Lowy Cancer Research Centre
Prince of Wales Clinical School
University of New South Wales
Australia

Hosted by Jane Barnett
jane@webbertraining.com

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BACKGROUND

- Research conducted to date, has documented hand hygiene (HH) compliance rates for medical students ranging between 8% and 52%.
- While compliance rates have increased in recent years for medical students, they are still well below the ideal levels.
- The audit data by hand hygiene Australia indicate that currently hand hygiene of medical students in Australia is around 80%.
- To date, most studies have focused on trained hospital healthcare workers (HCWs) and have underestimated the role that students also have on infection control as future HCWs.


AIMS

Develop and evaluate a new learning/teaching approach for undergraduate medical students around HH

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Study process


Needs assessment	<ul style="list-style-type: none">• What are the current teaching approaches used to teach HH in medical schools.• What other approaches can be used and how much of the new approaches is required.
Development and pilot testing	<ul style="list-style-type: none">• Evaluation of the teaching module during its delivery i.e. its acceptability and student satisfaction• Modifications made based on student feedback
Evaluation	<ul style="list-style-type: none">• Impact of the module on HH knowledge of the students• Impact on the attitudes of the students.

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Needs Assessment

Three components

1. Literature review
2. Qualitative in depth interviews with medical students and academics at UNSW, Sydney
3. Survey of Deans of Medical Education of Australian medical schools

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Literature review

- Burden of HAIs
- most common microorganisms responsible for causing HAIs
- Healthcare workers' hands and transmission of pathogens causing HAIs
- 'My five moments of hand hygiene'
- Hand hygiene compliance amongst HCWs
- Measuring hand hygiene compliance

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Literature review contd.

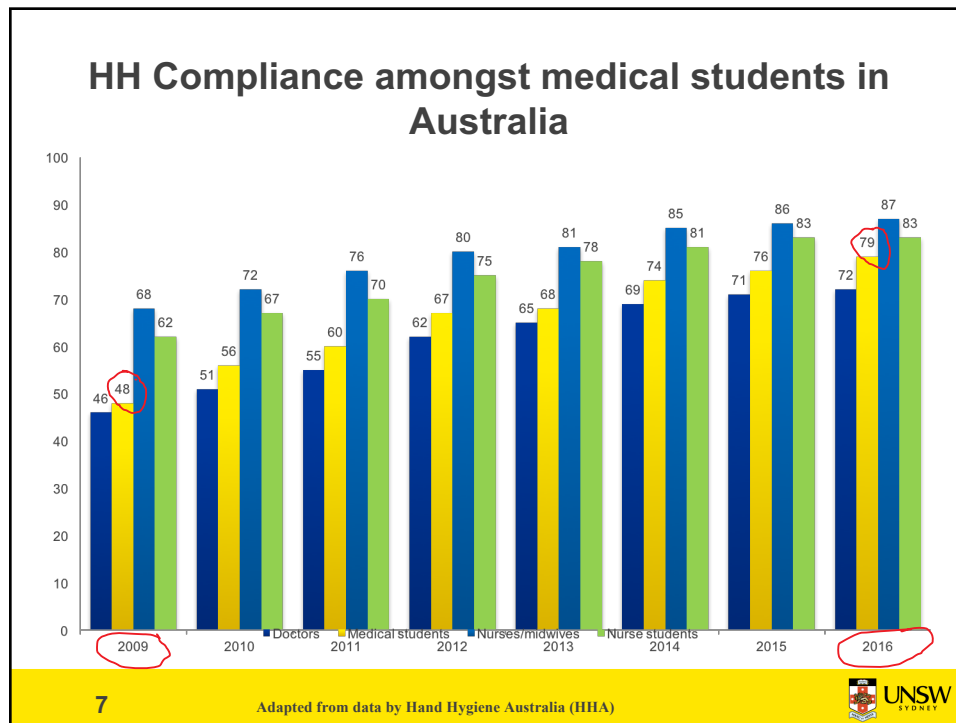
- HCWs' HH compliance worldwide and in Australia
- HH compliance of medical students: worldwide and in Australia
- Facilitators and barriers of HH compliance for all HCWs
- The knowledge, attitudes and practices of medical students towards HH
- Interventions aimed at improving compliance
- Theoretical concepts: Social cognitive models
Adult learning theories

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Qualitative study

Key stakeholder interviews (n=17)

- Key members of the undergraduate medical teaching team (including faculty staff members and clinical supervisors)
- Medical students from the UNSW

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Journal of Hospital Infection 88 (2014) 28–33

Available online at www.sciencedirect.com

Journal of Hospital Infection

journal homepage: www.elsevierhealth.com/journals/jhin



Facilitators and barriers around teaching concepts of hand hygiene to undergraduate medical students

R. Kaur*, H. Razee, H. Seale


School of Public Health and Community Medicine, UNSW Medicine, University of New South Wales, New South Wales, Australia

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Selective forgetfulness

*"I can't recall any lectures on infection control or HH.....So if we were taught it, there was not much emphasis on it".
(Medical student)*

This failure to remember any teaching around HH by medical students is 'selective forgetfulness it happens to the concepts not considered important by students'(Academic)

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Not important

'Monkey see monkey do', in that medical students go onto the ward, fail to see staff complying with HH and perhaps start to feel that while it is ideal to do it, it is 'not really necessary'.

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Inconvenient

'It takes you away from what you're doing, it distracts you, and it's another process you need to remember, so I think there are multiple ways in which people justify to themselves that this is inconvenient'.

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Role models

“In most cases, we just do what the consultants do. When they perform HH they actually encourage us to do the same thing.... We might do it for a day or two afterwards, but then the effect wanes off because we don't see the same consultant for a while.”

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Hidden curriculum

“The hidden curriculum is basically what the students see being done.... For example, if they see clinicians not changing their communication style... students will start doing the same thing”.

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Scenario Based Learning

“Through a scenario whereby students can see the impact of poor infection control practices and think about what they would be and what the outcomes can be and so forth then I think there is some possibility of engaging them around”.

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Assessment

“I don't think I would like to be assessed but I think that would be the best way to learn”.

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Campus based teaching

'Campus based teaching should provide the theory, the scientific rationale... and then in a clinical setting it is more about reinforcing that message and the practical applications.'

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3. Survey of Australian medical school

A questionnaire was sent to all medical schools across Australia (n=17)

Original Article



Exploring the approaches used to teach concepts of hand hygiene to Australian medical students

Rajneesh Kaur, Husna Razee and Holly Seale

Journal of Infection Prevention
2015, Vol. 16(4) 162-166
DOI: 10.1177/1757177415580466
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Current teaching approaches used in medical schools		
Teaching approaches	No.	%age
Case Scenarios	15	88.2
Lectures	15	88.2
Videos	10	58.8
e-learning	6	35.3
Skills stations	17	100
Reflective learning	8	47.1

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Useful learning/teaching approaches for improving HH of medical students			
Approach (N=17)	Disagree n (%)	Agree n (%)	Unsure n (%)
Lectures	9 (52.9)	7 (41.2)	1 (5.9)
Case-based problem solving	5 (29.4)	7 (42.2)	5 (29.4)
Online material	0	12 (70.6)	5 (29.4)
Reflection	0	12 (70.6)	5 (29.4)
Practical exercises	0	15 (88.2)	2 (11.8)

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Original Article

Journal of Infection Prevention

Development and appraisal of a hand hygiene teaching approach for medical students: a qualitative study

Rajneesh Kaur, Husna Razee and Holly Seale

Journal of Infection Prevention
2016, Vol. 17(4) 162-168
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UNSW SYDNEY

Development and pilot testing of the prototype

Qualitative group interviews (8 groups)

- 28 students from year 1 to 5

HH module prototype

- PowerPoint presentation
- Practical demonstration
- Scenario based learning activity
- ~~Interview activity~~


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UNSW SYDNEY

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Contents of the final HH teaching tool

Topics	Resources	Duration
Information about HAIs and HH	Information was based on educational materials utilised by WHO	10 minutes
Practical demonstration of HH	Demonstration of actual technique and duration of HH	5 minutes
HH Scenario	SBL scenario of a medical student forgetting to carry out HH during the clinical skills session in hospital setting	15 minutes

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Phase 3: Implementing and evaluating the developed approach

Journal of Hospital Infection 95 (2017) 355–358

Available online at www.sciencedirect.com



Journal of Hospital Infection

journal homepage: www.elsevierhealth.com/journals/jhin



Short report

Setting the right foundations: improving the approach used to teach concepts of hand hygiene to medical students

R. Kaur*, H. Razee, H. Seale

School of Public Health and Community Medicine, UNSW Medicine, University of New South Wales, New South Wales, Australia

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Study process

Recruitment of medical students from year one and two

T1

Baseline questionnaire at time period T1 (paper based)

T1

Delivery of intervention

T2

First follow up questionnaire at 2 weeks after the intervention, time period T2

T3

Second follow up questionnaire at 6 months after the intervention, time period T3

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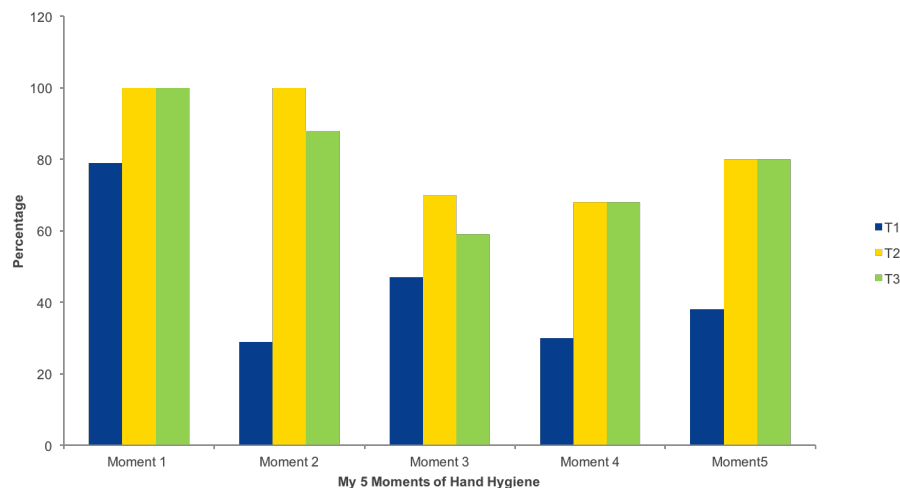
Results: Knowledge and attitude variable mean scores over three periods of time

	Mean (95% CI)			P value
	T1 N=96	T2 N=96	T3 N=80	
Knowledge score HAIs	2.3 (2.2-2.5)	3.8 (3.6-3.96)	3.7 (3.6-3.9)	0.018
Knowledge score HH	7.9 (7.5-8.4)	9.2 (8.8-9.7)	9.1 (8.5-9.4)	0.001
Knowledge score HH materials	1.3 (1.2-1.5)	3.8 (3.6-4)	4.3 (4.1-4.6)	0.004
Knowledge score 'Five moments of HH	3.1 (2.9-3.4)	6.7 (6.5-7)	5.9 (5.7-6.2)	0.012
Knowledge score HH and HAIs	2.8 (2.7-3)	3.8 (3.6-3.9)	3.8 (3.7-3.9)	<0.001
Attitude score	48.5 (47.6-49.5)	56.2 (55.3-57.3)	54.1 (53-55.1)	0.04

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Student knowledge of 'My 5 moments of HH'



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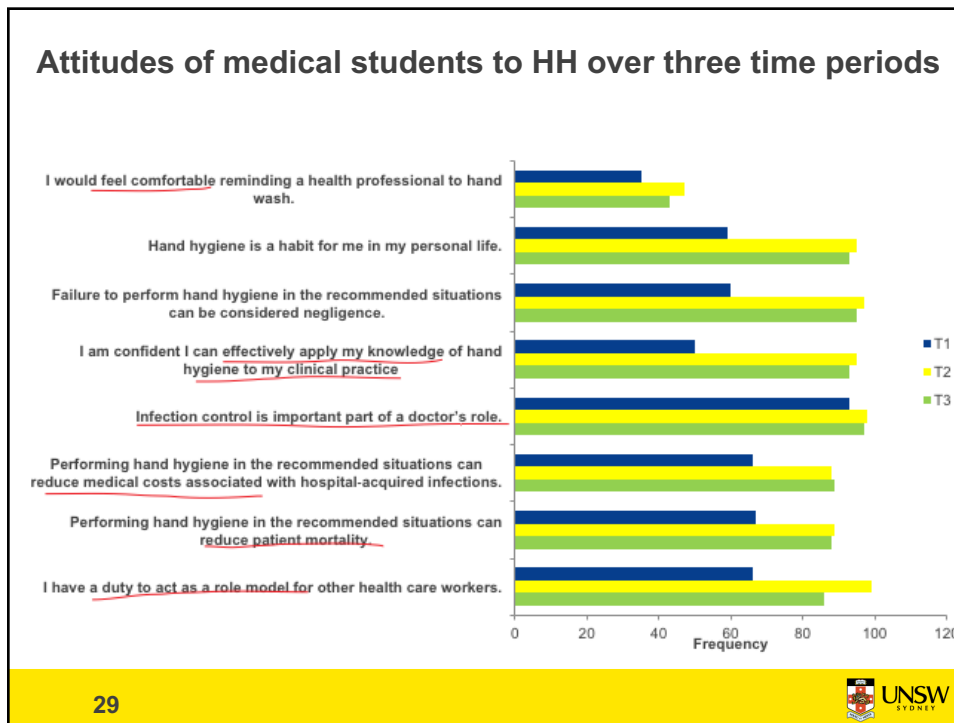


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Student feedback on the HH teaching session done at first follow up survey at time-period 2 (T2)

Statement (n=96)	Agree n (%)	Not sure n (%)	Disagree n (%)
I am satisfied with the <u>amount of information</u> is provided in the session	92 (95.8)	2 (2.1)	2 (2.1)
The information provided was <u>not sufficient</u>	0	9 (9.4)	87 (90.6)
The information in today's session was easy to <u>understand</u>	94 (97.9)	2 (2.1)	0
The length of the session was <u>too long</u>	5 (5.2)	4 (4.2)	87 (90.6)
There were parts of the session that I <u>didn't</u> understand	3 (3.1)	1 (1)	92 (95.8)
The information provided was <u>overwhelming</u>	2 (2.1)	2 (2.1)	92 (95.8)
I <u>trusted the information</u> delivered in the session	93 (96.9)	3 (3.1)	0
The training program in hand hygiene was <u>clinically relevant to infection control</u>	95 (99)	1	0

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Limitations

- Generalisability
- Uncontrolled design
- Self reports vs actual practices
- No long term follow up
- Transition away from the university

Future directions

- Use reflection and assessment
- Check actual compliance
- Use control group/RCTs
- Empowerment

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Acknowledgments

- All academics and medical students who participated in four different studies



Dr Holly Seale



Dr Husna Razeed



Dr Rachel Thompson



Dr Chinthaka Balasooriya

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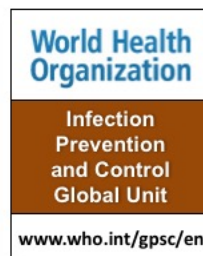


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www.webbertraining.com/schedulep1.php	
February 22, 2018	<p>ROOT CAUSE ANALYSIS TO SUPPORT INFECTION CONTROL IN HEALTHCARE PREMISES Speaker: Dr Anne-Gaëlle Venier, University Hospital Centre of Bordeaux, France</p> <p><i>(FREE ... WHO Teleclass - Europe)</i></p>
February 28, 2018	<p>WHY LEADERSHIP MATTERS FOR EFFECTIVE INFECTION PREVENTION AND CONTROL Speaker: Julie Storr, World Health Organization</p> <p>Sponsored by the World Health Organization Infection Prevention and Control Global Unit</p>
March 8, 2018	<p>INFECTION PREVENTION IN NURSING HOMES AND PALLIATIVE CARE Speaker: Prof. Patricia Stone, Columbia University, New York</p>
March 15, 2018	<p>CLOSTRIDIUM DIFFICILE ASYMPTOMATIC CARRIERS – THE HIDDEN PART OF THE ICEBERG Speaker: Dr. Yves Longtin, McGill University, Montreal</p>
March 22, 2018	<p>CHALLENGES AND FACILITATORS TO NURSE-DRIVEN ANTIBIOTIC STEWARDSHIP: RESULTS FROM A MULTISITE QUALITATIVE STUDY Speaker: Prof. Eileen J. Carter, Columbia University School of Nursing</p>

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