

## Agar Hands - Mandatory Infection Control In-service 2009

### Abstract

Healthcare Associated Infections (HAI) pose a serious threat to all persons admitted to hospital, with HIA noted in an average of 7-10% admissions (Centre for Disease Control, USA, May 2007). Numerous studies show good hand hygiene compliance within a healthcare facility reduces the spread of bacteria and is the most effective and inexpensive measure to prevent HAI. Whilst hand hygiene has been shown to reduce the spread of micro-organisms, healthcare workers have an average compliance of 40%. Many initiatives have endeavoured to encourage staff to adopt hand washing including glow wash and technique compliance. At Redcliffe Hospital an education package has been developed showing the bacteria present on healthcare workers hands while completing care giving tasks throughout a working day. The package has been made into the annual Mandatory Infection Control In-service for 2009 with audio including full description of the associated microbial load on health care worker hands. This education package used in conjunction with the Queensland Health Clean Hands is Lifesaver program has shown to drastically improve hand washing compliance within Redcliffe Hospital.

### Aim

To demonstrate an improvement in staff Hand Washing compliance at Redcliffe Hospital using both the Clean Hands are Lifesaver program and supported by the Agar Hands Mandatory Infection Control In-service 2009

### Nature of Problem

Hand washing compliance within Queensland Health facilities in April 2008, by Hand washing definition, was found to be at 14%. In particular Redcliffe Hospital Hand washing compliance, by the same definition, in April 2008 was found to be at 16%. A two pronged approach was developed firstly encouraging and embracing the Clean Hands Are Life Saver program fulfilling the HQCC Hand Hygiene Standard and secondary Mandatory Education. Mandatory Education had to be new, innovative, clear and concise demonstrating the risk to both the healthcare worker and the patient.

### Extent of Problem

Under the Queensland Health Clean Hands are Lifesaver program, an audit tool was used to determine the level of Hand Washing compliance in two wards of the Redcliffe Hospital. Two audits were conducted monthly, one from a trained member on the ward and the second from an independent clinical auditor. An average of both audits was compiled and a total monthly hand washing compliance obtained (Figure 1).

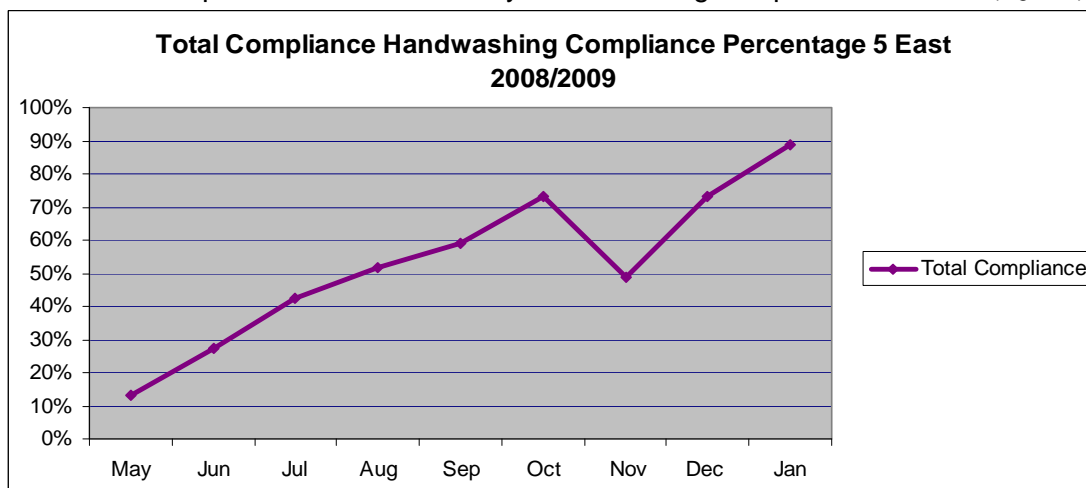


Figure 1: Total compliance of hand washing for ward 5East, based on average of two audits

Education was then sought to provide the staff member with a true indication of the risk associated with poor hand washing compliance. A random healthcare worker was selected and her hands swabbed and cultured, on Horse agar, as she undertook her daily work load. Microbiological load was clearly demonstrated on the commencement of shift (what she was bringing into the hospital), after handover, after first patient contact, before doing a dressing, before going to lunch, before and after application of Micro shield Angel, before and after Hand wash and at end of shift.

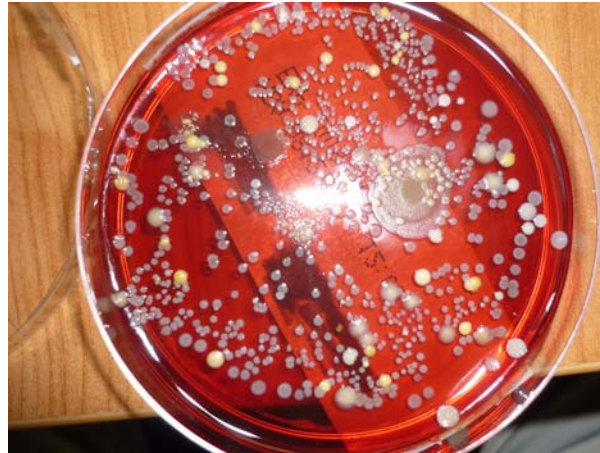


Figure 2: Horse Agar Plate no 10 ( at end of shift; demonstrating what the healthcare worker is taking home from work.)

The Mandatory Education packages used in conjunction with the Clean Hands are Life Saver program has been extremely effective with drastic improvements in Hand Washing compliance within Redcliffe Hospital. Further evaluation of the program's success has also been demonstrated by both staff evaluation and Patient Observation survey. Evidence of this demonstrated by a 65% improvement in Staff Hand washing compliance reported by Redcliffe Patients in recent Patient Observation survey.

### Strategic Importance

The Agar Hands Mandatory Infection Control In-service 2009 used in conjunction with the Clean Hands are Lifesaver program both meets and promotes the new HQCC Hand Hygiene standard. In addition, the program demonstrates reduction in the HAI rates with in the hospital, as noted in *table 1*. Longer data sets and statistical analysis is required to adequately determine the programs success.

Table 1: HAI rates within ward 5East and indication of Clean Hands are Lifesavers Program implementation

<b>eICAT</b> <small>electronic Infection Control Assessment Technology</small>		<b>Significant Organism</b> Organism Summary Date Range 01/01/2008 to 31/01/2009													
<b>2008 Hospital Associated Infections - Ward: L5 East – Surgical</b>															
Organism	Other	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan09	
CMRSA		1	0	0	2	0	0	0	1	0	0	0	0	1	
MRSA		0	1	0	0	1	0	0	0	0	0	0	0	0	
ESBL		0	0	1	0	0	0	0	0	0	0	0	0	0	
OTHER	Norwalk	0	0	1	0	0	0	0	0	0	0	0	0	0	
Rota Virus		0	0	1	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	
↑ Introduction of the Clean Hands Are Lifesavers															

### Planning and Implementing Solutions

Staff survey's conducted in 2007 identified Infection Control Mandatory education as lacking innovation and needing reimplementations. New education needed to be supported firstly by on the floor education from the Infection Control Practitioner and secondly by learning package for those unable to attend sessional hours. The package needed to have audio explaining the risk, identifying microbiota and be fully interactive. The idea was conceived by the Infection Control Practitioner and fully supported by ADON, DON, NUM's, Microbiology and participating wards. Nurse educators within Redcliffe Hospital were also requiring an education package for after hours and weekend education. Patients in the program are included and encouraged to ask staff to wash their hands in promotion of the program. Patients will be given an information brochure encompassing the risk's that can be brought in from home or acquired in Healthcare which will also encourage their visitor's to wash their hands. Signs and T-shirts have also been used to both promote and identify the risk of poor hand hygiene within healthcare. Monthly feedback is given back to the ward of hand washing compliance per discipline, total compliance and HIA data.

### Outcomes and Evaluations

Redcliffe Hospital has increased from 16% Hand washing compliance to a total compliance of 92%, on two wards following the programs implementation. The same audit tool utilised throughout all Queensland Health facilities was used. Recent correlation auditing conducted by independent audits additionally supported the increase in Hand-washing compliance. Similar success has also been noted in two other wards only recently commencing the program. Furthermore a detailed timeline has been implemented for the program encompassing the rest of the hospital.

### Sustaining Change

As can be seen in table 1, a dramatic drop in the total Hand washing compliance was noted between October and November of 2008. Shortfalls in the program have been identified when key stakeholders within the team take temporary leave from the group. This shortfall was mirrored in other wards that have adopted the program and demonstrated equal amounts of improvement. In a bid to manage this shortfall training has been provided to additional team members and promotion of group focus has been encouraged.

### Future Scope

Future endeavours include a publication on identifying the specific microbiota on random staff member's hands across each discipline. Multiple accounts of *Staphylococcus aureus* noted on staff members' hands prove to be a shortfall in the current program. However the resistance patterns of the microbiota were not identified and the real risk not determined. If identified this would promote the importance of hand washing in each discipline. Other Queensland Health hospitals are already approaching Redcliffe Hospital for the education package. Statistical analysis of HAI data using larger data sets and determining a statistical significance would remain a strong endeavour. Future scope also will be to continue and improve our level of Hand washing compliance and continue to remain the leading Hospital in Hand washing compliance within the Metro North District. A paramount venture is to roll out the Clean Hands Are lifesaver program throughout the whole hospital by December 2009 and to achieve 100% compliance in Mandatory education through use of the program by December 2009.