



# HISWA

## Healthcare Infection Surveillance Western Australia

### Quarterly Aggregate Report

Quarter 3 2011 – Number 25

#### HISWA News

- This year the HAIU undertook a major review of the *HISWA Surveillance Manual*. To finalise this project, a workshop was held in November to highlight changes to definitions and clarify other areas of the surveillance program. The manual is now available on our website. We encourage you to download a copy and re-familiarise yourself with the modules relevant to your facility.
- The Australian Commission on Safety & Quality in Healthcare will be releasing consultative editions of the 3 surveillance implementation guides for HA-SAB, Hospital-identified CDI and CLABSI in the near future. We will advise you when these become available and encourage you to feedback to the Commission.

#### Quarter 3 Highlights

- Further reductions in both hip and knee SSI for the 2<sup>nd</sup> consecutive quarter.
- Reduction in both the inpatient and overall MRSA HAI rate.
- Adult ICU CLABSI rate reached ZERO this quarter and there were further reductions in haematology CLABSI rate.
- HISWA recorded the lowest HA-SABSI rate since data collection commenced in Qtr 4 2007.
- The WA aggregate hand hygiene compliance increased in audit period 3 to 70.1%.

#### Quarter 3 Concerns

- Slight increases in both hip and knee **deep** SSI.
- The burden of Hospital-identified CDI increased again this quarter. The overall rate and the rate at the 3 tertiary hospitals has doubled since data collection commenced.
- The haemodialysis cuffed catheter BSI rate rose this quarter.
- Of the 39 HA-SABSI reported 23 (59%) were attributed to intravascular devices.

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#### Data notes for Qtr 3, 2011

- Data from Esperance and Katanning data not finalised.

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# Surgical Site Infection

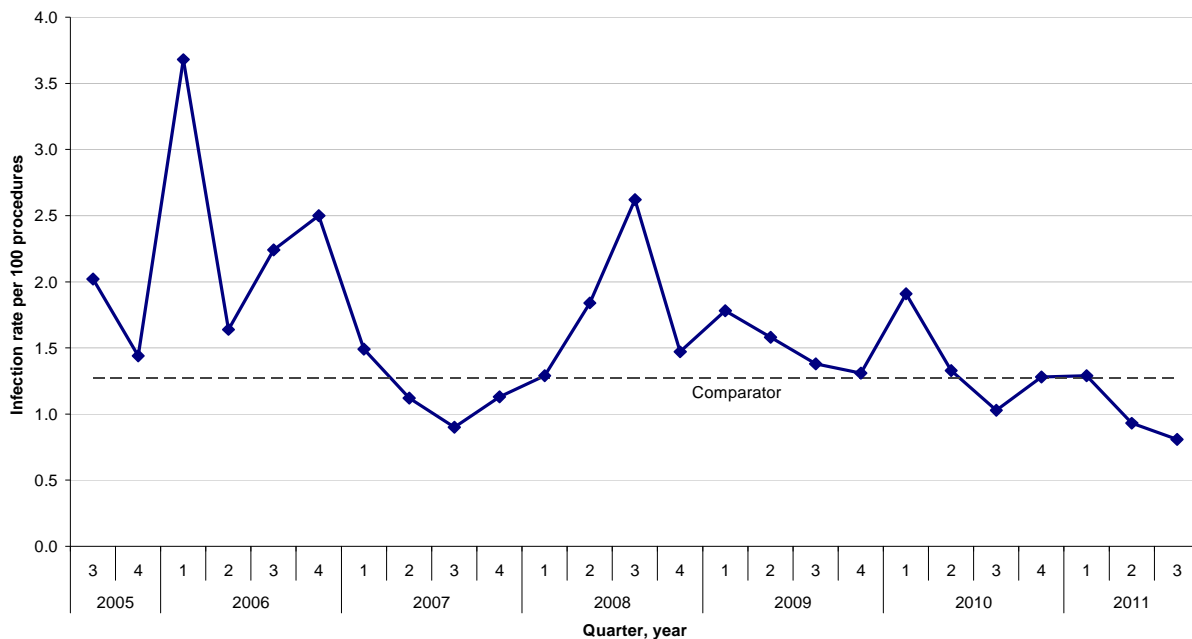
## Hip arthroplasty SSI

	No. of contributing hospitals	No. of procedures	No. SSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [1]
Hip arthroplasty risk all (for hospitals with <100 procedures)	7	233	2	0.86 (0.05 – 3.33)	0.85 (0.45 – 1.59)	Unavailable
Hip arthroplasty risk index 0	13	488	0	0.00 (0.00 – 0.97)	0.98 (0.80 – 1.20)	0.67
Hip arthroplasty risk index 1	13	255	5	1.96 (0.73 – 4.68)	2.40 (2.00 – 2.89)	1.44
Hip arthroplasty risk index 2	13	16	1	6.25 (0.00 – 30.65)	6.67 (4.80 – 9.21)	2.40
Hip arthroplasty risk index 3	13	0	0	0.00 (0.00 – 0.00)	11.11 (0.17 – 45.98)	Unavailable
<b>Total Hip arthroplasty</b>	<b>20</b>	<b>992</b>	<b>8</b>	<b>0.81</b> <b>(0.38 – 1.62)</b>	<b>1.57</b> <b>(1.39 – 1.77)</b>	<b>1.27</b>

Rate per 100 procedures

[1] NHSN

Aggregate Hip Arthroplasty SSI Rate



### Comment

The total hip SSI rate decreased again this quarter to 0.81 infections per 100 procedures, compared to 0.93 infections in Qtr 2 2011. This is below the international comparator rate of 1.27 infections per 100 procedures. The cumulative aggregate of 1.57 infections for all hip arthroplasty remains above the comparator.

# Surgical Site Infection

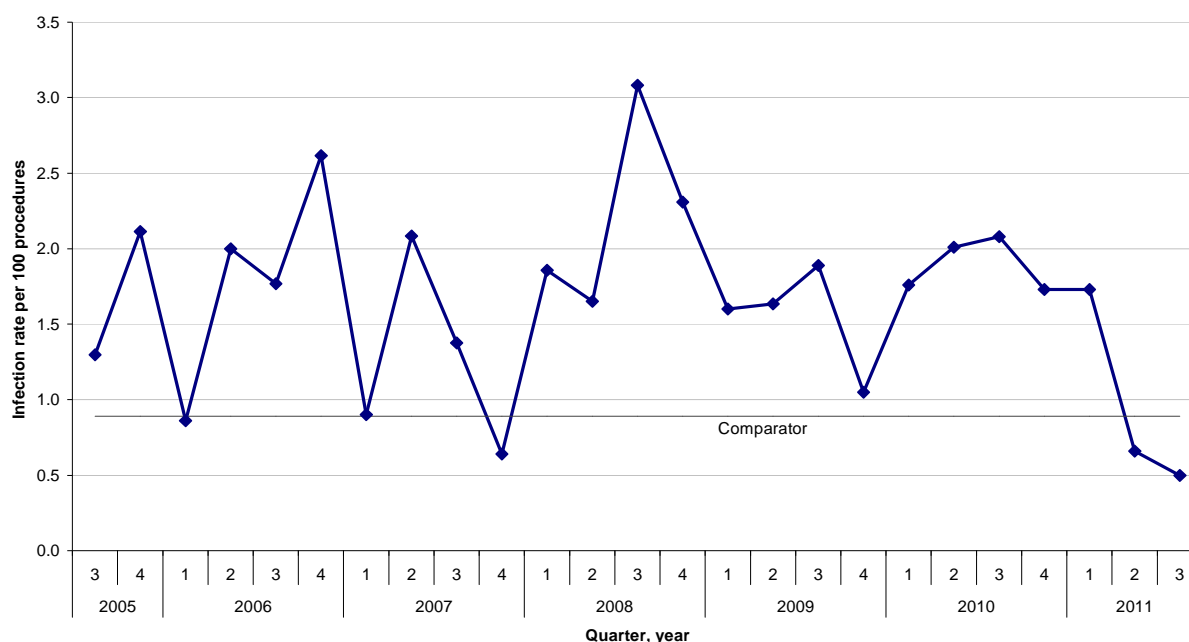
## Knee arthroplasty SSI

	No. of contributing hospitals	No. of procedures	No. SSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [1]
Knee arthroplasty risk all (for hospitals with <100 procedures)	7	284	1	0.35 (0.00 – 2.21)	2.15 (1.57 – 2.93)	Unavailable
Knee arthroplasty risk index 0	13	714	5	0.70 (0.26 – 1.69)	1.15 (0.98 – 1.36)	0.58
Knee arthroplasty risk index 1	13	364	0	0.00 (0.00 – 1.29)	1.94 (1.63 – 2.32)	0.99
Knee arthroplasty risk index 2	13	32	1	3.13 (0.00 – 17.36)	5.39 (3.96 – 7.31)	1.60
Knee arthroplasty risk index 3	13	1	0	0.00 (0.00 – 82.94)	0.00 (0.00 – 40.97)	Unavailable
<b>Total Knee arthroplasty</b>	<b>20</b>	<b>1,395</b>	<b>7</b>	<b>0.50 (0.22 – 1.06)</b>	<b>1.61 (1.45 – 1.79)</b>	<b>0.89</b>

Rate per 100 procedures

[1] NHSN

Aggregate Knee Arthroplasty SSI Rate



### Comment

The total knee SSI rate decreased again this quarter to 0.50 infections per 100 procedures, compared to 0.66 infections reported in Qtr 2 2011. This is below the international comparator of 0.89 infections per 100 procedures. The cumulative aggregate rate of 1.61 infections for all knee arthroplasty remains above the comparator.

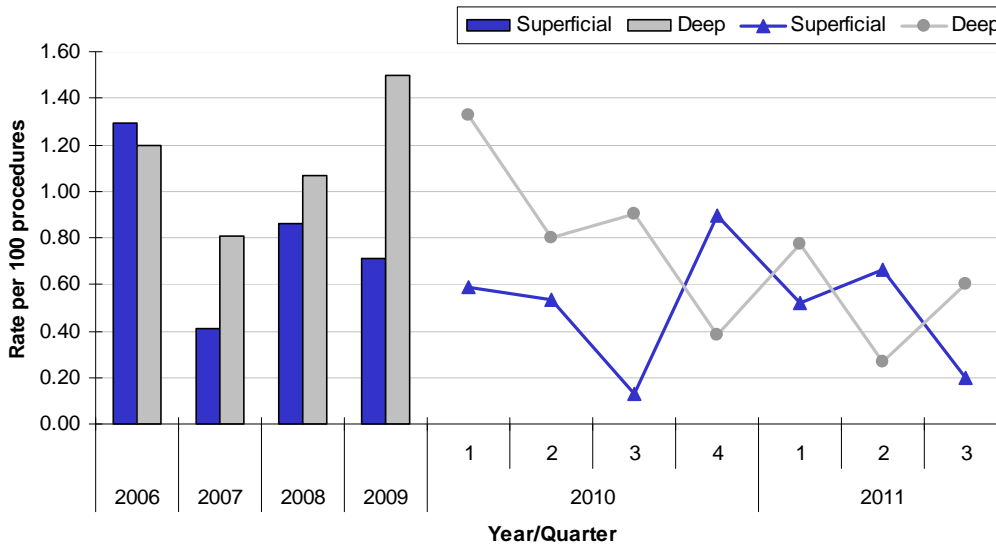
# Surgical Site Infection

SSI – rates stratified by superficial and deep/organ space infections – Q3 2011

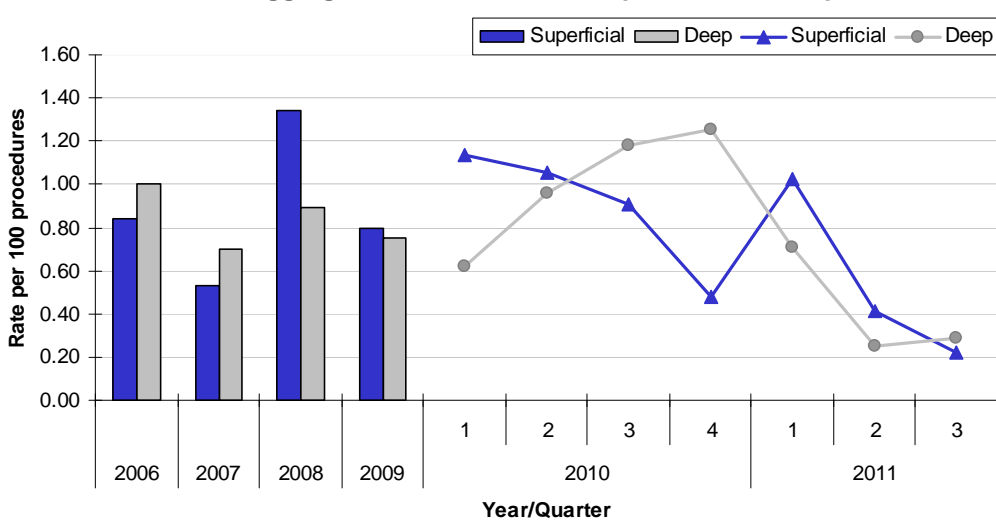
	No. superficial infections	No. deep infections	Total no. infections	No. procedures	Aggregate superficial SSI rate (95%CI)	Aggregate deep SSI rate (95%CI)	Aggregate total SSI rate (95%CI)
Hip Arthroplasty	2	6	8	992	0.20 (0.01 – 0.79)	0.60 (0.25 – 1.36)	0.81 (0.38 – 1.62)
Knee Arthroplasty	3	4	7	1,395	0.22 (0.04 – 0.67)	0.29 (0.09 – 0.77)	0.50 (0.22 – 1.06)
<b>Total</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>2,387</b>	<b>0.21</b> <b>(0.08 – 0.51)</b>	<b>0.42</b> <b>(0.22 – 0.79)</b>	<b>0.63</b> <b>(0.37 – 1.05)</b>

SSI – quarterly rates stratified by superficial and deep/organ space infections

HISWA Aggregate Hip SSI Rates - Superficial and Deep



HISWA Aggregate Knee SSI Rates - Superficial and Deep



## Surgical Site Infection

### Caesarean section SSI

	No. of contributing hospitals	No. of procedures	No. Super SSI	No. Deep SSI	Total No. SSI	Total aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [6]
C-Section risk all	13	363	3	0	3	0.83 (0.18 – 2.55)	0.60 (0.18 – 1.61)	Unavailable
C-Section risk index 0	5	274	3	0	3	1.09 (0.24 – 3.36)	0.66 (0.14 – 2.03)	Unavailable
C-Section risk index 1	5	131	0	0	0	0.00 (0.00 – 3.52)	0.38 (0.00 – 2.39)	Unavailable
C-Section risk index 2	5	7	0	0	0	0.00 (0.00 – 40.97)	0.00 (0.00 – 27.08)	Unavailable
C-Section risk index 3	5	1	0	0	0	0.00 (0.00 – 82.94)	0.00 (0.00 – 82.94)	Unavailable
<b>Total inpatient C-Section SSI</b>	<b>18</b>	<b>776</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0.77</b> <b>(0.32 – 1.73)</b>	<b>0.57</b> <b>(0.27 – 1.15)</b>	<b>0.51</b> <b>(0.47 – 0.54)</b>
<b>Total post-discharge C-Section SSI</b>	<b>18</b>	<b>776</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0.52*</b> <b>(0.16 – 1.38)</b>	<b>0.79*</b> <b>(0.43 – 1.43)</b>	Unavailable
<b>Total C-Section SSI</b>	<b>18</b>	<b>776</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>1.29*</b> <b>(0.6 – 2.40)</b>	<b>1.36*</b> <b>(0.86 – 2.13)</b>	Unavailable

Rate per 100 procedures

[6] ACHS 2006 – 2009

\* These rates are not to be used for benchmarking purposes.

#### Comment

Eighteen hospitals reported caesarean section data for Qtr 3 2011. Of the 776 procedures included in the surveillance, 404 were classified as elective and 372 were classified as emergency procedures. A total of 10 superficial SSI were reported, with the majority (60%) detected in inpatients. Six of the 10 infections were detected in patients undergoing emergency procedures. The majority of hospitals do not stratify by risk index due to low procedure numbers (<100 annually).

Studies have shown that the majority of SSI following caesarean sections are superficial and are detected post-discharge in outpatient settings. In WA, post-discharge SSI are mainly detected by ad-hoc methods, with only three hospitals conducting formal post-discharge surveillance (with low survey response rates reported as 33 – 50%). Therefore, reported rates that include post-discharge surveillance are likely to be an underestimation of true rates.

## Healthcare Associated MRSA Infection

### Inpatient and non-inpatient MRSA rates

	No. of contributing hospitals	No. of MRSA Infections	No. of bed-days	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [2]
MRSA ICU sterile site	10	0	15,204	0.00 (0.00 – 3.14)	0.47 (0.29 – 0.76)	2.26
MRSA ICU non-sterile site	10	0	15,204	0.00 (0.00 – 3.14)	1.38 (1.05 – 1.83)	5.19
MRSA Non-ICU sterile site	45	12	462,154	0.26 (0.14 – 0.46)	0.23 (0.20 – 0.27)	0.25
MRSA Non-ICU non-sterile site	45	27	462,154	0.58 (0.40 – 0.86)	0.62 (0.57 – 0.67)	1.04
<b>Total in-patient MRSA HAI</b>	<b>45</b>	<b>39</b>	<b>477,358</b>	<b>0.82*</b> <b>(0.60 – 1.12)</b>	<b>0.89*</b> <b>(0.83 – 0.95)</b>	<b>1.43<sup>#</sup></b>
MRSA HAI non-inpatient	45	6	NA	NA	NA	Unavailable
<b>Total MRSA Healthcare Associated Infection</b>	<b>45</b>	<b>45</b>	<b>594,208</b>	<b>0.76<sup>†</sup></b> <b>(0.56 – 1.02)</b>	NA	Unavailable

\* Rate per 10,000 multi-day bed-days; <sup>†</sup> Rate per 10,000 multi- and same-day bed-days; <sup>#</sup> Rate per 10,000 patient days [2] SAICS

### MRSA by place of detection for this quarter

Detected	WA CA-MRSA	Imported CA-MRSA	Hospital-associated MRSA	Total
ICU Sterile	0	0	0	0
ICU Non-Sterile	0	0	0	0
Non ICU Sterile	9	0	3	12
Non ICU Non-Sterile	16	2	7	27 (2 untyped)
Non-inpatient	5	1	0	6
<b>Total</b>	<b>30</b>	<b>3</b>	<b>10</b>	<b>45</b>

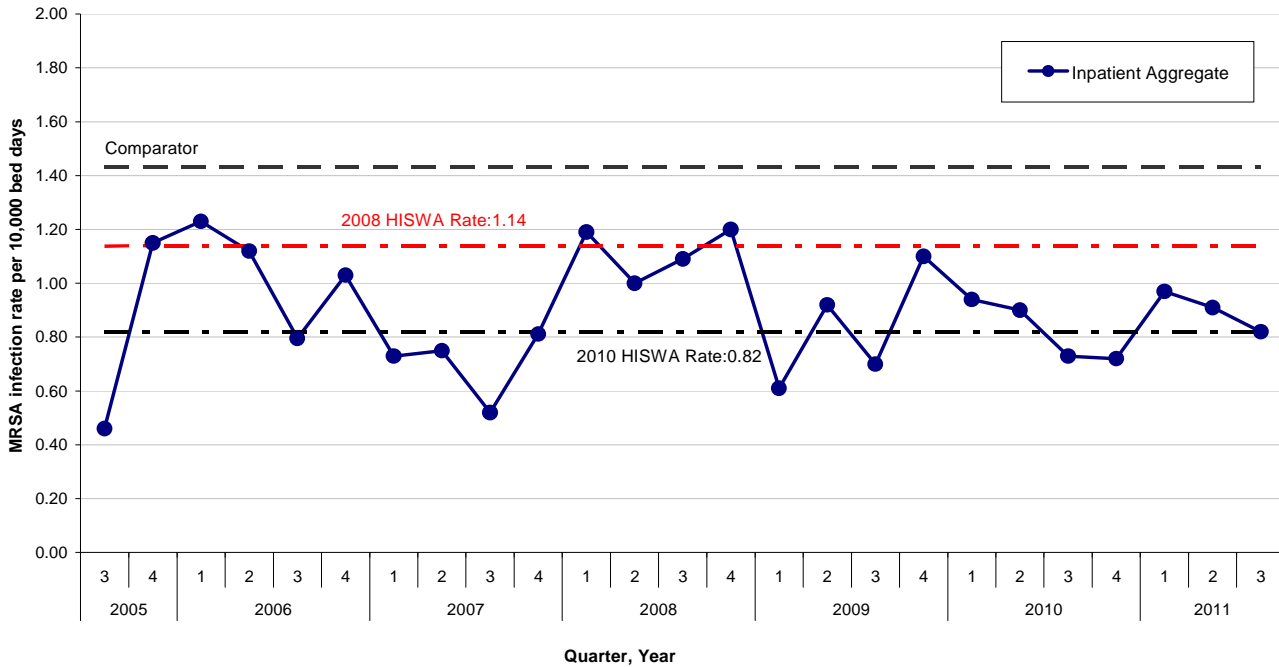
### MRSA by strain analysis for this quarter

MRSA strains causing healthcare associated infections	Count	Percentage
WA community-associated MRSA (CA-MRSA) strains	30	67%
Imported CA-MRSA strains	3 (2 Qld Clone, 1 USA300)	7%
Hospital-associated MRSA (HA-MRSA)	10 (1 AUS2, 9 UK15)	22%

# Healthcare Associated MRSA Infection

## MRSA healthcare associated infections attributed to inpatient care

Aggregate Inpatient Healthcare Associated MRSA infections



### Comment

The majority (86.6%) of all MRSA HAIs were reported from the inpatient setting, and of these, 69% occurred in the non-ICU setting and from non-sterile sites.

The inpatient MRSA HAI rate decreased again this quarter, with 0.82 infections per 10,000 bed-days reported, compared to 0.91 infections reported in Qtr 2 2011. This rate is equivalent to the HISWA 2010 inpatient aggregate rate, and below the comparator of 1.43 infections per 10,000 bed-days.

The overall MRSA HAI rate decreased this quarter, with 0.76 infections per 10,000 bed-days reported, compared to 0.83 infections reported in Qtr 2 2011.

The majority (67%) of MRSA HAIs were caused by MRSA strains that are endemic in the WA community. The number of MRSA HAI caused by imported CA-MRSA stains decreased again, from 4 (9%) in Qtr 2 2011 to 3 (7%) this quarter. The number of MRSA HAI caused by HA-strains increased to 10 (22%) this quarter, compared to 7 (15%) in Qtr 2 2011.

# Hospital *Clostridium difficile* Infection

## *Clostridium difficile* rates by hospital group

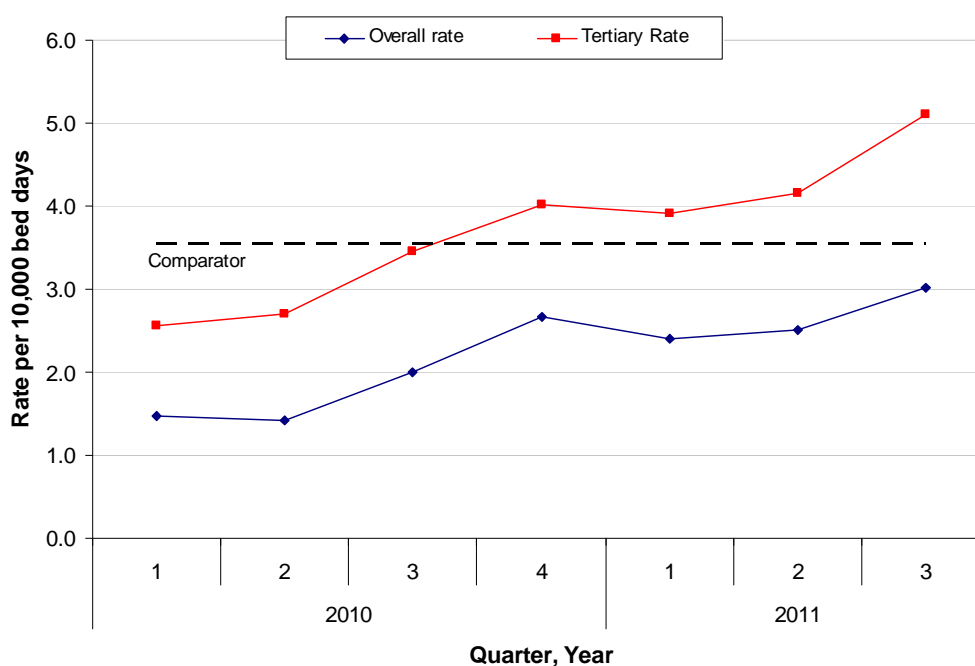
Hospital Type	No. of contributing hospitals	No. of C. Diff infections this quarter	No. of bed-days	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [3]
Tertiary	5	131	256,855	5.10 (4.30 – 6.06)	3.73 (3.45 – 4.03)	N/A
Metropolitan non-tertiary	6	14	80,742	1.73 (1.01 – 2.95)	1.62 (1.31 – 2.01)	N/A
WACHS	21	8	64,733	1.24 (0.59 – 2.50)	1.15 (0.87 – 1.53)	N/A
Private	10	19	166,380	1.14 (0.72 – 1.80)	0.62 (0.49 – 0.79)	N/A
<b>Total</b>	<b>42</b>	<b>172</b>	<b>568,710</b>	<b>3.02</b> <b>(2.60 – 3.51)</b>	<b>2.23</b> <b>(2.09 – 2.39)</b>	<b>3.54<sup>#</sup></b>

\* Rate per 10,000 multi- and same-day bed-days (including psychiatric bed-days)

[3] Tasmanian HAI Report

# Rate per 10,000 patient days

Aggregate *Clostridium Difficile* Infection Rate



### Comment

The HISWA aggregate increased again this quarter, with 3.02 infections per 10,000 bed-days reported, compared with 2.46 infections reported in Qtr 2 2011. The majority (70%) of hospital-identified *Clostridium difficile* infections were reported from the three adult tertiary public hospitals. The tertiary hospital CDI rate and the overall rate have now both doubled since the first reporting period in Qtr 1 2010.

# Haemodialysis Access-associated Bloodstream Infection

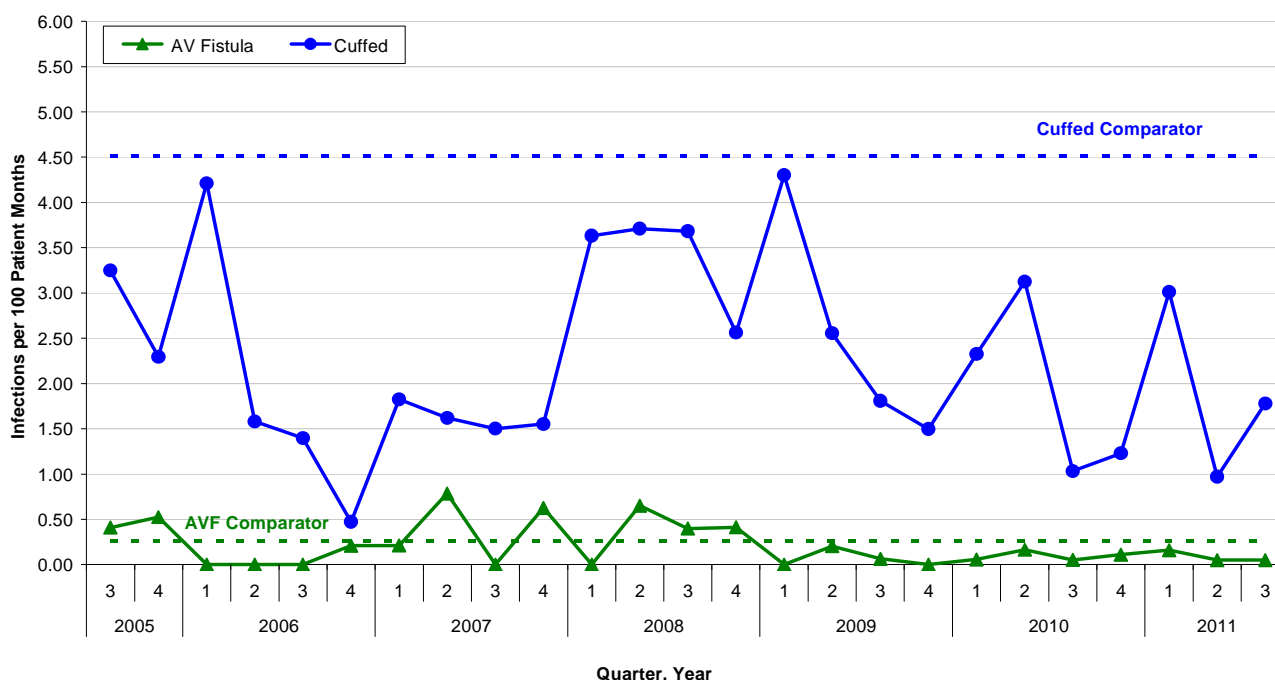
## Haemodialysis associated bloodstream infection by type of access

	No. of contributing haemodialysis units	Aggregate access utilisation ratio (%)	No. of BSI	No. of patient months	Aggregate rate this Qtr (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [4,5]
AV fistula BSI	20	74%	1	1,925	0.05 (0.00 – 0.33)	0.12 (0.08 – 0.18)	0.26
AV graft BSI synthetic and native vessel graft	20	4%	2	109	1.83 (0.13 – 6.95)	0.80 (0.43 – 1.44)	0.67
Cuffed catheter BSI	20	22%	10	561	1.78 (0.94 – 3.31)	2.14 (1.86 – 2.46)	4.51
Non-cuffed catheter-associated BSI	20	<1%	0	13	0.00 (0.00 – 27.08)	3.12 (1.58 – 5.94)	7.76

Rate per 100 patient months

[4, 5] Klevens, R.M et al

Aggregate Haemodialysis Associated BSI: Cuffed Catheter and AV Fistula



### Comment

The majority (74%) of patients received haemodialysis via an AV fistula, which was similar to the ratio reported in Qtr 2 2011 (72%). The rate of AV fistula infections remains low, and has been below the comparator since Qtr 1 2009. The rate of cuffed catheter BSI has increased this quarter, with 1.78 infections per 100 patient-months reported, compared to 0.97 infections reported in Qtr 2 2011. This remains below the comparator.

## Central Line Associated Bloodstream Infection (CLABSI)

### Haematology unit CLABSI

	No. of contributing hospitals	No. of line days	No. of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate
Haematology peripherally inserted CLABSI	2	3,014	2	0.66 (0.03 – 2.62)	2.48 (2.00 – 3.07)	Unavailable
Haematology centrally inserted CLABSI	2	1,106	0	0.00 (0.00 – 4.30)	4.00 (3.27 – 4.90)	Unavailable
<b>Haematology total CLABSI</b>	<b>2</b>	<b>4,120</b>	<b>2</b>	<b>0.49</b> <b>(0.02 – 1.92)</b>	<b>3.10</b> <b>(2.68 – 3.60)</b>	<b>Unavailable</b>

Rate per 1,000 central line days

### Oncology Unit CLABSI

	No. of contributing hospitals	No. of line days	No. of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate
Oncology peripherally inserted CLABSI	2	534	2	3.75 (0.18 – 14.69)	0.26 (0.09 – 0.63)	Unavailable
Oncology centrally inserted CLABSI	2	59	0	0.00 (0.00 – 75.04)	0.00 (0.00 – 8.44)	Unavailable
<b>Oncology total CLABSI</b>	<b>2</b>	<b>593</b>	<b>2</b>	<b>3.37</b> <b>(0.16 – 13.24)</b>	<b>0.25</b> <b>(0.09 – 0.61)</b>	<b>Unavailable</b>

Rate per 1,000 central line days

### Outpatient IV Therapy CLABSI

	No. of contributing hospitals	No. of line days	No. of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate
OPIV peripherally inserted CLABSI	1	0	0	0.00 (0.00 – 0.00)	0.05 (0.00 – 0.31)	Unavailable
OPIV centrally inserted CLABSI	1	0	0	0.00 (0.00 – 0.00)	0.00 (0.00 – 0.00)	Unavailable

Rate per 1,000 central line days

#### Comment

Of the 4 CLABSI reported from specialised units this quarter, 2 were identified in haematology patients and 2 in oncology patients. The haematology CLABSI rate decreased this quarter, with 0.49 infections per 1,000 central line-days reported, compared with 1.15 infections reported in Qtr 2 2011.

# Central Line Associated Bloodstream Infection (CLABSI)

## Adult ICU CLABSI

	No. of contributing hospitals	No. of line days	No. of infections this Qtr	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [6]
ICU peripherally inserted CLABSI	8	466	0	0.00 (0.00 – 10.24)	0.71 (0.03 – 2.80)	0.64
ICU centrally inserted CLABSI	8	3,858	0	0.00 (0.00 – 1.24)	1.30 (1.04 – 1.62)	1.90
ICU total CLABSI	8	4,324	0	0.00 (0.00 – 1.10)	1.27 (1.02 – 1.58)	1.82

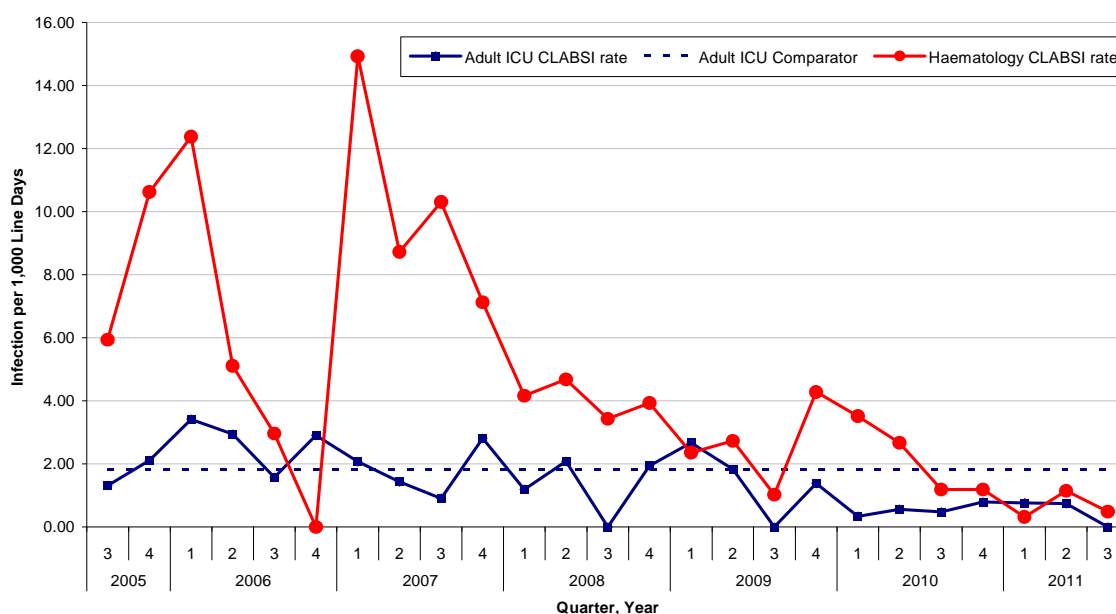
Rate per 1,000 central line days

[6] ACHS 2006 - 2009

## Adult ICU central line utilisation ratio (CLUR)

	No. of contributing hospitals	No. of line days	No. of bed days	Tertiary Aggregate CLUR (%)	Total Aggregate CLUR (%)
Adult ICU peripherally inserted CLUR	8	466	6,809	8.3%	6.8%
Adult ICU centrally inserted CLUR	8	4,324	6,809	74.9%	63.5%

Adult ICU and Haematology CLABSI Rates



### Comment

The aggregate adult ICU CLABSI rate decreased to 0.00 infections per 1,000 central line-days this quarter. This is the lowest reported rate since Qtr 3 2009. The tertiary hospital aggregate CLUR is higher than the total aggregate CLUR for peripherally inserted and centrally inserted central lines.

# Healthcare Associated *Staphylococcus aureus* Bloodstream Infection

(HA-SABSI)

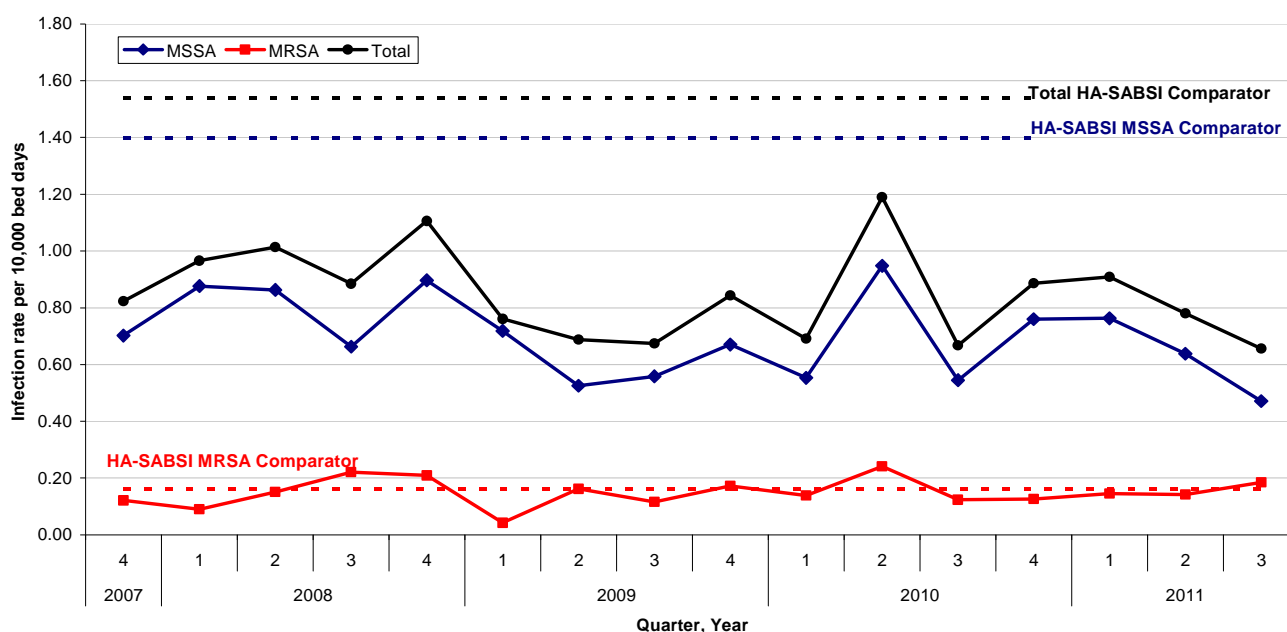
	No. of contributing hospitals	Total No. of bed days	No. of infections	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [7]
Total methicillin-sensitive <i>Staphylococcus aureus</i> (MSSA) bloodstream infection	45	594,208	28	0.47 (0.32 – 0.69)	0.69 (0.64 – 0.75)	1.40
Total methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) bloodstream infection	45	594,208	11	0.19 (0.10 – 0.34)	0.15 (0.13 – 0.18)	0.16
Total <i>Staphylococcus aureus</i> bloodstream infection	45	594,208	39	0.66* (0.48 – 0.90)	0.84* (0.78 – 0.91)	1.54#

\* Rate per 10,000 multi-day and same-day bed-days

[7] TIPCU

# Rate per 10,000 patient days

Aggregate MRSA, MSSA and Total HA-SABSI



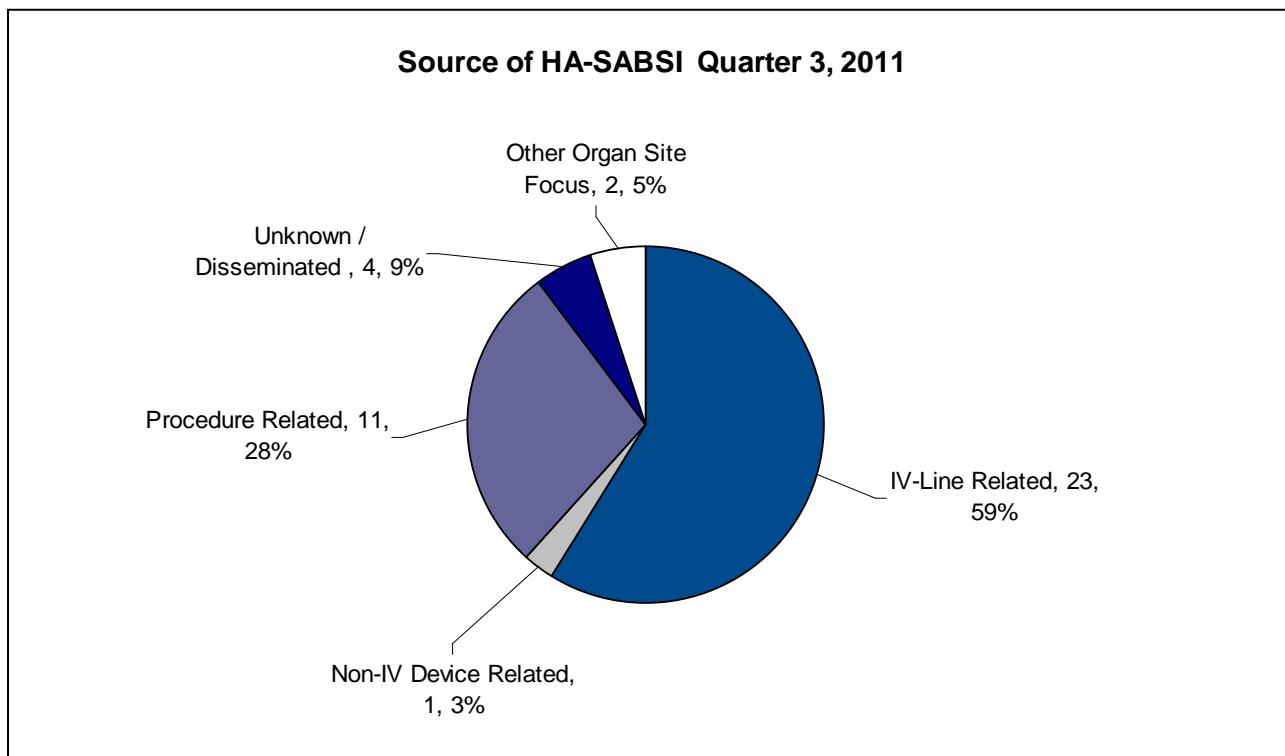
## Comment

The total rate of HA-SABSI decreased this quarter, with 0.66 infections per 10,000 bed-days reported, compared with 0.78 infections reported in Qtr 2 2011. The total HA-SABSI and MSSA HA-SABSI rates remain below the comparator, and the MRSA HA-SABSI rate remains similar to the comparator. This quarter, the MSSA HA-SABSI and total HA-SABSI rates are the lowest since reporting commenced.

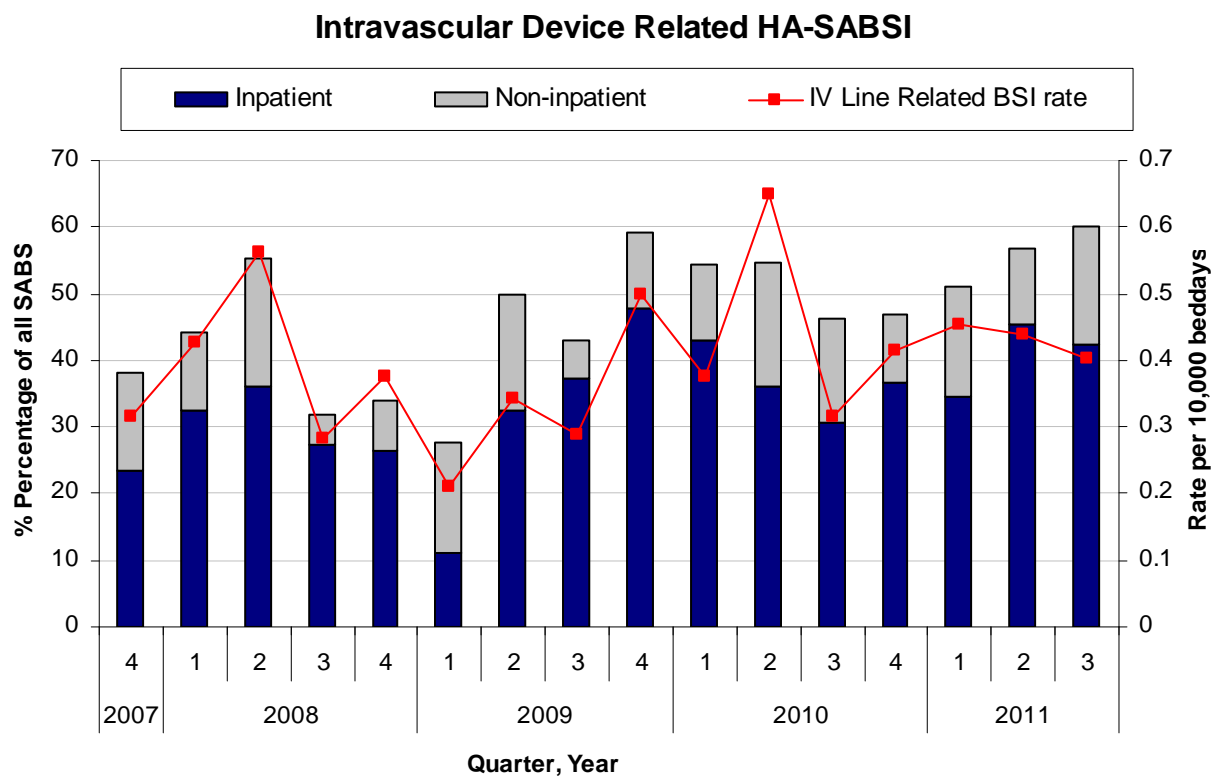
The most frequently identified source for HA-SABSI continues to be intravascular devices (59%). The IVD associated HA-SABSI rate decreased from 0.44 infections per 10,000 bed-days in Qtr 2 2011 to 0.40 infections this quarter.

# Healthcare Associated *Staphylococcus aureus* Bloodstream Infection

(HA-SABSI)



HA-SABSI attributed to intravascular devices



## Occupational Exposure

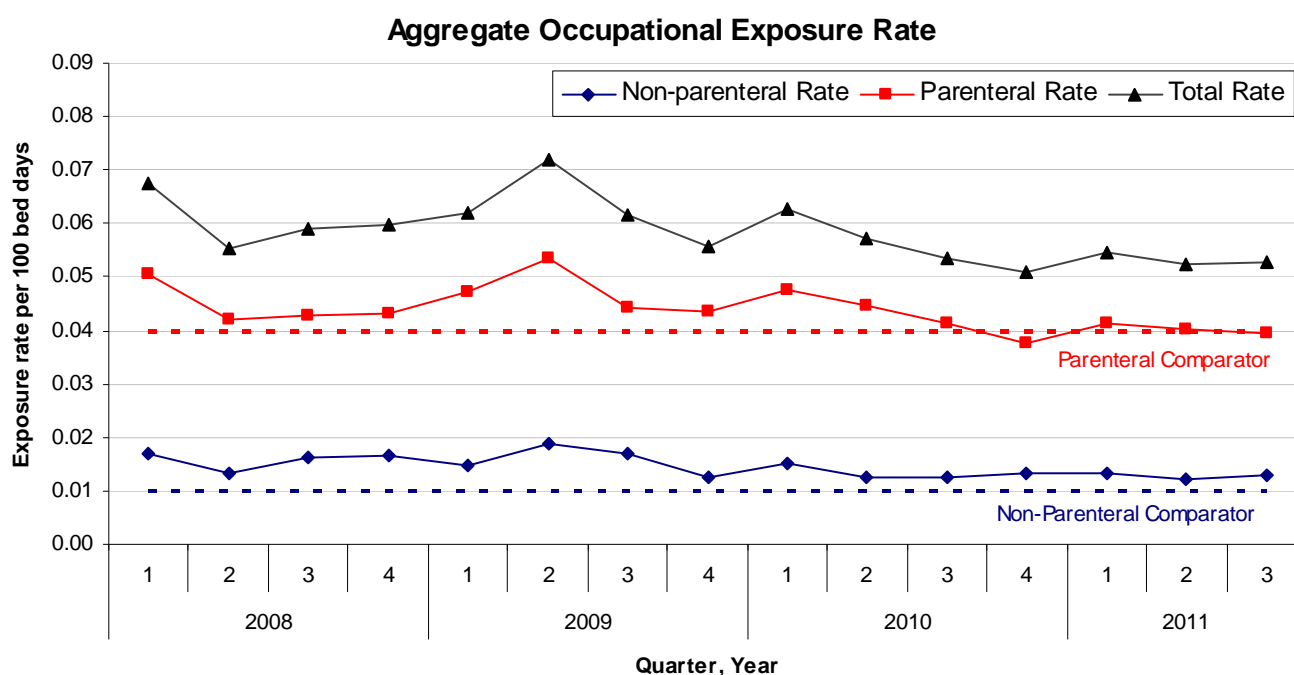
### Occupational exposure – parenteral and non-parenteral

Exposure Type	No. of contributing hospitals	No. of Bed days	No. of Exposures this Qtr	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)	Comparator rate [8]
Non-Parenteral	46	657,965	86	0.01 (0.01 – 0.02)	0.01 (0.01 – 0.02)	0.01
Parenteral	46	657,965	260	0.04 (0.03 – 0.04)	0.01 (0.04 – 0.05)	0.04
<b>Total Exposures</b>	<b>46</b>	<b>657,965</b>	<b>346</b>	<b>0.05</b> <b>(0.05 – 0.06)</b>	<b>0.06</b> <b>(0.06 – 0.06)</b>	<b>Not Available</b>

Rate per 100 bed-days (multi and same day; includes psychiatric)

[8] ACHS 2005 - 2009

### Parenteral and non-parenteral occupational exposure reporting

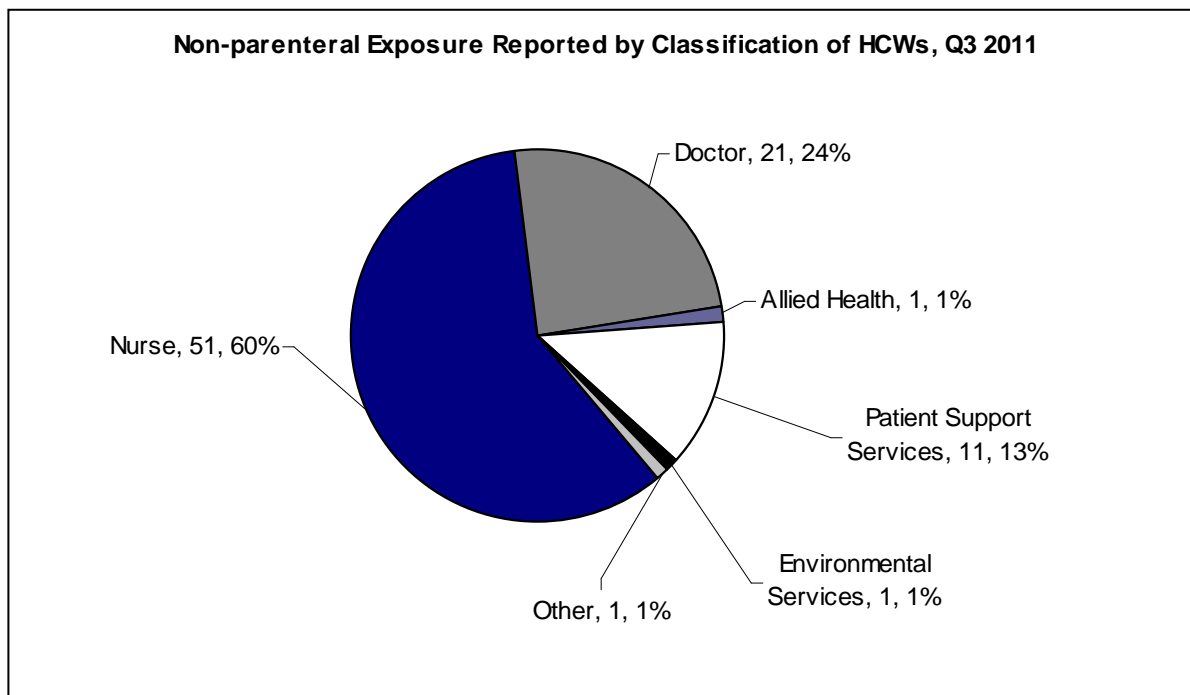


#### Comment

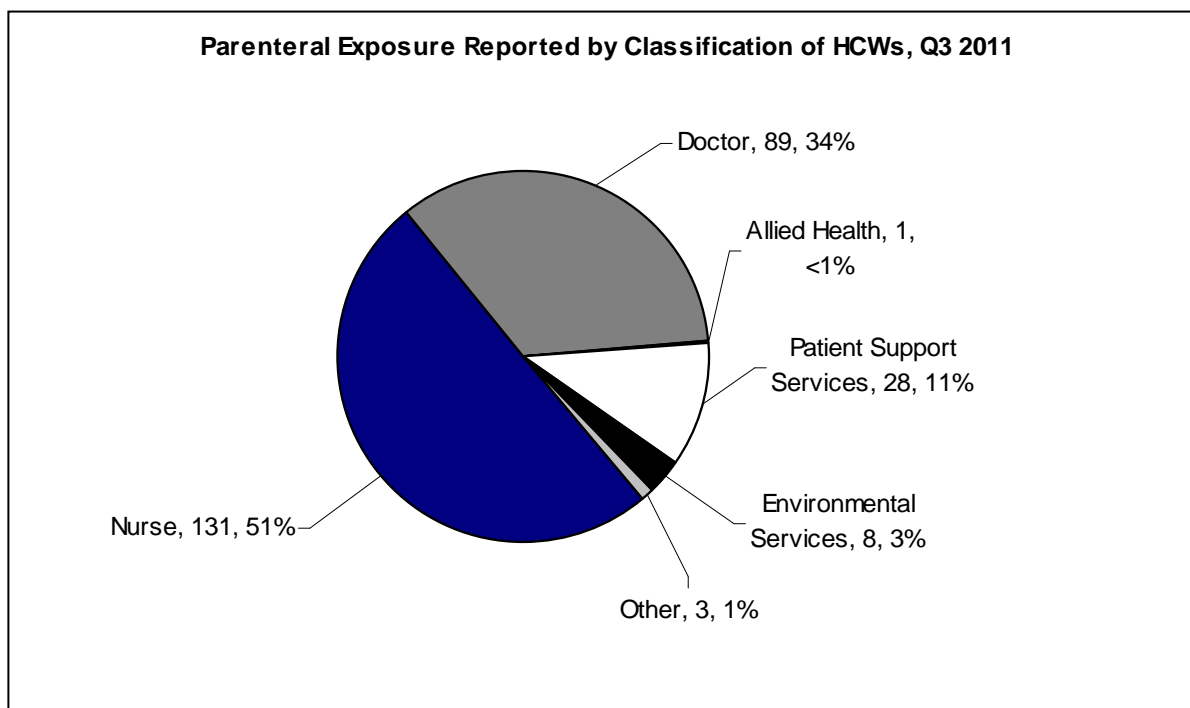
The combined parenteral and non-parenteral exposure rate remained stable at 0.05 infections per 100 bed-days in Qtr 3 2011. The parenteral exposure rate has fallen below the comparator this quarter, while the non-parenteral rate remains slightly above the comparator. The majority of both parenteral (51%) and non-parenteral (60%) occupational exposures continue to be reported by nurses.

## Occupational Exposure

### Classification of HCW reporting a non-parenteral occupational exposure

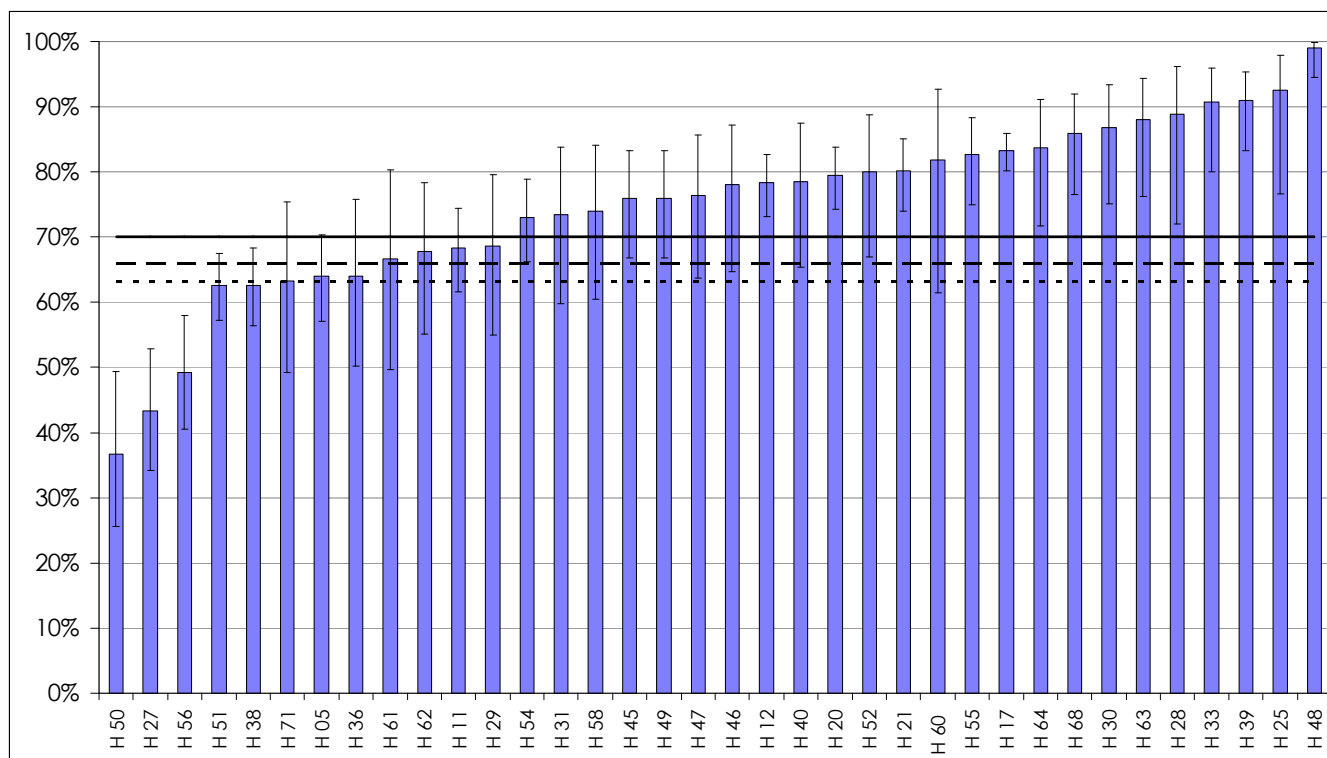
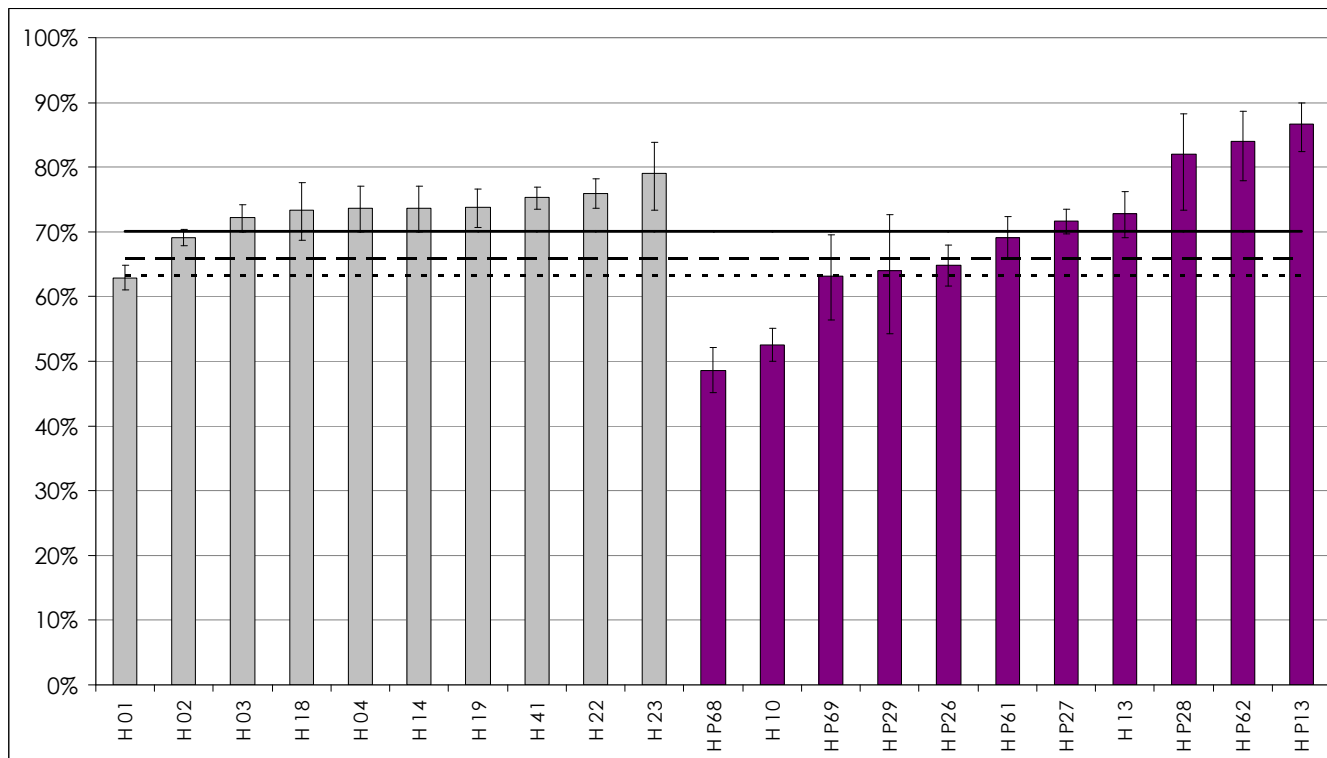


### Classification of HCW reporting a parenteral occupational exposure



# National Hand Hygiene Initiative (NHHI)

Hand Hygiene compliance – WA contributors Audit Period 3 2011 (Jul – Sep)



Metropolitan Public Hospitals		WA Aggregate P1 2011	
Private Hospitals		WA Aggregate P2 2011	
Rural / regional Hospitals		WA Aggregate P3 2011	

## National Hand Hygiene Initiative (NHHI)

### Aggregate hand hygiene compliance by hospital data

Hospital type	Number of contributing hospitals	Number of moments observed	Aggregate compliance period 3 2011 (%) [95% CI]	Aggregate compliance period 1 2011 (%) [95% CI]
Metropolitan Tertiary	5	12,150	69.8 [69.0 – 70.7]	65.6 [64.7 – 66.4]
Metropolitan Non Tertiary	5	3,417	76.2 [74.7 – 77.6]	73.5 [71.9 – 75.1]
WACHS Regional Resource Centre	6	1,755	74.6 [72.5 – 76.6]	69.2 [67.1 – 71.2]
WACHS Integrated District Hospital	12	1,539	71.8 [69.5 – 74.0]	76.7 [74.2 – 79]
WACHS Small Hospital	19	1,073	77.4 [74.9 – 79.8]	74.8 [72.4 – 77.3]
WA Public Hospitals	47	19,934	71.9 [71.3 – 72.5]	68.3 [67.6 – 68.9]
WA Private Hospitals	11	7,439	65.2 [64.1 – 66.3]	59.4 [58.3 – 60.5]
<b>All WA contributors</b>	<b>58</b>	<b>27,373</b>	<b>70.1%</b>	<b>65.8%</b>

#### Comment

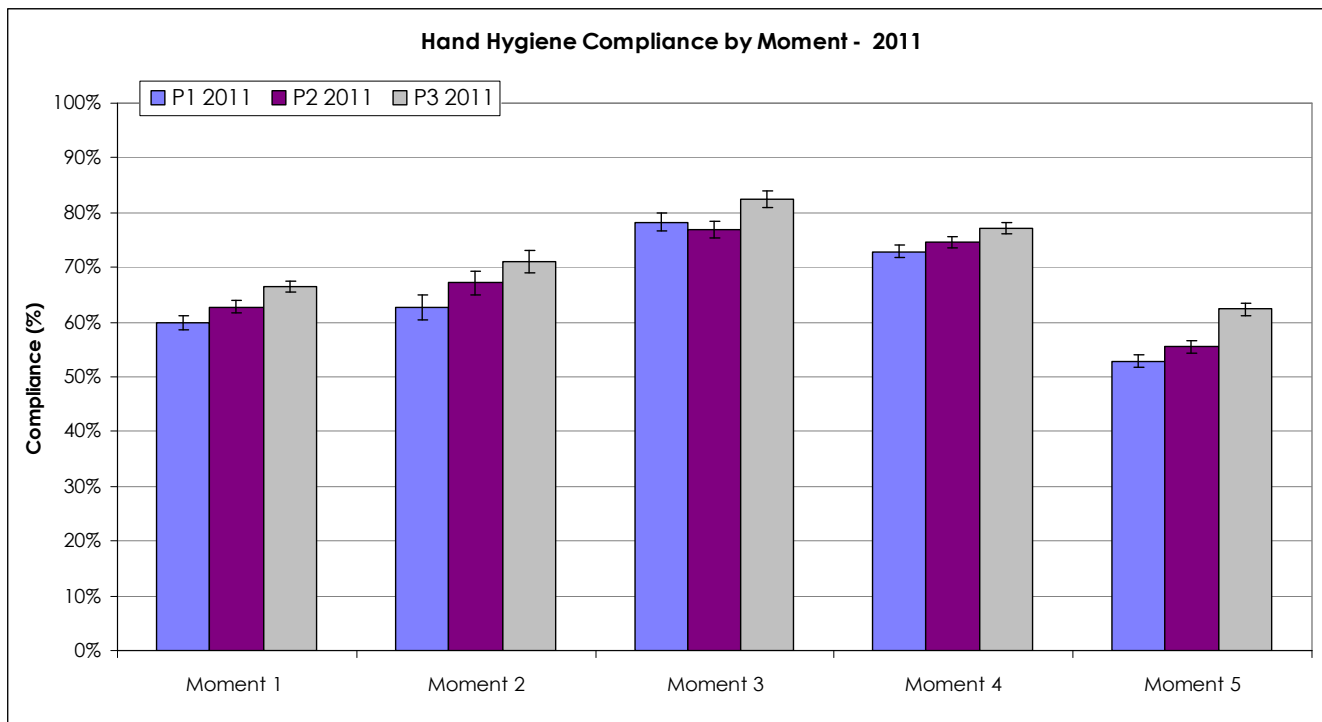
The WA aggregate hand hygiene compliance rate for audit period 3 2011 was 70.1%, a statistically significant ( $p < 0.05$ ) increase from audit period 1 (65.8%). There were improvements in hand hygiene compliance at WA private hospitals with 65.2% compliance in P3 compared with 59.4% in P2 2011. WA public hospitals also increased compliance, with 71.9% aggregate compliance reported in P3, compared with 68.3% reported in P2 2011.

Compliance by moment identifies when healthcare workers (HCWs) perform hand hygiene. Consistent with previous audit periods, WA HCWs were observed to perform hand hygiene more frequently after touching a patient (77.1%) or after a procedure / body fluid exposure risk (82.5%) than before touching a patient (66.6%) or before performing a procedure (71.2%).

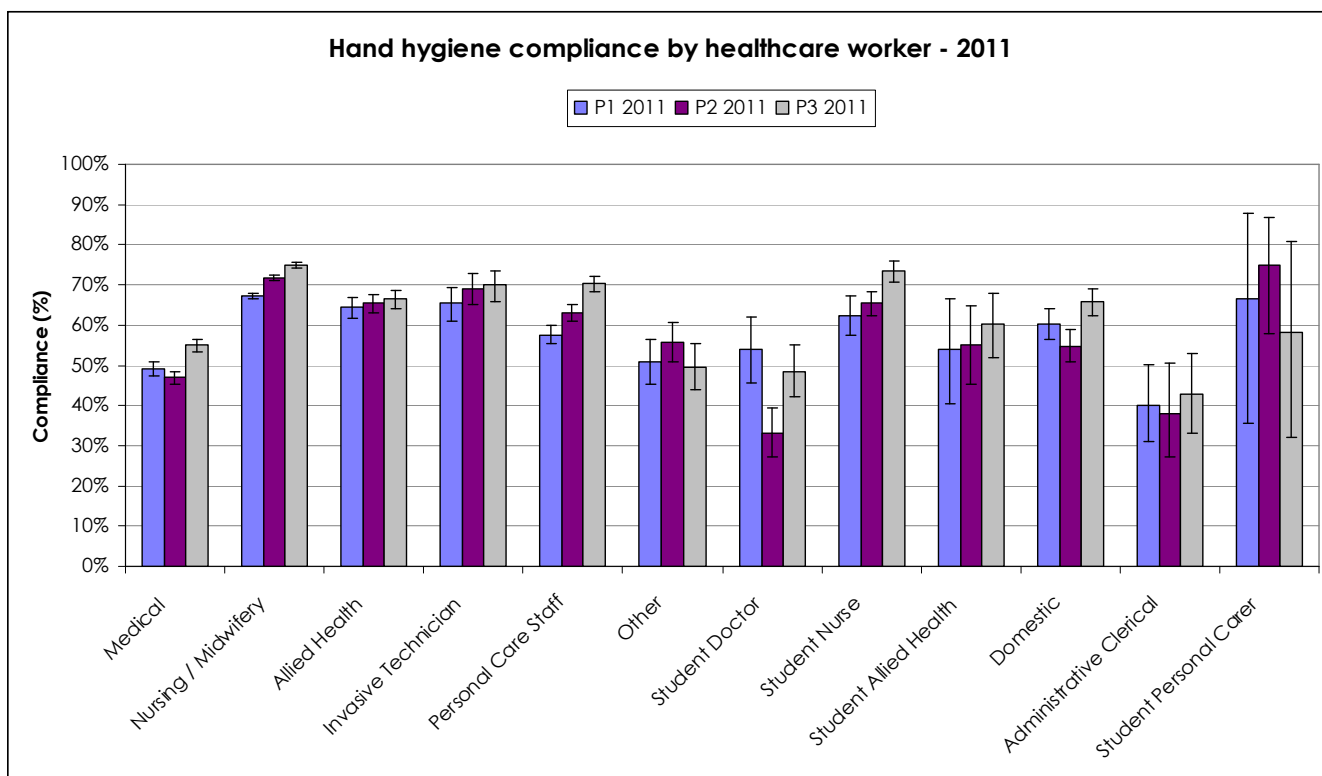
WA HCW hand hygiene compliance, grouped by profession / role, identifies several statistically significant ( $p < 0.05$ ) variations in performance. Of the major HCW professions nursing / midwifery HCWs performed appropriate hand hygiene more often than their allied health or medical colleagues. Ten of the twelve groups of HCWs showed improvements in hand hygiene compliance compared with audit period 2 2011.

# National Hand Hygiene Initiative (NHHI)

Compliance by moment and by HCW group, audit periods 1 – 3 2011



**Moment Category:** Moment 1 – Before Touching a Patient; Moment 2 – Before a Procedure; Moment 3 – After a Procedure or Body Fluid Exposure; Moment 4 – After Touching a Patient; Moment 5 – After Touching a patients’ Immediate Surroundings



**HCW category:** Medical= Intern / Registrar / Consultant / etc; Nursing / Midwifery = a person registered with the Nurses and Midwives Board of Australia; Allied Health = Physiotherapist / Occupational Therapist / etc; Invasive Technician = phlebotomist / dialysis technician / catheter lab technician / etc; Personal care staff = patient care assistant / orderly / nursing assistant / assistant in nursing; Other = clergy, maintenance employees; Domestic = housekeeping / cleaning / food handling staff.

## Notes for Interpretation

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### Surgical Site Infection

- Risk stratification is based on the risk index developed in the USA by the CDC-NHSN
- International comparator (NHSN) used to compare rate per 100 procedures for hip and knee arthroplasty.
- In Qtr 1 2010, HISWA adopted the revised comparator rate from the NHSN [1] i.e. revised hip rate of 1.27 per 100 procedures (prev. 1.51) and revised knee rate of 0.89 per 100 procedures (prev. 1.22).
- ACHS data is used as a comparator for Caesarean sections.

### MRSA

- HISWA contributors use the same numerator and denominator MRSA definitions as the SA surveillance unit. These are consistent with the recently drafted national minimum dataset for multi-resistant organism (MRO) surveillance.
- This area of reporting is undergoing significant evolution nationally and comparison should be possible with other jurisdictions in Australia in the future.

### Clostridium difficile

- Data collection in accordance with the Australian national definition commenced January 2010.
- The purpose of this national indicator is to describe the burden of disease and includes both community and healthcare associated infections. Hospitals are encouraged to collect enhanced surveillance data to establish the rate of healthcare-associated CDI and severe within their facilities.

### Haemodialysis BSI

- An international comparator with a large sample size has been chosen for haemodialysis BSI until this indicator is further developed within other Australian jurisdictions.
- Commencing July 2009 this indicator became part of the mandatory indicator program. The increased data set will enhance the value of the HISWA data.
- The rate per 100 pt-months can be interpreted as: the average % of dialysis patients acquiring an access associated BSI per month.

### Central line associated BSI - Haematology and Oncology and Outpatient IV Therapy

- ACHS current surveillance requirements for Haematology and Oncology Units are for inpatient episodes only, however as patients are often discharged home with long-term catheters in-situ and infections frequently occur outside hospital, HISWA has combined inpatient and outpatient data. ACHS plans to review and recommend this in the future and therefore data will become available from other jurisdictions.
- Currently in WA there are two hospitals reporting Haematology BSI and only one reporting Oncology and Outpatient IV Therapy indicators to HISWA.

### Healthcare Associated *Staphylococcus aureus* Bloodstream Infection (HA-SABSI)

- Submission of HA-SABSI data became mandatory in October 2007
- Rate of HA-SABSI included as indicator in National Healthcare Agreements from 2009
- Rate of HA-SABSI utilised as outcome measure for NHHI

### Central line associated BSI – Adult ICU

- This indicator was included in the mandatory indicator program in October 2009 for hospitals with an Adult ICU.

### Occupational Exposure

- This indicator commenced in January 2008 as part of the mandatory reporting program.
- Participation in this indicator includes mental health facilities in WA.

### Hand Hygiene Compliance

- WA Hospitals participating in the NHHI follow the auditing methodology outlined in the Hand Hygiene Australia '5 Moments for Hand Hygiene' Manual (accessible at <http://www.hha.org.au>).
- In audit period 2, 2010 HCW categories domestic and administrative / clerical were adopted to more accurately categorise health care roles previously grouped under the PSA/PCA/AIN/NA category.

## Comparator references

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1. National Healthcare Safety Network (NHSN) report: Data summary for 2006 through 2008, issued December 2009. *American Journal of Infection Control*, vol. 37, pp. 783-805.
2. South Australia Infection Control Service 2007-2010. Data supplied by personal communication.
3. Tasmanian Acute Public Hospitals Healthcare Associated Infection Report July 2011. Available from: [http://www.dhhs.tas.gov.au/\\_\\_data/assets/pdf\\_file/0006/79251/Surveillance\\_Report\\_No\\_9\\_ending\\_March\\_2011.pdf](http://www.dhhs.tas.gov.au/__data/assets/pdf_file/0006/79251/Surveillance_Report_No_9_ending_March_2011.pdf)
4. Klevens, R.M., Tokars, J.I., Andrus, M 2005. Electronic reporting of infections associated with haemodialysis. *Nephrology News & Issues*. June: 37-43.
5. Klevens, RM, Edwards, JR, Andrus, ML, Peterson, KD, Dudeck, MA, & Horan, TC 2008, 'Dialysis surveillance report: National healthcare safety network (NHSN) – Data summary for 2006', *Seminars in Dialysis*, vol. 21, no. 1, pp. 24-28.
6. Australian Clinical Indicator Report ACHS 2001-2009. [www.achs.org.au](http://www.achs.org.au).
7. Tasmanian Infection Prevention and Control Unit – 2008 - 2010. Data supplied by personal communication.
8. Australian Clinical Indicator Report ACHS 2001-2009. [www.achs.org.au](http://www.achs.org.au).