

# **Survey of Infection Control, Antibiotic Stewardship and Occupational Health Resources in Irish Acute Hospitals**

**SARI Infection Control and Hospital Antibiotic Stewardship Subcommittees**

**Draft Report, November 2004**

## Introduction

The 1999 North/South MRSA study found a relatively high prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) colonisation and infection among patients in Irish hospitals. That study also highlighted deficiencies in infection control and antibiotic stewardship infrastructure in Irish hospitals. For example:

- 41% of hospitals in the Republic of Ireland had written antibiotic policies, compared to 95% in Northern Ireland
- 15% of hospitals in the Republic of Ireland had no access to an infection control nurse, compared to none in Northern Ireland
- 13% of hospitals in the Republic of Ireland had no isolation rooms available for infection control purposes, compared to none in Northern Ireland.

These differences may partly explain the finding that 36% of blood culture isolates in the Republic of Ireland were MRSA, compared to 25% in Northern Ireland.

The problem of antimicrobial resistance (AMR) in Ireland has been further highlighted by the results of the European Antimicrobial Resistance Surveillance System (EARSS), with Ireland having relatively high levels of AMR compared to other European countries.

In response to the North/South MRSA study and EARSS results, and in line with the 1999 European Council of Minister's resolution on AMR, the Strategy for the control of Antimicrobial Resistance in Ireland (SARI) was launched in June 2001. The strategy outlined the scale of AMR in Ireland and recommended improved surveillance of AMR and antimicrobial usage, improved infection control services, strategies to encourage appropriate prescribing of antimicrobials and educational strategies for health care workers, patients and the general public.

Infection control and hospital antibiotic stewardship working groups decided to carry out a survey to determine current resources for infection control, antibiotic stewardship and occupational health in acute hospitals in Ireland.

## Methods

The SARI Infection Control Subcommittee and the SARI Antibiotic Stewardship Subcommittee designed the survey questionnaire. Members these committees working in hospital practice were asked to complete pilot questionnaires for their own institutions. The finalised questionnaires were then sent out to all acute hospitals. Lists of hospitals were obtained from the Irish Medical Directory and Department of Health and Children (DoHC) reports on acute public hospital statistics. Hospitals were included in the survey if they were listed as an acute hospital in DoHC statistics. Private hospitals that carry out inpatient surgical procedures were also included in the survey.

Survey questionnaires were sent to the chief executives of 68 acute hospitals in September 2003 with reminder letters and telephone contact for non-responders. All responses were received by the end of December 2003.

Completed survey forms were scanned into a database using an automated optical reader (Teleform). Results were analysed using Microsoft Excel and EpiInfo.

## Results

### ***1:Hospital characteristics***

Survey forms were sent to 68 hospitals and completed forms received from 66 hospitals. Of these 40 (61%) were acute general hospitals, 11 (17%) were large regional or tertiary referral centres and 15 (23%) were specialist hospitals. The specialist hospitals included four maternity hospitals, four orthopaedic hospitals and two paediatric hospitals. The distribution of hospital grades by Health Board/Authority region is shown in **table 1**. Thirty-six hospitals (55%) were Health Board/Authority-run hospitals, 20 (30%) were voluntary hospitals and 10 (15%) were private hospitals.

**Table 1: Hospital grade, by health board/authority region**

Region	General hospital	Regional/tertiary centre	Specialist centre	Total hospitals
ERHA	9	11	6	26
MHB	4	0	0	4
MWHB	3	1	1	5
NEHB	5	0	0	5
NWHB	1	1	0	2
SEHB	5	1	1	7
SHB	8	2	2	11
WHB	5	1	0	6
<b>Totals</b>	<b>40</b>	<b>11</b>	<b>15</b>	<b>66</b>

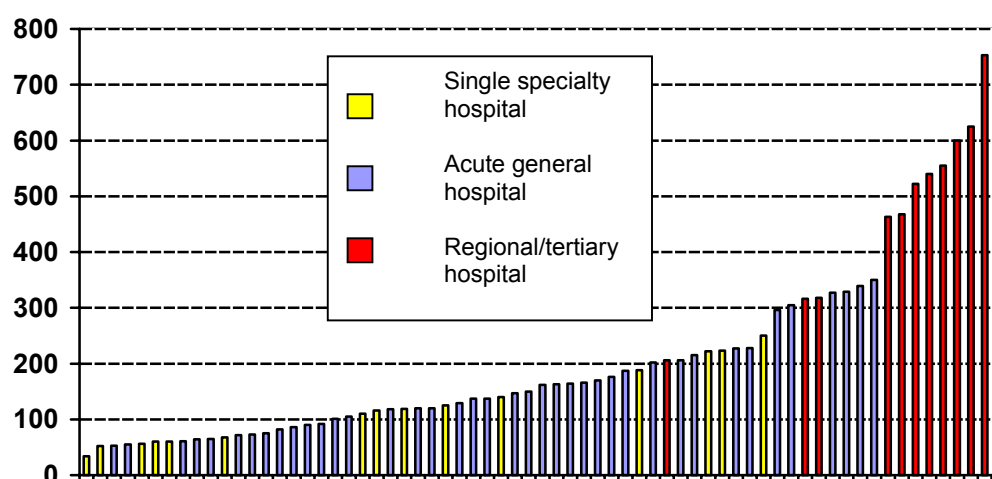
Fifty-six hospitals (85%) had at least one specialist unit, such as an endoscopy unit or intensive care unit. The distribution of specialist units within hospitals, by region, is shown in **table 2**. Inpatient surgery was carried out at all but three hospitals.

**Table 2: Specialist hospital units, by health board/authority region**

Region	Hospitals	Hospitals with ICU (%)	Hospitals with endoscopy units (%)	Hospitals with haematology or oncology units (%)	Hospitals with haemodialysis units (%)	Hospitals with organ transplantation units (%)
ERHA	26	16 (62)	16 (62)	12 (46)	7 (27)	4 (15)
MHB	4	3 (75)	3 (75)	2 (50)	0	0
MWHB	5	3 (60)	3 (75)	1 (20)	1 (20)	0
NEHB	5	5 (100)	5 (100)	1 (20)	1 (20)	0
NWHB	2	2 (100)	1 (50)	1 (50)	1 (50)	0
SEHB	7	4 (57)	5 (71)	4 (57)	1 (14)	0
SHB	11	9 (82)	7 (64)	6 (55)	2 (18)	0
WHB	6	5 (80)	4 (60)	4 (60)	2 (40)	0
<b>Totals</b>	<b>66</b>	<b>47</b>	<b>44</b>	<b>31</b>	<b>15</b>	<b>4</b>

The distribution of acute beds among the hospitals surveyed is shown in **figure 1**. The median number of acute inpatient beds among the 66 hospitals surveyed was 156. For general hospitals the median acute bed number was 142 (range 53-350), for regional/tertiary centres it was 522 (range 206-753) and for specialist centres it was 116 (range 34-250).

**Figure 1: Acute bed numbers, by hospital grade**



## 2: Microbiology and infectious diseases staffing

A summary of microbiology staffing is shown in **table 3**. Fifty-two hospitals (79%) had a microbiology laboratory on site and 44 (67%) of these processed blood cultures on site. Thirty-one hospitals (47%) had on-site consultant microbiologist sessions, with a median of 0.6 whole time equivalents (WTE) (range: 0.1-2.9). Of the 35 hospitals without an on-site microbiologist 16 (46%) had formal off-site access to a microbiologist. A further seven hospitals stated they had off-site access to a microbiologist, but this was without any formal contractual arrangements.

**Table 3: Consultant microbiologists, by region**

Region	Hospitals surveyed	Number of microbiologist posts recommended in SARI report*	Actual number of microbiologist posts*	Number of acute beds per microbiologist post
ERHA	26	21.5	15.5	371
MHB	4	2	0.5	1087
MWHB	5	2	0	0
NEHB	5	3	1	894
NWHB	2	2	1	614
SEHB	7	2	2	651
SHB	11	5.5	3	757
WHB	6	4	1.5	895
<b>Totals</b>	<b>66</b>	<b>42</b>	<b>24.8</b>	<b>546</b>

\*The current and recommended number of posts does not include academic appointments or academic sessions in split appointments.

Seven hospitals had on-site consultant infectious disease physician sessions, with a median of one WTE (range: 0.2-1.8). There were a total of six infectious disease physician posts, though one of these was a locum post. Five of these posts were in the ERHA region and one in the SHB region.

### **3: Infection control nursing staffing**

A summary of infection control nurse staffing by region is shown in **table 4**. Fifty-six hospitals (85%) had an infection control nurse on-site, with a median ratio of one infection control nurse for every 186 acute beds. For all hospitals surveyed the overall ratio was one infection control nurse for every 198 acute beds. The ratio for total hospital beds (acute, long-stay, day care and intensive care) was one per 248. There were a total of 68.4 WTE infection control nurses with a median of 1 WTE (range: 0.1-4) per hospital, excluding the ten hospitals with no infection control nurse.

**Table 4: Infection control nurse (ICN) staffing, by region**

Health board	Hospitals	SARI minimal ICN requirement*	Actual number of ICNs in post
ERHA	26	34	32
MHB	4	5	4
MWHB	5	7	3
NEHB	5	6	4
NWHB	2	6	3
SEHB	7	12	6
SHB	11	14	9
WHB	6	11	6
<b>Totals</b>	<b>66</b>	<b>95</b>	<b>67</b>

\*Based bed numbers from 1996-1997

The 10 hospitals without an ICN on site comprised seven general hospitals, two maternity hospitals and one orthopaedic hospital. These hospitals had a median of 73 acute beds (range: 52-250). Five of these hospitals stated they had access to an ICN at an off-site location, though data was missing for four hospitals.

Ten hospitals (15%) had designated ward nurses with part-time responsibility for infection control, in addition to an on-site ICN. None of the ten hospitals without an on-site ICN had designated ward staff with infection control responsibility.

### **4: Pharmacy staffing**

Sixty-three hospitals (95%) had an on-site pharmacy. Among the 56 hospitals that provided details of the number of pharmacists on-site the median was 2 WTE (range: 0.1-30). Among these 56 hospitals the median number of acute beds per pharmacist WTE was 74.9 (range: 22-1470).

A clinical pharmacy service was provided in 36 (59%) of hospitals with pharmacies (data available for 61 hospitals). The SARI Hospital Antibiotic Stewardship Subcommittee have recommended that all hospitals have at least one full or part time pharmacist with responsibility for antibiotic stewardship. However, only seven

hospitals (12%) with pharmacies had an infectious disease or antibiotic liaison pharmacist (data available for 60 hospitals) at the time of the survey.

A summary of pharmacy services by region is shown in **table 5**.

**Table 5: Pharmacy services, by region**

Region	Hospitals surveyed	Hospitals with pharmacies	Number of acute beds per pharmacist*	Hospitals with a clinical pharmacy service	Hospitals with an infectious disease pharmacist
ERHA	26	26	47	17	4
MHB	4	3	89	2	0
MWHB	5	4	50	3	0
NEHB	5	5	89	0	0
NWHB	2	2	51	2	0
SEHB	7	6	116	4	1
SHB	11	11	230	5	1
WHB	6	6	128	3	1
<b>Totals</b>	<b>66</b>	<b>63</b>	<b>Median: 89</b>	<b>36</b>	<b>7</b>

\*Data missing on seven hospitals

## 5: Occupational health staffing

Among the 62 hospitals that answered the question 18 (29%) had an occupational health physician on-site and 29 (47%) had access to an off-site occupational health physician. There were a total of 16.6 WTE occupational health physicians between these 62 hospitals.

Among the 65 hospitals that answered the question 31 (48%) had an occupational health nurse on-site and 17 (26%) had access to an off-site occupational health nurse. There were a total of 41.4 WTE occupational health nurses between these 65 hospitals.

Eleven hospitals had no access to an occupational health physician or occupational health nurse. These comprised seven general hospitals and four specialist hospitals.

The distribution of on-site occupational health physicians and occupational health nurses by region is shown in **table 6**.

**Table 6: On-site occupational health staffing by region**

Region	Hospitals providing data	On-site occupational health physicians (WTE)	Hospitals providing data	On-site occupational health nurses (WTE)
ERHA	26	7.2	26	15
MHB	4	0.2	4	0
MWHB	5	1.7	5	3
NEHB	5	3.5	5	9
NWHB	2	0.1	2	2.2
SEHB	7	1.1	7	3.6
SHB	11	2.2	11	8
WHB	6	0.8	6	0.6

<b>Totals</b>	<b>66</b>	<b>16.8</b>	<b>66</b>	<b>41.4</b>
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Occupational health issues were dealt with by an ICN in 24 out of 62 hospitals (data missing from four hospitals). Of these 24 hospitals six had a part-time occupational health physician on site, 12 had access to an off-site occupational health physician. Eight of these hospitals had an occupational health nurse on-site and six had access to an off-site occupational health nurse. Six of the 24 hospitals had no access to an occupational health physician or occupational health nurse.

## **6: Antibiotic stewardship resources**

Forty hospitals (61%) had a drugs and therapeutics (D&T) committee. Hospitals with D&T committees tended to be larger than those without (median acute bed number 120 vs. 197 respectively). Hospitals without a D&T committee were more likely to be managed by a Health Board/Authority (19/26) than those with a D&T committee (17/40) (RR: 1.72, 95CI 1.12-2.64, p=0.01).

In four (10%) of these hospitals the D&T committee was based off-site, at another hospital or at Health Board level.

The reported frequency of D&T committee meetings is shown in **table 7**. All 40 D&T committees included a pharmacist, 33 (83%) a hospital administrator, 22 (55%) a microbiologist, seven (18%) an ICN and five (13%) an infectious disease physician.

**Table 7: Frequency of drugs and therapeutics committee meetings (n=40)**

<b>Number of meetings per year</b>	<b># Hospitals</b>	<b>Relative frequency (%)</b>
<1	1	2.5
1	1	2.5
2 to 4	20	50
5 to 8	11	27.5
9 to 12	4	10
Missing data	3	7.5
	<b>40</b>	<b>100</b>

Only seven (11%) hospitals had an on-site antibiotic advisory committee. These comprised three tertiary centres, three specialist centres and one private general hospital. A further five hospitals (8%) had access to an off-site antibiotic advisory committee, based at another hospital site. Most antibiotic advisory committees met two to four times per year.

Thirty-seven hospitals (56%) had an antibiotic formulary. Thirty-two of these hospitals provided data on the frequency of formulary updates: annually in eight (25%), biannually in 9 (28%), every three to five years in 14 (44%) and less frequently in one (3%).

## 7: Antibiotic stewardship interventions

Thirty-six hospitals (55%) had a written antibiotic policy. Ten (28%) of these also had their antibiotic policy available in electronic format. Thirty-two of these hospitals provided data on the frequency of policy updates: annually in six (19%), biannually in eight (25%), every three to five years in 16 (50%) and less frequently in two (6%). Twenty-nine hospitals (44%) included surgical antibiotic prophylaxis in their antibiotic policy.

Thirty-one (86%) of hospitals with a written antibiotic policy provided their policy to all medical staff and the same number provided their policy to all non-consultant hospital doctors at the start of their employment at the hospital. Thirteen (45%) of 29 hospitals referenced local antibiotic susceptibility data in their antibiotic policy (data missing from seven hospitals).

Forty hospitals (61%) used some form of educational intervention to promote prudent antibiotic use. The types of interventions used are shown in **table 8**. Twenty (50%) of these hospitals had an on-site microbiologist, compared to 11 (20%) of the remaining 55 hospitals. The mean number of microbiologists was 1.1 WTE at the hospitals with an on-site microbiology service that had educational interventions, compared to 0.3 WTE at the 11 hospitals with an on-site microbiology service and no educational interventions.

**Table 8: Educational interventions for promotion of prudent antibiotic use (n=40)\***

Type of educational intervention	Hospitals (%)*
Printed materials	17 (43)
Regular presentations (grand rounds etc)	22 (55)
Other presentations (CME events etc)	9 (23)
Reminders put in patient's chart or therapy records	14 (35)
Electronic educational materials	2 (5)
Reminders to individual prescribers	26 (65)
Other intervention	8 (20)

\*Some hospitals used more than one type of intervention

Fifteen (23%) hospitals routinely reported local antibiotic susceptibility data back to clinicians: seven general hospitals, five specialist hospitals and three tertiary. Nine (60%) of these reported data back three to six monthly, four (27%) annually and two (13%) less frequently.

Of the 52 hospitals with an on-site microbiology laboratory 38 (73%) used some form of restricted reporting of antibiotic susceptibility results. Thirty-three (63%) used interpretative reporting of microbiology results and 24 (73%) of these had a microbiologist on-site.

Local antibiotic prescribing audits were carried out at 26 (39%) hospitals. The frequency of prescribing audits is shown in **table 9**. Twenty-one (81%) had carried



out a prescribing audit in the previous three years. However only six hospitals routinely reported antibiotic prescribing data back to clinicians: three general hospitals and three specialist hospitals. Two reported data back three to six monthly, one six to nine monthly and one less frequently (data missing from two hospitals).

**Table 9: Frequency of antibiotic prescribing audit (data available on 24 hospitals)**

Frequency prescribing audits	Hospitals (%)
3-6 monthly	4 (17)
6-9 monthly	2 (6)
Annually	4 (13)
Biannually	3 (9)
Less frequently	11 (34)

Thirty-seven (56%) hospitals restricted access to one or more classes of antibiotics. The types of restrictions used are shown in **table 10**. Seventeen (57%) of thirty hospitals routinely monitored the use of restricted agents (data missing on seven hospitals). Thirty-two hospitals provided details of their restricted agent list and this is summarised in **table 11**. A further four hospitals did not provide a specific list, but indicated that other restrictions applied, such as restriction of non-formulary or expensive antibiotics and follow-up of unusual or prolonged antibiotic prescriptions.

**Table 10: Type of antibiotic restrictions used (n=37)\***

Restrictions used	Hospitals (%)*
Restricted agents can only be prescribed by consultant	19 (70)
Restricted agents can only be prescribed by specified consultants/teams	16 (59)
Restricted agents need approval by microbiologist or infectious disease physician	17 (63)
Other restriction	9 (33)

\*Most of the 37 hospitals used more than one type of restriction

**Table 11: Antibiotics included in restricted agent lists (n=32)\***

Antibiotic class	Hospitals restricting all agents within each class	Hospitals restricting only specified agents within each class	Totals
Glycopeptides	6	4	10
Third and fourth generation cephalosporins	11	4	15
Aminoglycosides, other than gentamicin	3	10	13
Flouroquinolones	2	3	5
Oxaz (linezolid)	NA**	23	
Carbapenems	19	NA***	19
Antifungals	1	5	6
Others <sup>+</sup>	0	16	16

\*Most of the 32 that provided details of their restricted agent list apply restrictions to more than one class of antibiotics

\*\*Not applicable: There is only one agent currently licensed within this class (linezolid)

\*\*\*Not applicable: Most hospitals only use one agent within this class

+ Co-trimoxazole, erythromycin, piperacillin-tazobactam and clindamycin

Fifteen (23%) hospitals audited the use of restricted agents. The classes of antibiotics included in these audits are shown in **table 12**. One hospital stated that they had attempted to audit the use of restricted agents in the past but were forced to abandon this due to lack of resources.

**Table 12: Auditing of restricted antibiotic use (n=15)\***

Classes audited	Hospitals (%)*
Glycopeptides	11 (73)
Third generation cephalosporins	10 (67)
Aminoglycosides	8 (53)
Quinolones	9 (60)
Other class	8 (53)

\*Most of the 15 hospitals that audited the use of restricted agents included more than one class of agents in their audits

No hospitals used specific antibiotic order forms. Five (8%) hospitals, however, did have automatic stop dates for antibiotic prescriptions. Of note three of these five were private hospitals. Twenty (30%) hospitals had an oral switch programme for parenteral antibiotics.

## **8: Infection control resources and training**

Forty-eight hospitals (73%) had an on-site infection control committee. A further seven hospitals (11%) had an infection control committee that was based outside of the hospital (four at another hospital and three at Health Board level). All of the hospitals with an off-site infection control committee were managed by Health Boards (four general and three specialist hospitals). The membership of the infection control committees is shown in **table 13**. The frequency of infection control committee meetings is shown in **table 14**.

**Table 13: Membership of infection control committees (n=55)**

Members of Infection control committee	Committees (%)
Infection control nurse	52 (95)
Senior administrator	47 (86)
Microbiologist	39 (71)
General physician	38 (69)
General surgeon	37 (67)
Occupational health physician	25 (46)
Sterile supplies manager	18 (33)
Infectious disease physician	8 (15)

**Table 14: Frequency of infection control committee meetings (n=50\*)**

Number of meetings per year	Committees (%)
2	13 (26)
3	13 (26)
4	20 (40)
6	2 (4)
8	1 (2)

52	1 (2)
<b>Total</b>	<b>50</b>

\*55 hospitals had an infection control committee (on or off-site) but data on meeting frequency was only available for 50 committees

Only nine hospitals had designated administrative/secretarial support for infection control, with a median of 0.4 WTE (range: 0.1-1). The level of computer and Internet access for infection control is shown in **table 15**. Only six hospitals (9%) had a dedicated budget for infection control. However 47 out of 63 hospitals (75%, data missing on three hospitals) provided funding for continuing education and meeting attendance for infection control nurses.

**Table 15: Level of computer and Internet access for infection control\***

Level of access	Computer (%)	Internet (%)
Designated computer for infection control	45 (79)	42 (71)
Frequent access to shared computer	5 (9)	6 (10)
Occasional access to shared computer	6 (11)	9 (15)
No access	1 (2)	2 (3)
<b>Total</b>	<b>57</b>	<b>59</b>

\*Data missing for nine and seven hospitals respectively

All but one hospital stated that they provide infection control training to staff members. Details of which staff members receive infection control training are shown in **table 16**. Twenty-two hospitals provided training to all of the staff grades included in the questionnaire. Fifty hospitals (82%) provided infection control training as part of the induction process for new staff members. Sixty-one of these provided details of the frequency of training provision and these are shown in **table 17**.

**Table 16: Staff grades receiving infection control education (n=65)**

Staff grades	Hospitals (%)
Nurses	64 (99)
Environmental cleaning staff	60 (92)
Allied Health Professionals	54 (83)
Doctors	47 (72)
Kitchen/catering staff	46 (71)
Other staff	37 (57)

**Table 17: Frequency of infection control training for hospital staff (n=61)**

Frequency of training	Hospitals (%)
1-3 monthly	24 (39)
3-6 monthly	20 (33)
6-9 monthly	4 (7)
Annually	8 (14)
Biannually	2 (3)
Less frequently	3 (4)

## 9: Isolation facilities

All but three (5%) of hospitals had single rooms available for isolation of patients with infection. Fifty-nine hospitals provided data on the number of isolation rooms available, with a median of 10 rooms (range 0-170) per hospital. There was a median of one isolation room for every 16 acute beds (range 1.1-166). The median ratio of acute beds to isolation rooms was highest among voluntary hospitals (22.6, range 2.5-70), followed by Health Board hospitals (16.9, range 3.1-166), and lowest among private hospitals (3.7, range 1.1-6.6). When this analysis was restricted to public hospitals the highest median ratio was among specialist hospitals (22.6, range 2.5-70), followed by general hospitals (17.6, range 3.5-166), and lowest among regional/tertiary hospitals (14.5, range 3.6-62).

Fifty-five hospitals provided data on the number of isolation rooms with *ensuite* bathroom facilities available, with a median of five rooms (range 0-144) per hospital. Twelve (22%) of these hospitals had no *ensuite* isolation rooms. For the 43 hospitals that reported having *ensuite* isolation rooms there was a median of one *ensuite* room for every 18 acute beds (range 1.1-188).

Nine hospitals reported having isolation rooms capable of negative pressure ventilation, with a total of 52 such rooms between them. Five of these hospitals had only one such room and three had ten or more rooms, with all of the latter in the ERHA region. Only four negative pressure rooms were reported outside of Dublin.

## 10: Infection control policies

All 66 hospitals stated that they had written policies for infection control, with 25 (38%) also having policies available in electronic format. Details of specific infection control policies are shown in **table 18**. In addition to the policies listed in table 17, 51 hospitals provided details of other policies, such as a general policy on isolation and transmission based precautions in 26 (51%), Severe Acute Respiratory Syndrome (SARS) in six (12%), tuberculosis in 16 (31%) and Creutzfeldt Jakob Disease (CJD) in 12 (24%). Many of these hospitals also listed policies particular to local specialities, such as exposure to rash illness in pregnancy.

**Table 18: Details of infection control policies (n=66)**

Policy	Hospitals with policy/hospitals that answered question (%)	Policy updated in past three years/hospitals with policy that answered question (%)
Urinary catheter care	47/64 (73)	39/47 (83)
Vascular catheter care	58/63 (92)	49/56 (88)
Decontamination of medical devices	49/62 (79)	37/46 (80)
Post-operative wound care	36/62 (58)	26/33 (79)
Hand hygiene	64/65 (98)	51/63 (81)
Decontamination of endoscopes	46/60 (77)	31/44 (70)
Ward/environmental hygiene	58/63 (92)	47/57 (82)
Healthcare risk waste	61/64 (95)	46/57 (81)
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	65/65 (100)	55/63 (87)

## **11: Surveillance of healthcare-associated infections**

Fifty-five hospitals (83%) stated that they carry out surveillance for healthcare-associated infections (HAI). The types of HAI surveillance are listed in **table 19**.

**Table 19: Surveillance of healthcare-associated infection (n=55)**

Type of surveillance	Hospitals (%)
Alert organism surveillance (e.g. MRSA)	46 (84)
Surgical site infection	17 (31)
Central venous catheter-related infection	23 (42)
Intensive care-associated infection	19 (35)
Urinary tract infection	13 (24)
Bloodstream infection	33 (60)
Gastrointestinal infection	33 (60)

## **12: Staff screening and vaccination**

Sixty-two hospitals (94%) carried out screening of staff for infectious diseases. All 62 hospitals screened for hepatitis B immunity, 43 (69%) for varicella-zoster immunity, 38 (61%) for latent tuberculosis (mantoux testing), 25 (40%) for rubella immunity and 15 (24%) for measles immunity.

Sixty-four hospitals (97%) provided vaccination to staff members, with all 64 providing hepatitis B vaccination, 57 (89%) providing influenza vaccination, 19 (30%) rubella vaccination and nine (14%) BCG

## **13: Hand hygiene**

Sixty-four hospitals provided data on the ratio of hand-washing sinks to acute beds. Twenty-nine hospitals (45%) had one hand-washing sink for every 1-5 beds and a further 29 (45%) had one for every 5-10 beds. The remaining six hospitals had ratios ranging from one sink for every 10 beds to one for every 25 beds.

Fifty-seven hospitals (86%) had alcohol-based hand hygiene agents available. The locations of these agents are shown in **table 20**. Sixty-five hospitals (98%) carried out active promotion of hand hygiene. The types of hand hygiene promotion employed are shown in **table 21**.

**Table 20: Availability of alcohol-based hand hygiene agents (n=57)**

Location	Hospitals (%)
At each hand washing sink	22 (39)
At every ward entrance	16 (28)
At entrance to every multi-bedded bay	14 (25)
At entrance to each single room	36 (63)
At each high dependency/ICU bed	27 (47)
At every bed	11 (19)
Provided to staff in portable form	16 (28)

**Table 21: Hand hygiene promotion (n=65)**

Promotional methods used	Hospitals (%)
Posters	60 (92)
Leaflets	27 (42)
Presentations	52 (80)
Active reminders	42 (65)
Other hand hygiene promotion*	26 (40)

\*Other activities included hand hygiene awareness weeks/days in 13 hospitals and use of hand plating or ultraviolet light techniques to demonstrate hand hygiene in 10 hospitals.

## **Acknowledgements**

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