

NHS Greater Glasgow &amp; Clyde

NHS Board Meeting

25<sup>th</sup> June 2019

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Medical Director

Paper No: 19/32

## Healthcare Associated Infection Reporting Template (HAIRT)

**Recommendation:** For noting

**Purpose of Paper:** Update on NHSGGC performance against Healthcare Associated Infection standards and performance measures.

### **Key Issues to be considered:**

Please note that validated data for Quarter 1 2019 (January – March) is not available for inclusion in this report.

Validated HPS / ISD data : Quarter 4 (October - December) 2018					
		Healthcare Associated Rate per 100 000 bed days		Community Associated Rate per 100 000 population	
		GGC	National	GGC	National
<b>S. aureus Bacteraemia</b>	<b>104 cases</b>	21.1	17.7	5.4	8.3
<b>C. difficile in age 15+</b>	<b>89 cases</b>	16.1	13.8	7.5	7.0

**Table 1** NHSGGC and national comparison rates for 01/10/2018 – 31/12/2018.

- **104** validated *Staphylococcus aureus* Bacteraemia (SAB) cases were reported for October to December 2018 with a Healthcare Associated rate of 21.1 cases per 100,000 bed days (n=88). This is above the national rate but within expected confidence intervals. SABs remain a priority and the SAB group continues to meet on a regular basis and implement actions based on emerging evidence and quality improvement initiatives.
- **89** validated *Clostridioides*(formerly *Clostridium*) *difficile* (CDI) cases in ages 15 and over were reported for October to December 2018 with a Healthcare Associated rate of 16.1 cases per 100,000 bed days (n=67). This is a reduction in CDI cases upon the previous reporting quarter, however is above the national rate but within expected confidence intervals. Number of cases continues in a downward trend in Quarter 1 of 2019.

**Any Patient Safety /Patient Experience Issues:** Please refer to outbreaks and Incidents

**Any Financial Implications from this Paper:** No

**Any Staffing Implications from this Paper:** No

**Any Equality Implications from this Paper:** No

**Any Health Inequalities Implications from this Paper:** No

**Has a Risk Assessment been carried out for this issue? If yes, please detail the outcome:** No

**Highlight the Corporate Plan priorities to which your paper relates:**

Patient Safety and improving quality, efficiency and effectiveness.

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**Date:** 25/06/19

## Healthcare Associated Infection Reporting Template (HAIRT)

### Section 1 – Board Wide Issues

This is the bi-monthly publication of the reporting template for submission to the NHS Board as required by the national HAI Action Plan.

### Changes to National Definitions/Denominators

This HAIRT presents data based on the revised national definitions of Healthcare Associated and Community Infections. Below is a short summary of the definitions which have been applied to the presented data.

### Definitions/Denominators

Reports now have rates split into two:

- Healthcare Associated Infections i.e. *any infections associated with Healthcare (hospital or GP)*. Rates are worked out by number of infections over total occupied bed days (OBDs).
- Community Associated Infections. Rates are calculated as the number of infections per 100,000 population.

### *Staphylococcus aureus*

#### *Staphylococcus aureus* Bacteraemia (SAB) Surveillance and Actions

Please note that validated data for Quarter 1 2019 (January – March) will not be published until early July.

#### Quarter 4: 2018 (October - December) Surveillance

For the last published reporting quarter (October-December 2018) NHS Greater Glasgow & Clyde reported a total of **104** validated SAB cases. These are further classified as healthcare associated (n=88) or community infections (n=16).

**88** healthcare associated cases were reported for the quarter equating to a rate of 21.1 per 100,000 occupied bed days (Figure 1). This is above the NHS Scotland rate of 17.7. However the GGC rate remains within expected confidence intervals.

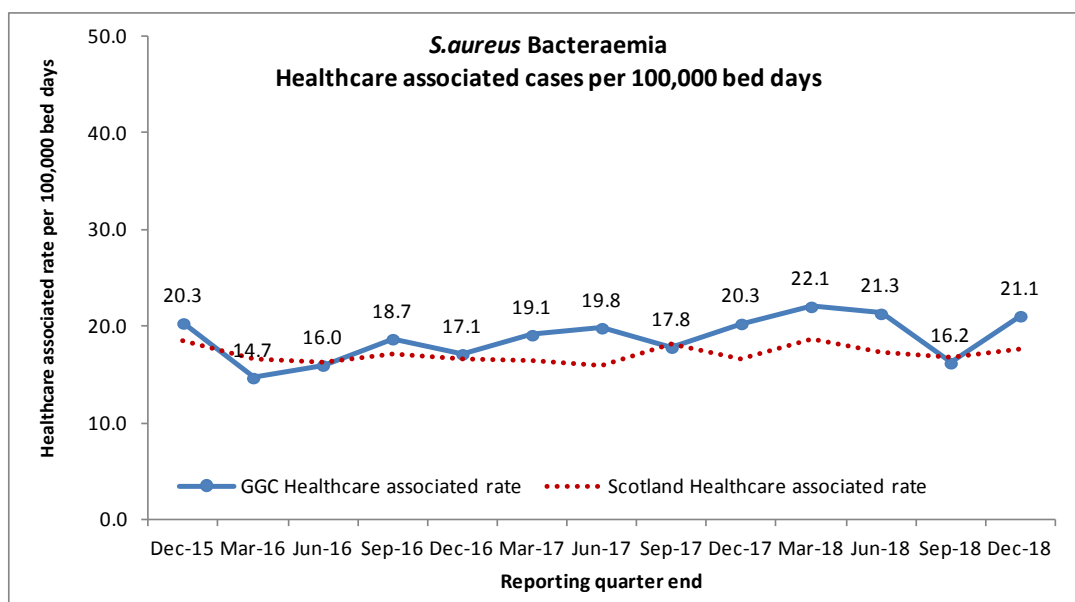


Figure 1 Healthcare associated SAB comparison by quarter for NHSGGC and Scotland.

Community associated infections are reported against a denominator rate per 100,000 population (Figure 2). These cases include SABs in people who have had no healthcare interaction as an in-patient, out-patient or via Health & Social Care Partnerships (HSCP) in the 30 days prior to SAB onset and are not users of registered medical devices such as urinary catheters. These cases are therefore less amenable to reduction measures within GGC Acute hospitals. The rate of community associated infections in NHSGGC was 5.4 compared to 8.3 in NHS Scotland which is below the Scottish average. It should be noted that the process for reviewing all cases in NHSGGC is rigorous and includes all available sources of data.

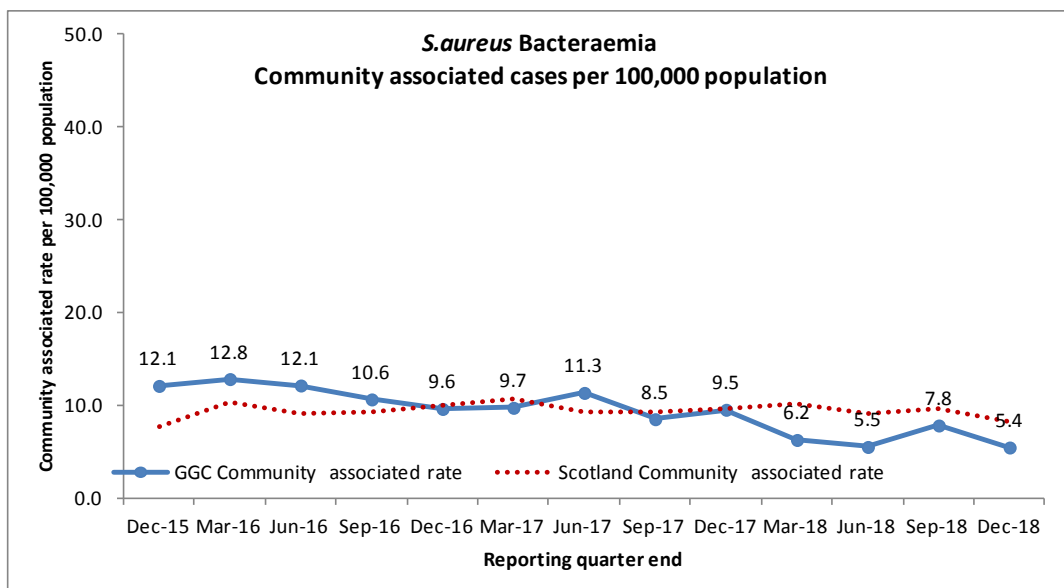
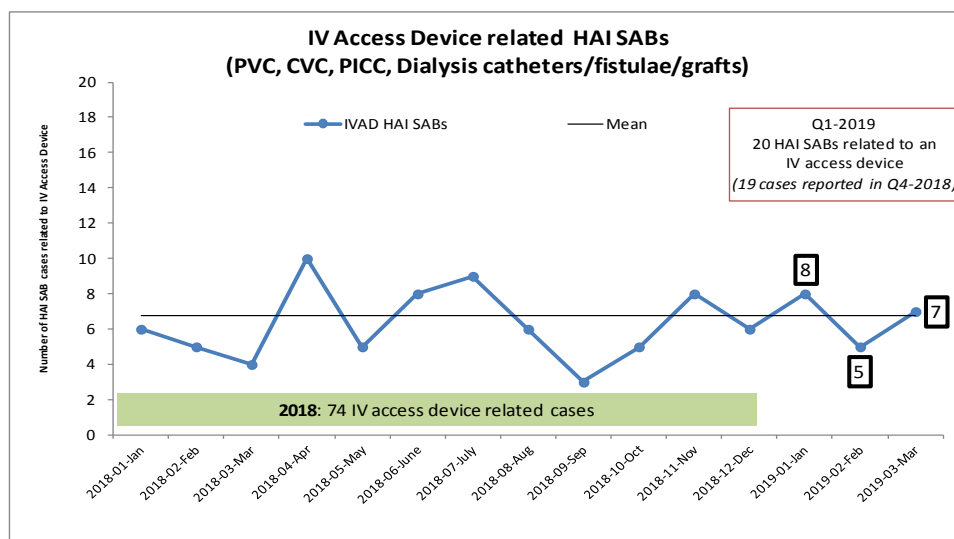


Figure 2 Community associated SAB comparison by quarter for NHSGGC and Scotland

**Quarter 1: 2019 (January - March) NHSGGC Surveillance**

**Data for January to March 2019 will not be published by HPS until early July.** We have locally reported 45 SAB cases in January (31 healthcare associated and 14 community). February noted a slight reduction with 40 cases (24 healthcare associated and 16 community). There was a further reduction in March with 30 cases in total (25 healthcare associated and 5 community). There have been 80 healthcare associated cases in this quarter which is a reduction from the previous quarter (n=88).

20 IV access device related HAI SABs have been reported in the current quarter (Figure 3). IPCT will continue to monitor and return information to clinical sectors and directorates for action. This graph includes all access devices but it should be noted that approximately 13,000 PVCs are inserted in NHSGGC Acute services per month (HAI Prevalence Survey 2016). This is a significant infection but many of these devices are used safely, however the SAB group continue to implement new initiatives to drive this number down even further.



*Figure 3 Number of Hospital acquired SABs by month attributed to an IV access device*

**SAB Actions Update**

The GGC SAB group met on 28<sup>th</sup> May 2019 and work continues to reduce the amount of avoidable healthcare associated cases.

Peripheral Venous Catheter (PVC) Care Plan

The new PVC care plan is now in use throughout all adult wards and departments in NHSGGC. The Infection Prevention and Control Team (IPCT) are undertaking a review of the implementation of this new care plan as part of their weekly walk rounds. The care plan focuses on the removal of the device as soon as possible, it also promotes the prompt to switch from intravenous to oral antibiotics which results in the removal of the device as it is no longer required. In addition, staff are asked to indicate why they continue to require the device, this is done using the DRIFT criteria (Diagnosis, Resuscitation, IV medication, Fluids and Transfusion) and should also act as a prompt to think about removing the device. The Infection Prevention and Control Team (IPCT) will monitor the impact of this initiative during 2019.

PVC Packs

PVC insertion packs are currently being trialled in the Institute of Neurological Sciences, the Immediate Assessment Unit and by the Hospital at Night team in the QEUH. Feedback thus far has all been positive. A report on the trial will be available by the end of June 2019.

Renal Vascular Access Nurse

Renal Services have appointed an additional vascular access nurse to support patients and staff with the management of invasive devices used for dialysis. The impact of this initiative will be included in future HAIRT reports.

**Multi-Drug Resistant Organism (MDRO) Screening Clinical Risk Assessment (CRA) uptake. Includes MRSA screening and CPE screening.**

**MRSA**

Mandatory Clinical Risk Assessment (CRA) compliance for GGC in Q1 (April-June 2019) is **92%**. This is a substantial improvement on recent reporting quarters and is fully compliant with national reporting requirements. The presumption is that the update to the My Admission Record (MAR) has led to this improvement, this is also the case for CPE.

<b>MRSA screening CRA uptake</b>	<b>2018-19 Q2 (Jul-Sep)</b>	<b>2018-19 Q3 (Oct-Dec)</b>	<b>2018-19 Q4 (Jan-Mar)</b>	<b>2019-20 Q1 (Apr-Jun)</b>
Greater Glasgow & Clyde	72%	<b>69%</b>	<b>69%</b>	<b>92%</b>
Scotland	84%	83%	83%	TBC

*Table 3 Quarterly screening compliance- MRSA National Data Source: MDRO Admission Screening Team April 2019.*

**CPE (Carbapenemase-producing Enterobacteriaceae)**

Enterobacteriaceae are a family of Gram-negative bacteria (sometimes called coliforms) which are part of the normal range of bacteria found in the gut. Carbapenemase-Producing Enterobacteriaceae (CPE) are a type of bacteria that are extremely resistant to antibiotics.

**Table 4** below shows the CRA compliance rate since national reporting was implemented. There has been a substantial improvement in Q1. Although CPE screening is mandatory, there is no national target set for compliance.

<b>CPE screening - CRA uptake</b>	<b>2018-19 Q2 (Jul-Sep)</b>	<b>2018-19 Q3 (Oct-Dec)</b>	<b>2018-19 Q4 (Jan-Mar)</b>	<b>2019-20 Q1 (Apr-Jun)</b>
Greater Glasgow & Clyde	71%	76%	78%	<b>94%</b>
Scotland	79%	78%	81%	TBC

**Table 4** Quarterly screening compliance - CPE  
National Data Source: MDRO Admission Screening Team April 2019.

***Clostridioides difficile***

Please note that validated data for Quarter 1 2019 (January – March) will not be published until early July.

**Quarter 4: 2018 (October-December) Surveillance**

89 validated cases were reported in the last published quarter (October - December 2018). This is a **decrease** upon the previous quarter. 67 cases were healthcare associated and this provided a rate of 16.1 cases per 100,000 bed days. The rate for NHS Scotland was 13.8 (Figure 4).

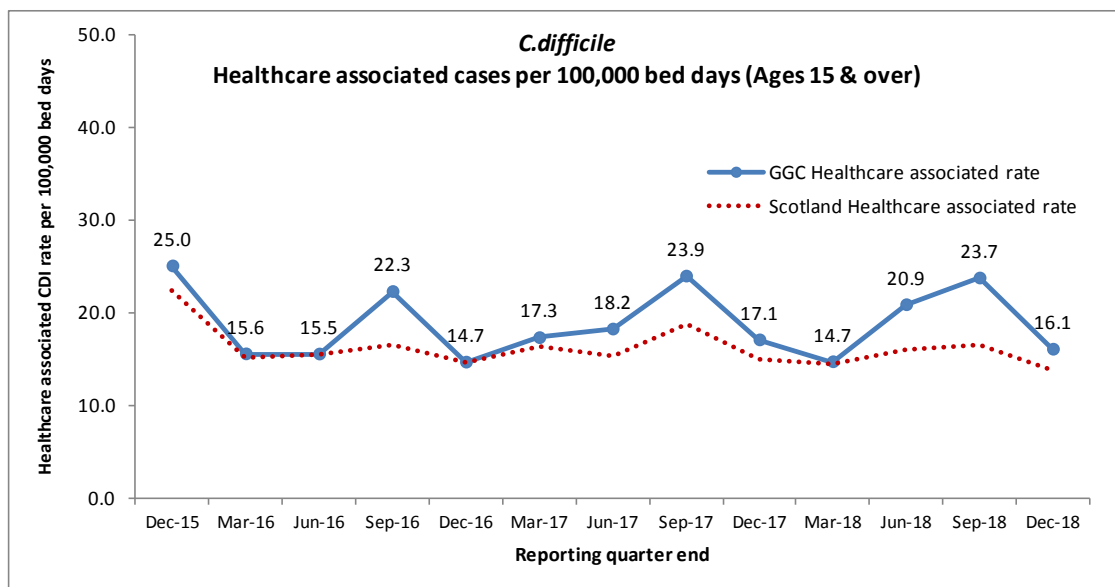


Figure 4 Healthcare associated CDI rates comparison by quarter for NHSGGC and Scotland.

22 community associated CDI cases were reported for the quarter with a rate of 7.5 per 100,000 population (Figure 5). The rate for NHS Scotland was 7.0.

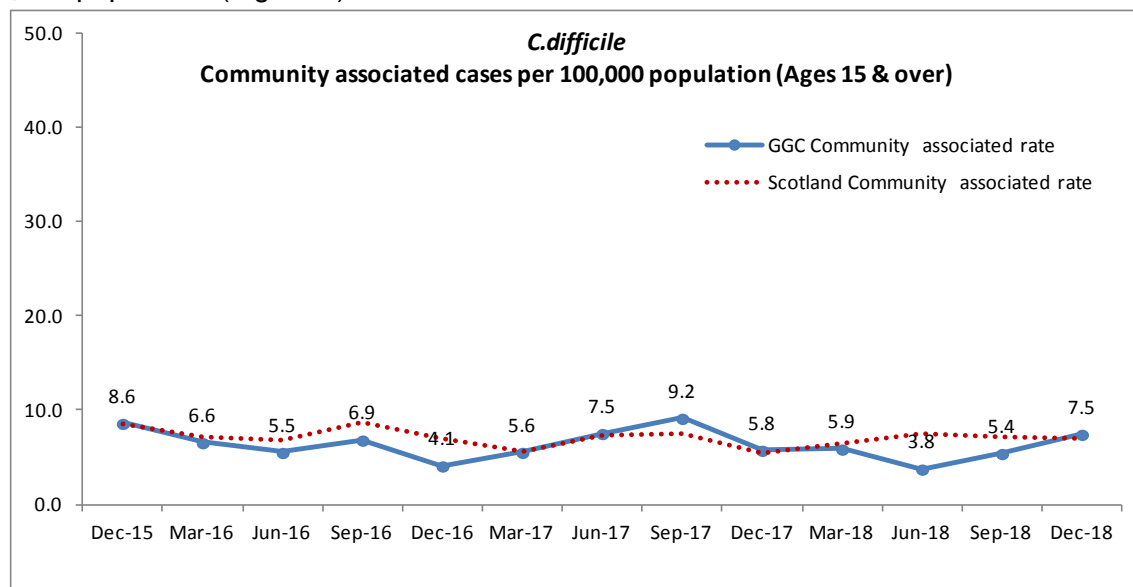


Figure 5 Community associated CDI comparison by quarter for NHSGGC and Scotland.

**Quarter 1: 2019 (January-March) NHSGGC Surveillance**

Data for January to March 2019 will not be published by HPS until early July. We have reported 30 CDI cases in January (20 healthcare associated and 10 community). February

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noted a slight reduction with 24 cases (18 healthcare associated and 6 community) and there are 25 cases for March (18 healthcare associated and 7 community). There have been 56 healthcare associated cases in this quarter which is a reduction from the previous quarter (n=67).

From 1 April 2019, a letter has been sent to the GP of every adult in-patient who has been diagnosed with CDI signed by the Lead Infection Control Doctor, Lead Physician, Lead Microbiologist and Lead Pharmacist. This letter provides information on CDI and includes links to best practice guidance for the use of antibiotics and proton-pump inhibitors (PPIs) (Appendix 1).

### **OUTBREAKS / EXCEPTIONS**

(Reported are those that are assessed as AMBER or RED using the HPS Hospital Infection Incident Assessment Tool (HIIAT))

**QEUH – *Cryptococcus neoformans* – HIIAT assessed as RED on 20 December 2018 - as of 15 February 2019 assessed as HIIAT GREEN.**

### **UPDATE**

800 air samples have been taken in QEUH/RHC since the end of January (1800 in total since sampling began). There have been small numbers of the *Cryptococcus albidus*/species detected in 10 air samples since 31<sup>st</sup> January 2019. We have not found any isolates of *C. neoformans* in any of the 1800 air samples done so far.

There is a Short Life Working Group, the *Cryptococcus* IMT Expert Advisory sub-group, chaired by Dr John Hood, This group has representatives from Health Protection Scotland, Health Facilities Scotland and a National Expert on ventilation. The group remit is to review all air handling units, air testing and agreed estates actions in relation to ventilation. This group has met eleven times since 1<sup>st</sup> February and all hypotheses are being explored. A report will be published when all actions are complete and shared with the chair and members of the IMT.

There have been no further cases of *Cryptococcus neoformans* infection in patients since the identification of the two cases in late November/ early December 2018.

High-risk patients continue to be prescribed appropriate antifungal prophylaxis and work is ongoing to create more protective isolation rooms which are sealed, under positive pressure and have HEPA filtered air. These are the key infection control measures moving forward.

National interim guidance, *Managing the Risk of Contamination of Ventilation Systems by Fungi from Bird Droppings (March 2019)* has been published by Health Facilities Scotland. NHS GGC is fully compliant with this guidance for the management of plant rooms to avoid pest infestation.

### **January 2019 - present day**

**Princess Royal Maternity (PRM) / Royal Hospital for Children (RHC) / Royal Alexandra Hospital (RAH) Neonatal Intensive Care Units (NICUs) - *Staphylococcus aureus* - HIIAT assessed as RED on 24 January 2019 and is currently AMBER**

**UPDATE 15 cases 14 of which are confirmed with the same spa type t11164. HIIAT remains at AMBER.**

One baby remains on the unit. This baby is colonised and not infected and is due to go home in the next few days.

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No new cases were identified from 20<sup>th</sup> March until 29<sup>th</sup> April. One case was identified from screening after the 29<sup>th</sup>. This baby was colonised and not infected and was discharged home on the 2 May. One further case was identified from a screening specimen taken on the 13<sup>th</sup> May. There have been no new cases since 13<sup>th</sup> May.

Screening will continue until the last positive baby is discharged home and for four weeks thereafter.

Four rounds of screening of the environment has now been completed and this bacteria has never been isolated from the environment.

Staff screening was repeated during the week beginning the 13<sup>th</sup> May. Positive staff members were excluded from work until they were decolonised and had two negative screens.

### March 2019

**Queen Elizabeth University Hospital and Inverclyde Royal Hospital (IRH). Renal Unit Four cases of Carbapenem Resistant (CRO) *Acinetobacter baumannii*. One non HAI and three HAI cases. HIIAT Assessed as AMBER on 15 March 2019. HIIAT assessed as GREEN since 22 March 2019.**

Two patients in the QEUH have tested positive for CRO *Acinetobacter baumannii*; the index case was a patient in QEUH who was admitted to a single room and screened immediately after it was established that they had been in hospital abroad. One case of cross transmission was identified from this index case and an IMT was held on the 15 March 2019. A screening protocol and action plan were implemented which led to additional patients being screened as per HPS CPE Toolkit which indicates that all patients who have had contact with the case during this admission period are screened. Two additional cases were found on screening, one patient had been transferred to IRH and remains an in-patient and the other patient had been discharged but attended the QEUH as an out-patient for dialysis. Three were colonised and one was treated for infection. A total of 61 patients were offered screening and there have been no further cases since 24 April 2019.

### Norovirus

There were 8 wards closed in 4 hospitals due to Norovirus activity March - April 2019

Month	May-18	Jun-18	Jul-18	Aug -18	Sep-18	Oct-18	Nov-18	Dec-18	Jan -19	Feb -19	Mar-19	Apr-19
Ward Closures	9	1	5	0	1	0	2	4	1	7	3	5
Bed Days Lost	334	33	69	0	21	0	93	50	7	42	106	188

*Table 5: NHSGGC Ward closures due to suspected / confirmed Norovirus*

Data on the number of wards closed due to confirmed or suspected Norovirus is available from HPS on a weekly basis: <http://www.hps.scot.nhs.uk/giz/norovirus-surveillance.aspx>

### Healthcare Environment Inspectorate (HEI)

There have been no announced or unannounced inspections since the inspection of the QEUH in January. The updated action plan from this inspection and all HEI reports for GGC can be viewed by clicking on the following link:



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[http://www.healthcareimprovementscotland.org/our\\_work/inspecting\\_and\\_regulating\\_care/nhs\\_hospitals\\_and\\_services/hei\\_inspections/all\\_hei\\_reports.aspx](http://www.healthcareimprovementscotland.org/our_work/inspecting_and_regulating_care/nhs_hospitals_and_services/hei_inspections/all_hei_reports.aspx)

**Other HAI Related Activity****Surgical Site Infection (SSI) Surveillance**

All NHS Boards are required to undertake in-patient and 30-day re-admission surveillance as per HDL (2006) 38 and CEL (11) 2009.

**Please note that validated data for Quarter 1 2019 (January – March) will not be published until early July.**

**Quarter 4: 2018 (October-December)**

For the last published reporting quarter the SSI rate for caesarean-section remained lower than the national dataset SSI rate (Table 6).

There has also been a sustained reduction in the number of hip arthroplasty SSIs this quarter, with three cases reported in total. The SSI rate of 0.8% is marginally higher than the national rate however remains within national confidence intervals (CI).

Category of Procedure	Operations	Infections	NHSGGC SSI rate (%)	NHSGGC 95% CI	National Dataset SSI rate (%)	National 95% CI
Caesarean section	1365	16	1.2	0.7-1.9	1.4	1.1-1.7
Hip arthroplasty	378	3	0.8	0.3-2.3	0.6	0.4-1.0

**Table 6** SSI rates for Caesarean section (in-patient and PDS to day-10), Hip arthroplasty (in-patient and re-admission to day-30), NHSGGC

**Quarter 1: 2019 (January-March) NHSGGC Surveillance**

Local surveillance data is displayed in Table 7.

<b>Quarter 1 -19 (January – March) : Local SSI Surveillance Status</b>				
	Category of Procedure	Operations	Infections	NHSGGC SSI Rate (%)
Mandatory (reported to HPS)	Caesarean section	1306	9	0.7%
	Hip arthroplasty	391	2	0.5%
	*Large Bowel Surgery	234	10	4.3%
	#Major Vascular Surgery	218	12	5.5%
Voluntary	Knee arthroplasty	395	3	0.8%
	Repair of neck of femur	366	3	0.8%
Additional INS, QEUH only	Cranial Surgery	180	2	1.1%
	Spinal Surgery	188	5	2.7%

**Table 7** Local SSI Surveillance. Procedures undertaken 01/01/19 - 31/03/19 (In-patient and 30 day readmission; C-section in-patient and PDS to day 10)

**\*Large bowel surgery**

Ten SSI in total were reported for the quarter. Two in January, 5 in February and 3 in March. Six SSI were in procedures performed at Glasgow Royal Infirmary (one in January, 3 in February and 2 in March). Each patient had one or more National Healthcare Safety Network (NHSN) risk factor, which places the patient at increased risk of SSI development. There was no definite link between any of the SSIs to time, operator or organism.

# Major Vascular Surgery: Six SSI were detected in January procedures. All Major Vascular procedures are performed at the Queen Elizabeth University Hospital. This was considered to be an increased incidence for this procedure group. An IMT was held on 19 February 2019. HIIAT GREEN reported. Actions included:

- Review of antimicrobial prophylaxis.

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- Hand hygiene training for Wards 11A and 11D reported as good.
- Post operative wound dressings should not be removed for 48 hours unless absolutely necessary.

Three SSI were detected for February procedures and three in March 2019 procedures and surveillance process continues. This number would be within expected levels.

Comparative data for Scotland in Large Bowel or Major Vascular surgery is not available to allow benchmarking, however NHSGGC rates are below those in the published literature.

### **Statistical Process Control Charts**

Statistical Process Control Charts (SPCs) continue to remain within normal control limits in all sites.

### **Cleaning and the Healthcare Environment**

All areas within NHSGGC scored **GREEN (>90%)** in the most recent report on the National Cleaning Specification.

**Healthcare Associated Infection Reporting Template (HAIRT)****Section 2 – Healthcare Associated Infection Report Cards**

The following section is a series of 'Report Cards' that provide information for each acute hospital and key non-acute hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections and *Clostridioides difficile* infections, as well as hand hygiene and cleaning compliance. In addition, there is a single report card which *C. difficile* specimens identified from non-hospital locations, e.g. GPs, hospices, care homes, prisons etc. The information in the report cards is provisional local data and may differ from the national surveillance reports carried out by HPS and HFS. The national reports are official statistics which undergo rigorous validation which means final national figures may differ from those reported here. However these reports aim to provide more detailed and up-to-date information on healthcare associated infection activities at local level than is possible to provide through the national statistics.

**Understanding the Report Cards – Infection Case Numbers**

*Clostridioides difficile* infections (CDI) and *Staphylococcus aureus* bacteraemia (SAB) cases are presented for each hospital, broken down by month.

- **Healthcare associated cases**

For each hospital the total number of cases for each month is included in the report cards. These include those that are considered to be **hospital acquired**, i.e. reported as positive from a laboratory report on samples taken more than 48 hours after admission and **healthcare associated** in which the patient has a positive sample taken from within 48 hours of admission and the patient has also had healthcare interaction in the previous 30 days for SAB or 12 weeks for *C. difficile*.

- **Community associated cases**

For community associated cases, the patient has had no healthcare interaction as specified in the time frame above, however the specimen was obtained from a current hospital in-patient that did not meet the reporting criteria for a healthcare associated case.

More information on these organisms can be found on the HPS website:

***Clostridioides difficile*:**

<http://www.hps.scot.nhs.uk/haic/sshap/clostridiumdifficile.aspx?subjectid=79>

***Staphylococcus aureus* Bacteraemia**

<http://www.hps.scot.nhs.uk/haic/sshap/mrsabacteraemiasurveillance.aspx?subjectid=D>

**Understanding the Report Cards – Hand Hygiene Compliance**

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. The Board report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

**Understanding the Report Cards – Cleaning Compliance**

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits. More information on how hospitals carry out these audits can be found on the HFS website:

<http://www.hfs.scot.nhs.uk/online-services/publications/hai/>

REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	24	31	24	21	22	28	29	31	31	24	25	29
<b>Community Associated</b>	5	6	11	9	4	4	6	5	14	16	5	7
<b>Total</b>	<b>29</b>	<b>37</b>	<b>35</b>	<b>30</b>	<b>26</b>	<b>32</b>	<b>35</b>	<b>36</b>	<b>45</b>	<b>40</b>	<b>30</b>	<b>36</b>

*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	27	28	26	40	28	17	18	27	20	18	18	16
<b>Community Associated</b>	10	7	6	10	6	13	10	9	10	6	7	8
<b>Total</b>	<b>37</b>	<b>35</b>	<b>32</b>	<b>50</b>	<b>34</b>	<b>30</b>	<b>28</b>	<b>36</b>	<b>30</b>	<b>24</b>	<b>25</b>	<b>24</b>

Hand Hygiene Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	<b>97</b>	<b>97</b>	<b>98</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>97</b>	<b>98</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>

Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	95.5	95.4	95.2	95.6	95.4	95.1	95.3	95.5	95.1	94.8	95.2	95.3

Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.1	99.0	99.2	98.9	99.1	98.9	99.0	99.0	98.7	97.9	98.0	96.9

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REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	6	11	10	4	4	6	8	9	9	7	3	7
<b>Community Associated</b>	1	2	4	2	1	1	3	1	6	5	-	1
<b>Total</b>	<b>7</b>	<b>13</b>	<b>14</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>11</b>	<b>10</b>	<b>15</b>	<b>12</b>	<b>3</b>	<b>8</b>

*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	8	8	6	11	6	2	6	9	4	5	8	4
<b>Community Associated</b>	5	1	1	1	2	2	1	2	1	2	-	3
<b>Total</b>	<b>13</b>	<b>9</b>	<b>7</b>	<b>12</b>	<b>8</b>	<b>4</b>	<b>7</b>	<b>11</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>7</b>

Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	95.5	95.5	95.8	95.7	95.5	95.6	95.8	95.7	95.6	95.6	95.0	95.2

Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.7	99.7	99.6	99.7	99.6	99.7	99.5	99.6	99.5	99.2	98.7	97.9

## ROYAL ALEXANDRA HOSPITAL

## REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	3	2	2	7	4	4	5	1	5	4	7	4
<b>Community Associated</b>	-	1	2	5	-	1	1	2	4	4	1	1
<b>Total</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>12</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>8</b>	<b>8</b>	<b>5</b>

*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	3	4	3	9	6	3	2	4	7	5	2	-
<b>Community Associated</b>	1	1	3	1	-	2	1	2	-	2	-	1
<b>Total</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>2</b>	<b>1</b>

## Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	96.3	94.7	95.9	96.3	95.8	95.8	95.9	95.2	95.7	94.7	94.7	93.3

## Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	98.3	97.5	97.0	96.1	96.8	96.0	96.5	95.0	96.2	93.4	93.5	93.6

## INVERCLYDE ROYAL HOSPITAL

## REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	-	2	-	-	1	2	1	2	2	1	-	3
<b>Community Associated</b>	-	-	-	-	1	1	-	-	2	-	-	1
<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>4</b>

*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	1	2	3	3	1	1	-	2	2	2	-	3
<b>Community Associated</b>	2	-	-	1	-	1	1	-	-	-	1	-
<b>Total</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>

## Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	95.8	95.1	94.0	95.4	94.5	94.4	96.0	95.2	95.6	94.7	93.6	94.9

## Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	97.5	96.8	97.3	97.7	96.8	96.2	97.3	97.4	96.6	95.4	95.2	96.5



## VALE OF LEVEN HOSPITAL

## REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	-	1	2	-	-	-	-	1	1	-	-	-
<b>Community Associated</b>	1	-	1	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	-	2	-	1	-	1	-	1	-	-	-	-
<b>Community Associated</b>	-	1	-	-	-	-	-	-	-	-	-	1
<b>Total</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>		

## Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	97.8	97.6	97.7	97.7	97.5	97.9	97.7	97.7	97.6	97.9	97.3	97.2

## Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.7	99.6	99.9	99.7	99.8	99.7	99.6	99.7	99.6	99.3	98.5	98.7

## GARTNAVEL GENERAL HOSPITAL

## REPORT CARD

Figures combined for Gartnavel General Hospital, Beatson WoSCC and Homeopathic Hospital

***Staphylococcus aureus* bacteraemia monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	2	1	1	2	-	-	2	-	1	1	2	1
<b>Community Associated</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	2	1	1	2	0	0	2	0	1	1	2	1

***Clostridioides difficile* infection monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	3	2	2	2	-	-	3	2	1	1	-	-
<b>Community Associated</b>	-	-	-	-	-	-	1	-	1	-	1	-
<b>Total</b>	3	2	2	2	0	0	4	2	2	1	1	0

**Cleaning Compliance (%)**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	96.3	96.7	96.4	96.3	96.6	96.1	96.0	96.7	96.1	96.1	96.7	96.1

**Estates Monitoring Compliance (%)**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.6	99.7	99.8	99.5	99.8	99.3	99.2	99.7	99.5	99.1	99.1	99.0

**REPORT CARD**

***Staphylococcus aureus* bacteraemia monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	10	12	9	8	10	15	11	14	13	8	10	5
<b>Community Associated</b>	2	3	3	1	1	1	2	2	1	5	4	3
<b>Total</b>	<b>12</b>	<b>15</b>	<b>12</b>	<b>9</b>	<b>11</b>	<b>16</b>	<b>13</b>	<b>16</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>8</b>

***Clostridioides difficile* infection monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	7	4	9	11	10	9	4	7	4	4	7	8
<b>Community Associated</b>	-	3	-	4	3	4	2	1	2	-	1	3
<b>Total</b>	<b>7</b>	<b>7</b>	<b>9</b>	<b>15</b>	<b>13</b>	<b>13</b>	<b>6</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>8</b>	<b>11</b>

**Cleaning Compliance (%)**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	93.2	93.2	91.2	93.6	93.7	93.4	93.1	93.5	91.5	90.9	93.7	92.9

**Estates Monitoring Compliance (%)**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.8	99.9	99.8	99.8	99.9	99.9	99.9	99.8	99.3	97.7	97.9	93.8

ROYAL HOSPITAL FOR CHILDREN

REPORT CARD

*Staphylococcus aureus* bacteraemia monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	2	1	-	-	1	1	-	3	-	2	2	6
<b>Community Associated</b>	1	-	1	1	1	-	-	-	1	2	-	-
<b>Total</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>6</b>

*Clostridioides difficile* infection monthly case numbers (in ages 15 & over only)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Community Associated</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Cleaning Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	94.8	94.6	94.8	95.1	93.9	94.6	95.0	94.9	94.5	94.1	93.7	95.2

Estates Monitoring Compliance (%)

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Board Total</b>	99.5	99.5	99.5	99.3	99.4	98.9	99.1	99.7	97.8	97.3	98.5	95.1

**NON-ACUTE HOSPITALS REPORT CARD**

**The hospitals covered in this report card include:**

- Lightburn Hospital
- Dykebar Hospital
- Gartnavel Royal Hospital
- Leverndale Hospital
- MacKinnon House
- Mearnskirk House (Closed 03 March 2019)
- New Victoria Hospital
- Orchard View (Inverclyde Royal Hospital campus)
- Stobhill Hospital

***Staphylococcus aureus* bacteraemia monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	1	1	-	-	2	-	2	1	-	1	1	3
<b>Community Associated</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>

***Clostridioides difficile* infection monthly case numbers**

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	-	1	-	1	2	-	-	-	-	1	-	-
<b>Community Associated</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>

## NHS GREATER GLASGOW &amp; CLYDE

Non hospital locations (GP practices, care homes & hospices) report card  
*Clostridioides difficile* infection monthly case numbers

	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
<b>Healthcare Associated</b>	5	5	3	2	3	1	3	2	2	-	1	1
<b>Community Associated</b>	2	1	2	3	1	4	4	4	6	2	4	1
<b>Total</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>2</b>	<b>5</b>	<b>2</b>

## GLOSSARY

AMT	<b>Antimicrobial Management Team</b>
Alert organism alert condition	Any of a number of organisms or infections that could indicate, or cause, outbreaks of infection in the hospital or community.
Bacteraemia	Infection in the blood. Also known as Blood Stream Infection (BSI).
CDI	<b><i>Clostridioides difficile</i></b> Infection. Also referred to as <b>C. diff</b> is a Gram-positive spore-forming anaerobic bacterium. <i>C.difficile</i> is the most common cause of gastro-intestinal infection in hospitals. It causes two conditions; antibiotic associated diarrhoea and the more severe and occasionally life-threatening pseudomembranous colitis. Control of the organism can be problematic due to the formation of spores and difficulty in removing them. Patients who have had antibiotics within the last eight weeks are most at risk of acquisition of the organism.
CEL	<b>Chief Executive Letter</b> issued by Scottish Government Health Directorates (SGHD)
CRA	<b>Clinical Risk Assessment</b>
CVC	<b>Central Vascular Catheter.</b> This also includes those that are peripherally inserted i.e. PICC
Code of Practice	<b>Code of Practice</b> - The NHS Scotland Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection issued 2004 contains the components that must be complied with by all NHS HCWs in Scotland. <a href="http://www.scotland.gov.uk/Publications/2004/05/19315/36624">http://www.scotland.gov.uk/Publications/2004/05/19315/36624</a>
GRO	<b>General Registers Office</b>
HAI	Originally used to mean hospital acquired infection, the official 'Scottish Government' term is now <b>Healthcare Associated Infection</b> . These are considered to be infections that were not incubating prior to contact with a healthcare facility or undergoing a healthcare intervention. It must be noted that HAI infection is not always an avoidable infection. <b>Please note</b> that for <i>S.aureus</i> Bacteraemia surveillance – HAI refers to 'hospital acquired cases as per HPS National reporting requirements. See <a href="http://www.documents.hps.scot.nhs.uk/hai/sshaip/guidelines/s-aureus/esab-protocol-v2-2014-11.pdf">http://www.documents.hps.scot.nhs.uk/hai/sshaip/guidelines/s-aureus/esab-protocol-v2-2014-11.pdf</a>
HCAI	<b>Healthcare Associated Infection (for CDI and SAB classification)</b>
HCW	<b>Healthcare Worker</b>
HDL	<b>Health Department Letter</b>
HDU	<b>High Dependency Unit</b>
HEAT Target	<b>Health Efficiency and Access to Treatment.</b> Targets set by the Scottish Government.
HFS	<b>Health Facilities Scotland</b>
HH	<b>Hand Hygiene</b>
HIAT	<b>Hospital Infection Incident Assessment Tool</b>
HIORT	<b>Healthcare Infection Incident and Outbreak Reporting Template</b>
HIS	<b>Health Improvement Scotland</b>
HPS	<b>Health Protection Scotland</b>
HSCP	<b>Health &amp; Social Care Partnerships</b>
IPCN /T/D/M	<b>Infection Prevention &amp; Control Nurse / Team / Doctor / Manager</b>
ICP	<b>Infection Control Programme</b>
ICU	<b>Intensive Care Unit</b>
ISD	<b>Information Services Division</b> A division of National Services Scotland, part of NHS Scotland. ISD provides health information, health intelligence, statistical services and advice that support the NHS in progressing quality improvement in health and care, and facilitates robust planning and decision making.
IVAD	<b>Intravenous Vascular Access Device.</b> An invasive device placed into a vein which is used to administer intravenous fluids or medication. <b>Examples are PVC or CVC</b>
KPI	<b>Key Performance Indicator</b>
MDRO	<b>Multi Drug Resistant Organism</b>
MRSA	<b>Meticillin resistant <i>Staphylococcus aureus</i>.</b> A <i>Staphylococcus aureus</i> resistant to first line antibiotics; most commonly known as a hospital acquired organism.
MSSA	<b>Meticillin Sensitive <i>Staphylococcus aureus</i></b>
NHSN	<b>National Healthcare Safety Network</b> – risk factor score for determining risk of SSI after surgery.
OBD	<b>Occupied Bed Days</b>
OPAT	<b>Outpatient Parenteral Antibiotic Therapy</b>
PDS	<b>Post Discharge Surveillance (Caesarean Section procedures only)</b>
PHPU	<b>Public Health Protection Unit</b>
PICC	<b>See CVC</b>
PPI	<b>Proton Pump Inhibitors.</b> A group of medications used to decrease gastric acid production.
PVC	<b>Peripheral Vascular Catheter</b>
RSV	<b>Respiratory Syncytial Virus.</b> A contagious respiratory infection.
SAB	<b><i>Staphylococcus aureus</i> Bacteraemia</b>
SCN / M	<b>Senior Charge Nurse / Midwife</b>
SICP	<b>Standard Infection Control Precautions</b>
SGHD	<b>Scottish Government Health Directorate</b>
SOP	<b>Standard Operating Procedure</b>
SPC	<b>Statistical Process Control (Charts)</b>
SSI	<b>Surgical Site Infection</b>
VRE	<b>Vancomycin resistant enterococcus</b> - an alert organism. A common organism that can be inherently resistant to Vancomycin but can also acquire (and transfer resistance) to other organisms. Has caused outbreaks reported in the literature in a variety of high-risk settings, e.g. renal or bone marrow transplant units.

OFFICIAL SENSITIVE



**Enhanced *S. aureus* Bacteraemia Surveillance Definitions****Hospital Acquired Infection**

Positive blood culture obtained from a patient who has been hospitalised for >48 hours. The patient was discharged from hospital in the 48 hours prior to the positive blood culture being taken. If the patient was a neonate/baby who has never left hospital since being born.

OR

a patient who receives regular haemodialysis as an outpatient.

OR

contaminant if blood aspirated from hospital

**Healthcare Associated Infection**

Positive blood culture obtained from a patient within 48 hours of admission to hospital and fulfils one or more of the following criteria:

1. Was hospitalised overnight in the 30 days prior to the positive blood culture being taken  
OR
2. Resides in a nursing home  
OR
3. IV, or intraarticular medication in the 30 days prior to the positive blood culture being taken, but excluding illicit drug use  
OR
4. Regular user of a registered medical device  
OR
5. Underwent a medical procedure which broke mucous or skin barrier in the 30 days prior to the positive blood cultures being taken  
OR
6. Underwent care for a medical condition by a healthcare worker in the community which involved contact with non intact skin, mucous membranes or the use of an invasive device 30 days prior to the positive blood culture being taken

**Community Acquired Infection**

Positive blood culture obtained from a patient within 48 hours of admission to hospital who does not fulfil any criteria for healthcare associated bloodstream infection.

**HPS Protocol  
April 2016, Version 1.0**

Infection Prevention & Control  
and  
Antimicrobial Management Team

*Clostridioides difficile* (*C. difficile*)



Dear Doctor,

Re: Above Patient

**This patient was recently diagnosed with *Clostridioides difficile* (*C. difficile*). We would be grateful if you could consider the following in order to reduce the risk of relapse or future episodes:**

1. If the patient is prescribed a proton pump inhibitor – please review. PPIs are associated with increased risk of *C. difficile*. See the following for guidance on duration of PPI prescribing:  
<http://www.staffnet.ggc.scot.nhs.uk/Info%20Centre/PoliciesProcedures/GGCclinicalGuidelines/GGC%20Clinical%20Guidelines%20Electronic%20Resource%20Direct/Proton%20Pump%20Inhibitors%20Prescribing%20on%20Discharge%20from%20Hospital.pdf> (review Date May 2019)
2. Please consider the need for antibiotic therapy, and follow the primary care guidelines for future suspected bacterial infection episodes ensuring avoidance of those antibiotics most associated with *C. difficile* i.e. quinolones, co-amoxiclav, cephalosporins and clindamycin.
3. Please try to ensure that any future antibiotic **course duration** does not exceed that recommended within GGC guidance.

With many thanks for your cooperation.

**On behalf of GG&C IPC and AMT teams**

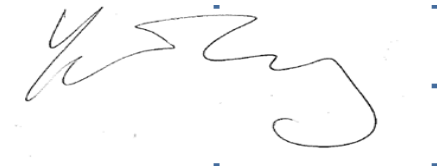
Dr Teresa Inkster, Lead Infection Control Doctor, GG&C

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Dr Andrew Seaton, Lead Physician, GG&C Antimicrobial Management Team

A handwritten signature in black ink, appearing to read 'A Seaton', written in a cursive style.

Dr Brian Jones, Lead Microbiologist, GG&C Antimicrobial Management Team

A handwritten signature in black ink, appearing to read 'B Jones', written in a cursive style. The signature is partially enclosed by a blue dashed rectangular box.

Ysobel Gourlay, Lead Antimicrobial Pharmacist, GG&C Antimicrobial Management Team