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Surveillance: *Clostridium difficile* (*C. difficile*) and *Staphylococcus aureus* (MRSA and MSSA bacteraemia)

Report: Financial year (FY) report

Time period: 1st April 2015 to 31st March 2016

Health Board: Aneurin Bevan University Health Board

Content: Pg 2 – *C. difficile*
Pg 12 – MRSA bacteraemia
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Issued by: Welsh Healthcare Associated Infection Programme (WHAIP)

Issue date: 17th May 2016

1. *Clostridium difficile* (*C. difficile*)

C. difficile surveillance notes for interpretation

- This report presents data on numbers of *C. difficile* in Wales in the 2015/16 financial year (FY), with trend data from 2010/11.
- Data is mainly collected via Datastore, a data warehouse system used by all microbiology laboratories in Wales. This data is supplemented manually with *C. difficile* specimens from patients in Powys Teaching Health Board where the laboratory used for processing the specimen is in England.
- Data is extracted for the surveillance scheme using the following criteria:
 - The patient is at least 2 years old
 - The sample was not taken from a patient in a private hospital, a privately run dialysis unit or post-mortem
 - The sample had a positive *C. difficile* toxin test, if a single test (either a toxin A and B enzyme immunoassay or a neutralised cell toxicity assay) protocol was in use in the laboratory at the time the investigation was carried out, or a positive glutamate dehydrogenase (GDH) assay combined with a positive *C. difficile* toxin enzyme immunoassay, if a two-stage testing protocol was in use in the laboratory at the time the investigation was carried out.
 - Multiple positive samples from the same patient within a 28 day period are excluded as duplicates
- Hospital admission data has been supplied by NHS Wales Informatics Service (NWIS) from the Patient Episode Database for Wales (PEDW).
- Population data has been extracted from <https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Estimates>.
- All ages are included in the hospital admission and population numbers used to calculate rates.
- Mid 2014 population estimates have been used to calculate the 2015/16 population rates. These rates will be updated when the mid 2015 population estimates become available.

Wales

- 1243 cases of *C. difficile* have been reported for the 2015/16 FY. This is a 6% decrease in numbers compared to the previous FY. The rate of *C. difficile* per 1,000 hospital admissions has decreased by 5%, from 2.95 to 2.80. (Table 1.1.)
- Compared to the previous FY, 5 of the 8 health boards/trust in Wales have achieved a reduction in numbers of *C. difficile*. (Table 1.1.)
- Compared to the 2010/11 FY, there has been a 56% decrease in the number of *C. difficile* and a 55% decrease in the rate of *C. difficile* per 1,000 hospital admissions in Wales. (Table 1.2.)
- Compared to the 2010/11 FY, 7 of the 8 health boards/trust in Wales have achieved a reduction in numbers of *C. difficile*. (Table 1.1.) Powys Teaching Health Board had some changes in data collection methods over this time period.
- 68% (851) of cases were diagnosed in the 18 acute hospitals, 8% (95) diagnosed in non-acute hospitals and 24% (294) in non-hospital locations. 3 locations were not specified.
- 61% (759) of cases were diagnosed in hospital inpatient locations. The inpatient rate for Wales is 1.71 per 1,000 hospital admissions for this period.
- 57% (713) of *C. difficile* were in female patients and 78% (974) were in patients aged 66+ for the 12 month period.
- The rate of *C. difficile* per 100,000 population has decreased by 6% compared to the previous FY, from 42.63 to 40.20. (Table 1.2.)
- Compared to 2010/11 FY, the rate of *C. difficile* per 100,000 population has decreased by 56%. (Table 1.2.)

Table 1.1. Wales numbers of *C. difficile*, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by health board, 2015/16 FY

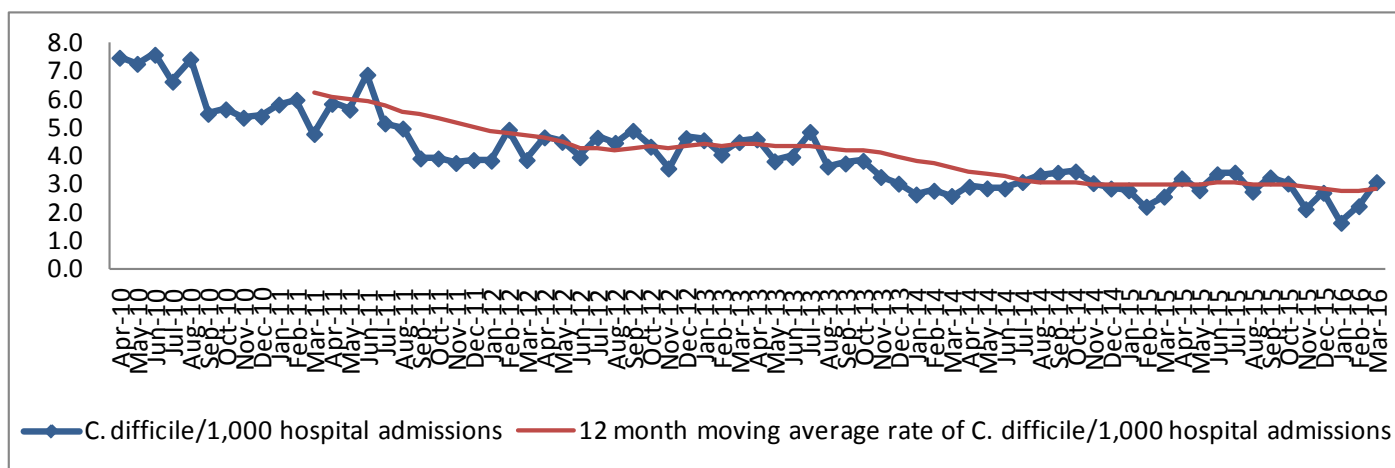
Health board /Trust	Number of <i>C. difficile</i>	% change in number of <i>C. difficile</i> from 2014/15 FY	% change in number of <i>C. difficile</i> from 2010/11 FY	<i>C. difficile</i> /1,000 hospital admissions	<i>C. difficile</i> /100,000 population
ABM	274	5% (261)	-33% (411)	3.23	52.39
Aneurin Bevan	204	-8% (222)	-70% (679)	2.22	35.15
Betsi Cadwaladr	355	-10% (395)	-56% (805)	3.77	51.15
Cardiff and Vale	150	-12% (171)	-72% (527)	2.26	31.12
Cwm Taf	82	-19% (101)	-45% (148)	1.59	27.71
Hywel Dda	151	9% (139)	-20% (188)	2.89	39.32
Powys Teaching	22	5% (21)	100% (11)	12.83	16.58
Velindre	5	-38% (8)	-81% (26)	2.66	N/A
Wales	1243	-6% (1318)	-56% (2795)	2.80	40.20
Wales average	155			3.93	36.20
Wales median	151			2.77	35.15

Table 1.2. Wales numbers and rates of *C. difficile* per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of <i>C. difficile</i>	Number of hospital admissions	<i>C. difficile</i> /1,000 hospital admissions	Population*	<i>C. difficile</i> /100,000 population
2015/16 FY	1243	444720	2.80	3092036	40.23
Mar 16	108	35090	3.08	261894	41.24
Feb 16	82	36825	2.23	244997	33.47
Jan 16	62	37817	1.64	261894	23.67
Dec 15	102	37745	2.70	261894	38.95
Nov 15	80	37708	2.12	253446	31.56
Oct 15	115	37962	3.03	261894	43.91
Sep 15	121	37284	3.25	253446	47.74
Aug 15	99	36103	2.74	261894	37.80
Jul 15	132	38641	3.42	261894	50.40
Jun 15	126	37534	3.36	253446	49.71
May 15	101	36186	2.79	261894	38.57
Apr 15	115	35825	3.21	253446	45.37
2014/15 FY	1318	446699	2.95	3092036	42.63
2013/14 FY	1577	442821	3.56	3082412	51.16
2012/13 FY	1934	439792	4.40	3074067	62.91
2011/12 FY	2142	455772	4.70	3063758	69.91
2010/11 FY	2795	448561	6.23	3049971	91.64

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 1.1. Wales monthly and 12 month moving average rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board

- 204 cases of *C. difficile* have been reported for the 2015/16 FY in this health board. This is an 8% decrease in numbers compared to the previous FY. The rate of *C. difficile* per 1,000 hospital admissions has decreased by 10%, from 2.47 to 2.22. (Table 1.3.) The rate of *C. difficile* per 1,000 hospital admissions in Wales has decreased by 5% for the same period.
- Compared to the 2010/11 FY, there has been a 70% decrease in the number of *C. difficile* and a 72% decrease in the rate of *C. difficile* per 1,000 hospital admissions in this health board. (Table 1.4.) The rate of *C. difficile* per 1,000 hospital admissions in Wales has decreased by 55%.
- 50% (101) of cases were diagnosed in the 2 acute hospitals in this health board, 17% (35) diagnosed in non-acute hospitals and 33% (68) in non-hospital locations. (Table 1.7.)
- 49% (100) of cases in this health board were diagnosed in hospital inpatient locations. The inpatient rate is 1.09 per 1,000 hospital admissions for this period.
- 58% (118) of *C. difficile* in this health board were in female patients and 80% (163) were in patients aged 66+ for the 12 month period.
- The rate of *C. difficile* per 100,000 population has decreased by 8% compared to the previous FY, from 38.25 to 35.15. (Table 1.4.) The rate of *C. difficile* per 100,000 population in Wales has decreased by 6% for the same period.
- Compared to the 2010/11 FY, the rate of *C. difficile* per 100,000 population has decreased by 70% in this health board. (Table 1.4.) The rate of *C. difficile* per 100,000 population in Wales has decreased by 56%.

Table 1.3. Aneurin Bevan University Health Board numbers of *C. difficile*, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by acute hospital, 2015/16 FY

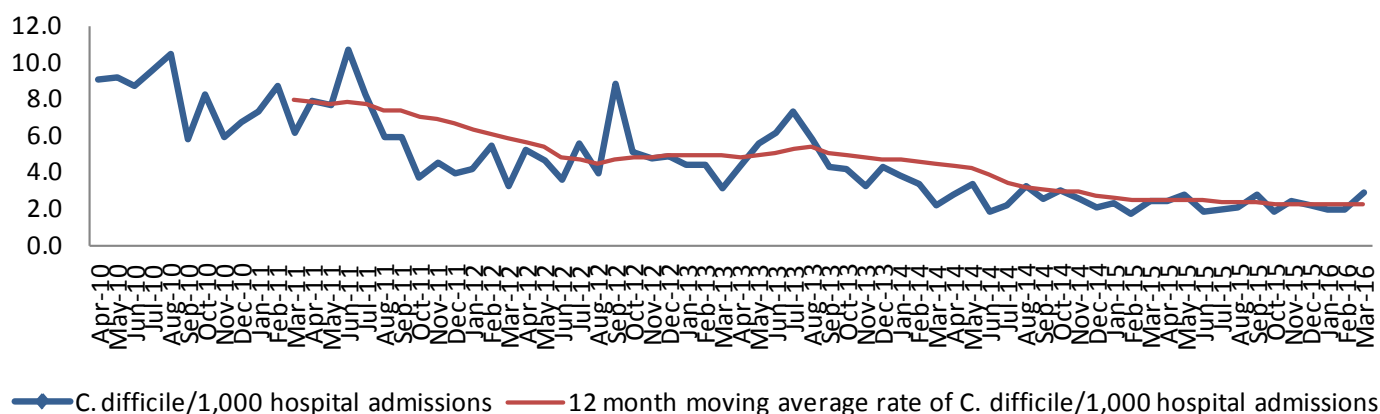
Health board/ hospital	Number of <i>C. difficile</i>	% change in number of <i>C. difficile</i> from 2014/15 FY	% change in number of <i>C. difficile</i> from 2010/11 FY	<i>C. difficile</i> / 1,000 hospital admissions	<i>C. difficile</i> /100,000 population
Nevill Hall	35	-26% (47)	-73% (129)	1.36	N/A
Royal Gwent	66	-15% (78)	-78% (301)	1.24	N/A
Aneurin Bevan	204	-8% (222)	-70% (679)	2.22	35.15
Wales	1243	-6% (1318)	-56% (2795)	2.80	40.20

Table 1.4. Aneurin Bevan University Health Board numbers and rates of *C. difficile* per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of <i>C. difficile</i>	Number of hospital admissions	<i>C. difficile</i> /1,000 hospital admissions	Population*	<i>C. difficile</i> /100,000 population
2015/16 FY	204	91769	2.22	580401	35.15
Mar 16	22	7766	2.83	49160	44.75
Feb 16	15	7887	1.90	45988	32.62
Jan 16	15	7987	1.88	49160	30.51
Dec 15	17	7818	2.17	49160	34.58
Nov 15	18	7694	2.34	47574	37.84
Oct 15	14	7809	1.79	49160	28.48
Sep 15	21	7628	2.75	47574	44.14
Aug 15	15	7256	2.07	49160	30.51
Jul 15	15	7650	1.96	49160	30.51
Jun 15	14	7597	1.84	47574	29.43
May 15	20	7247	2.76	49160	40.68
Apr 15	18	7430	2.42	47574	37.84
2014/15 FY	222	89741	2.47	580401	38.25
2013/14 FY	383	85459	4.48	579101	66.14
2012/13 FY	405	83473	4.85	577981	70.07
2011/12 FY	493	84512	5.83	577077	85.43
2010/11 FY	679	85456	7.95	574778	118.13

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 1.2. Aneurin Bevan University Health Board monthly and 12 month moving average rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

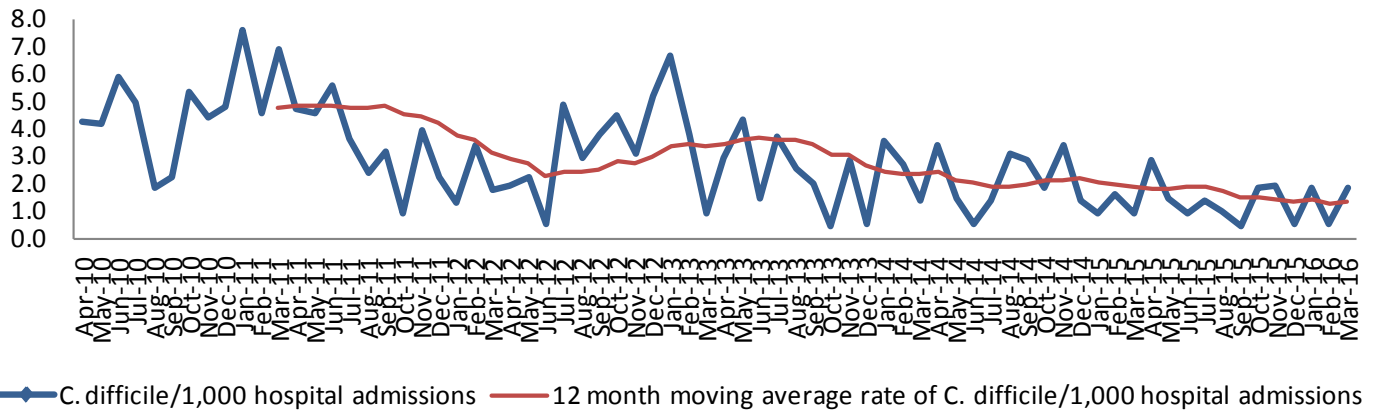
Nevill Hall Hospital *C. difficile*, 2015/16 FY

- 35 cases of *C. difficile* have been reported for the 2015/16 FY in this hospital. This is a 26% decrease in numbers compared to the previous FY. (Table 1.3.) The rate of *C. difficile* per 1,000 hospital admissions has decreased by 27%, from 1.87 to 1.36. (Table 1.5.)
- Compared to the 2010/11 FY, there has been a 73% decrease in the number of *C. difficile* and a 71% decrease in the rate of *C. difficile* per 1,000 hospital admissions in this hospital. (Table 1.5.)
- The rate of *C. difficile* in this hospital is not significantly different from the rates for the acute hospitals in Wales for this 12 month period. (Figure 1.5.)
- 66% (23) of the cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.89 per 1,000 hospital admissions for this period.

Table 1.5. Nevill Hall Hospital numbers and rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of <i>C. difficile</i>	Number of hospital admissions	<i>C. difficile</i> /1,000 hospital admissions
2015/16 FY	35	25778	1.36
Mar 16	4	2182	1.83
Feb 16	1	2084	0.48
Jan 16	4	2218	1.80
Dec 15	1	2119	0.47
Nov 15	4	2092	1.91
Oct 15	4	2176	1.84
Sep 15	1	2196	0.46
Aug 15	2	2027	0.99
Jul 15	3	2238	1.34
Jun 15	2	2190	0.91
May 15	3	2121	1.41
Apr 15	6	2135	2.81
2014/15 FY	47	25110	1.87
2013/14 FY	58	24818	2.34
2012/13 FY	85	25494	3.33
2011/12 FY	82	26267	3.12
2010/11 FY	129	27078	4.76

Figure 1.3. Nevill Hall Hospital monthly and 12 month moving average rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

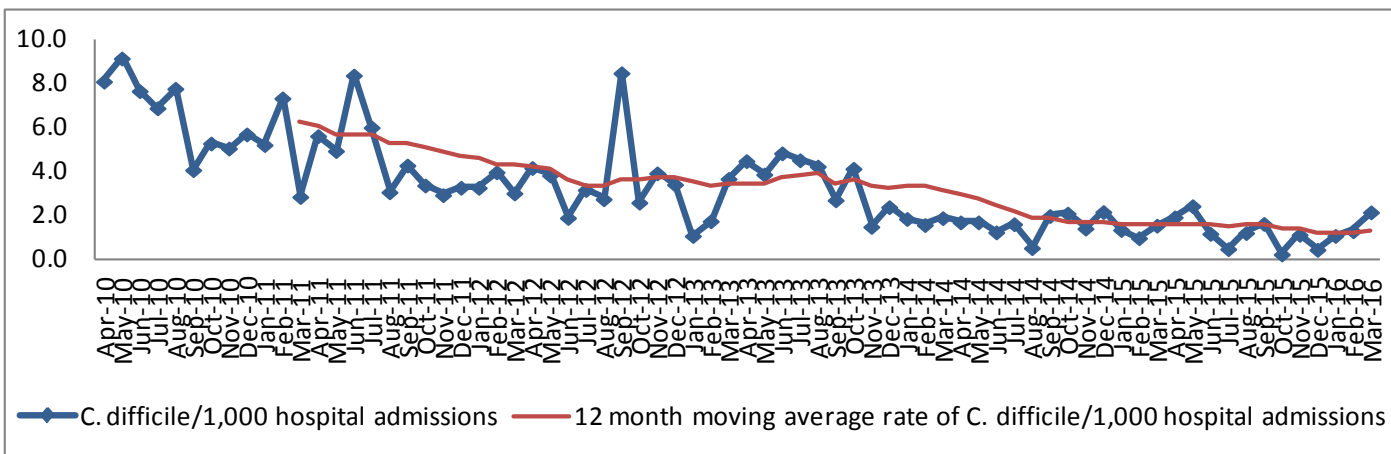
Royal Gwent Hospital *C. difficile*, 2015/16 FY

- 66 cases of *C. difficile* have been reported for the 2015/16 FY in this hospital. This is a 15% decrease in numbers compared to the previous FY. (Table 1.3.) The rate of *C. difficile* per 1,000 hospital admissions has decreased by 18%, from 1.52 to 1.24. (Table 1.6.)
- Compared to the 2010/11 FY, there has been a 78% decrease in the number of *C. difficile* and a 80% decrease in the rate of *C. difficile* per 1,000 hospital admissions in this hospital. (Table 1.6.)
- The rate of *C. difficile* in this hospital is significantly lower than the rates for the acute hospitals in Wales for this 12 month period. (Figure 1.5.)
- 70% (46) of the cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.87 per 1,000 hospital admissions for this period.

Table 1.6. Royal Gwent Hospital numbers and rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of <i>C. difficile</i>	Number of hospital admissions	<i>C. difficile</i> /1,000 hospital admissions
2015/16 FY	66	53128	1.24
Mar 16	10	4679	2.14
Feb 16	6	4698	1.28
Jan 16	5	4696	1.06
Dec 15	2	4612	0.43
Nov 15	5	4490	1.11
Oct 15	1	4492	0.22
Sep 15	7	4343	1.61
Aug 15	5	4177	1.20
Jul 15	2	4298	0.47
Jun 15	5	4314	1.16
May 15	10	4137	2.42
Apr 15	8	4192	1.91
2014/15 FY	78	51239	1.52
2013/14 FY	149	47831	3.12
2012/13 FY	152	45002	3.38
2011/12 FY	203	47266	4.29
2010/11 FY	301	48565	6.20

Figure 1.4. Royal Gwent Hospital monthly and 12 month moving average rates of *C. difficile* per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board

Figure 1.5. Rates of *C. difficile* per 1,000 hospital admissions by acute hospital, 2015/16 FY

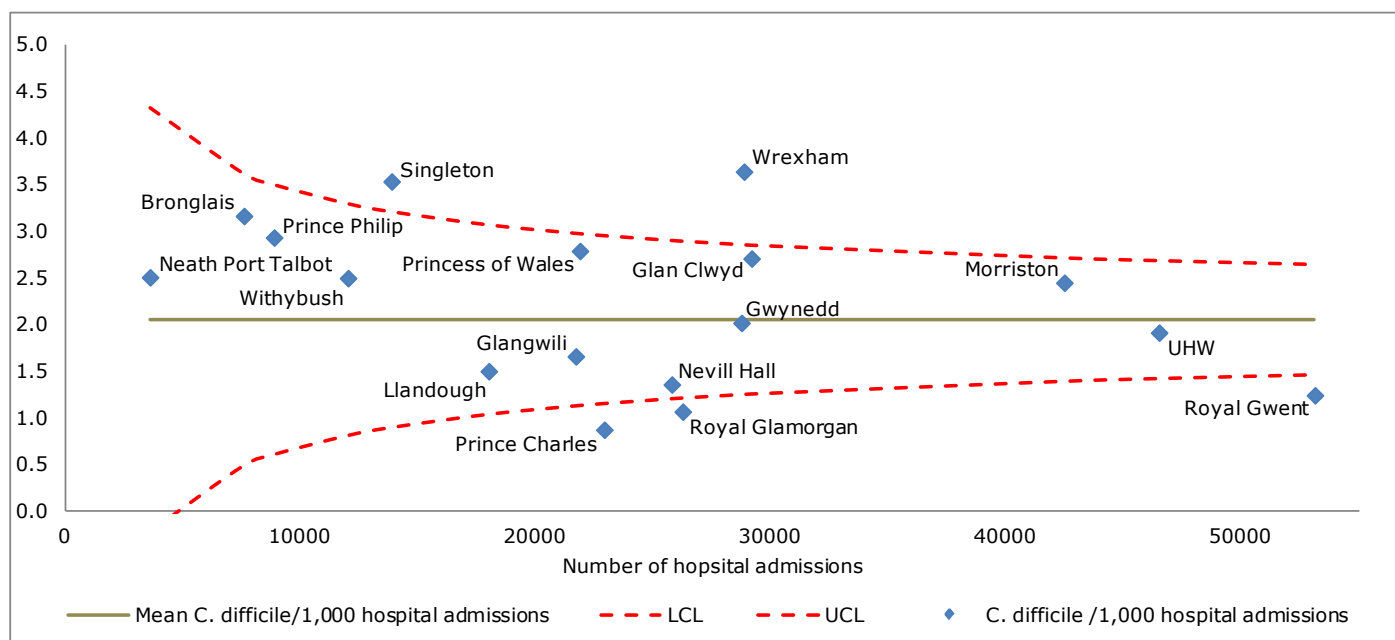


Table 1.7. Aneurin Bevan University Health Board, numbers of *C. difficile* in non-acute hospital locations, 2015/16 FY

Location	Number of <i>C. difficile</i>
Chepstow Community Hospital	2
County Hospital Griffithstown	3
Monnow Vale Integrated H&SC Facility	2
St Woolos Hospital	6
Ysbyty Aneurin Bevan	5
Ysbyty Tri Chwm	1
Ysbyty Ystrad Fawr	16
Non-hospital location	68

2. MRSA (meticillin-resistant *Staphylococcus aureus*) bacteraemia

MRSA bacteraemia surveillance notes for interpretation

- This report presents data on numbers of MRSA from blood cultures (bacteraemia) in Wales in the 2015/16 financial year, with trend data from 2010/11 (other than for Powys Health Board where data collection started in Apr 2011).
- Data is mainly collected via Datastore, a data warehouse system used by all microbiology laboratories in Wales. This data is supplemented manually with MRSA bacteraemia specimens from patients in Powys Health Board where the laboratory used for processing the specimen is in England.
- Data is extracted for the surveillance scheme using the following criteria:
 - *Staphylococcus aureus* (*S. aureus*) was identified from a blood culture sample
 - The sample was not taken from a patient in a private hospital, a privately run dialysis unit or post-mortem
 - Multiple positive samples from the same patient within a 14 day period are excluded as duplicates
- *S. aureus* positive blood cultures are assigned as MRSA (meticillin-resistant *S. aureus*) or MSSA (meticillin-sensitive *S. aureus*) on the basis of sensitivity to the antibiotic flucloxacillin
- Hospital admission data has been supplied by NHS Wales Informatics Service (NWIS) from the Patient Episode Database for Wales (PEDW).
- Population data has been extracted from <https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Estimates>
- Mid 2014 population estimates have been used to calculate the 2015/16 population rates. These rates will be updated when the mid 2015 population estimates become available.

Wales MRSA bacteraemia, 2015/16 FY

- 101 cases of MRSA bacteraemia have been reported for the 2015/16 FY. This is 39% decrease in numbers compared to the previous FY. The rate of MRSA *bacteraemia* per 1,000 hospital admissions has decreased by 39%, from 0.37 to 0.23. (Table 2.1.)
- Compared to the previous FY, 6 of the 8 health boards/NHS Trust in Wales have achieved a reduction in numbers of MRSA bacteraemia. (Table 2.1.)
- Compared to the 2010/11 FY, there has been a 54% decrease in the number of MRSA bacteraemia and a 53% decrease in the rate of MRSA bacteraemia per 1,000 hospital admissions. (Table 2.2.)
- Compared to the 2010/11 FY, 7 of the 7 (data was not collected from Powys Teaching Health Board for this FY) health boards/NHS Trust in Wales have achieved a reduction in numbers of MRSA bacteraemia. (Table 2.2.)
- 98% (99) of cases were diagnosed in the 18 acute hospitals and 2% (2) diagnosed in non-acute hospitals. (Table 2.2.)
- 54% (55) of cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.12 per 1,000 hospital admissions for this period.
- 25% (25) of MRSA bacteraemia were in female patients and 71% (72) were in patients aged 66+ for the 12 month period.
- The rate of MRSA bacteraemia per 100,000 population has decreased by 39% compared to the previous FY, from 5.37 to 3.27. (Table 2.2.)
- Compared to 2010/11 FY, the rate of MRSA bacteraemia per 100,000 population has decreased by 54%. (Table 2.2.)

Table 2.1. Wales numbers of MRSA bacteraemia, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by health board, 2015/16 FY

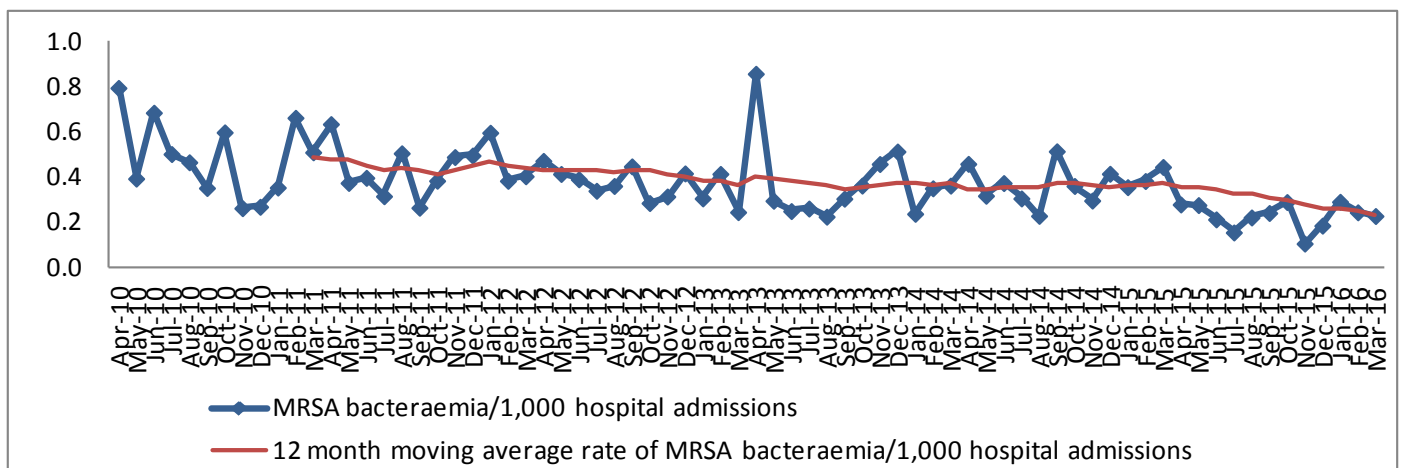
Health board	Number of MRSA bacteraemia	% change in number of MRSA bacteraemia from 2014/15 FY	% change in number of MRSA bacteraemia from 2010/11 FY	MRSA bacteraemia /1,000 hospital admissions	MRSA bacteraemia /100,000 population
ABM	14	-36% (22)	-70% (47)	0.16	2.68
Aneurin Bevan	20	-17% (24)	-9% (22)	0.22	3.45
Betsi Cadwaladr	34	-11% (38)	-38% (55)	0.36	4.90
Cardiff and Vale	13	-70% (44)	-74% (50)	0.20	2.70
Cwm Taf	7	-53% (15)	-65% (20)	0.14	2.37
Hywel Dda	13	-43% (23)	-35% (20)	0.25	3.39
Powys	0	=N/A (0)	N/A	0.00	0.00
Velindre	0	=N/A (0)	-N/A (4)	0.00	N/A
Wales	101	-39% (166)	-54% (218)	0.23	3.27
Wales average	13			0.17	2.78
Wales median	13			0.18	2.70

Table 2.2. Wales numbers and rates of MRSA bacteraemia per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of MRSA bacteraemia	Number of hospital admissions	MRSA bacteraemia/ 1,000 hospital admissions	Population*	MRSA bacteraemia/ 100,000 population
2015/16 FY	101	444720	0.23	3092036	3.27
Mar 16	8	35090	0.23	261894	3.05
Feb 16	9	36825	0.24	244997	3.67
Jan 16	11	37817	0.29	261894	4.20
Dec 15	7	37745	0.19	261894	2.67
Nov 15	4	37708	0.11	253446	1.58
Oct 15	11	37962	0.29	261894	4.20
Sep 15	9	37284	0.24	253446	3.55
Aug 15	8	36103	0.22	261894	3.05
Jul 15	6	38641	0.16	261894	2.29
Jun 15	8	37534	0.21	253446	3.16
May 15	10	36186	0.28	261894	3.82
Apr 15	10	35825	0.28	253446	3.95
2014/15 FY	166	446699	0.37	3092036	5.37
2013/14 FY	165	442821	0.37	3082412	5.35
2012/13 FY	161	439792	0.37	3074067	5.24
2011/12 FY	199	455772	0.44	3063758	6.50
2010/11 FY	218	448561	0.49	3049971	7.15

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 2.1. Wales monthly and 12 month moving average rates of MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board MRSA bacteraemia, 2015/16 FY

- 20 cases of MRSA bacteraemia have been reported for the 2015/16 FY in this health board. This is a 17% decrease in numbers compared to the previous FY. The rate of MRSA bacteraemia per 1,000 hospital admissions has decreased by 19%, from 0.27 to 0.22. (Table 2.3.) The rate of MRSA bacteraemia per 1,000 hospital admissions in Wales has decreased by 39% for the same period.
- Compared to the 2010/11 FY, there has been a 9% decrease in the number of MRSA bacteraemia and a 15% decrease in the rate of MRSA bacteraemia per 1,000 hospital admissions in this health board. (Table 2.4.) The rate of MRSA bacteraemia per 1,000 hospital admissions in Wales has decreased by 53%.
- 90% (18) of cases were diagnosed in the 2 acute hospitals in this health board and 10% (2) diagnosed in non-acute hospitals.
- 40% (8) of cases in this health board were diagnosed in hospital inpatient locations. The inpatient rate is 0.09 per 1,000 hospital admissions for this period.
- 20% (4) of MRSA bacteraemia in this health board were in female patients and 80% (16) were in patients aged 66+ for the 12 month period.
- The rate of MRSA bacteraemia per 100,000 population has decreased by 17% compared to the previous FY, from 4.14 to 3.45. (Table 2.4.) The rate of MRSA bacteraemia per 100,000 population in Wales has decreased by 39% for the same period.
- Compared to the 2010/11 FY, the rate of MRSA bacteraemia per 100,000 population has decreased by 10% in this health board. (Table 2.4.) The rate of MRSA bacteraemia per 100,000 population in Wales has decreased by 54%.

Table 2.3. Aneurin Bevan University Health Board numbers of MRSA bacteraemia, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by acute hospital, 2015/16 FY

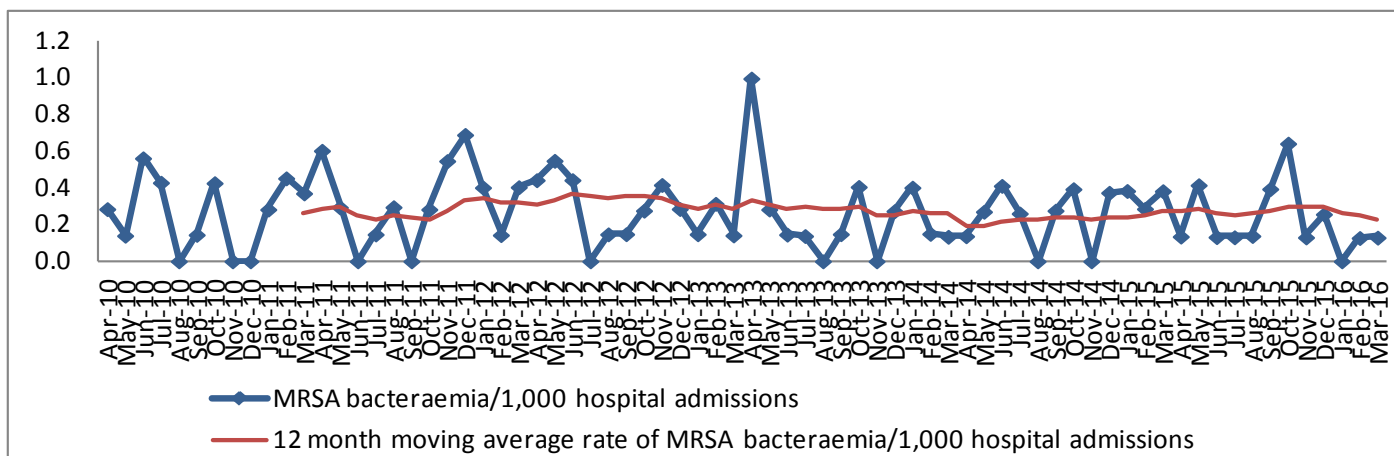
Health board/ hospital	Number of MRSA bacteraemia	% change in number of MRSA bacteraemia from 2014/15 FY	% change in number of MRSA bacteraemia from 2010/11 FY	MRSA bacteraemia/ 1,000 hospital admissions	MRSA bacteraemia/ 100,000 population
Nevill Hall	5	-29% (7)	-17% (6)	0.19	N/A
Royal Gwent	13	-7% (14)	-7% (14)	0.24	N/A
Aneurin Bevan	20	-17% (24)	-9% (22)	0.22	3.45
Wales	101	-39% (166)	-54% (218)	0.23	3.27

Table 2.4. Aneurin Bevan University Health Board numbers and rates of MRSA bacteraemia per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of MRSA bacteraemia	Number of hospital admissions	MRSA bacteraemia/ 1,000 hospital admissions	Population*	MRSA bacteraemia/ 100,000 population
2015/16 FY	20	91769	0.22	580401	3.45
Mar 16	1	7766	0.13	49160	2.03
Feb 16	1	7887	0.13	45988	2.17
Jan 16	0	7987	0.00	49160	0.00
Dec 15	2	7818	0.26	49160	4.07
Nov 15	1	7694	0.13	47574	2.10
Oct 15	5	7809	0.64	49160	10.17
Sep 15	3	7628	0.39	47574	6.31
Aug 15	1	7256	0.14	49160	2.03
Jul 15	1	7650	0.13	49160	2.03
Jun 15	1	7597	0.13	47574	2.10
May 15	3	7247	0.41	49160	6.10
Apr 15	1	7430	0.13	47574	2.10
2014/15 FY	24	89741	0.27	580401	4.14
2013/14 FY	22	85459	0.26	579101	3.80
2012/13 FY	23	83473	0.28	577981	3.98
2011/12 FY	27	84512	0.32	577077	4.68
2010/11 FY	22	85456	0.26	574778	3.83

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 2.2. Aneurin Bevan University Health Board monthly and 12 month moving average rates of MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

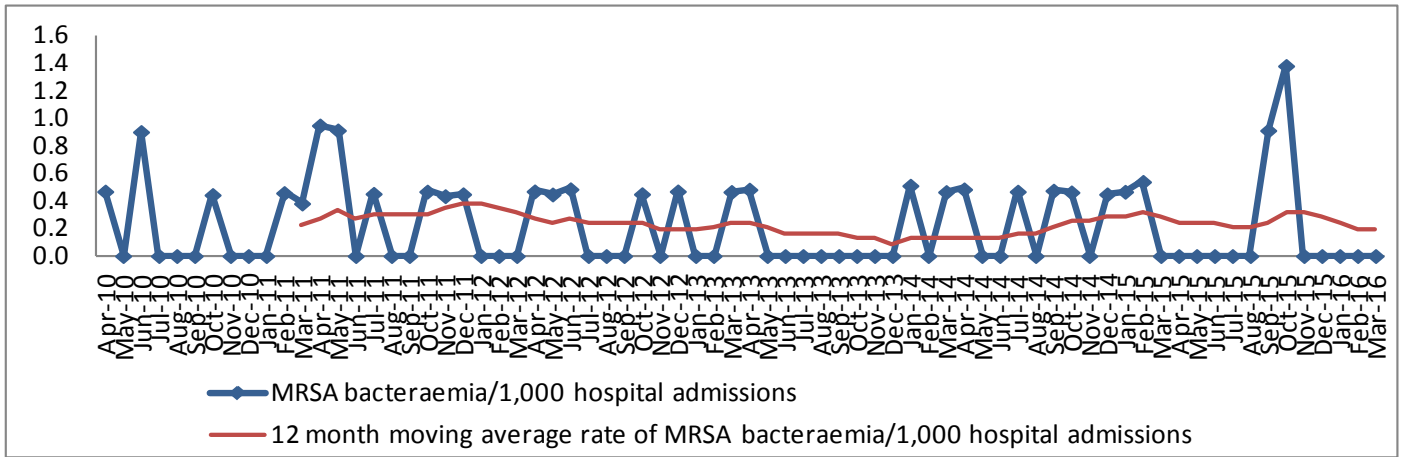
Nevill Hall Hospital MRSA bacteraemia, 2015/16 FY

- 5 cases of MRSA bacteraemia have been reported for the 2015/16 FY in this hospital. This is a 29% decrease in numbers compared to the previous FY. (Table 2.3.) The rate of MRSA bacteraemia per 1,000 hospital admissions has decreased by 30%, from 0.28 to 0.19. (Table 2.5.)
- Compared to the 2010/11 FY, there has been a 17% decrease in the number of MRSA bacteraemia and a 12% decrease in the rate of MRSA bacteraemia per 1,000 hospital admissions in this hospital. (Table 2.5.)
- The rate of MRSA bacteraemia in this hospital is not significantly different from the rates for the acute hospitals in Wales for this 12 month period. (Figure 2.5.)
- None of the cases were diagnosed in hospital inpatient locations.

Table 2.5. Nevill Hall Hospital numbers and rates of MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of MRSA bacteraemia	Number of hospital admissions	MRSA bacteraemia/ 1,000 hospital admissions
2015/16 FY	5	25778	0.19
Mar 16	0	2182	0.00
Feb 16	0	2084	0.00
Jan 16	0	2218	0.00
Dec 15	0	2119	0.00
Nov 15	0	2092	0.00
Oct 15	3	2176	1.38
Sep 15	2	2196	0.91
Aug 15	0	2027	0.00
Jul 15	0	2238	0.00
Jun 15	0	2190	0.00
May 15	0	2121	0.00
Apr 15	0	2135	0.00
2014/15 FY	7	25110	0.28
2013/14 FY	3	24818	0.12
2012/13 FY	6	25494	0.24
2011/12 FY	8	26267	0.30
2010/11 FY	6	27078	0.22

Figure 2.3. Nevill Hall Hospital monthly and 12 month moving average rates of MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

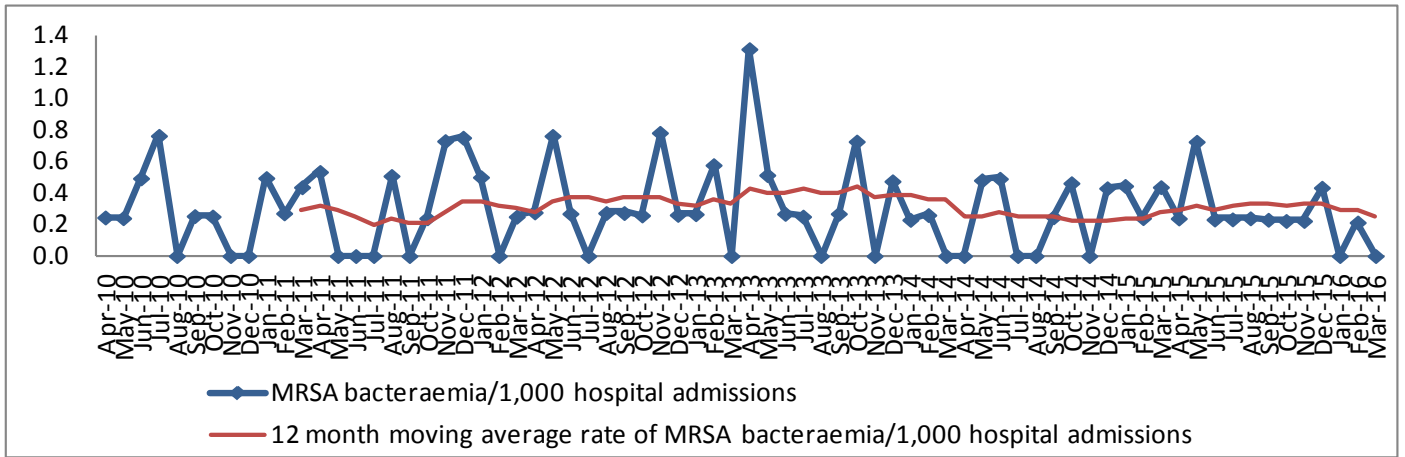
Royal Gwent Hospital MRSA bacteraemia, 2015/16 FY

- 13 cases of MRSA bacteraemia have been reported for the 2015/16 FY in this hospital. This is a 7% decrease in numbers compared to the previous FY. (Table 2.3.) The rate of MRSA bacteraemia per 1,000 hospital admissions has decreased by 10%, from 0.27 to 0.24. (Table 2.6.)
- Compared to the 2010/11 FY, there has been a 7% decrease in the number of MRSA bacteraemia and a 15% decrease in the rate of MRSA bacteraemia per 1,000 hospital admissions in this hospital. (Table 2.6.)
- The rate of MRSA bacteraemia in this hospital is not significantly different from the rates for the acute hospitals in Wales for this 12 month period. (Figure 2.5.)
- 46% (6) of the cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.11 per 1,000 hospital admissions for this period.

Table 2.6. Royal Gwent Hospital numbers and rates of MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of MRSA bacteraemia	Number of hospital admissions	MRSA bacteraemia/1,000 hospital admissions
2014/15 FY	13	53128	0.24
Mar 15	0	4679	0.00
Feb 15	1	4698	0.21
Jan 15	0	4696	0.00
Dec 14	2	4612	0.43
Nov 14	1	4490	0.22
Oct 14	1	4492	0.22
Sep 14	1	4343	0.23
Aug 14	1	4177	0.24
Jul 14	1	4298	0.23
Jun 14	1	4314	0.23
May 14	3	4137	0.73
Apr 14	1	4192	0.24
2014/15 FY	14	51239	0.27
2013/14 FY	17	47831	0.36
2012/13 FY	15	45002	0.33
2011/12 FY	14	47266	0.30
2010/11 FY	14	48565	0.29

Figure 2.4. Royal Gwent Hospital monthly and 12 month moving average rates MRSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board

Figure 2.5. Rates of MRSA bacteraemia per 1,000 hospital admissions by acute hospital, 2015/16 FY

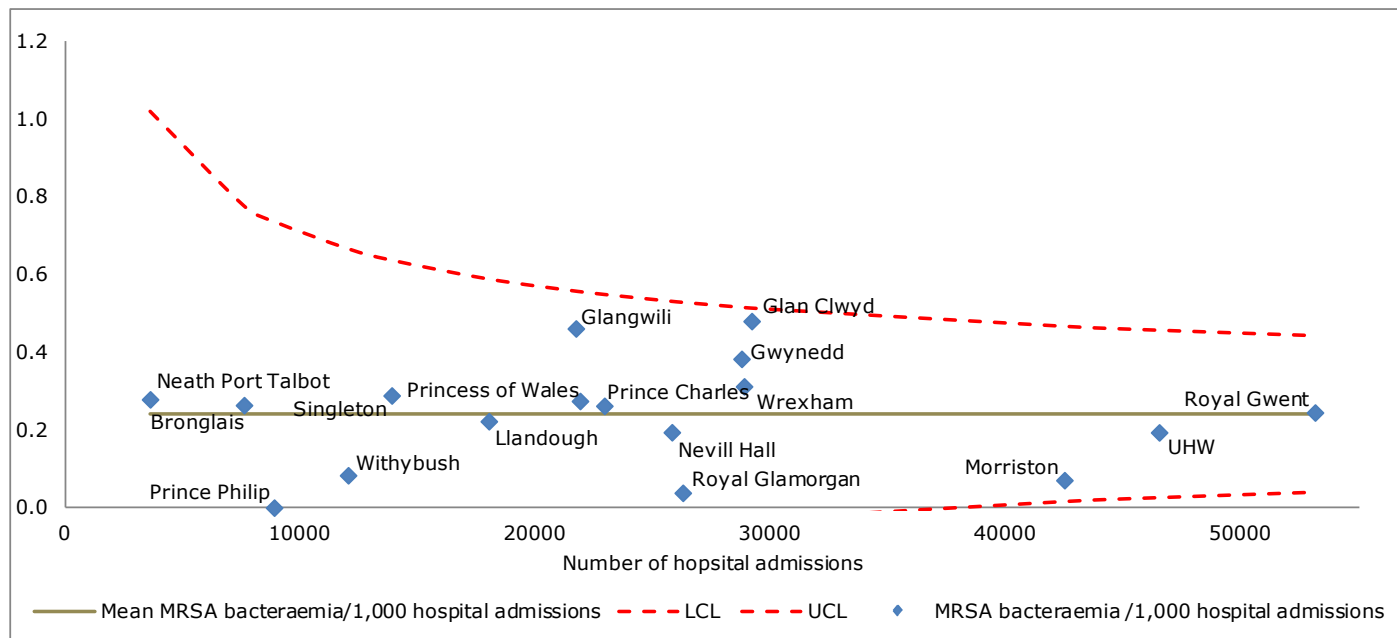


Table 2.7. Aneurin Bevan University Health Board, numbers of MRSA bacteraemia in non-acute hospital locations, 2015/16 FY

Location	Number of MRSA bacteraemia
St Woolos Hospital	1
Ysbyty Ystrad Fawr	1

3. MSSA (meticillin-sensitive *Staphylococcus aureus*) bacteraemia

MSSA bacteraemia surveillance notes for interpretation

- This report presents data on numbers of MSSA from blood cultures (bacteraemia) in Wales in the 2015/16 financial year, with trend data from 2010/11 (other than for Powys Health Board where data collection started in Apr 2011).
- Data is mainly collected via Datastore, a data warehouse system used by all microbiology laboratories in Wales. This data is supplemented manually with MSSA bacteraemia specimens from patients in Powys Health Board where the laboratory used for processing the specimen is in England.
- Data is extracted for the surveillance scheme using the following criteria:
 - *Staphylococcus aureus* (*S. aureus*) was identified from a blood culture sample
 - The sample was not taken from a patient in a private hospital, a privately run dialysis unit or post-mortem
 - Multiple positive samples from the same patient within a 14 day period are excluded as duplicates
- *S. aureus* positive blood cultures are assigned as MRSA (meticillin-resistant *S. aureus*) or MSSA (meticillin-sensitive *S. aureus*) on the basis of sensitivity to the antibiotic flucloxacillin
- Hospital admission data has been supplied by NHS Wales Informatics Service (NWIS) from the Patient Episode Database for Wales (PEDW).
- Population data has been extracted from <https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Estimates>
- Mid 2014 population estimates have been used to calculate the 2015/16 population rates. These rates will be updated when the mid 2015 population estimates become available.

Wales MSSA bacteraemia, 2015/16 FY

- 765 cases of MSSA bacteraemia have been reported for the 2015/16 FY. This is 1% increase in numbers compared to the previous FY. The rate of MSSA *bacteraemia* per 1,000 hospital admissions has decreased by 1%, from 1.70 to 1.72. (Table 3.1.)
- Compared to the previous FY, 3 of the 8 health boards/NHS Trust in Wales have achieved a reduction in numbers of MSSA bacteraemia. (Table 3.1.)
- Compared to the 2010/11 FY, there has been a 16% increase in the number of MSSA bacteraemia and a 17% increase in the rate of MSSA bacteraemia per 1,000 hospital admissions. (Table 3.2.)
- Compared to the 2010/11 FY, 3 of the 7 (data was not collected from Powys Teaching Health Board for this FY) health boards/NHS Trust in Wales have achieved a reduction in numbers of MSSA bacteraemia. (Table 3.2.)
- 98% (750) of cases were diagnosed in the 18 acute hospitals, 2% (13) diagnosed in non-acute hospitals and <1% (1) in non-hospital locations.
- 51% (387) of cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.87 per 1,000 hospital admissions for this period.
- 41% (310) of MSSA bacteraemia were in female patients and 50% (384) were in patients aged 66+ for the 12 month period.
- The rate of MSSA bacteraemia per 100,000 population has increased by 1% compared to the previous FY, from 24.55 to 24.74. (Table 3.2.)
- Compared to 2010/11 FY, the rate of MSSA bacteraemia per 100,000 population has increased by 15%. (Table 3.2.)

Table 3.1. Wales numbers of MSSA bacteraemia, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by health board, 2015/16 FY

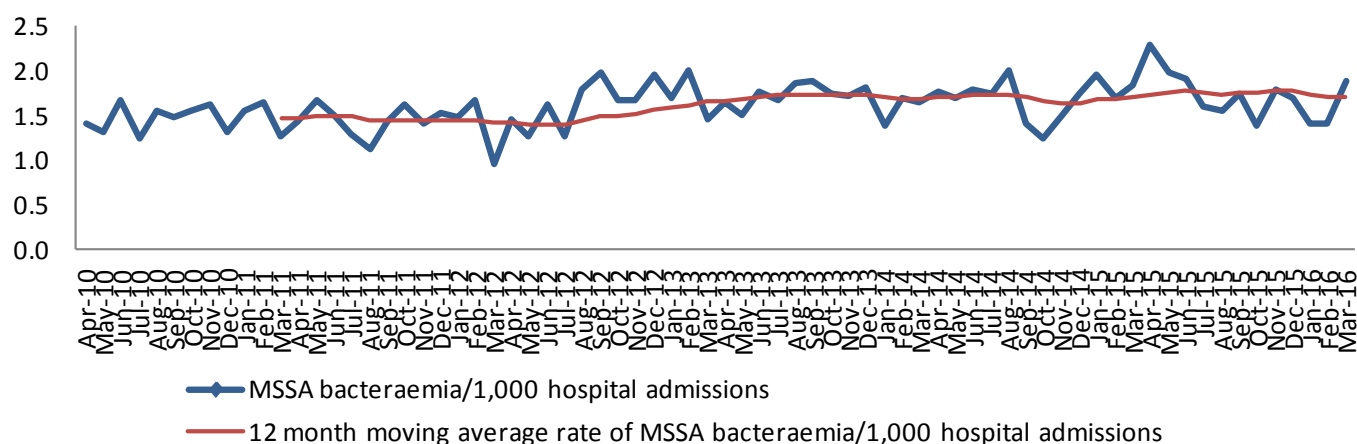
Health board	Number of MSSA bacteraemia	% change in number of MSSA bacteraemia from 2014/15 FY	% change in number of MSSA bacteraemia from 2010/11 FY	MSSA bacteraemia /1,000 hospital admissions	MSSA bacteraemia /100,000 population
ABM	165	12% (147)	36% (121)	1.94	31.55
Aneurin Bevan	93	-15% (110)	-18% (114)	1.01	16.02
Betsi Cadwaladr	134	-5% (141)	4% (129)	1.42	19.31
Cardiff and Vale	140	0% (140)	-10% (155)	2.11	29.05
Cwm Taf	115	17% (98)	135% (49)	2.23	38.86
Hywel Dda	113	-7% (121)	33% (85)	2.16	29.43
Powys	0	=N/A (0)	N/A	0.00	0.00
Velindre	5	150% (2)	-17% (6)	2.66	N/A
Wales	765	1% (759)	16% (659)	1.72	24.74
Wales average	96			1.69	23.46
Wales median	114			2.03	29.05

Table 3.2. Wales numbers and rates of MSSA bacteraemia per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of MSSA bacteraemia	Number of hospital admissions	MSSA bacteraemia/ 1,000 hospital admissions	Population*	MSSA bacteraemia/ 100,000 population
2015/16 FY	765	444720	1.72	3092036	24.74
Mar 16	66	35090	1.88	261894	25.20
Feb 16	52	36825	1.41	244997	21.22
Jan 16	53	37817	1.40	261894	20.24
Dec 15	64	37745	1.70	261894	24.44
Nov 15	68	37708	1.80	253446	26.83
Oct 15	53	37962	1.40	261894	20.24
Sep 15	65	37284	1.74	253446	25.65
Aug 15	56	36103	1.55	261894	21.38
Jul 15	62	38641	1.60	261894	23.67
Jun 15	72	37534	1.92	253446	28.41
May 15	72	36186	1.99	261894	27.49
Apr 15	82	35825	2.29	253446	32.35
2014/15 FY	759	446699	1.70	3092036	24.55
2013/14 FY	751	442821	1.70	3082412	24.36
2012/13 FY	728	439792	1.66	3074067	23.68
2011/12 FY	651	455772	1.43	3063758	21.25
2010/11 FY	659	448561	1.47	3049971	21.61

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 3.1. Wales monthly and 12 month moving average rates of MSSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board MSSA bacteraemia, 2015/16 FY

- 93 cases of MSSA bacteraemia have been reported for the 2015/16 FY in this health board. This is a 15% decrease in numbers compared to the previous FY. The rate of MSSA bacteraemia per 1,000 hospital admissions has decreased by 17%, from 1.23 to 1.01. (Table 3.3.) The rate of MSSA bacteraemia per 1,000 hospital admissions in Wales has increased by 1% for the same period.
- Compared to the 2010/11 FY, there has been an 18% decrease in the number of MSSA bacteraemia and a 24% decrease in the rate of MSSA bacteraemia per 1,000 hospital admissions in this health board. (Table 3.4.) The rate of MRSA per 1,000 hospital admissions in Wales has increased by 17%.
- 91% (85) of cases were diagnosed in the 2 acute hospitals in this health board and 8% (7) diagnosed in non-acute hospitals. 1 location was not specified.
- 48% (45) of cases in this health board were diagnosed in hospital inpatient locations. The inpatient rate is 0.49 per 1,000 hospital admissions for this period.
- 40% (37) of MSSA bacteraemia in this health board were in female patients and 54% (50) were in patients aged 66+ for the 12 month period.
- The rate of MSSA bacteraemia per 100,000 population has decreased by 15% compared to the previous financial year, from 18.95 to 16.02. (Table 3.4.) The rate of MSSA bacteraemia per 100,000 population in Wales has increased by 1% for the same period.
- Compared to the 2010/11 FY, the rate of MSSA bacteraemia per 100,000 population has decreased by 19% in this health board. (Table 3.4.) The rate of MSSA bacteraemia per 100,000 population in Wales has increased by 15%.

Table 3.3. Aneurin Bevan University Health Board numbers of MSSA bacteraemia, percentage change in numbers (from 2014/15 and 2010/11 FYs) and rates per 1,000 hospital admissions and 100,000 population by acute hospital, Apr 13 – Mar 16

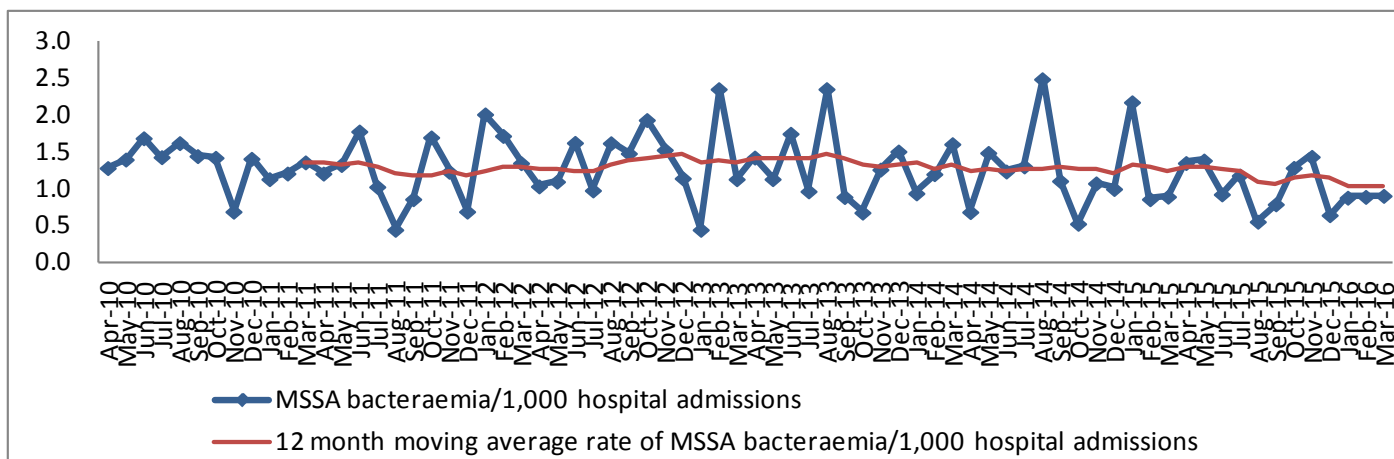
Health board/ hospital	Number of MSSA bacteraemia	% change in number of MSSA bacteraemia from 2014/15 FY)	% change in number of MSSA bacteraemia from 2010/11 FY	MSSA bacteraemia /1,000 hospital admissions	MSSA bacteraemia /100,000 population
Nevill Hall	20	-35% (31)	-50% (40)	0.78	N/A
Royal Gwent	65	-7% (70)	-8% (71)	1.22	N/A
Aneurin Bevan	93	-15% (110)	-18% (114)	1.01	16.02
Wales	765	1% (759)	16% (659)	1.72	24.74

Table 3.4. Aneurin Bevan University Health Board numbers and rates of MSSA bacteraemia per 1,000 hospital admissions and 100,000 population, Apr 10 – Mar 16

Mth/Yr	Number of MSSA bacteraemia	Number of hospital admissions	MSSA bacteraemia/ 1,000 hospital admissions	Population*	MSSA bacteraemia/ 100,000 population
2015/16 FY	93	91769	1.01	580401	16.02
Mar 16	7	7766	0.90	49160	14.24
Feb 16	7	7887	0.89	45988	15.22
Jan 16	7	7987	0.88	49160	14.24
Dec 15	5	7818	0.64	49160	10.17
Nov 15	11	7694	1.43	47574	23.12
Oct 15	10	7809	1.28	49160	20.34
Sep 15	6	7628	0.79	47574	12.61
Aug 15	4	7256	0.55	49160	8.14
Jul 15	9	7650	1.18	49160	18.31
Jun 15	7	7597	0.92	47574	14.71
May 15	10	7247	1.38	49160	20.34
Apr 15	10	7430	1.35	47574	21.02
2014/15 FY	110	89741	1.23	580401	18.95
2013/14 FY	111	85459	1.30	579101	19.17
2012/13 FY	113	83473	1.35	577981	19.55
2011/12 FY	108	84512	1.28	577077	18.72
2010/11 FY	114	85456	1.33	574778	19.83

*Monthly population = (Total population/Number of days in year) x Number of days in month

Figure 3.2. Aneurin Bevan University Health Board monthly and 12 month moving average rates of MSSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

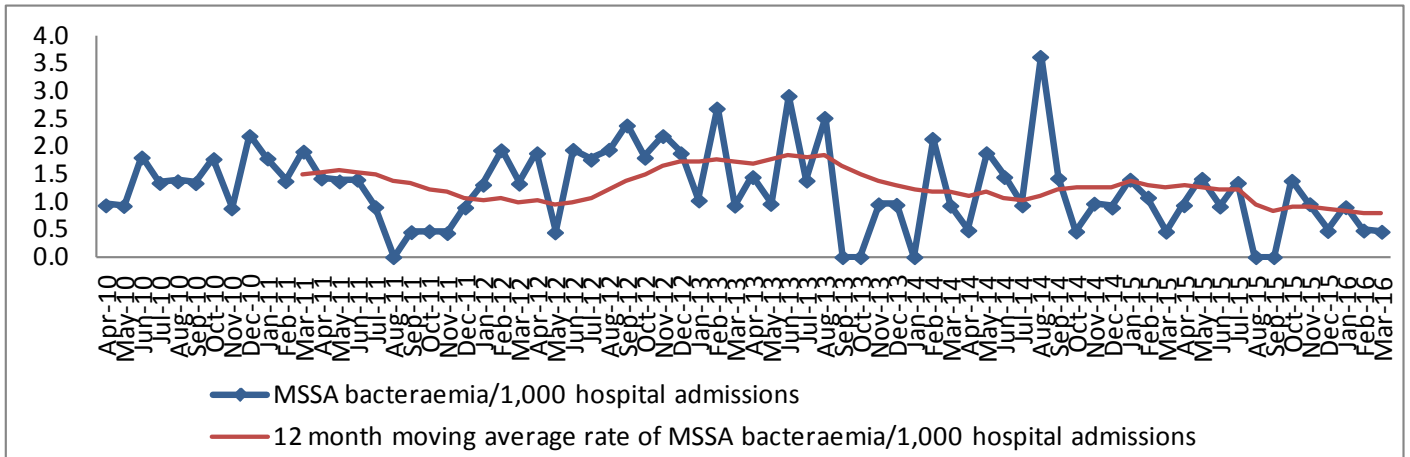
Nevill Hall Hospital MSSA bacteraemia, 2015/16 FY

- 20 cases of MSSA bacteraemia have been reported for the 2015/16 FY in this hospital. This is a 35% decrease in numbers compared to the previous FY. (Table 3.3.) The rate of MSSA bacteraemia per 1,000 hospital admissions has decreased by 37%, from 1.23 to 0.78. (Table 3.5.)
- Compared to the 2010/11 FY, there has been a 50% decrease in the number of MSSA bacteraemia and a 47% decrease in the rate of MSSA bacteraemia per 1,000 hospital admissions in this hospital. (Table 3.5.)
- The rate of MSSA bacteraemia in this hospital is significantly lower than the rates for the acute hospitals in Wales for this 12 month period. (Figure 3.5.)
- 30% (6) of the cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.23 per 1,000 hospital admissions for this period.

Table 3.5. Nevill Hall Hospital numbers and rates of MSSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of MSSA bacteraemia	Number of hospital admissions	MSSA bacteraemia/1,000 hospital admissions
2015/16 FY	20	25778	0.78
Mar 16	1	2182	0.46
Feb 16	1	2084	0.48
Jan 16	2	2218	0.90
Dec 15	1	2119	0.47
Nov 15	2	2092	0.96
Oct 15	3	2176	1.38
Sep 15	0	2196	0.00
Aug 15	0	2027	0.00
Jul 15	3	2238	1.34
Jun 15	2	2190	0.91
May 15	3	2121	1.41
Apr 15	2	2135	0.94
2014/15 FY	31	25110	1.23
2013/14 FY	29	24818	1.17
2012/13 FY	44	25494	1.73
2011/12 FY	26	26267	0.99
2010/11 FY	40	27078	1.48

Figure 3.3. Nevill Hall Hospital monthly and 12 month moving average rates of MSSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

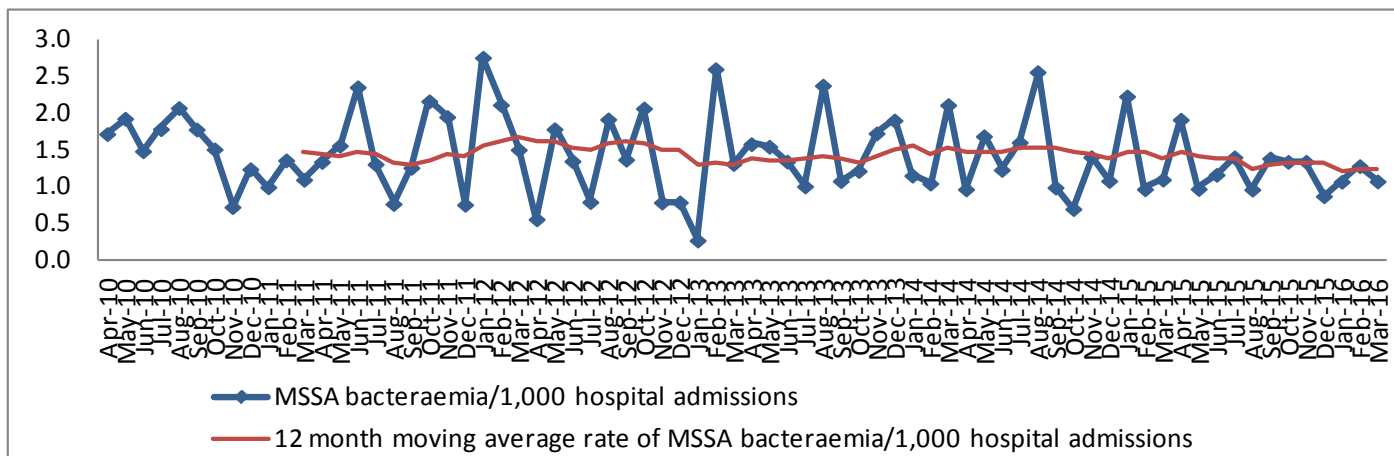
Royal Gwent Hospital MSSA bacteraemia, 2015/16 FY

- 65 cases of MSSA bacteraemia have been reported for the 2015/16 FY in this hospital. This is a 7% decrease in numbers compared to the previous FY. (Table 3.3.) The rate of MSSA bacteraemia per 1,000 hospital admissions has decreased by 10%, from 1.37 to 1.22. (Table 3.6.)
- Compared to the 2010/11 FY, there has been an 8% decrease in the number of MSSA bacteraemia and a 16% decrease in the rate of MSSA bacteraemia per 1,000 hospital admissions in this hospital. (Table 3.6.)
- The rate of MSSA bacteraemia in this hospital is significantly lower than the rates for the acute hospitals in Wales for this 12 month period. (Figure 3.5.)
- 52% (34) of the cases were diagnosed in hospital inpatient locations. The inpatient rate is 0.64 per 1,000 hospital admissions for this period.

Table 3.6. Royal Gwent Hospital numbers and rates of MSSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16

Mth/Yr	Number of MSSA bacteraemia	Number of hospital admissions	MSSA bacteraemia/1,000 hospital admissions
2015/16 FY	65	53128	1.22
Mar 16	5	4679	1.07
Feb 16	6	4698	1.28
Jan 16	5	4696	1.06
Dec 15	4	4612	0.87
Nov 15	6	4490	1.34
Oct 15	6	4492	1.34
Sep 15	6	4343	1.38
Aug 15	4	4177	0.96
Jul 15	6	4298	1.40
Jun 15	5	4314	1.16
May 15	4	4137	0.97
Apr 15	8	4192	1.91
2014/15 FY	70	51239	1.37
2013/14 FY	72	47831	1.51
2012/13 FY	58	45002	1.29
2011/12 FY	78	47266	1.65
2010/11 FY	71	48565	1.46

Figure 3.4. Royal Gwent Hospital monthly and 12 month moving average rates MSA bacteraemia per 1,000 hospital admissions, Apr 10 – Mar 16*



*12 month moving average rates are shown from Mar 11 as this is when the first full FY of data is complete

Aneurin Bevan University Health Board

Figure 3.5. Rates of MSSA bacteraemia per 1,000 hospital admissions by acute hospital, 2015/16 FY

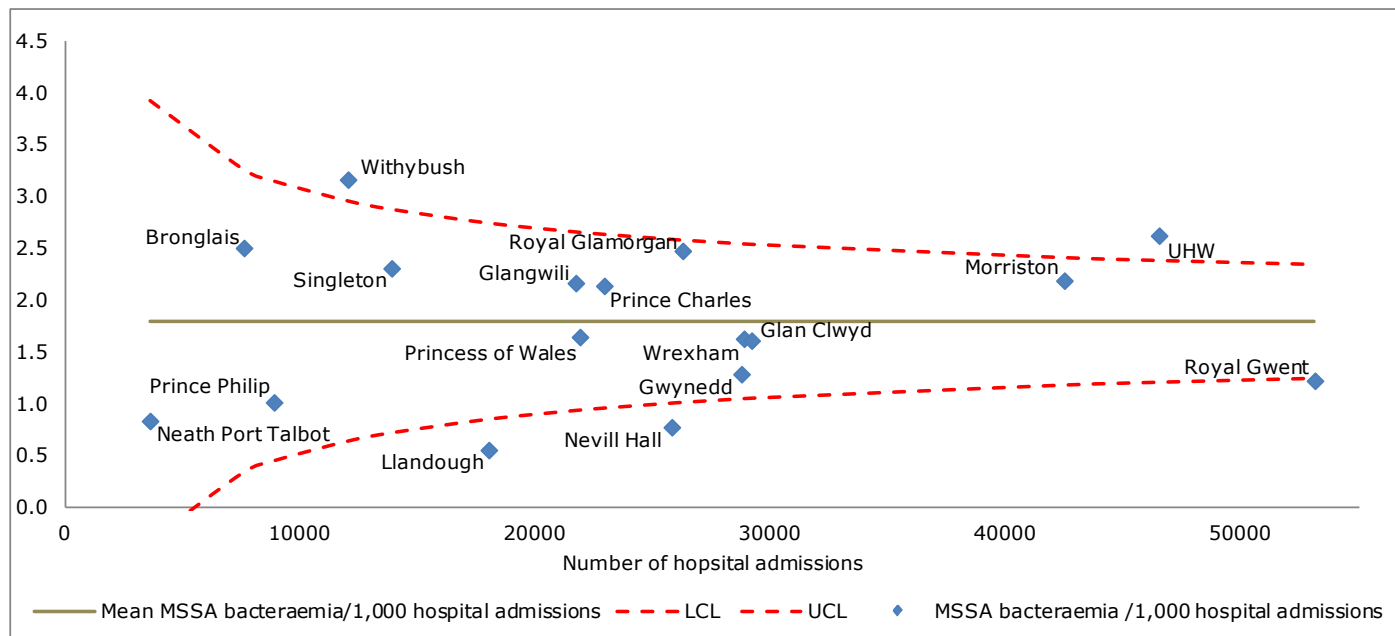


Table 3.7. Aneurin Bevan University Health Board, numbers of MSSA bacteraemia in non-acute hospital locations, 2015/16 FY

Location	Number of MSSA bacteraemia
St Woolos Hospital	3
Ysbyty Ystrad Fawr	4
Location not specified	1