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# **Health Care Acquired Infection Surveillance 2016/17**

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Produced by Wirral  
Intelligence Service

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April 2017

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# Health Care Acquired Infections Surveillance 2016/17

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## Current Version: 4

Version History	Date	Author	Reviewer	Actions
1, 2	28/02/2017 03/03/2017	Hannah Cotgrave	Rachael Musgrave Sarah Kinsella	Glossary and previous year comparison added, Definitions updated and terminology clarified.
3	13/04/2017	Hannah Cotgrave	NA	Updated with full year figures 2016/17

## Report Overview

<b>Abstract</b>	Report detailing the number of cases for MRSA, MSSA, C. Difficile and E.Coli in Wirral for 2016/17.
<b>Intended or potential audience</b>	<b>External</b> <ul style="list-style-type: none"><li>• Health Protection Forum</li><li>• Wirral Clinical Commissioning Group</li></ul> <b>Internal</b> <ul style="list-style-type: none"><li>• DMT</li><li>• Wider Public Health team</li></ul>
<b>Links with other topic areas</b>	<ul style="list-style-type: none"><li>• This links with Infection Prevention Control and Health Protection</li></ul>

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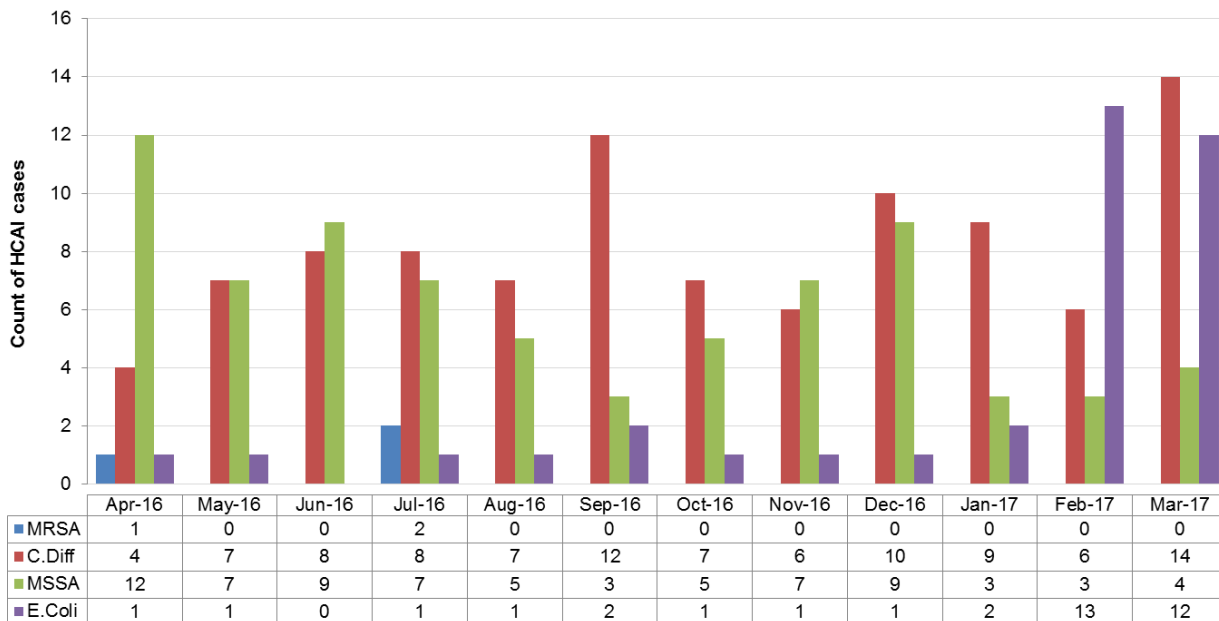
# Health Care Acquired Infection (HCAI) Cases in Wirral

Health Care Acquired Infection (HCAI) cases are recorded in real-time on the HCAI Data Capture System (HCAI DCS), facilitated by Public Health England, for the following infections:

- Methicillin-resistant Staphylococcus aureus (MRSA)
- Clostridium difficile (C. diff)
- Methicillin-sensitive Staphylococcus aureus (MSSA)
- Escherichia coli (E. coli)

During the financial year 2016/17, there were 209 HCAI cases reported on the HCAI DCS in Wirral; 3 MRSA cases, 98 C. difficile cases, 74 MSSA cases and 36 E. Coli cases. As Figure 1 shows, the main HCAI cases reported are C. difficile and MSSA cases, which made up 82.3% of all reported HCAI cases in 2016/17.

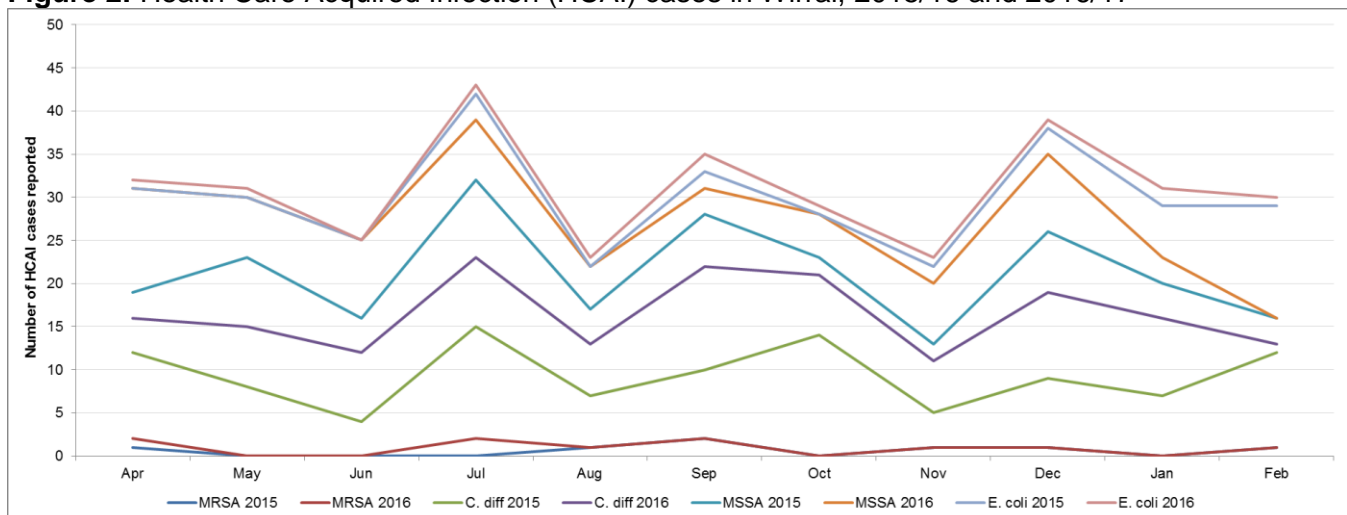
**Figure 1:** Health Care Acquired Infection (HCAI) cases in Wirral, 2016/17



Source: HCAI DCS, Public Health England, 2017

Figure 2 shows the number of Wirral cases reported in 2015/16 and 2016/17. As can be seen, the number of cases tend to follow similar patterns; MSSA, C. diff and E. coli cases all appear spike in the months of July, September and December. Due to the low number of MRSA cases, it is difficult to establish any seasonal pattern; however there does appear to be small increases during these months also.

**Figure 2:** Health Care Acquired Infection (HCAI) cases in Wirral, 2015/16 and 2016/17



Source: HCAI DCS, Public Health England, 2017

## Methicillin-resistant Staphylococcus aureus (MRSA)

As Table 1 shows, in 2016/17, there were 3 cases of MRSA reported compared to 6 cases in 2015/16; a 50% decrease in cases.

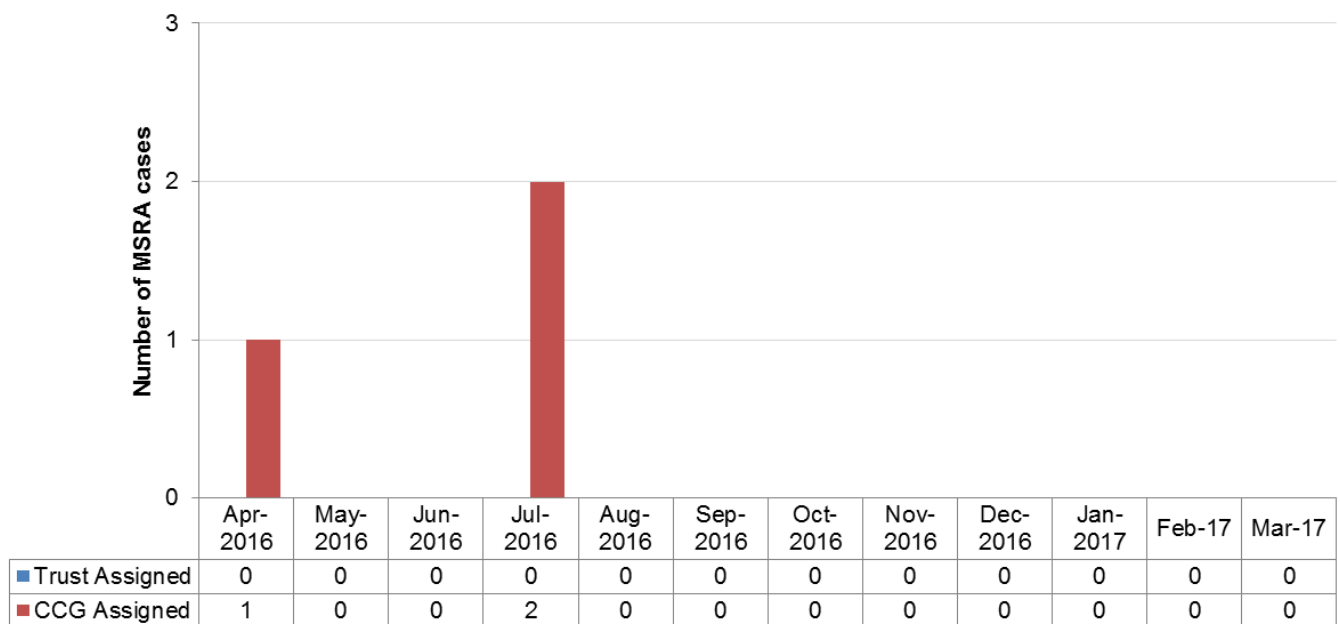
There were no Trust assigned cases of MRSA reported in 2016/2017 compared to 4 cases in 2015/16. Please see the Glossary on page 8 ([or click here](#)) for details on how cases are Trust-assigned.

**Table 1:** Trust and non-Trust assigned MRSA cases reported in 2015/16 and 2016/17

Year	Case Assignment	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2016/17	Trust Assigned	0	0	0	0	0	0	0	0	0	0	0	0	0
	Non-Trust Assigned	1	0	0	2	0	0	0	0	0	0	0	0	3
2015/16	Trust Assigned	0	0	0	0	0	2	0	1	1	0	0	0	4
	Non-Trust Assigned	1	0	0	0	1	0	0	0	0	0	1	0	3

Source: HCAI DCS, Public Health England, 2017

**Figure 3:** Number of MRSA cases reported in Wirral, by assigned organisation, 2016/17



Source: HCAI DCS, Public Health England, 2016

Figure 3 shows that, so far, 3 cases of MRSA have been reported in 2016/17; 1 case in April 2016 and 2 cases in July 2016. All 3 cases have been CCG assigned.

## Clostridium difficile (C. diff)

As Table 2 shows, in 2016/17 there were 98 cases of C. diff reported, compared to 95 cases in 2015/16; a 3% increase in cases.

In 2016/17, 47% of cases (n=46) were Trust apportioned, compared to 56% of cases (n=53) being Trust apportioned in 2015/16. Please see the Glossary on page 8 ([or click here](#)) for details on how cases are Trust-apportioned.

**Table 2:** Trust and non-Trust apportioned C. diff cases reported in 2015/16 and 2016/17

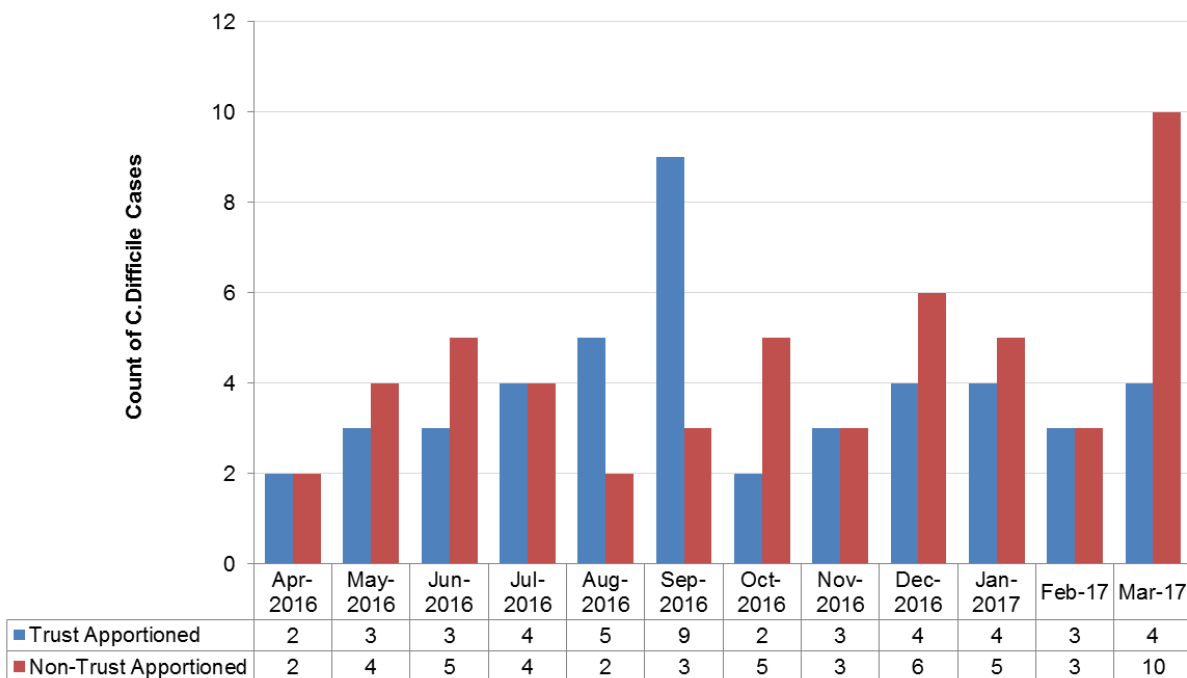
Year	Case Assignment	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2016	Trust Apportioned	2	3	3	4	5	9	2	3	4	4	3	4	46
	Non-Trust Apportioned	2	4	5	4	2	3	5	3	6	5	3	10	52
2015	Trust Apportioned	5	7	1	5	3	3	8	3	6	3	9	0	53
	Non-Trust Apportioned	5	1	3	8	3	5	6	1	2	4	2	2	42

Source: HCAI DCS, Public Health England, 2017

Figure 4 shows that the number of C. diff cases apportioned to Trust and Non-Trust organisations was balanced throughout the year with the exception of September and March. Average cases per month were 3.8 (Trust apportioned) and 4.3 (non-Trust apportioned). The highest number of Trust apportioned C.diff cases were reported in September 2016 (9 or 9% of all C. diff cases), whereas the greatest number of non-Trust apportioned cases were reported in March 2017 (10 or 10% of all C. diff cases).

Overall, there have been 98 recorded cases of C. diff in Wirral in 2016/17, giving an average of 8.2 cases per month, compared to 7.9 cases per month in 2015/16.

**Figure 4:** Number of C. diff cases reported in Wirral, by assigned organisation, 2016/17



Source: HCAI DCS, Public Health England, 2017

## Methicillin-sensitive Staphylococcus aureus (MSSA)

As Table 3 shows, in 2016/17 there were 67 cases of MSSA reported, compared to 56 cases during 2015/16; a 20% increase in cases.

**Table 3:** Number of MSSA cases reported in 2015/16 and 2016/17

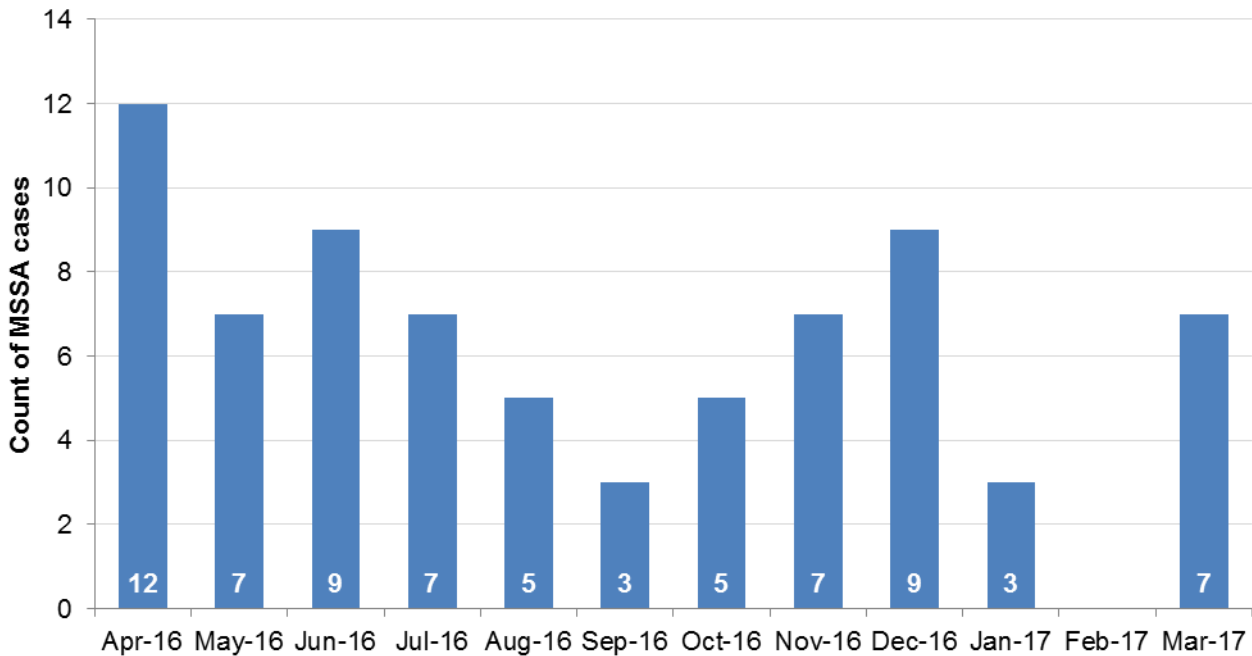
Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2015/16	3	8	4	9	4	6	2	2	7	4	3	4	56
2016/17	12	7	9	7	5	3	5	7	9	3	0	7	67

Source: HCAI DCS, Public Health England, 2017

Figure 5 shows that for 2016/17, the highest number of MSSA cases was reported in April (12 cases). The number of cases then gradually decreased to 3 in September before spiking again in November-December and March (7, 9 and 7 cases respectively). There were no cases of MSSA reported in February.

On average, there are 5.6 cases of MSSA reported each month in 2016/17, compared to 4.7 cases per month in 2015/16.

**Figure 5:** Number of MSSA cases reported in Wirral, 2016/17



Source: HCAI DCS, Public Health England, 2017

## Escherichia coli (E. coli)

Table 4 shows that there have been 34 cases of E. coli reported in 2016/17, compared to 41 cases during 2015/16; a 17% decrease in cases.

**Table 4:** Number of E. coli cases reported in 2015/16 and 2016/17

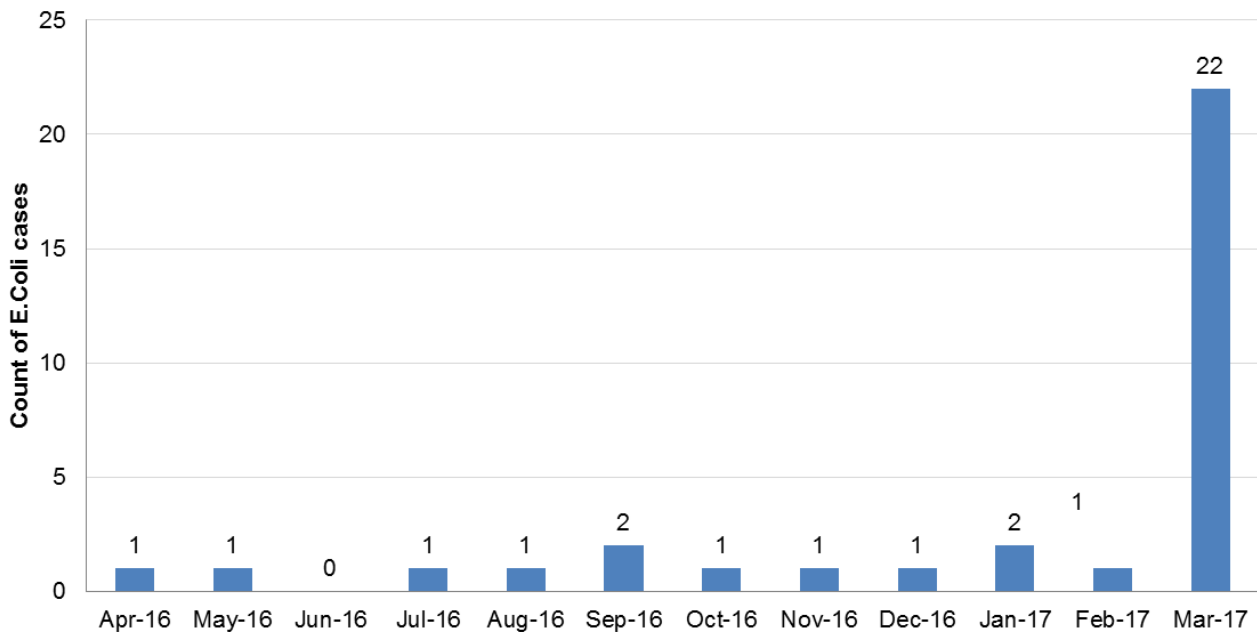
Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2015/16	0	0	0	3	0	2	0	2	3	6	13	12	41
2016/17	1	1	0	1	1	2	1	1	1	2	1	22	34

Source: HCAI DCS, Public Health England, 2017

Figure 6 shows that in 2016/17, March experienced the highest number of reported E.coli cases (22 cases). There were no reported incidents of E. coli reported in June 2016.

On average, there are 2.8 cases of E.coli reported each month in 2016/17 compared to an average of 3.4 cases per month in 2015/16.

**Figure 6:** Number of E.coli cases reported in Wirral, 2016/17



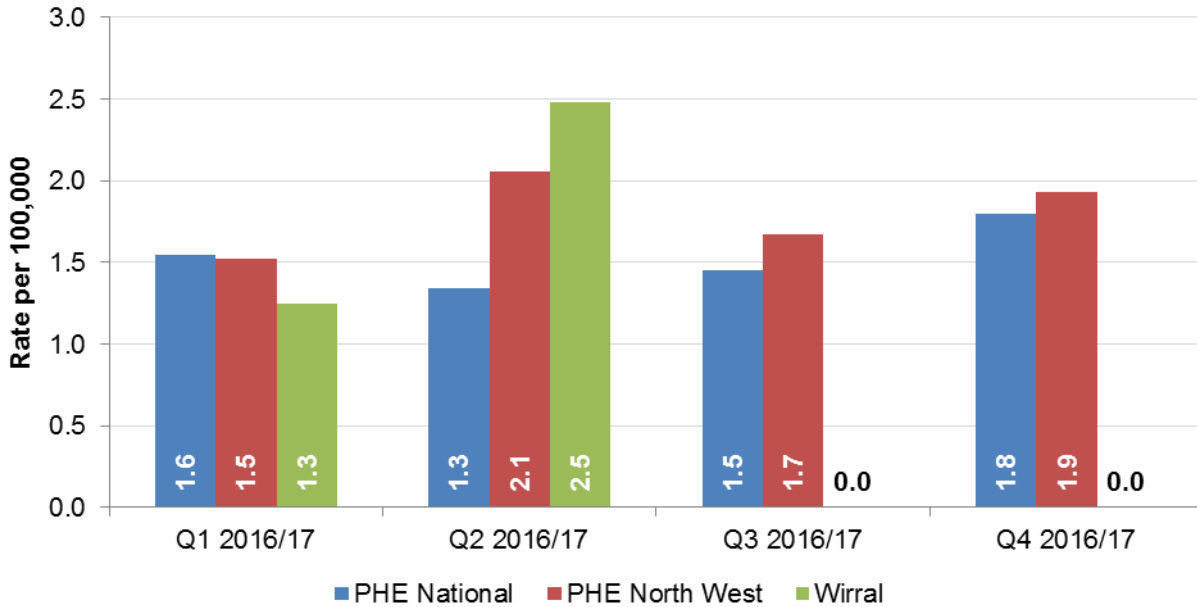
Source: HCAI DCS, Public Health England, 2017



## National and Local Comparison

As Figure 7 shows that Wirral had a lower rate of MRSA infections than both the North West and England for three of the four quarters of 2016/17. However, this trend was not evident in Quarter 2 (Jul-Sep 2016), when the Wirral rate (2.5 per 100,000 people) was higher than both North West and England (2.1 and 1.3 per 100,000 respectively).

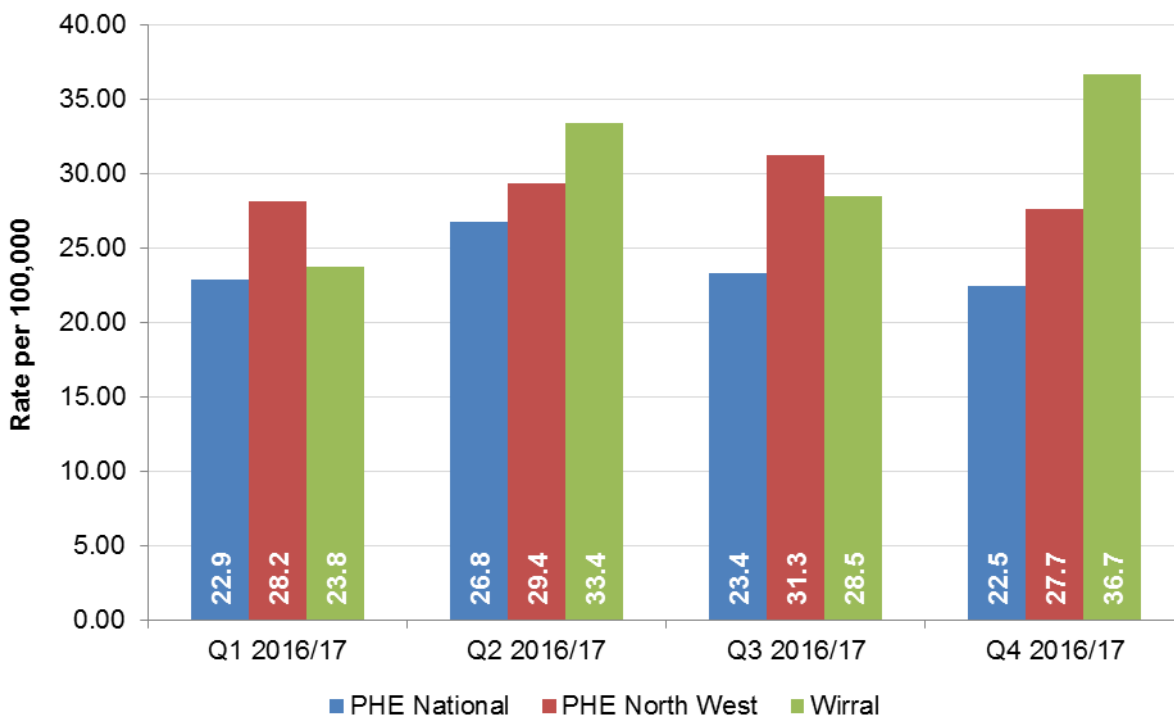
**Figure 7:** Rate of MRSA cases, Wirral, PHE North West and PHE National, 2016/17



Source: HCAI DCS, Public Health England, 2017

Figure 8 shows that Wirral consistently had a C. difficile rates that was higher than the England, however, interchanged positions with the North West; being higher in Quarter 2 and Quarter 4, but lower in Quarter 1 and Quarter 3.

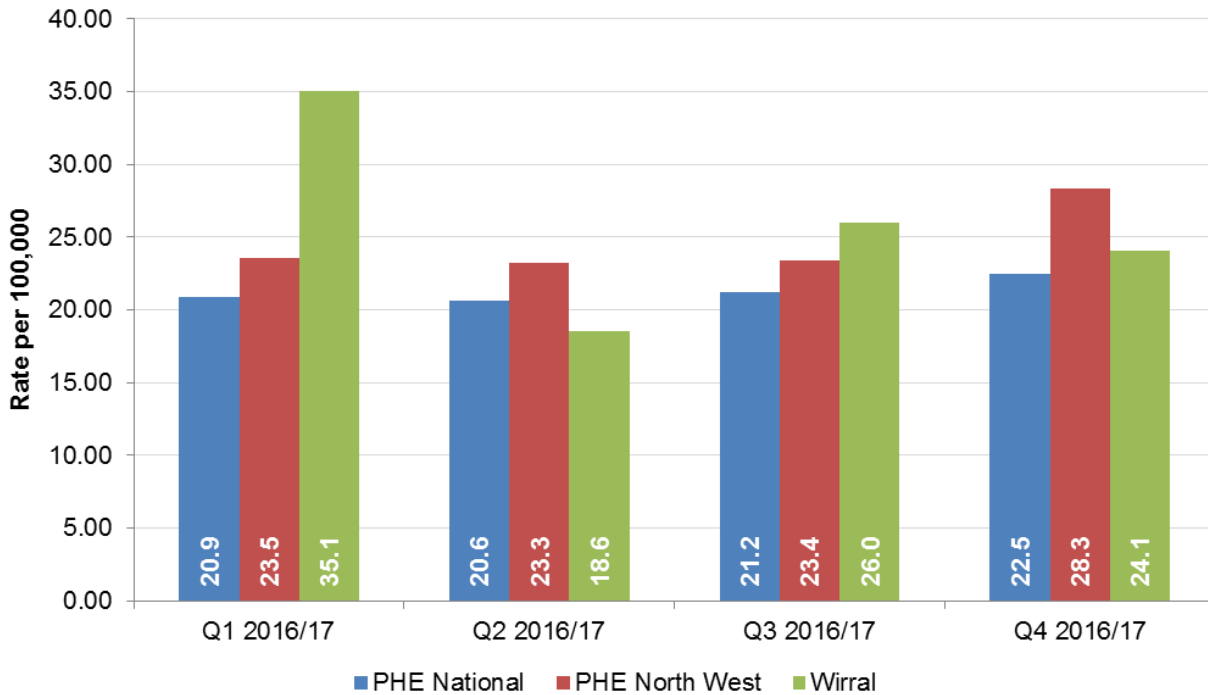
**Figure 8:** Rate of C. difficile cases, Wirral, PHE North West and PHE National, 2016/17



Source: HCAI DCS, Public Health England, 2017

Figure 9 shows that Wirral's quarterly MSSA rates were consistently higher than England's, with the exception of Quarter 2 (Jul-Sep 2016). In comparison to the North West, Wirral had higher rates in Quarter 1 and Quarter 3 but lower rates in Quarter 2 and Quarter 4.

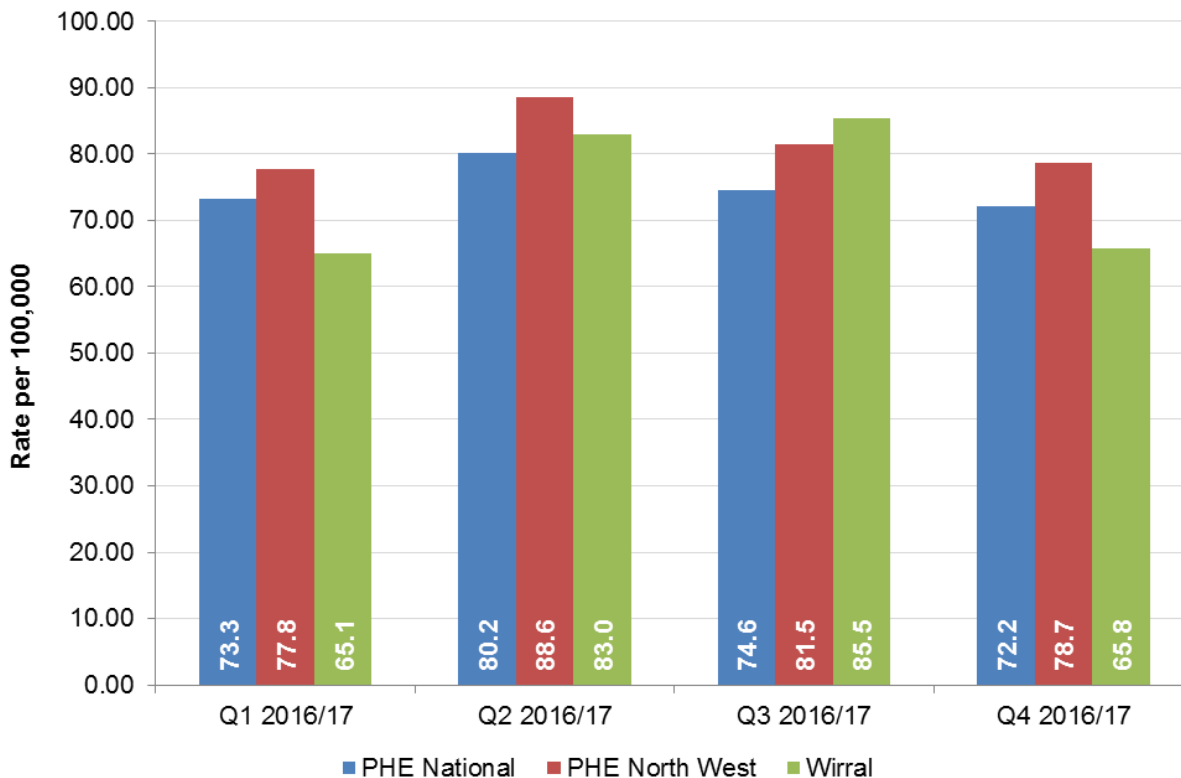
**Figure 9:** Rate of MSSA cases, Wirral, PHE North West and PHE National, 2016/17



Source: HCAI DCS, Public Health England, 2017

Figure 10 shows that E. coli rates in England and the North West appeared to decrease from Quarter 2 (2016/17). In contrast to this however, the E. coli rate in Wirral continued to increase between Quarters 1-3 before a substantial decrease in Quarter 4 (85.5 Q3 to 65.8 Q4).

**Figure 10:** Rate of E. coli cases, Wirral, PHE North West and PHE National, 2016/17



Source: HCAI DCS, Public Health England, 2017

# Glossary

## MRSA

MRSA bacteraemias underwent the apportioning algorithm until 31 March 2013. From 1 April 2013 all MRSA bacteraemia cases were subject to the Post Infection Review. Based upon these individual investigations an MRSA case would then be assigned to an acute Trust or CCG. As apportioning is based solely on other data items collected the process can be carried out on current data to allow the time series to be continued.

## C. difficile

### Trust apportioned:

Any NHS patient specimens taken on the fourth day of admission onwards (eg day 4 when day 1 equals day of admission) at an acute Trust (including cases with unspecified specimen location) for Inpatients, Day-patients, Emergency Assessment, or unspecified patient category.

Records with a missing admission date (where the specimen location is acute Trust or missing and the patient category is Inpatient, Day-patient, Emergency Assessment, or unspecified) are also included.

### Non-Trust apportioned:

Any NHS patient specimens not apportioned to the above. This will typically include the following groups:

- Any acute Trust specimens taken on either the day of admission or the two subsequent days (eg days 1, 2, 3 where day 1 equals day of admission).
- Any specimens from patients attending an acute Trust who are not Inpatient, Day-patient or under Emergency Assessment (eg non admitted patients).
- Any specimens from patients attending an identifiable healthcare location **except** an acute Trust. This will typically include GP, nursing home, non-acute NHS hospital and private patients.

*These definitions have been extracted from the "HCAI Data Capture System, User Manual: Overview of Trust Apportioning Algorithm" available at:*  
[https://hcaidcs.phe.org.uk/ContentManagement/LinksAndAnnouncements/HCAIDCS\\_Supporting\\_Documents\\_Algorithms\\_Apportioning\\_UserGuide\\_V2.0.pdf](https://hcaidcs.phe.org.uk/ContentManagement/LinksAndAnnouncements/HCAIDCS_Supporting_Documents_Algorithms_Apportioning_UserGuide_V2.0.pdf)