



## Antimicrobial Resistance

Last updated: June 2017

### Summary

#### Antibiotic Prescriptions

- The total number of prescribed antibiotic items on the Isle of Wight is in line with the England average trend (2013 to 2016)
- The Isle of Wight Clinical Commissioning Group (CCG) twelve month rolling percentage of prescribed broad spectrum antibiotic items is reducing (improving) but it still above the England and Wessex average

#### Healthcare Associated Infections (HCAs)

- **Escherichia. Coli (E. coli) bacteraemia:** The Isle of Wight had a higher crude rate per 100,000 of E. coli bacteraemia in 2015/16 of 85.4 than England (70.0) and Wessex (64.7)
- **Clostridium difficile (C. diff):** The Isle of Wight has seen a spike in C. diff infection crude rates above Wessex and England in the past two years
- **Methicillin-resistant Staphylococcus Aureus (MRSA):** Since 2009/10 the crude rate of MRSA for the Isle of Wight has remained fairly constant, while England has seen a decrease

### Overview

Antimicrobial resistance (AMR) is a term used to describe the evolution of bacteria and other microbes to resist the effects of antibiotics and other antimicrobial drugs. Without effective antibiotics, even routine operations could become high risk procedures in the future.

Antibiotic consumption in England is on the rise and increased antibiotic prescribing is fuelling increased resistance in bacteria.

For more detailed information about antibiotic resistance and how it occurs please visit 'Public

Health England Health matters: antimicrobial resistance'

<https://www.gov.uk/government/publications/health-matters-antimicrobial-resistance/health-matters-antimicrobial-resistance>

#### Data Limitations

Both crude and age-standardised rates are used in this factsheet. It should be noted that crude rates don't take into account the underlying demographic differences between areas. On the Isle of Wight, with a markedly higher proportion of over 65s, prescribing rates are likely to be higher than areas with less older residents.

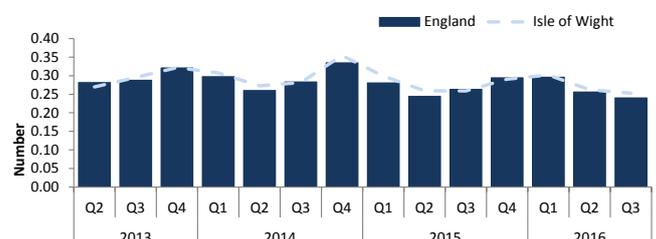
### Antibiotic Prescriptions

Antibiotic prescribing and antibiotic resistance are inextricably linked. Areas with high levels of antibiotic prescribing also have high levels of resistance.

In order to make geographical comparisons of antimicrobial prescribing, it is necessary to take into account the demographics of the local population as it may influence levels of prescribing. For that reason 'Specific Therapeutic Group Age-sex weightings Related Prescribing Units' (STAR-PU) data is adjusted for both age and sex.

The STAR-PU total number of prescribed antibiotic items shows the Isle of Wight has consistently followed the England and Wessex trends.

Total Number of Prescribed Antibiotics per STAR-PU by Quarter, Isle of Wight and England average.



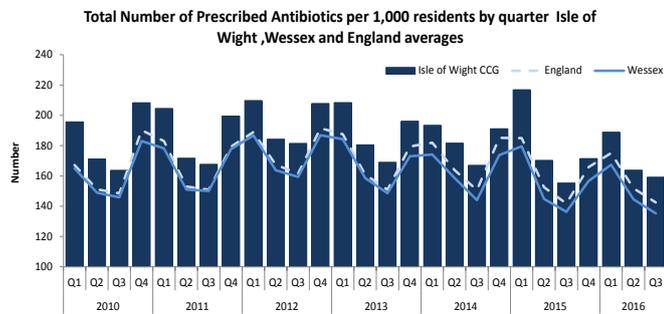
Source: PHE Fingertips Tool - AMR Local Indicators <https://fingertips.phe.org.uk/profile/amr->

### Total number of prescribed antibiotic items per 1,000 resident individuals by quarter (calendar year)

This indicator shows the crude rate of antibiotic drug consumption in the CCG by quarter.

Between 2010 and 2016 the Isle of Wight has had a consistently higher rate than England and Wessex. For quarter 3 2016 the Isle of Wight had the 44<sup>th</sup> highest prescription rate out of 209 CCGs (159.2 per 1,000).

When the Isle of Wight is compared to its 10 statistical neighbour CCGs<sup>1</sup>, in quarter 3 2016 the Isle of Wight had the fourth highest rate.

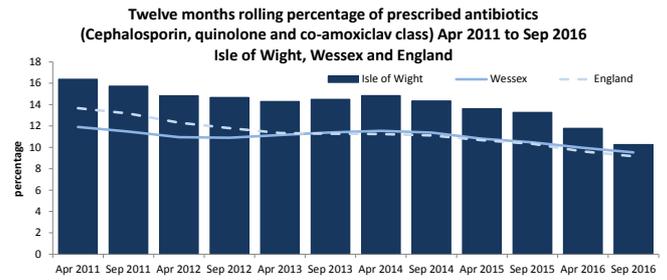


Source: PHE Fingertips Tool - AMR Local Indicators <https://fingertips.phe.org.uk/profile/amr-local-indicators> (accessed January 2017)

### Broad spectrum antibiotics (Cephalosporin, Fluoroquinolone and co-Amoxiclav)

Broad spectrum antibiotics need to be reserved to treat resistant disease. They should generally be used only when narrow-spectrum antibiotics are ineffective because they increase the risk of MRSA, C. diff and resistant urinary tract infections (UTIs).

The graph below shows that the Isle of Wight twelve month rolling percentage of prescribed broad antibiotic items is reducing, but is still above (worse than) the England and Wessex average. Since January 2016 the Isle of Wight has seen a faster reduction than in previous months.



Source: PHE Fingertips Tool - AMR Local Indicators <https://fingertips.phe.org.uk/profile/amr-local-indicators> (accessed January 2017)

## Healthcare Associated Infections

Healthcare Associated Infections (HCAI) can develop either as a direct result of a healthcare intervention (such as medical or surgical treatment) or from being in contact with a healthcare setting.

HCAIs can prolong hospital stays, create long-term disability and increase resistance to antimicrobials.

Public Health England (PHE) monitors the number of certain infections that occur in healthcare settings through routine surveillance programmes. There is a national mandatory surveillance of the following infections:

- Blood stream infection (bacteraemia) due to E. coli
- Gastrointestinal infection and diarrhoea due to C. diff
- Bacteraemia due to MRSA
- Bacteraemia due to Methicillin Sensitive Staphylococcus aureus (MSSA)

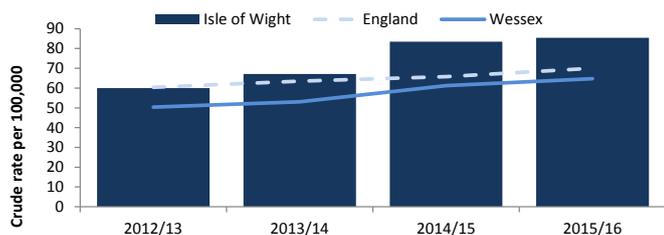
### E. coli bacteraemia

E. coli is a type of bacteria common in human and animal intestines, and forms part of the normal gut flora (the bacteria that exist in the bowel).

The E. coli crude rate for the Isle of Wight, Wessex and England has been increasing since 2012/13. Since 2013/14 the Isle of Wight crude rate of E. coli has been higher than Wessex and England. The crude rate in 2015/16 for the Isle of Wight was 85.4 per 100,000 residents compared to 70.0 in England and 64.7 in Wessex. The Isle of Wight crude rate ranked 105 out of 207\* CCGs.

<sup>1</sup> Isle of Wight CCG comparators: NHS West Norfolk CCG, NHS Hastings and Rother CCG, NHS Lincolnshire East CCG, NHS Great Yarmouth and Waveney CCG, NHS Eastbourne, Hailsham and Seaford CCG, NHS Hambleton, Richmondshire and Whitby CCG, NHS Herefordshire CCG, NHS South Kent Coast CCG, NHS East Riding of Yorkshire CCG, NHS Northumberland CCG

**E. coli bacteraemia crude rate per 100,000 Isle of Wight, Wessex, and England 2012/13 - 2015/16**



Source: PHE Fingertips Tool - AMR Local Indicators  
<https://fingertips.phe.org.uk/profile/amr-local-indicators> (accessed January 2017)  
 \*N.B. No data was supplied for 2 CCGs

## C. diff

C. diff is a bacterium that can infect the bowel and cause diarrhoea. The infection most commonly affects people who have recently been treated with antibiotics, but can spread easily to others. C. diff infections are unpleasant and can sometimes cause serious bowel problems, but they can usually be treated with another course of antibiotics.

The Isle of Wight has seen a spike in C. diff infection crude rates above Wessex and England rates in the past two financial years. In 2015/16 the Isle of Wight had a crude rate of 39.5 per 100,000 compared to Wessex (23.5) and England (26.0). The Isle of Wight in 2015/16 ranked the 20<sup>th</sup> highest (worst) crude rate out of 207\* CCGs.

**C. difficile infection rate per 100,000 Isle of Wight, Wessex and England 2009/10 - 2015/16**



Source: PHE Fingertips Tool - AMR Local Indicators  
<https://fingertips.phe.org.uk/profile/amr-local-indicators> (accessed January 2017)  
 \*N.B. No data was supplied for 2 CCGs

## MRSA

MRSA is a type of bacteria resistant to a number of widely used antibiotics. This means MRSA infections can be more difficult to treat than other bacterial infections. It is sometimes referred to as a "superbug".

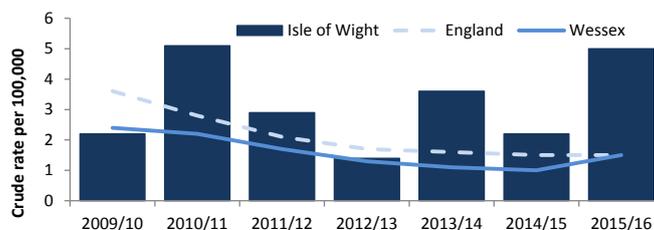
Staphylococcus aureus (also known as staph) is a common type of bacteria. It's often carried on the skin and inside the nostrils and throat, and can

cause mild infections of the skin, such as boils and impetigo.

Since 2009/10 the crude rate of MRSA for the Isle of Wight has fluctuated with no clear upward or downward trend – increasing in 2010/11, declining in 2012/13 and again increasing in 2015/16 (Figure 6). The crude rate for MRSA in England decreased (improved) between 2009/10 until 2014/15 but in the last financial year has slightly increased.

In 2015/16 the crude rate for MRSA on the Isle of Wight was 5.0 per 100,000 compared to 1.5 in both Wessex and England. The Isle of Wight ranked joint 3<sup>rd</sup> highest (worst) of 207 CCGs.

**MRSA bacteraemia crude rate per 100,000 Isle of Wight, Wessex and England 2012/13 -2015/16**



Source: PHE Fingertips Tool - AMR Local Indicators  
<https://fingertips.phe.org.uk/profile/amr-local-indicators> (accessed January 2017)

## What is being done?

The 'Quality Premium' is intended to reward CCGs for improvements in the quality of the services that they commission and for associated improvements in health outcomes and reducing inequalities.

CCGs have been asked to:

- Reduce gram negative blood stream infections (BSI) across the whole health economy:
  - A 10% reduction (or greater) in all E coli BSI reported at CCG level based on 2016 performance data;
  - Collection and reporting of a core primary care data set for all E. coli BSI in Q2-4 2017/18;
- Reduce inappropriate antibiotic prescribing for urinary tract:
  - a 10% reduction (or greater) in trimethoprim based on CCG baseline data (June 15 to May 2016);
  - a 10% reduction (or greater) in the number of trimethoprim items prescribed to patients aged 70 years;

- Sustained reduction of inappropriate prescribing in primary care equal to or below England 2013/14.

For more information about the Quality Premium see: NHS England (2016) Technical Guidance Annex B <https://www.england.nhs.uk/wp-content/uploads/2015/12/ann-b-qual-prem.pdf>

## Infection Prevention and Control Meeting

The Isle of Wight Infection Prevention and Control Meeting meets bi-monthly and has a strategic focus on system leadership, assurance and risk management for health protection across the Isle of Wight. Members include the Director of Public Health and other local authority leaders for health protection alongside representatives from NHS England, Public Health England (PHE) and Isle of Wight CCG.

## Antibiotic Guardian Campaign

Public Health England (PHE) established the Antibiotic Guardian campaign (<http://antibioticguardian.com/>) to help protect antibiotics and improve knowledge about antibiotic resistance. The campaign, which takes a One Health approach, calls on everyone in the UK (the public, animal and human healthcare communities) to become Antibiotic Guardians by choosing one simple pledge about how they will make better use of these vital medicines.

The rate of antibiotic guardians per 100,000 population per calendar year for the NHS Isle of Wight was 15.8, lower (worse, but not statistically different) compared to England's average of 19.5. This equates to 22 signatories for the Isle of Wight. The highest antibiotic guardian sign-up in the Wessex region was NHS Southampton CCG with a rate of 79.5 (or 195 people).

## Recommendations

**Needs assessment:** Local enhanced surveillance for community associated HCAI and antibiotic, to inform future AMR strategy/action plan.

**AMR Strategy:** Develop a strategy and action plan for the Isle of Wight

**NICE Guidelines:** Review Island-wide approach to antimicrobial stewardship against NICE guidelines.

**Health and Wellbeing Board:** Present AMR factsheet and recommendations to the Health and Wellbeing Board to ensure strategic priority.

**Commissioners of healthcare (NHS England, CCG and Council)** should ensure that antimicrobial resistance are considered during the procurement of local services.

Commissioners assess providers on their antibiotic stewardship, HCAI data and Infection Prevention and Control arrangements.

**Antibiotic Guardians:** To promote the Public Health England Antibiotic Guardian campaign to health professionals and to the general public.

## Further Information

*Antibiotic Resistant Bacteria Policy (Infection Prevention & Control)*

([http://www.iow.nhs.uk/Downloads/Policies/Antibiotic Resistant Bacteria Policy.pdf](http://www.iow.nhs.uk/Downloads/Policies/Antibiotic%20Resistant%20Bacteria%20Policy.pdf))

### Toolkits to put guidance into practice

TARGET Antibiotics Toolkit (aimed at GPs)

<http://www.rcgp.org.uk/clinical-and-research/toolkits/target-antibiotics-toolkit.aspx>

'Start Smart, then Focus' (SSTF) (for secondary care providers)

<https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus>

National Institute of Clinical Excellence (NICE) have a range of guidelines on antimicrobial resistance. These can be found online here:

'Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use (NG15)' (<https://www.nice.org.uk/guidance/NG15>).

'Antimicrobial stewardship: prescribing antibiotics (KTT9)' (<https://www.nice.org.uk/Advice/KTT9>)

'NICE Bites: Antimicrobial stewardship: changing risk-related behaviours in the general population' ([http://www.elmmb.nhs.uk/\\_resources/assets/attachment/full/0/17168.pdf](http://www.elmmb.nhs.uk/_resources/assets/attachment/full/0/17168.pdf))