

# Walsall Antimicrobial Stewardship Strategy

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2018-2023

<b>Walsall Antimicrobial Stewardship Strategy 2018-2023</b>  <b>April 2018</b>	
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## Abbreviations

<b>AMR</b>	Antimicrobial resistance
<b>AMS</b>	Antimicrobial stewardship
<b>CCG</b>	Clinical commissioning group
<b>CQUIN</b>	Commissioning for quality and innovation
<b>ESPAUR</b>	English Surveillance Programme for Antimicrobial Utilisation and Resistance
<b>FSA</b>	Food Standards Agency
<b>GNBSIs</b>	Gram negative blood stream infections
<b>HCAI</b>	Healthcare acquired infection
<b>MHRA</b>	Medicines Health Regulatory Authority
<b>MMC</b>	Medicines Management Committee
<b>NHS</b>	National Health Service
<b>NICE</b>	National Institute of Clinical Excellence
<b>PHE</b>	Public Health England
<b>QP</b>	Quality premium
<b>QS</b>	Quality Standard
<b>QSC</b>	Quality and Safety Committee
<b>RCA</b>	Root cause analysis
<b>STAR-PU</b>	Specific Therapeutic group Age-Sex Related Prescribing Unit
<b>WHT</b>	Walsall Healthcare NHS Trust
<b>WHO</b>	World Health Organisation

## Foreword

Dear Reader

Antimicrobial resistance is one of the most important public health issues facing the world, and the UK. It requires action from both healthcare professionals and the public to limit the adverse impact on health.

The Walsall Antimicrobial Stewardship Strategy 2018-23 sets out a vision to Keep Antibiotics Working. Antimicrobial resistance is a very real threat to the health of people in worldwide, and in Walsall. If there is no action to reduce the use of antibiotics and rates of infection then minor surgery and routine operations could become high-risk procedures. Antimicrobial stewardship is deemed the best way to respond to the threat of resistance.

In Walsall, we aim to Keep Antibiotics Working by reaching a point where:

- All healthcare professionals have education and training in antimicrobial stewardship
- All people in Walsall understand the issue of antimicrobial resistance and stewardship
- All healthcare professionals have the tools to reduce inappropriate antibiotic prescribing
- Robust infection prevention and control measures prevent infections from occurring
- Adequate surveillance is in place to inform the Keep Antibiotics Working Action Plan

The development of this Strategy has been a collaborative effort from the Walsall healthcare economy, and the team that will be responsible for delivering the work. The Strategy will also tie into a regional West Midlands effort to promote antimicrobial stewardship.

Given the extent of the issue, it is paramount that all Walsall healthcare professionals and public engage with the Strategy to aid its success.

Councillor Ian Robertson

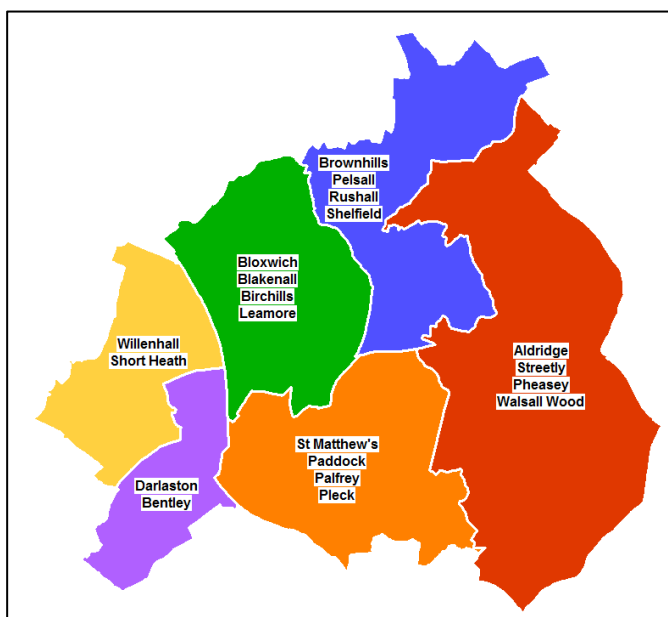
Walsall Metropolitan Borough Council

## Introduction to Walsall Healthcare Economy

Walsall is a unitary authority in the West Midlands. The Walsall healthcare economy is composed of Walsall Metropolitan Borough Council, Walsall Clinical Commissioning group (CCG) and the range of services provided by both.

### **Walsall Public Health team**

Walsall Public Health team have the statutory responsibility to perform the local authority role in Health Protection, and provide public health advice to Walsall CCG.



The public health team commission school nursing and the health visiting service.

### **Walsall CCG**

Walsall CCG includes 59 GP practices that look after the health care needs of about 276, 000 [1] living in Walsall Unitary Authority area. A number of healthcare providers also serves the area. Walsall Healthcare NHS Trust (WHT) provides a full range of acute hospital services including A&E, outpatients, diagnostics, elective and non-elective admissions and community services. Specialised acute services (for example, cancer, renal, heart and lung treatment) are commissioned directly by NHS England and for the population of Walsall these services are provided in acute hospitals situated mainly with Birmingham and the Black Country. Dudley and Walsall Mental Healthcare Trust provide a full range of mental health services under contract with the CCG. This includes services for Adults, Older people, and Child and Adolescent Mental Health services. Learning Disability services are commissioned from the Black Country Partnership Trust. Services are both community and hospital based. [2]

Other healthcare settings in Walsall include care homes, dental practices and pharmacies. There are 43 dental practices in total, 31 commissioned by NHS England. There are 55 care homes in total [1], both nursing and residential, and 76 pharmacies [2].

Walsall Public Health team and Walsall CCG Medicines Management team will oversee delivery of the Walsall Antimicrobial Stewardship Strategy Action Plan 2018-2023.

## Key Definitions

### **Antimicrobial resistance**

Antimicrobials are medicines that are active against a range of infections including bacteria, viruses, fungi and parasites. Antimicrobial resistance is a process that happens when micro-organisms that cause infection survive exposure to a medicine that would normally kill them or stop their growth. Resistant micro-organisms or 'superbugs' arise and they are difficult or impossible to treat with existing antimicrobials. The problem is increasing due to overuse of antimicrobials but there is a lack of new medicines to combat resistant micro-organisms. It was estimated, back in 2014, that 700,000 people die annually from drug-resistant strains of common bacterial infections. [3]

### **Antimicrobial stewardship**

NICE defines antimicrobial stewardship as 'an organisational or healthcare-system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness'. In Walsall, this translates into all healthcare organisations and settings working together on a common agenda to ensure appropriate antimicrobial prescribing. [4]

Antimicrobial stewardship has been identified as the most effective way to achieve the government's goal of "reducing inappropriate antibiotic prescribing by 50%, with the aim of being a world leader in reducing prescribing by 2020." [5]

### **Appropriate antibiotic prescribing**

Reducing inappropriate antibiotic prescribing is fundamental to the antimicrobial stewardship. However, the term "appropriate antibiotic prescribing" is difficult to define and measure accurately. This is demonstrated by the myriad of definitions used by policymakers, researchers and healthcare practitioners. The 2013-18 National Strategy uses a broad definition stating that appropriate prescribing is ensuring use of the right drug, right use, right time and right duration to limit unnecessary antibiotic exposure. It hints at the complexity of appropriate prescribing in practice, commenting that most prescribing is carried out in the absence of adequate information about the nature of infection, or prior to receiving the results of diagnostic testing. [5] In practice, prescription is informed by local prescribing guidelines in combination with patient symptoms and co-morbidities. [6]

The definition used by the National Strategy requires translation into performance indicators and outcomes to enable measurement of the impact of antimicrobial stewardship. NHS England choose

to focus only on reduction in use of antibiotics as part of the Quality Premium (QP) scheme [7]. This interpretation identifies high prescription rates as inappropriate and allows for ease of measurement. However, it is potentially an over-simplification of the issue.

In a recent journal series on appropriateness of prescribing in English primary care, the authors use analysis of expert opinion to identify the 'ideal' level of prescribing for common infections in the community. The authors define the converse, inappropriate prescribing, as prescribing that (i) is likely to have marginal, if any, patient benefit and (ii) is outweighed by the potential risks of prescribing [6]. Expert opinion as the mode of measuring this interpretation is resource intensive, and unlikely to be transferable for use in daily practice in most healthcare settings. Another method used in audit is to compare patient data with prescribing guidelines. This is also a relatively simple method of measurement. However, it could fail to capture justifiable prescribing decisions that are not in accordance with antibiotic guidelines.

In implementation of the strategy, a combination of all definitions used above may be the best approach. The CCG will continue to measure the indicators for high prescription rates required for the QP. However, this could be supported by initiatives in different healthcare settings using a locally agreed definition and method.

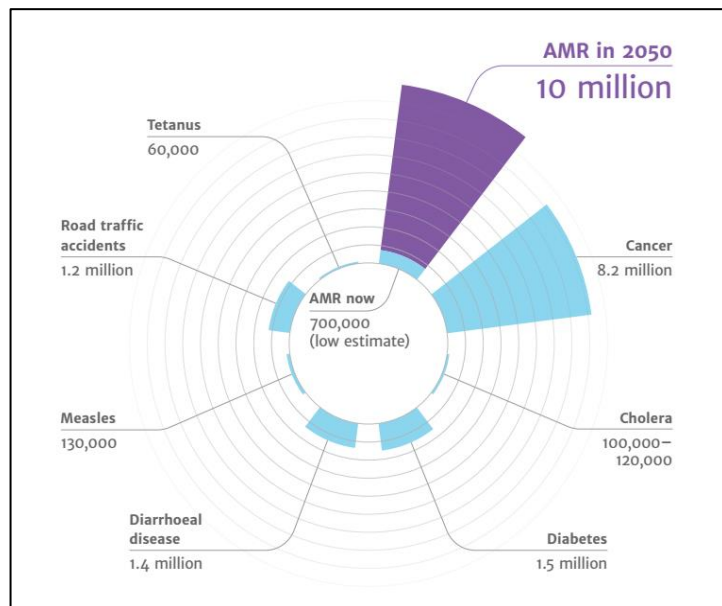


## Rationale for an Antimicrobial Stewardship Strategy

The 2016 AMR review: Tackling drug-resistant infections globally estimated that without action, the global burden of deaths from AMR could reach 10 million by 2050, as demonstrated in Figure 1. [3]

This scenario would cost a global economic output of 75 trillion GBP and one person would die due to AMR every three seconds. [3]

The fourth report from the English Surveillance Programme for



Antimicrobial Utilisation and Resistance (ESPAUR) reported a year on year increase in the burden of antibiotic resistant Gram-negative blood stream infections (GNBSIs) and urinary tract infections in the UK. It states that AMR is common in over 1 million UTIs caused by bacteria and identified in NHS laboratories in 2016. The commonest cause of BSI in 2016 was E.coli, of which 41% were resistant to the commonest antibiotic (co-amoxiclav) used to treat infections in hospitals. [8]

However, there is evidence that the antimicrobial stewardship agenda is working in the UK. The proportion of antibiotic resistant GNBSIs has remained stable over the last 5 years. In addition, antibiotic prescribing has reduced by 5% between 2012 and 2016. In primary care, the number of prescriptions has decreased by 13% and by 20% in dental practices. In secondary care, the reduction seen in 2015 has not been sustained, so there is more progress to be made in this setting. [8]

### **NICE Quality Standards on Antimicrobial Stewardship**

In May 2017, Walsall Medicines Management team brought a paper to Walsall CCG Quality and Safety Committee (QSC). The purpose of the paper was to update the QSC on the NICE Antimicrobial Stewardship programme requirements for the CCG. The main recommendation to the QSC was that Walsall CCG develops an Antimicrobial Stewardship strategy. It was deemed that the strategy would demonstrate evidence of CCG fulfilment of NICE quality standards on Infection Prevention and Control [9]. Walsall Public Health team agreed to work in partnership with the CCG to compose the strategy.

## International and national drivers

### **World Health Organisation**

In May 2015, the World Health Organisation (WHO) published the Global Action Plan on Antimicrobial Resistance to stimulate “harmonised, and immediate action” worldwide. It had five strategic objectives including awareness and education, surveillance of antimicrobial resistance, infection prevention and control, optimal use of antimicrobial medicines in human and animal health, and research and development and investment. It is important to note that a 2017 WHO report on antibacterial agents in development concluded that drugs in the antibiotic development pipeline are insufficient to mitigate the effect of antimicrobial resistance. Therefore, WHO recommended that more emphasis be awarded to the other four strategic objectives. [9]

### **National Civil Emergency Risk Register**

In the same year, the UK government added antimicrobial resistance to the National Civil Emergency Risk Register. It announced Antimicrobial Resistance as one of two long-term trends envisioned to influence the risk landscape in the coming decades. It states that in 2016 the government made a commitment in response to a review of AMR, the commitment was to limit inappropriate use of antibiotics. [10]

### **UK Five Year Antimicrobial Resistance Strategy 2013-2018**

This strategy outlines seven key areas for future action. These include infection prevention and control, optimising prescribing practice, professional education, training and public engagement, new drugs, treatments and diagnostics, surveillance, research and development and international collaboration. It called for PHE, NHS England, MHRA, NICE, FSA, Local Authorities and providers of health and social care to begin implementing the actions. [5]

### **NICE Guidance**

NICE Guidance: Antimicrobial stewardship; behaviours, systems and processes, prescribing and quality statement. [4]

- |  |
|--|
| 1. <a href="https://www.nice.org.uk/guidance/ng63">https://www.nice.org.uk/guidance/ng63</a> AMS: changing risk related behaviours in the general population     |
| 2. <a href="https://www.nice.org.uk/Guidance/NG15">https://www.nice.org.uk/Guidance/NG15</a> AMS: systems and processes for effective antimicrobial medicine use |
| 3. <a href="https://www.nice.org.uk/advice/ktt9">https://www.nice.org.uk/advice/ktt9</a> AMS: prescribing antibiotics  |

NG15 states that organisations should ensure that antimicrobial stewardship operates across all care settings as part of an antimicrobial stewardship programme. Organisations should move to establish and antimicrobial stewardship programme, if one is not in existence in their local area. NG63, ktt9, and QS121 detail evidence-based functions of an antimicrobial stewardship programme for all care settings.

### **Public Health England**

PHE's action on Antimicrobial Stewardship has been in both building knowledge and intelligence, and advocacy and partnerships. PHE collects data for the annual English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) report [8]. It uses this data to provide PHE Fingertips local profiles on AMR indicators. The six domains in the profile include Supporting NHS England Initiatives, Antimicrobial Resistance, Antibiotic Prescribing, HCAI, Infection Prevention and Control, and Antimicrobial Stewardship. [11] In addition, the AMR resource handbook is a reference guide to current national policy, guidelines and supporting materials. It details information on a range of toolkits including TARGET for primary care, and Start smart then Focus for English hospitals. Other notable actions include the Antibiotic Guardian and "Keep antibiotics working" communications campaigns. [12]

### **NHS England**

In 2014/15 NHSE introduced incentives for hospitals such as the Antimicrobial and Sepsis Commissioning for Quality and Innovation (CQUIN) in order to reduce the impact of AMR. In addition, NHSE introduced a quality premium for CCGs to reward a focus on reducing AMR. The 2017/18 Quality Premium measure consists of:

- (a) Reducing gram negative bloodstream infections across the whole health economy
- (b) Reduction of inappropriate antibiotic prescribing for urinary tract infections in primary care
- (c) Sustained reduction of inappropriate prescribing in primary care

Part a) responds to the 2016 government response to the O'Neill AMR review ambition to achieve a *50% reduction of Gram Negative Bloodstream Infections (GNBSIs) by 2020* and Part c) a *50% reduction of the number of inappropriate antibiotic prescriptions by 2020*.

Performance is measured by comparing 2017/18 rates of infection or prescribing to the 2016/17 rates.

Part (a) will be achieved by a 10% reduction (or greater) in all E.coli BSI reported at CCG level

based on 2016 performance data. Part (b) will be achieved by a 10% reduction (or greater) in the Trimethoprim: Nitrofurantoin prescribing ratio based on CCG baseline data for 2017/18. Finally part ( c ) will be measured using Items per Specific Therapeutic group Age-Sex Related Prescribing Unit (STAR-PU) must be equal to or below England 2013/14 mean performance value of 1.161 items per STAR-PU.

\*The STAR-PU numerator is the number of prescription items for antibacterial drugs within the CCG. The denominator is the total number of oral antibacterials ITEM based STAR-PU. Prescribing units were developed to allow comparison of prescribing costs across different areas with varying prescribing patterns and patient demographics. [7]

#### Local data

This section will focus on *E.coli* as it is the commonest cause of gram-negative blood stream infection in the UK currently, and the corresponding antibiotic, co-amoxiclav, most commonly used to treat it [8].

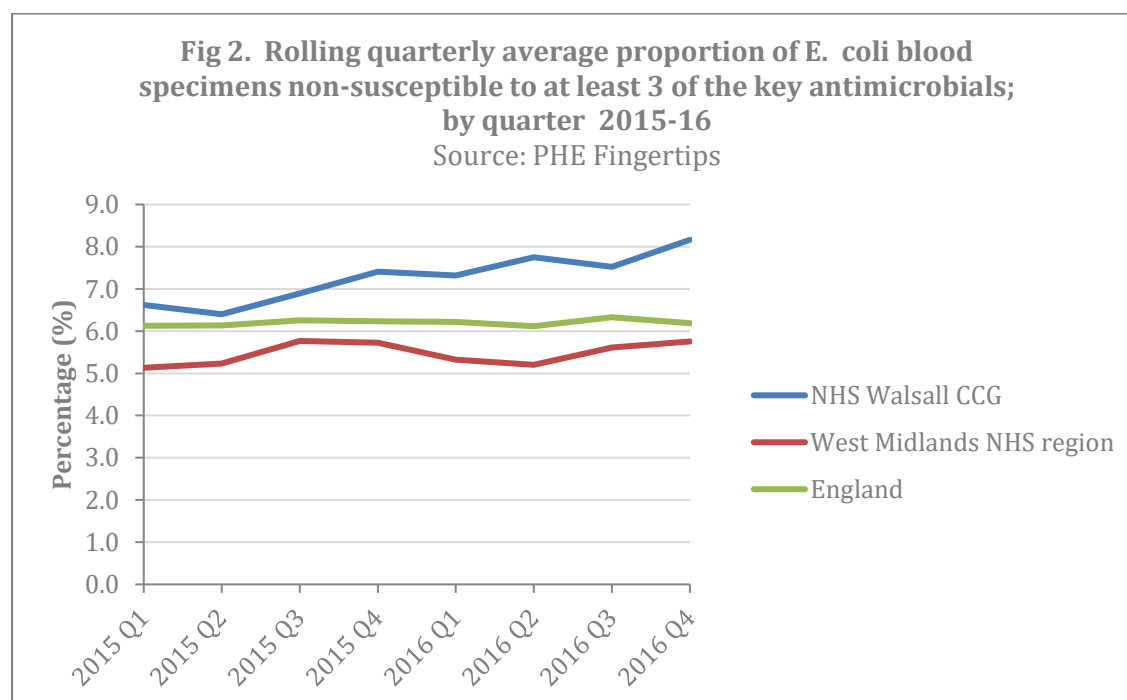
#### **Gram-negative blood stream infections**

As mentioned previously, *E.coli* is a gram-negative bacterium, and has been the commonest cause of bacteraemia in England, Wales and N. Ireland since 2003. It has been subject to mandatory surveillance since 2011. If the rates of bacteraemia decrease then the need for antibiotics also reduces. It is important to tackle infection rates and antibiotic use simultaneously.

#### *All E.coli bacteraemia rates by Acute Trust and Financial year 2016/17*

Walsall Acute NHS Trust has 75.9 cases of *E.coli* per 100,000 bed days that is less than Royal Wolverhampton, Sandwell and West Birmingham and Dudley Group NHS Foundation Trust and less than England average of 115.9. This may be due to the work undertaken by Walsall health economy in 2015 focusing on reducing the usage of indwelling urethral catheters and the introduction of a catheter care passport. This raised awareness of the risks of infection caused by indwelling urethral catheters and enabled practitioners to ensure that catheters were only in situ in patients who really needed them. This lower number of cases should be sustained and reduced with implementation of the new Infection Prevention and Control Strategy 2018-2023.

## Antibiotic resistance

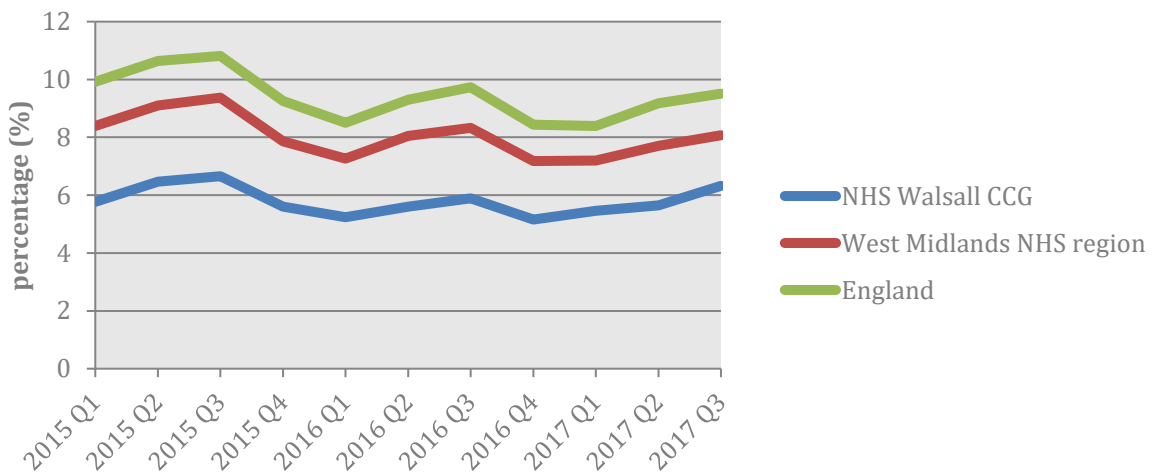


The graph shows that NHS Walsall CCG is exhibiting a higher proportion of non-susceptibility than both the West Midlands and national average. This difference has been sustained from 2015 Q1 to 2016 Q4.

There is no PHE Fingertips indicator available on *E.coli* susceptibility to co-amoxiclav. However, the indicator below shows the percentage of prescribed items from cephalosporin, quinolone and co-amoxiclav class by quarter. In contrast to figure 2, this chart shows that NHS Walsall CCG is prescribing a lower percentage than the West Midlands and England average.

**Fig 3. Percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class by quarter 2015-17**

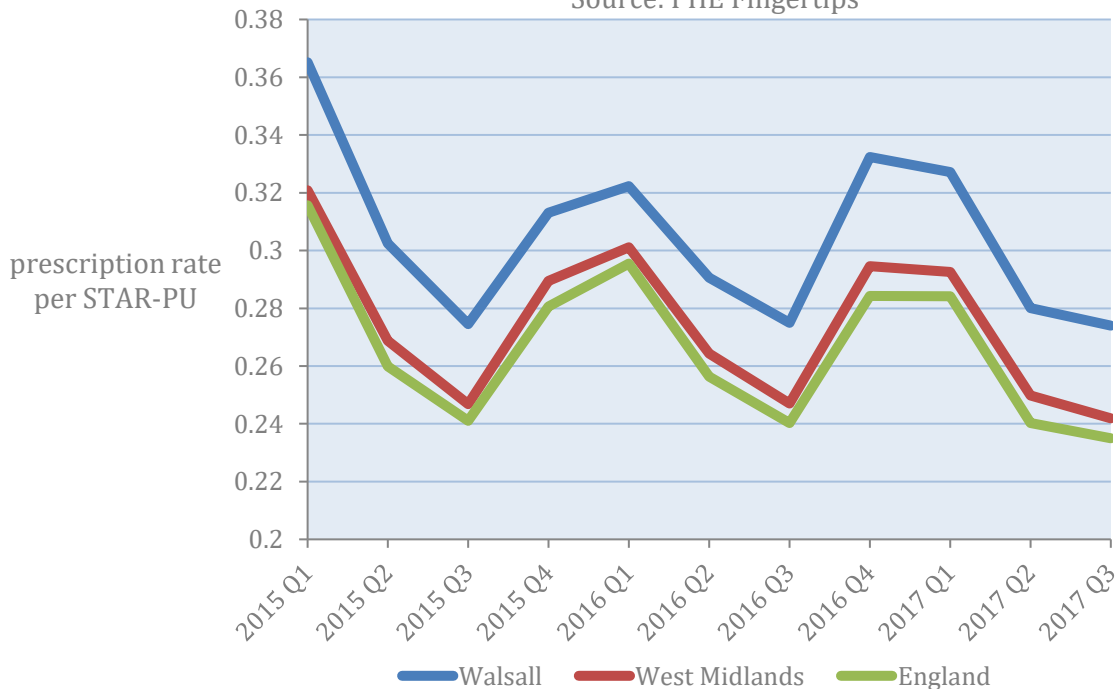
Source: PHE Fingertips



#### Antibiotic prescribing

**Fig 4. Average prescribed antibiotic items per STAR-PU 2015-17**

Source: PHE Fingertips



STAR- PU (Specific therapeutic group age-sex prescribing unit) is intended to give a clear picture of prescription rates after being adjusted by age and sex. There is an obvious and expected rise in

prescriptions during Q1 and Q4; they correlate with increased NHS patient flow during the winter months. All three areas show a drop in prescriptions in Q3 2017, something which is not seen historically. It may be the result of successful antimicrobial stewardship initiatives. Overall, it is apparent that Walsall's prescription rate is approximately 0.4% higher than both the regional and England rates.

## **Antibiotic stewardship by Acute Trust**

### *Percentage of antibiotic prescriptions with evidence of review within 72 hours; by quarter*

Review of antibiotic prescriptions within 72 hours is measured as part of antibiotic stewardship best practice. The indicator data is supplied to PHE as part of the CQUIN returns. In 2016/17 Q3 the percentage was 86% for Walsall Acute Trust. This value was less than regional counterparts in Wolverhampton and Sandwell and West Birmingham. It was also less than the average England percentage (89%) but higher than Dudley (80.3%). This suggests that there is more work to be done in terms of optimising prescribing practice in Walsall.

In summary, Walsall CCG is performing better than the regional average on control of *E.coli*, and prescription rates of antibiotic items from the cephalosporin, quinolone and co-amoxiclav class. However, non-susceptibility of *E.coli* blood specimens to at least three of five key antimicrobials is higher than the regional average. In addition, the average prescribed antibiotic items per STAR-PU are higher, and the percentage of antibiotic prescriptions with evidence of review is lower. This demonstrates that antimicrobial stewardship should be improved to bring Walsall in line with its regional neighbours.

## Vision

### **Keep Antibiotics Working**

## Themes

### ***Theme 1 Optimising prescribing practice***

Theme 1 refers to implementation of antimicrobial stewardship programmes in all care settings, in order to support rational prescribing and better use of new and existing rapid diagnostics.

### ***Theme 2 Professional education and training***

Theme 2 refers to education and training for all healthcare professionals to promote understanding of the need for antimicrobial stewardship, and improve clinical practice.

### ***Theme 3 Quality improvement***

Theme 3 refers to introduction of routine audit on antimicrobial stewardship in all care settings and dissemination of the findings.

### ***Theme 4 Public education***

Theme 4 refers to public education and awareness campaigns to improve understanding of the rationale for appropriate antimicrobial prescribing. National research shows that more needs to be done to dispel myths about antibiotics, and change patient expectations.

### ***Theme 5 Infection prevention and control***

A reduction in infection reduces the need for antibiotics, therefore Infection Prevention and Control is central to the antimicrobial stewardship agenda. This strategy will fit alongside the Walsall Health Economy Infection Prevention and Control strategy 2018-2023.

### ***Theme 6 Data and intelligence***

Robust data and intelligence will underpin all of the themes. Local and national data on antibiotic resistance patterns, bacterial infections, antimicrobial use, and clinical outcomes will be required to inform and monitor the impact of the strategy action plan.

### **Current practice in Walsall**

The development of this strategy took place in two phases. Phase one was to look at where we are now by conducting an audit including each type of healthcare setting in Walsall. Phase 2 was a consultation workshop to look at where we want to get to as a healthcare economy. Each phase is described below and the full output is included in the Appendix.

#### **Phase 1**

The NICE Guideline 15: *Antimicrobial Stewardship: Systems and Processes for Effective Antimicrobial Medicine* baseline assessment tool was used to scope current practice on Antimicrobial Stewardship in Walsall [4]. Efforts were made to contact all prescribing groups in Walsall via email and phone. Responses were gained via email, face-to-face, and telephone meetings.



The five key questions below were chosen for the audit:

1. Is there an antimicrobial stewardship programme in your healthcare setting?
2. Does your healthcare setting provide monitoring and evaluating antimicrobial prescribing and how does this relates to local resistance patterns?
3. Is regular feedback provided to individual prescribers in all care settings?
4. Is education and training provided to all health and social care practitioners about antimicrobial stewardship and antimicrobial resistance in your healthcare setting?
5. Is audit relating to antimicrobial stewardship integrated into existing quality improvement programmes in your healthcare setting?

Audit responses were obtained from Walsall Public Health team, CCG, Walsall Healthcare NHS Trust, Walsall and Dudley Mental Health Partnership NHS Trust, Walsall pharmacies, 1 GP practice and all care homes. Strengths of this approach included the richness of data provided from some face-to-face meetings, and insight into local challenges. Weaknesses included not having a response from dentists, and not having a representative sample from GPs. Efforts will be made in the future phases of this strategy to ensure adequate input from these settings.

## Phase 2

Phase 2 of the strategy development aimed to establish where we want to get to as a healthcare economy. Key stakeholders from all care settings were invited to participate in the December 2017 workshop for the strategy. Twenty-two participants included representatives from School Nursing, GPs, junior doctors, Dudley and Walsall Mental Health NHS Trust, the Antimicrobial Management team from the NHS Trust, CCG Medicines Management team, Public Health England, and Walsall Public Health team.

Key themes and challenges were derived from the findings of the baseline audit tool and a desktop rapid review of the National Strategy and NICE Guidelines relating to Antimicrobial Stewardship. Ideas included development of an antimicrobial stewardship programme including all 4 themes assessed in the NICE baseline audit. Further themes included public education, optimising prescribing practice, and infection prevention and control.

These two phases led to the vision and themes used to build the Action Plan.

# Walsall Antimicrobial Stewardship Action Plan 2018-21

Theme 1: Optimising prescribing practice Organisations that provide healthcare implement antimicrobial stewardship programmes in order to support rational prescribing and better use of new and existing rapid diagnostics.				
Objective	Actions	Timescale	Lead	Comments
Establish process for reviewing national horizon scanning to plan for the release of new rapid diagnostic tests				Acute Trust: awaiting business case for film-array PCR. Procalcitonin is a more acute and reactive inflammatory marker that could be used.  Primary care: timing of rapid diagnostic test needs to be tailored to GP consultations
Establish process for root cause analysis (RCA) of inappropriate antimicrobial prescribing in all healthcare settings				Public health: RCA is a useful tool to help explore what events have led to inappropriate prescribing. The process should involve all those who have been involved and is used as a way of learning and understanding how this can be avoided.
Theme 2: Professional education and training Organisations that provide healthcare support improvement in professional education and training to improve clinical practice and promote wider understanding of the need for more sustainable use of antibiotics				
Objective	Actions	Timescale	Lead	Comment
Each organisation provides education and training to health and/or social care practitioners about antimicrobial stewardship and antimicrobial resistance	Map all healthcare professional groups including all those who can prescribe antibiotics Conduct a training needs assessment for each group			<b>Add in topics identified by SJ</b>  Primary care: a CCG campaign to all GPs could be the best way of promoting education Ensure reach to those who work in walk-in centres, 111 and community pharmacy
Identify learning tools to support delivery of education and training for healthcare professionals				

Identify human resources to support delivery of education and training for healthcare professionals				Acute Trust currently have a candidate for a second microbiologist
Explore means of ensuring all healthcare professionals receive regular and up-to-date training in antimicrobial stewardship	Map all methods of communication with healthcare professional groups including all those sent by the CCG			Primary care: aim for quarterly update with appropriate seasonal information e.g. winter and flu season
<b>Theme 3: Quality improvement</b> Organisations that provide healthcare engage in continuous quality improvement in antimicrobial stewardship, based on the use of surveillance systems and consideration of new evidence on antimicrobial stewardship interventions				
<b>Objective</b>	<b>Actions</b>	<b>Timescales</b>	<b>Lead</b>	<b>Comments</b>
Each organisation to conduct local audits of the appropriateness of antibiotic prescribing				Primary care: include incentives for audit or find additional resource to aid with audit
Ensure each organisation has an antimicrobial stewardship strategy ratified at a local level				
Each organisation considers implementation of IT or decision support systems				
<b>Theme 4: Public engagement</b> Organisations that provide healthcare support improvement in public engagement to promote wider understanding of the need for more sustainable use of antibiotics				
<b>Objectives</b>	<b>Actions</b>	<b>Timescales</b>	<b>Lead</b>	<b>Comments</b>

Each organisation to support a Walsall-wide public awareness campaign on antimicrobial stewardship and antibiotic resistance	Identify local champion to support the campaign  Include targeted component for children, young parents, elderly and people with chronic conditions			Could lobby PHE to add antimicrobial stewardship to the school curriculum Primary care: to involve practice patient groups
<b>Theme 6: Infection prevention and control</b> Organisations that provide healthcare engage in infection prevention and control measures in order to reduce infections and reduce the need for antibiotics				
For objectives and actions see Walsall Health Economy Infection Prevention and Control strategy 2018-2023				
<b>Theme 5: Data and intelligence</b> Organisations that provide healthcare use local and national data on antibiotic resistance patterns, bacterial infections, antimicrobial use, and clinical outcomes to implement and monitor the action plan				
<b>Objectives</b>	<b>Actions</b>	<b>Timescales</b>	<b>Lead</b>	<b>Comments</b>
Evidence of an adequately resourced surveillance system with specific, locally defined objectives and priorities for antimicrobial stewardship	Ensure ownership of dashboard at a strategic level by every organisation			
Each provider organisation monitors and evaluates of antimicrobial prescribing and how this relates to local resistance patterns				<b>Acute Trust:</b> Both Trusts are paper-based. Needs to be useful and non-threatening data.
Each provider organisation gives regular feedback to individual prescribers in all care settings about their antimicrobial prescribing				

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Walsall CCG IMPACT training for GPs ( PowerPoint presentation)	

## **Phase one** - NICE Baseline Audit Tool responses by healthcare setting

### Primary care

*Source: Dr J E Teoh, GP, Walsall CCG Locality Lead. St. Peter's Surgery 5/11/2017 and Hema Patel, Community Pharmacy Facilitator, Walsall CCG, 12/2/2018*

The baseline assessment tool was emailed to four CCG GP locality leads. A response was gained from one GP regarding St. Peter's Surgery only.

#### 1. Antimicrobial stewardship programme

The practice does not have an antimicrobial stewardship programme.

#### 2. Monitoring and evaluation

The practice receives monthly prescribing data on antibiotic use from Keele University. The data is 2 months in arrears.

#### 3. Regular feedback to individual prescribers in all care settings about antimicrobial prescribing or patient safety incidents related to antimicrobial use

GPs receive feedback if there is any case of C.difficile.

#### 4. Education and training

Feedback is received from the practice pharmacist. This quarter (Jan-Apr 2018) all practices have received the IMPACT training on antibiotics. A small number of CCG pharmacists delivers this. The IMPACT training includes:

- Trends in antibiotic prescribing in primary care- Primary care antibiotic prescribing - resistance
- Quality Premium indicators
- Prescribing for UTIs
- Prescribing for RTIs
- Evidence base update
- Prescription strategies in acute uncomplicated RTIs
- Stratifying risk of admission in children with RTIs
- Tools and support materials to support prescribers
- Safety of reduced antibiotic prescribing in RTIs

#### 5. Integrating audit into existing quality improvement programmes

Two years ago the practice audited use of Co-amoxiclav as it was slightly higher than the CCG average. The audit looked at all the cases where Co-amoxiclav was prescribed in a certain period. It clarified whether the use was consistent with RCGP guidelines on antibiotic prescribing. It also looked at whether management was consistent with the RCGP guidelines. Lastly, it identified whether a subsequent culture recommended Co-amoxiclav or a different antibiotic.

Recommendations from the audit included using the RCGP guidelines to aid decision-making on when Co-amoxiclav should be prescribed.

## Care homes

*Source: Walsall Care Homes Antibiotic Audit 2016, Wendy Bagnall, Medicines Management Technician, Walsall CCG*

The CCG provided the Care Homes Antibiotic Audit 2016 in response to the baseline audit tool. There are 55 Care Homes in Walsall (both nursing and residential) and 54 were included in the audit.

The audit aims include:

1. To determine the percentage of homes that have a policy for requesting antibiotics
2. To determine who initiates a request for antibiotics
3. To determine the percentage of people who have had antibiotics within the last three months
4. To determine the percentage of those residents who had previously been diagnosed with Clostridium Difficile

The audit was also designed to inform care staff about the usual time frames for common conditions and to give them alternative treatments and management techniques.

It is important to note that the main prescribers in Care Homes are external GPs.

1. Antimicrobial Stewardship programme

85% of Care Homes stated that they have an antibiotic policy in place. 31% of Care Homes reported that GPs issue delayed prescriptions.

2. Monitoring and evaluating antimicrobial prescribing

66% of Care Homes state that the GP visits prior to writing a prescription. 35% said the GP prescribes antibiotics over the phone without seeing the patient. 27% of all residents had been prescribed antibiotics in the last 3 months.

3. Providing regular feedback to individual prescribers

Data collected included indication for antibiotic prescription, duration of prescribed antibiotics and PPIs being taken at the same time as an antibiotic. 5% of homes had residents diagnosed with C.difficile infection in the past 3 months.

4. Education and training

The audit was also designed to inform care staff about the usual time frames for common conditions and to give them alternative treatments and management techniques. As part of the audit, Care Home staff were asked about their knowledge of antibiotics and antibiotic resistance. They asked about treatment of Common Conditions including Acute Otitis Media, Acute Sore Throat, Acute Rhino sinusitis, and Acute Cough. The majority (60%) of staff thought that antibiotics should be provided for these conditions. 76% of staff knew what antibiotic resistance is and how it can be avoided. However, fewer staff (40%) understood the link between antibiotics and C.difficile.



## 5. Audit

The MMT and community pharmacists conduct the annual Antibiotic Audit. It is part of an enhanced service specification for Community Pharmacists, to provide medicines management advice and support to residents and staff in care homes. 54 of 55 care homes included in the audit.

The audit concluded that Care Home staff should know more about Common Conditions, infection control, and the link between C.difficile and antibiotic use. However, there was no information on how these recommendations will be addressed.

### Dudley and Walsall Mental Health Partnership NHS Trust

*Source: Emma Fulloway, Infection Prevention and Control Lead Nurse 19/9/2017*

#### 1. Antimicrobial Stewardship programme

The Trust is in the process of organising a formal antimicrobial stewardship programme.

#### 2. Monitoring and evaluating antimicrobial prescribing

The pharmacy team complete audits of antimicrobial use against the Trust formulary. This is a rolling audit reported quarterly and collecting all inpatient antibiotic prescribing.

#### 3. Providing regular feedback to individual prescribers

- Individual prescribing of antimicrobials is reviewed or challenged at point of prescribing as appropriate.
- Paper based records so data collection is prospective and for Trust overall – volume of prescriptions is relatively small; 60-70 items per quarter
- Adverse drug reactions, C Diff incidents would be reviewed as part of MDT/discussion with Consultant as necessary were they to occur.

#### 4. Education and training

All medics have an educational session on the Antibiotic Formulary at induction to the Trust.

#### 5. Audit

The quarterly audits are reported to the Trust's Medicines Management Committee and the Infection Prevention and Control Committee. The audit measures:

- Allergies status confirmed
- Indication for treatment recorded
- Antibiotic and dose prescribed recommended on Microguide
- If not recommended treatment discussed with microbiology
- CURB-65 score recorded if diagnosis of lower respiratory tract infection (LRTI)
- Stop date recorded

In Oct-Dec 2017/18, the most common indications for treatment included UTIs, respiratory tract infections, and skin/wound infections. All allergy statuses were recorded. The most common antibiotics prescribed included Nitrofurantoin, Flucloxacillin and Doxycycline. Most antibiotics were prescribed in line with local guidance. Most antibiotics were prescribed with a review and stop date.

In addition, the audit promotes the use of the Microguide app is encouraged and introduced to medics on induction to the Trust.

### Walsall Healthcare NHS Trust

*Source: Walsall Healthcare NHS Trust Revised New Antibiotic Guidelines September 2017, Q3 Antimicrobial Resistance (AMR) CQUIN report 2016/17, Antimicrobial Stewardship Action Plan 2016/17*

#### 1. Antimicrobial Stewardship programme

The antimicrobial prescribing policy was revised in May 2015. Following this, the antimicrobial guidelines were reviewed in June 2016. The Trust has an Antimicrobial Stewardship Action Plan that was implemented in the year 2016/17. Part of the action plan included establishing and developing a ward-based antimicrobial team to review prescriptions as part of MDT Antimicrobial Stewardship ward rounds. The MDT includes an AMR pharmacist and consultant microbiologist. It also included nominating antimicrobial champions amongst nursing teams in January 2017.

#### 2. Monitoring and evaluating antimicrobial prescribing

The antimicrobial stewardship team received usage reports from the outpatient parenteral antimicrobial therapy (OPAT) team regarding prescribing of antimicrobials in the community in January 2017. Another action in 2017 was to reduce inappropriate surgical prophylaxis.

#### 3. Providing regular feedback to individual prescribers

The antimicrobial stewardship team provide regular antimicrobial consumption data to (i) Trust (ii) Division (iii) Consultant. Feedback is provided quarterly using DEFINE data to divisional teams, senior nurses and clinicians ongoing. Part of the action plan is a quarterly report on incidents and learning from antimicrobial prescribing incidents.

#### 4. Education and training

Learning is provided for individuals involved in prescribing, administering and dispensing antimicrobials. The aim is for 100% compliance to ESR learning matrix module, MLC were advised to implement in September 2016.

#### 5. Audit

Part of the Action Plan is for all ward-based junior doctors to audit their antibiotic prescribing in each rotation by May 2017.

### Update on progress with Antimicrobial Stewardship Action Plan 2016/17

*Source: Meeting with Shabina Raza, Antimicrobial Pharmacist, Dr Stephen Jones, Consultant Microbiologist, Walsall Healthcare NHS Trust 6/10/2017*

The Trust Antimicrobial Management team met with Walsall Public Health team and the CCG Head of Medicines Management to discuss operational progress on the Action Plan. They highlighted several challenges relating to staffing, antibiotic shortages and changes in ways of working. Staffing challenges included not having a microbiologist vacancy, and Pathology departments merging with

another Trust. This translated into having staff having less time to focus on the Antimicrobial Stewardship agenda. Problems with antibiotic shortages meant that prescribers were using more antibiotics that may hinder CQUIN targets.

The team highlighted good practice in working with the OPAT team. The OPAT team manage the delivery of intravenous antibiotics to patients who are medically stable, within their own homes. The Trust Antimicrobial Management group are going to pilot an audit on referrals from GP to OPAT nurses. This should provide some data and inform future education for both GPs and the OPAT service.

One issue raised was the use of antimicrobials in the community. The Trust had become aware of possible inappropriate prescribing. In order to improve antimicrobial prescribing in the community it was suggested that Community Pharmacists audit the duration of antibiotics prescribed by the GP. In addition, it was suggested that an education package on appropriate antibiotic prescribing could be delivered to GPs and District Nurses. It was also recommended that an intervention such as rapid diagnostic testing could be used to aid GPs in diagnosis of common infections.

#### Community pharmacy

*Source: Sumaira Tabassum, Head of Medicines Management, Walsall CCG 1/12/17*

1. Antimicrobial Stewardship programme

No antimicrobial stewardship programmes adopted.

2. Monitoring and evaluating prescribing patterns

This is not done, as pharmacists are not prescribers.

3. Providing regular feedback to individual prescribers

If there are queries with prescriptions for antibiotics then the prescribers are contacted to clarify this. In addition, there is incident reporting via the Yellow Card reporting systems for all drugs.

4. Education and training

The pharmacies receive education and training through cascading national campaigns and awareness days on antimicrobial stewardship.

5. Audit

There is no antimicrobial stewardship audit integrated into practice.

#### Medicines Management Team, CCG

*Source: Sumaira Tabassum, Head of Medicines Management, Walsall CCG 1/12/17*

1. Antimicrobial stewardship programme

The CCG is in the process of developing an antimicrobial stewardship programme as part of the Walsall Antimicrobial Stewardship Strategy. The current Healthcare Associated Infections Steering Group monitors all activity relating to Antimicrobial Stewardship.

## 2. Monitoring and evaluating prescribing patterns

The CCG help to coordinate all activities mentioned in above care settings. The MMT have access to NHS England and EPACT 2 data. GPs and practice pharmacists are provided with monthly reports on this data from Keele University.

## 3. Providing regular feedback to individual prescribers

The MMT also conducts quality and safety monitoring of incidents

## 4. Education and training

Training is provided for all Care Home staff alongside annual audit.

## 5. Audits

The MMT facilitates prescribing audits at GP practices.

## Public health

*Source: Mandy Beaumont, Nurse Consultant Health Protection*

## 1. Antimicrobial stewardship programme

The public health team is developing an Antimicrobial Stewardship programme in partnership with the CCG. Current work includes sitting on the HCAI steering group, and previous work has included coordinating actions from the previous HCAI Strategy.

## 2. Monitoring and evaluating prescribing patterns

Y – Information from Keele University via CCG, GP prescribing

Surveillance of ESBLs reported to the hospital's Infection Control Committee (only samples come from Manor lab)

Surveillance on VRE and CPE. Where possible the Walsall Antibiotic Formulary takes into account known resistance in our area.

## 3. Providing regular feedback to individual prescribers

## 4. Education and training

Focus on preventing infection. Commissioned through Infection Control team at the hospital. They provide quarterly updates to link workers from care homes, GPs and dentists. This covers antimicrobial stewardship but the focus is infection prevention. Study days held in the Manor hospital where all participants were encouraged to sign up as antibiotic guardians.

## 5. Audits

No audits reported at Health Protection Forum. At the HCAI AMR event in December, there was recognition of gap and more structured approach required.

## **Phase two**

Phase two of the strategy development aimed to establish where we want to get to, as a healthcare economy. Key stakeholders from all care settings were invited to participate in the December 2017 workshop for the strategy. Twenty-two participants included representatives from School Nursing, GPs, junior doctors, Dudley and Walsall Mental Health NHS Trust, the Antimicrobial Management team from the NHS Trust, CCG Medicines Management team, Public Health England, and Walsall Public Health team.

Key themes and challenges were derived from the findings of the baseline audit tool, and a desktop rapid review of the National Strategy and NICE Guidelines relating to Antimicrobial Stewardship.

Challenges for discussion included:

- Antibiotic shortages and/or disruption of the supply chain.
- A common approach to antibiotic prescribing when a patient's care is shared across one or more organisations
- Maintaining appropriate antimicrobial prescribing when a patient's care is transferred to another care setting.

Discussion took place on what the vision should be and how the vision could be implemented. It was believed that a two-pronged approach of public and professional education would work well.

### The vision

Participants discussed a vision of using the right antibiotic at the right time, with the ultimate goal of reducing antibiotic resistance.

- Discussion veered towards how this could be quantified or measured, and queried how appropriate use of antibiotics can be defined within a healthcare economy.
- Participants felt it was important that there was consistency in approach between commissioners, prescribers and the public.
- It was believed that the Walsall strategy would be strengthened via a joined up approach either at a regional (West Midlands) or Black Country (STP) level.
- Thought was given to how the vision could be achieved and this is detailed under the next headline.

### Themes

Participants agreed that the best method of achieving the vision would be public and professional education. The outcome of this activity would be that professionals and the public understand the Antimicrobial Stewardship agenda and the rationale behind appropriate prescribing.

## **Public education**

Suggested methods of improving public education included a communications campaign. The communications campaign would be a Walsall version of the PHE Antibiotic Guardian campaign.

Actions such as finding a visible and active champion for the cause, and engaging local media were discussed.

It was felt to be necessary for the campaign to target all ages, but particularly young families and the elderly. Ways of doing this included introducing education on Antimicrobial Stewardship at schools.

### **Professional education**

It was believed that professional education should be aimed at all prescribers, but particularly GPs, District Nurses, dentists, optometrists, and independent prescribers. Topics for educational activities included catheter management, and management of respiratory tract infections. It was suggested that PHE competencies could be used to guide learning. The IMPACT education resource is already in use by the CCG and delivered to GP practices.

### **Quality improvement**

It was suggested that quality improvement projects such as audit and use of new technologies could aid antimicrobial stewardship by prescribers. Audit of independent prescribers such as COPD nurses was discussed. In addition, it was suggested that community pharmacy could audit the appropriateness of prescriptions of patients from Care Homes to GPs.

### **Horizon scanning and new technology**

New technologies such as the use of the Microguide app were recommended.

MicroGuide™ was initially developed to enable pharmacists to create, edit and publish antimicrobial guidelines to their clinicians' mobile devices so they always had the latest guidance at the point of care. It is used in Dudley and Walsall Partnership NHS Mental Health Trust to enable clinicians to access the local antimicrobial formulary. Both community and hospital guidelines can be input.

Totalmobile, was another app recommended to be used for data collection. The app aims to reduce data entry time for healthcare professionals by storing information on mobile forms.

AccuRx is an integrated prescribing report tool that aims to make it easier for clinicians to prescribe according to antibiotic guidelines. It has three components, including (1) deciding whether an antibiotic is required, (2) determining which antibiotic is appropriate for the patient, and (3) sending the patient advice about their symptoms, the clinician's decision and safety-netting. At the time of writing, the CCG is considering piloting this product.

It was emphasised that all antimicrobial formularies should be available on the Internet for easy access.

Lastly, it was suggested that an online platform for sharing success stories could be useful for encouraging best practice across Walsall.

# Walsall AMR indicators – dashboard 2017

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## Indicator performance (Walsall CCG)

Indicators (CCG)	Date	NHS Walsall	West Midlands NHS	England
<b>Prescription rates (CCG)</b>				
Total number of prescribed antibiotic items per 1000 resident individuals by quarter	2017 Q3	154.2	145.4 ↓	138.8 ↓
Total number of prescribed antibiotic items per STAR-PU by quarter	2017 Q3	0.3	0.2 ↓	0.2 ↓
Twelve month rolling total number of prescribed antibiotic items per 1000 individuals per day	01/09/17	1.9	1.8 ↓	1.7 ↓
Twelve month rolling total number of prescribed antibiotic items per STAR-PU	01/09/17	1.2	1.1 ↓	1.0 ↓
Twelve month rolling percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class	01/09/17	5.6	7.5 ↑	8.8 ↑
Twelve month rolling proportion of trimethoprim class prescribed antibiotic items as a ratio of trimethoprim to nitrofurantoin	01/09/17	49.9	42.0 ↓	49.3 ↓
<b>Susceptibility (CCG)</b>				
Percentage of community E. coli (or coliform) positive urine specimens non-susceptible to nitrofurantoin; by quarter	2017 Q3	4.3	1.9 ↓	2.9 ↓
Percentage of community E. coli (or coliform) urine specimens non-susceptible to trimethoprim; by quarter	2017 Q3	24.1	26.4 ↑	25.8 ↑
Percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class by quarter	2017 Q3	6.3	8.1 ↑	9.5 ↑
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to 3rd generation cephalosporins; by quarter	2017 Q3	16.0	11.2 ↓	12.2 ↓
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to any 1 of the key antimicrobials; by quarter	2017 Q3	29.9	30.1 ↑	31.7 ↑
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to at least 3 of the key antimicrobials; by quarter	2017 Q3	8.2	5.8 ↓	6.2 ↓
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to ciprofloxacin; by quarter	2017 Q3	19.6	18.4 ↓	18.2 ↓
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to gentamicin; by quarter	2017 Q3	12.9	8.3 ↓	10.1 ↓
Rolling quarterly average proportion of E. coli blood specimens non-susceptible to piperacillin/tazobactam; by quarter	2017 Q3	13.2	18.4 ↑	13.6 ↑
Percentage of community E. coli (or coliform) urine specimens with susceptibility tests to nitrofurantoin; by quarter	2017 Q3	96.4	97.2 ↓	96.9 ↓
Percentage of community E. coli (or coliform) urine specimens with susceptibility tests to trimethoprim; by quarter	2017 Q3	97.0	97.0 →	96.9 ↑
Percentage of E. coli blood specimens with susceptibility tests to a 3rd Generation Cephalosporin; by quarter	2017 Q3	100.0	99.5 ↑	96.4 ↑
Percentage of E. coli blood specimens with susceptibility tests to a carbapenem; by quarter	2017 Q3	100.0	99.4 ↑	96.2 ↑
Percentage of E. coli blood specimens with susceptibility tests to ciprofloxacin; by quarter	2017 Q3	100.0	96.7 ↑	94.7 ↑
Percentage of E. coli blood specimens with susceptibility tests to gentamicin; by quarter	2017 Q3	100.0	96.8 ↑	96.5 ↑
Percentage of E. coli blood specimens with susceptibility tests to piperacillin/tazobactam; by quarter	2017 Q3	95.2	95.8 ↓	89.8 ↑

Walsall standing: better ↑, equal →, worse ↓

## Indicator performance – Walsall NHS Acute Trust (table 1)

Indicators (Acute Trust)		Walsall Healthcar e NHS Trust	The Royal Wolverha mpton NHS Trust		Sandwell and West Birmingh		The Dudley Group NHS Foundation Trust		England	
Trust-apportioned MSSA rates by reporting acute Trust and financial year	2016/17	8.3	8.9	↑	7.0	↓	5.3	↓	8.8	↑
Trust-assigned MRSA rates by reporting acute Trust and financial year	2016/17	0.0	0.0	→	0.4	↑	0.0	→	0.9	↑
Counts and 12-month rolling rates of trust-apportioned MSSA bacteraemia cases by reporting acute trust and month	01/09/2017	7.2	7.0	↓	8.3	↑	5.8	↓	9.0	↑
Counts and 12-month rolling rates of trust-apportioned C. difficile infection, by reporting acute trust and month	01/09/2017	12.1	11.5	↓	8.8	↓	11.5	↓	13.4	↑
CCG-assigned MRSA counts by reporting acute Trust and financial year	2016/17	0.0	1.0	↑	0.0	→	3.0	↑		
All C. difficile rates by reporting acute Trust and financial year	2016/17	27.3	34.5	↑	41.1	↑	46.4	↑	36.7	↑
All E. coli bacteraemia rates by reporting acute Trust and financial year	2016/17	75.9	104.3	↑	95.3	↑	119.8	↑	115.9	↑
All MRSA bacteraemia rates by reporting acute Trust and financial year	2016/17	2.4	0.7	↓	1.6	↓	1.2	↓	2.4	→
Third party-assigned MRSA counts by reporting acute Trust and financial year	2016/17	4.0	1.0	↓	3.0	↓	0.0	↓		
Counts and 12-month rolling rates of trust-assigned MRSA bacteraemia cases by reporting acute trust and month	01/09/2017	0.0	0.0	→	0.0	→	0.0	→	1.0	↑
Counts and 12-month rolling rates of CCG-assigned MRSA bacteraemia cases, by reporting acute trust and month	01/09/2017	0.0	0.0	→	0.0	→	0.8	↑	0.6	↑
Counts and 12-month rolling rates of third-party-assigned MRSA bacteraemia cases by reporting acute trust and month	01/09/2017	2.4	0.3	↓	2.1	↓	0.0	↓	0.9	↓
All MSSA bacteraemia rates by reporting acute Trust and financial year	2016/17	24.3	27.7	↑	30.0	↑	34.5	↑	32.8	↑
Counts and 12-month rolling rates of all MRSA bacteraemia cases by acute trust and month	01/09/2017	2.4	0.3	↓	2.1	↓	0.8	↓	2.5	↑
Counts and 12-month rolling rates of E. coli bacteraemia cases, by reporting acute trust and month	01/09/2017	85.1	111.2	↑	91.8	↑	112.9	↑	118.0	↑
C. difficile toxin tests per 1,000 bed-days carried out by reporting acute Trust and quarter	2016/17 Q3	17.1	8.7	↓	13.4	↓	0.9	↓	14.7	↓
Blood culture sets per 1,000 bed-days performed by reporting acute Trust and quarter	2016/17 Q3	40.3	50.8	↑	56.6	↑	47.3	↑	58.8	↑

Walsall standing: better ↑, equal →, worse ↓

## Indicator performance – Walsall NHS Acute Trust (table 2)

Indicators		Walsall Healthcare NHS Trust	The Royal Wolverhampton NHS Trust	Sandwell and West Birmingham	The Dudley Group NHS Foundation Trust	England
<b>Prescription rates (Acute Trust)</b>						
Four quarter rolling rate of total antibiotic prescribing per 1000 admissions; by acute trust	2016/17 Q3	4278.6	3703.4 ↓	3657.8 ↓	4048.4 ↓	4661.0 ↑
Four quarter rolling rate of piperacillin-tazobactam prescribing per 1000 admissions; by acute trust	2016/17 Q3	329.2	172.5 ↓	80.6 ↓	196.6 ↓	142.0 ↓
Four quarter rolling rate of carbapenem prescribing per 1000 admissions; by acute trust and quarter	2016/17 Q3	66.3	161.1 ↑	52.0 ↓	133.1 ↑	99.9 ↑
<b>Susceptibility (Acute Trust)</b>						
Rolling quarterly average proportion of 3rd generation cephalosporin non-susceptible E. coli blood specimens; by quarter	2017 Q3	19.1	11.9 ↓	19.4 ↑	10.1 ↓	13.1 ↓
Rolling quarterly average proportion of ciprofloxacin non-susceptible E. coli blood specimens; by quarter	2017 Q3	24.2	19.2 ↓	25.9 ↑	22.0 ↓	19.5 ↓
Rolling quarterly average proportion of gentamicin non-susceptible E. coli blood specimens; by quarter	2017 Q3	12.5	10.1 ↓	12.2 ↓	6.4 ↓	10.8 ↓
Rolling quarterly average proportion of piperacillin/tazobactam non-susceptible E. coli blood specimens; by quarter	2017 Q3	15.0	12.2 ↓	15.2 ↑	14.1 ↓	14.4 ↓
Percentage of E. coli blood specimens with susceptibility tests to a 3rd generation cephalosporin; by quarter	2017 Q3	100.0	100.0 →	100.0 →	100.0 →	96.5 ↑
Percentage of E. coli blood specimens with susceptibility tests to a carbapenem; by quarter	2017 Q3	100.0	100.0 →	98.4 ↑	100.0 →	96.4 ↑
Percentage of E. coli blood specimens with susceptibility tests to ciprofloxacin; by quarter	2017 Q3	100.0	95.9 ↑	95.3 ↑	94.1 ↑	94.9 ↑
Percentage of E. coli blood specimens with susceptibility tests to gentamicin; by quarter	2017 Q3	100.0	98.6 ↑	98.4 ↑	98.0 ↑	96.6 ↑
Percentage of E. coli blood specimens with susceptibility tests to piperacillin/tazobactam; by quarter	2017 Q3	94.1	98.6 ↓	95.3 ↓	100.0 ↓	90.1 ↑
<b>Defined Daily Dose (Acute Trust)</b>						
Defined daily dose of antibiotics dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 admissions	2016/17	4258.7	3791.8 ↓	3738.3 ↓	4197.7 ↓	4671.2 ↑
Defined daily dose of piperacillin/tazobactam dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 admissions	2016/17	284.0	145.4 ↓	71.1 ↓	138.9 ↓	134.5 ↓
Defined daily dose of carbapenems dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 admissions	2016/17	59.1	149.3 ↑	48.6 ↓	127.4 ↑	96.2 ↑
Defined daily dose of antibiotics dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 occupied bed-days	2016/17	1754.4	1691.5 ↓	1751.8 ↓	2068.3 ↑	2092.0 ↑
Defined daily dose of piperacillin/tazobactam dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 occupied bed-days	2016/17	117.0	64.8 ↓	33.3 ↓	68.5 ↓	60.2 ↓
Defined daily dose of carbapenems dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 occupied bed-days	2016/17	24.3	66.6 ↑	22.8 ↓	62.8 ↑	43.1 ↑
<b>Prescription review rates (Acute Trust)</b>						
Percentage of antibiotic prescriptions with evidence of review within 72 hours; by quarter	2016/17 Q3	86.0	90.7 ↑	89.0 ↑	80.3 ↓	89.0 ↑
Percentage of antibiotic prescriptions reviewed within 72 hours with a stop decision documented; by quarter	2016/17 Q3	6.3	7.4 ↑	6.7 ↑	8.4 ↑	9.4 ↑
Percentage of antibiotic prescriptions reviewed within 72 hours with a stop, switch or IV to oral switch decision documented; by quarter	2016/17 Q3	10.0	19.9 ↑	35.8 ↑	26.1 ↑	32.7 ↑

Walsall standing: better ↑, equal →, worse ↓

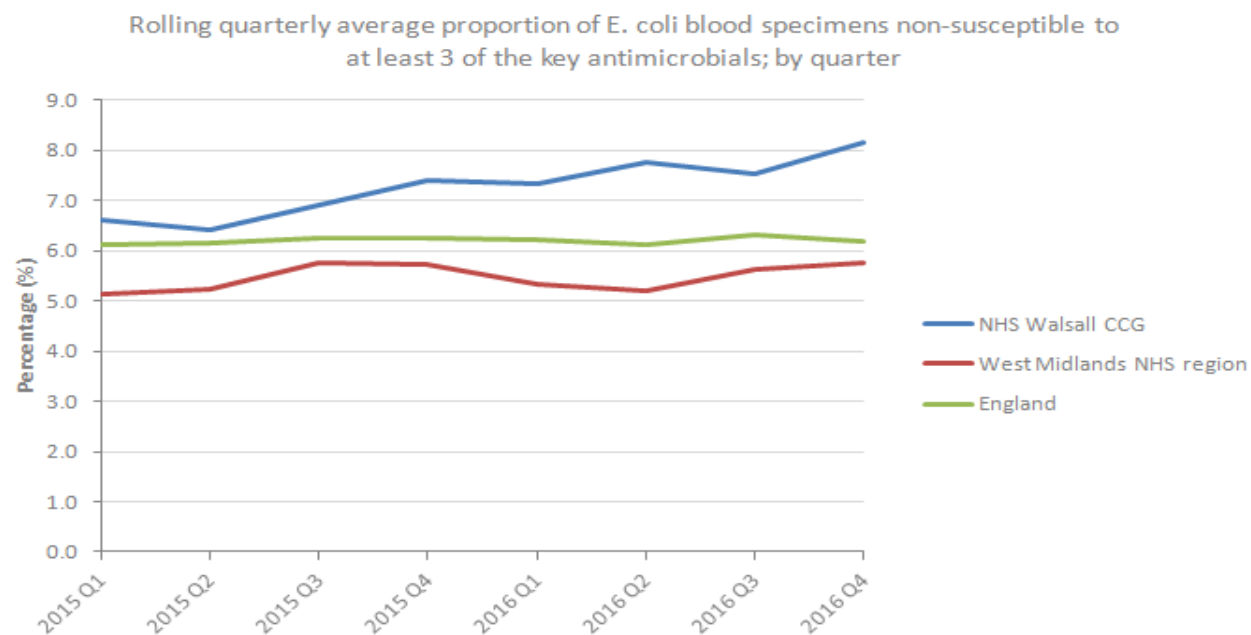
## Rolling Quarterly proportion of E.Coli blood specimens non-susceptibility to treatment

All of the following data has been sourced from PHE indicator data (<http://fingertips.phe.org.uk>)

Rolling quarterly proportion of E. coli blood specimens non-susceptibility to treatment Q1 2016 - Q3 2017			
Treatment	NHS Walsall CCG	England	Walsall relative to England
3rd generation cephalosporins	14.4	11.8	19%
ciprofloxacin	16.1	17.9	-11%
gentamicin	10.9	9.9	10%
piperacillin/tazobactam	13.8	11.7	15%
antimicrobials	7.4	6.2	16%
any 1 of the key antimicrobials	29.1	30.4	-4%
at least 3 of the key antimicrobials	7.4	6.2	16%

The above table shows how Walsall compares to the national average in each of the PHE indicators (Q1 2016 – Q3 2017). Aside from two exceptions, there appears to be a significantly higher proportion of E.Coli blood specimens that have exhibited resilience to antibiotics.

The graph demonstrates this trend over a longer period of time with specific focus on where at least three of the key antimicrobials have been ineffective as treatment. We can clearly see an increasing trend in Walsall that is not mirrored by either regional or national averages.

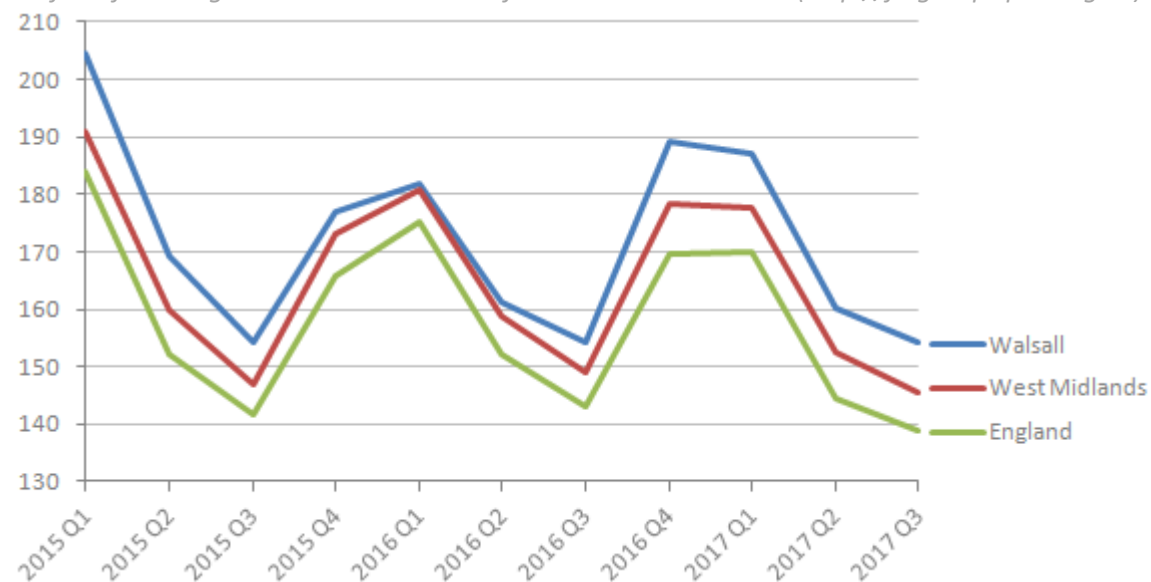


When we look at the current picture, below – snapshot of figures as at Q3 2017, we can confirm that the gulf has widened on the majority of indicators.

Rolling quarterly proportion of E. coli blood specimens non-susceptibility to treatment Q3 2017			
Treatment	NHS Walsall CCG	England	Walsall relative to England
3rd generation cephalosporins	16.0	12.2	24%
ciprofloxacin	19.6	18.2	7%
gentamicin	12.9	10.1	22%
piperacillin/tazobactam	13.2	13.6	-3%
antimicrobials	8.2	6.2	24%
any 1 of the key antimicrobials	29.9	31.7	-6%
at least 3 of the key antimicrobials	8.2	6.2	24%

## Total number of prescribed antibiotic items per 1000 resident individuals by quarter

All of the following data has been sourced from PHE indicator data (<http://fingertips.phe.org.uk>)



2016	Walsall	West Midlands	England
Q1	182	181	171
Q2	161	159	148
Q3	154	149	139
Q4	189	178	166
2017			
Q1	187	178	166
Q2	160	153	140
Q3	154	145	139

The table to the left displays the total number of prescriptions per 1000 resident individuals by quarter. A higher relative level is highlighted in red, lower in green.

There is an obvious & not unexpected rise in prescriptions during Q1 & Q4, which is best shown by the timeline above.

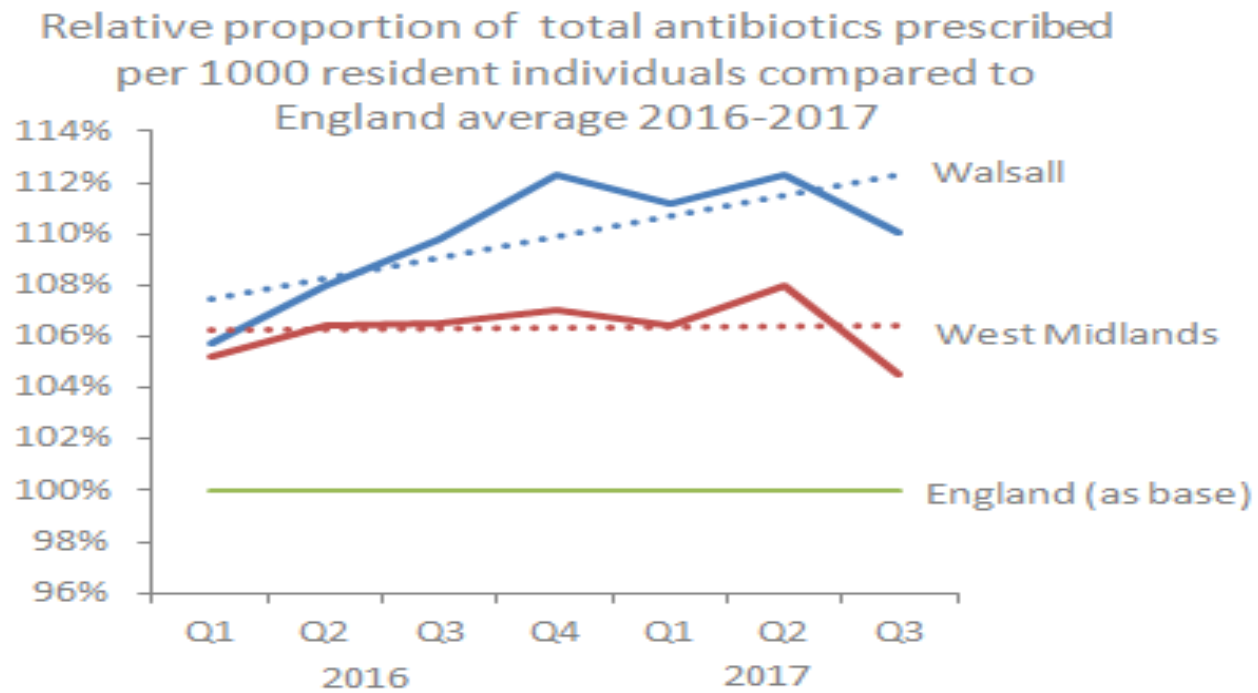
It correlates with the increased NHS patient numbers during the winter months.

2016	Walsall	West Midlands	England
Q1	106%	105%	100%
Q2	108%	106%	100%
Q3	110%	107%	100%
Q4	112%	107%	100%
2017			
Q1	111%	106%	100%
Q2	112%	108%	100%
Q3	110%	105%	100%

If we express the above table as a relative percentage compared to the England average rate per 1000 individuals, we can see more clearly how Walsall compares to both England & the region (left). It is apparent that Walsall's prescription rate has deviated at a proportionately greater level from both the regional & England rates (red). This appears due to disproportionately high figures in the winter of 2016.

This divergence is shown on the line graph, right. The Walsall 2016 rise in prescriptions was not experienced to the same extent in the west midlands and subsequent increases in the regional rate have been felt at an amplified level in Walsall, with the exception of Q2 2017 where the regional average rose relatively more than in Walsall. Likewise, the Q3 2017 drop off in prescriptions has been at a slower rate than the regional & England rate.

The west midlands trend (dotted line) has remained relatively stable in comparison to England, albeit higher: Walsall's trend is starkly at odds, displaying both a higher level & significant deviation from the region & nation's average rate of antibiotics prescription.

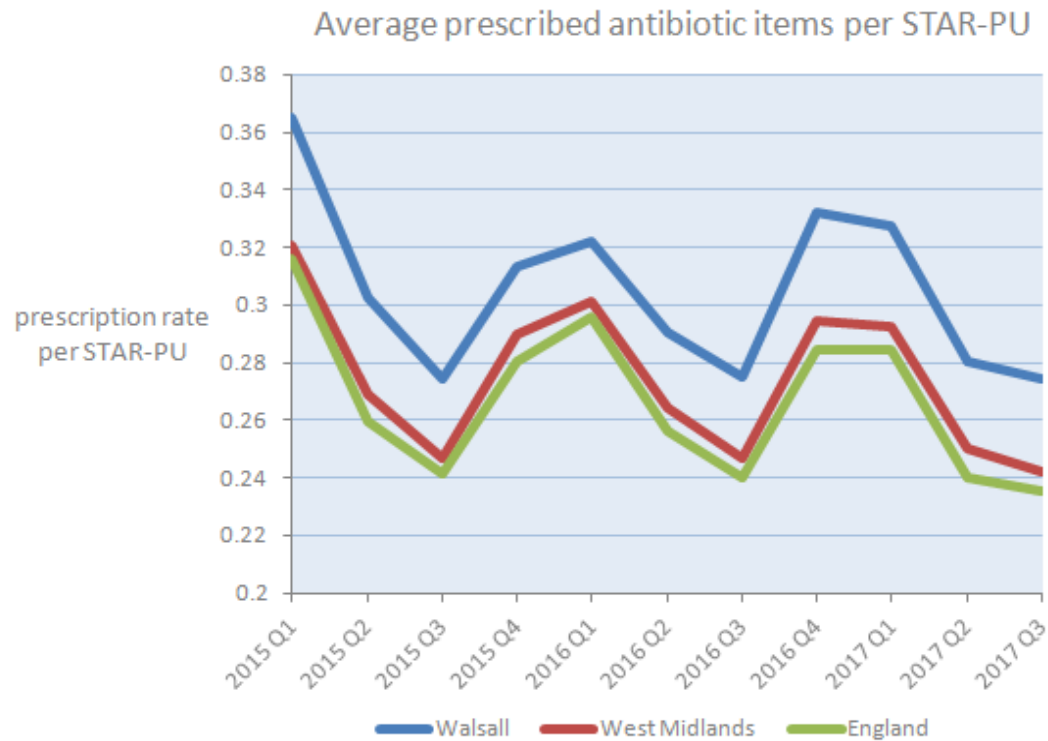




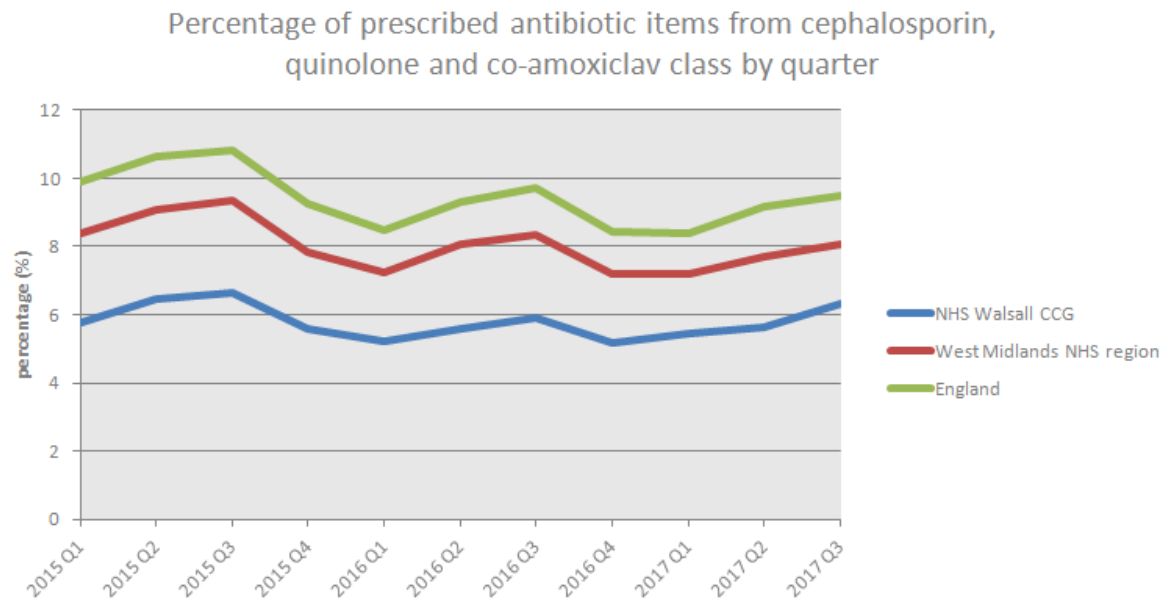
### Total number of prescribed antibiotic items per STAR-PU by quarter

This picture is further supported when viewing the adjusted rates per STAR-PU (Specific therapeutic group age-sex prescribing unit). STAR-PU units are intended to give a clear picture of prescription rates after being adjusted by age & sex. Walsall shows an even greater deviation during the winter of 2016, corroborating the overall picture.

All graphs are showing a drop in prescriptions in Q3 2017, however – which is not something seen historically: possible result of intervention/conscious action by the CCGs?

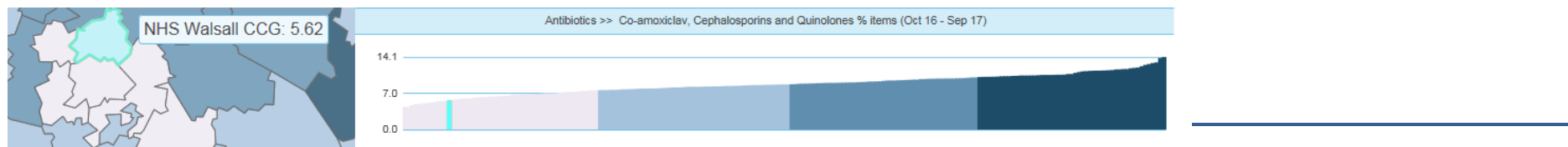


## Percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class by quarter



The chart above, however, shows that Walsall has remained significantly below the regional & national averages with the prescription of cephalosporin, quinolone & Co-amoxiclav class antibiotics. Although Walsall follows the same fluctuations as the other benchmarks, it has remained consistently below them over time, although Q3 2017 saw this gap narrow slightly.

The following is taken from the NHS Medicines Optimization Dashboard & shows that whilst other boroughs within the West Midlands region are generally within the lowest band, Walsall is the lowest ranked of them.



## Percentage of E. coli blood specimens with susceptibility tests to a carbapenem; by quarter

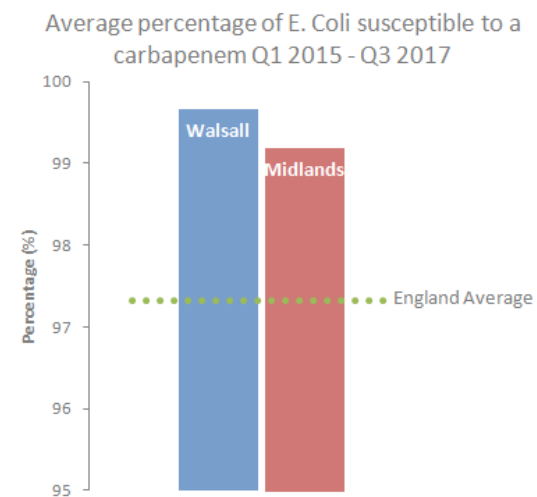
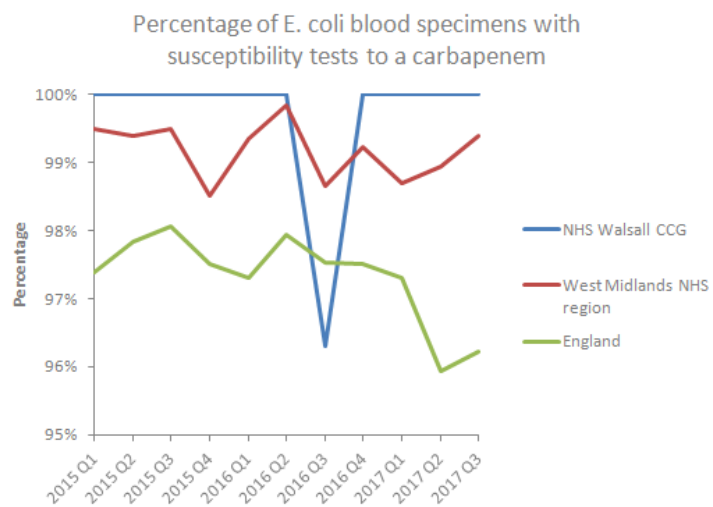
Below is a Q3 2017 view of the susceptibility to a Carbapenem. Walsall was at 100% of 42 cases.

Percentage of E. coli blood specimens with susceptibility tests to a carbapenem; by quarter 2017 Q3 Proportion - %

Area	Count	Value	95% Lower CI	95% Upper CI
England	8,368	96.2	-	-
West Midlands NHS region	661	99.4	-	-
NHS Birmingham Crosscity...	122	100	-	-
NHS Birmingham South And...	33	100	-	-
NHS Coventry And Rugby CC...	59	98.3	-	-
NHS Dudley CCG	40	100	-	-
NHS Herefordshire CCG	32	97.0	-	-
NHS Redditch And Bromsgro...	24	100	-	-
NHS Sandwell And West Bir...	78	98.7	-	-
NHS Solihull CCG	30	96.8	-	-
NHS South Warwickshire CC...	56	100	-	-
NHS South Worcestershire...	46	100	-	-
NHS Walsall CCG	42	100	-	-
NHS Warwickshire North CC...	28	100	-	-
NHS Wolverhampton CCG	49	100	-	-
NHS Wyre Forest CCG	22	100	-	-

Source: Routine voluntary laboratory surveillance reports to Public Health England via the second generation surveillance system (SGSS); Antimicrobial testing data module

Taking a view of the recent history (below), we see Walsall has maintained a consistent 100%, with one exception: a dramatic drop in 2016 Q3, but has since recovered 7 remained at 100% for the past 4 quarters: This is strongly in excess of the national average & compares favourably with the regional average also, with both Walsall & the west midlands resilient to the downward national trend by Q3 2017.

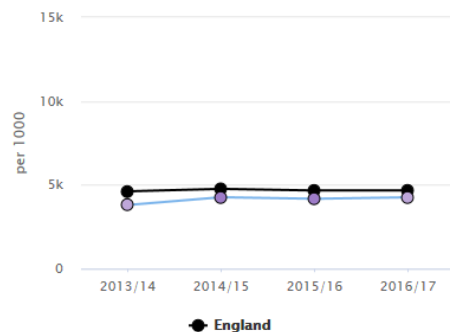


## Defined daily dose of antibiotics dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 admissions

### Defined daily dose of antibiotics dispensed by Acute Trusts pharmacies to all inpatients and outpatients per 1000 admissions

Walsall Healthcare NHS Trust

Crude rate - per 1000



Recent trend: -

Period	Count	Value	Lower CI	Upper CI	England
2013/14	259,232	3,797.7	-	-	4,615.6
2014/15	274,891	4,264.1	-	-	4,762.1
2015/16	280,642	4,172.6	-	-	4,666.5
2016/17	293,982	4,258.7	-	-	4,671.2

Source: DDDs are calculated from Acute Trust submissions for NHS England CQUINs made to PHE. Admissions are from hospital episodes statistics (HES), available from NHS Digital.

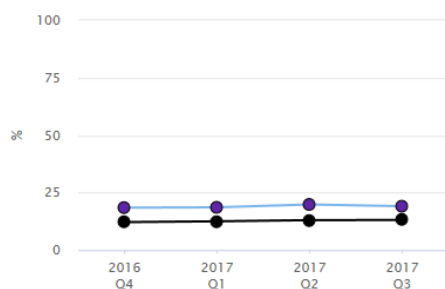
2016/17 antimicrobial consumption data are for all four quarters one. If consumption data for quarter four has not been submitted to PHE, data for quarters one, two and three only are shown. If consumption data for quarters three and four have not been submitted to PHE, data for quarters one and two only are shown. If consumption data for quarters two and three and four have not been submitted to PHE, data for quarter one only is shown. If no consumption data for 2016/17 has been submitted to PHE the fields for this financial year will appear blank.

## Rolling quarterly average proportion of 3rd generation cephalosporin non-susceptible E.coli blood specimens; by quarter

### Rolling quarterly average proportion of 3rd generation cephalosporin non-susceptible E. coli blood specimens; by quarter

Walsall Healthcare NHS Trust

Proportion - %

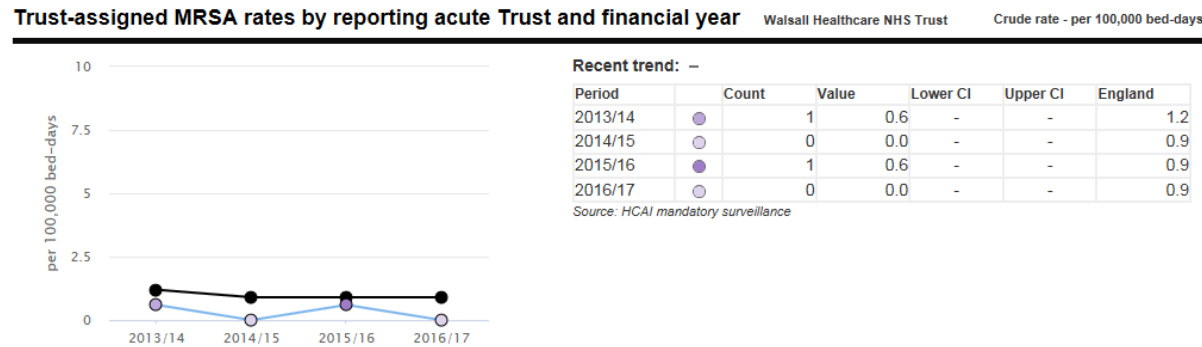


Recent trend: -

Period	Count	Value	Lower CI	Upper CI	England
2016 Q4	5	18.4	-	-	12.1
2017 Q1	5	18.6	-	-	12.5
2017 Q2	6	19.8	-	-	13.0
2017 Q3	6	19.1	-	-	13.1

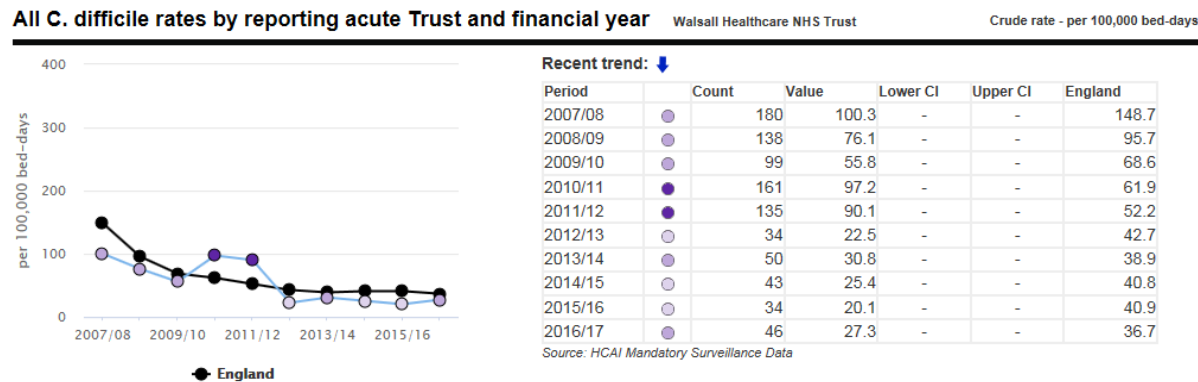
Source: Routine voluntary laboratory surveillance reports to Public Health England via the second generation surveillance system (SGSS); Antimicrobial testing data module

## Trust-assigned MRSA rates by reporting acute Trust and financial year



MRSA rates for Walsall are very low, with only 2 reported cases since 2013, and 0 since 2016.

## All C.difficile rates by reporting acute Trust and financial year



Walsall ranks 117<sup>th</sup> out of 156 trusts. Rates are currently low, with 46 reported in 2016-17.

## **Walsall Antimicrobial Stewardship Team**

### **DRAFT TERMS OF REFERENCE February 2018**

#### **1. PURPOSE**

To oversee delivery of the Walsall Antimicrobial Stewardship Strategy Action Plan 2018-2023.

#### **2. MEMBERSHIP**

The core membership of this group will include representation from Walsall Antimicrobial Stewardship Strategy task and finish group, Walsall Public Health team, Walsall Healthcare NHS Trust including an antimicrobial pharmacist and medical microbiologist, Walsall Clinical Commissioning Group, including Medicines Management and Walsall Primary Care Locality Leads.

##### **2.1 IN ATTENDANCE**

Additional members to be co-opted as appropriate for attendance depending on the care setting and the antimicrobial issue being considered. Members to be co-opted include but not limited to pharmacist, Dudley and Walsall NHS Mental Health Trust, Walsall Primary Care lead, Infection Prevention and Control Nurses, Professional Lead for School Nursing, District Nursing, public representation and other independent prescribers.

#### **3. CORE FUNCTIONS**

Partners to:

- Advise on the development and implementation of Walsall Antimicrobial Stewardship strategy
- Agree recommendations and actions
- Take ownership of actions
- Identify named individuals in each organisation who will take responsibility for work towards actions
- To monitor partnership activity against actions
- Challenge the wider partnership when actions are not achieved
- Raise awareness of antimicrobial stewardship across Walsall
- To regularly review progress towards achieving objectives within the Walsall Antimicrobial Stewardship strategy

#### **4. RESPONSIBILITIES OF MEMBERS**

As members, each individual is there to bring their unique perspective informed by their expertise and experience. Each individual will support team conduct by ensuring the following values are central to their work:

- Respect and value for all people
- Listening to local people
- Clinical leadership, clear accountability and transparency
- Innovation, prevention and partnership

In addition, all members are expected to:

- Read all relevant agenda and support documentation.
- Notify Chair or Vice Chair if not available to attend.
- Nominate representatives to attend meetings on their behalf where they are unable to attend meetings.
- Discuss/engage with colleagues to provide feedback from appropriate constituents.
- Be accountable for ensuring actions assigned are completed and fully reported.

#### **5. GOVERNANCE**

Reporting will be to the via the Health Protection Forum to the Health and Wellbeing Board, Walsall Council and via the Joint Medicines Management Committee to the CCG Quality and Safety Committee.

#### **6. QUORUM**

Representation from Walsall Public Health team, CCG and Walsall Healthcare NHS Trust will be required as a minimum for quoracy.

Core members are required to attend a minimum of 80% per annum (If 10 meetings are held, this would mean the minimum attendance is 8 meetings). Core members who are unable to attend should nominate an appropriate deputy. If members are unable to attend and have an agenda item against their name, an update should be provided to the committee administrator or a colleague for feedback at the meeting.

#### **7. FREQUENCY OF MEETINGS**

Meetings will take place monthly for 6 months, bimonthly for 6 months and then quarterly according to needs of the programme implementation.

#### **8. DISTRIBUTION OF PAPERS**

All agenda items are to be submitted at least 5 working days prior to the meeting. The Chair of the group will agree the agenda and agenda papers will be circulated at least 3 days before the meeting. Items for decision will be clearly indicated on the agenda.



#### **9. CONFLICTS OF INTEREST**

If any member becomes aware of any conflict of interest that has or is likely to have an adverse effect on the committee's decision (acting reasonably), this shall be declared and the member concerned should withdraw from the meeting whilst the relevant discussion or decision related to the agenda item is in progress.

#### **10. DATA PROTECTION ACT 1998**

Programme members will give due regard to the responsibilities of WBC to comply with Data Protection legislation.